Ecological Assessment

Maffra Solar Farm

April 2023

Project Number: 22-151

Document verification

Project Title:	Maffra Solar Farm
Project Number:	22-151
Project File Name:	22-151 Maffra Solar Farm Ecological Assessment Final 1.0

Revision	Date	Prepared by	Reviewed by	Approved by
Draft V1.0	25/10/2022	D Bambrick (accredited assessor)	Michelle Patrick	Michelle Patrick
Final V1.0	11/11/2022	D Bambrick (accredited assessor)	Michelle Patrick	Michelle Patrick
Final V1.1	07/04/2023	Michael Cleland	Michelle Patrick	Beth Noel

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Acronyms and abbreviations

Item	Definition
ASL	Above sea level
AWS	Automatic weather station
BOM	Australian Bureau of Meteorology
CaLP Act	*Catchment and Land Protection Act, 1994*
CEMP	Construction Environment Management Plan
CFA	Country Fire Authority
Cwth	Commonwealth
CWD	Coarse Woody Debris
DBH	Diameter at Breast Height
DELWP	Department of Environment, Land, Water and Planning
DoEE	(Cwth) Department of the Environment and Energy
DSE	Department of Sustainability and Environment
EPBC Act	(Cwth) *Environment Protection and Biodiversity Conservation Act 1999*
ESD	Ecologically Sustainable Development
EVC	Ecological Vegetation Class
FFG	*Flora and Fauna Guarantee Act, 1988*
GDA	Geographic Datum of Australia
GIS	Geographic Information System
GPS	Geographical Positioning System
ha	hectares
HBT	Hollow-bearing Tree
km	kilometres
LGA	Local Government Area
m	Metres

Item	Definition
MW	MegaWatt
MNES	Matters of National Environmental Significance
P&E Act	*Planning and Environment Act, 1987*
PMST	Protected Matters Search Tool
sp/spp	Species/multiple species
The guidelines	Guidelines for the removal, destruction or lopping of native vegetation
VBA	Victorian Biodiversity Atlas
VIC	Victoria
VQA	Vegetation Quality Assessment

Executive Summary

NGH Pty Ltd has been engaged by the Trustee for BL Maffra Solar Trust/BL Maffra Solar nominees Pty Ltd (BNRG Pty Ltd) to undertake an ecological assessment for the proposed Sub-5 Mega Watt (MW) battery supported solar farm at Maffra-Briagolong Road Maffra Victoria (VIC).

This ecological assessment addresses the planning permit triggers under Clause 52.17 – native vegetation of the *Planning and Environment Act, 1987* (*P & E Act*). Under this Clause, the planning permit trigger applies to the removal, destruction or lopping of native vegetation. This ecological report also considers the likelihood of occurrence of threatened ecological communities, flora and fauna under the *Fauna Guarantee Act, 1988 (FFG)* and the *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC).*

The site assessment was completed by two NGH Ecologists on 05th May 2022. One EVC was recorded in the study area, this was EVC 55 Plains Grassy Woodland. The development proposes to impact 3.758 hectares (ha) of EVC 55 Plains Grassy Woodland (including 4 large trees) and therefore requires an offset.

The offset strategy needs to meet the following requirements:

- General offset amount – 1.323 General Habitat Units
- Vicinity - West Gippsland Catchment Management Authority (CMA) or Wellington Shire Council
- Minimum strategic biodiversity value score – 0.402
- Large trees - 4

If a permit is granted, a third-party offset is to be secured, the next step would involve contacting Vegetation Link to enter into a purchase agreement.

The assessment of threatened entities determined the following:

- The FFG Act listed *Forest Red Gum Grassy Woodland Community* is present on site and would incur impacts requiring offsets.
- The EPBC Act listed *Gippsland Red Gum (Eucalyptus tereticornis subsp. mediana) Grassy Woodland and Associated Native Grassland* community is present on site, all impacts to this community would be avoided, therefore no EPBC referral is required.
- There were no FFG Act or EPBC Act listed flora or fauna species detected on site.

Mitigation measures to protect the EPBC Threatened Ecological Community and fauna during tree removal is outlined in Section 7.

1. Introduction

NGH Pty Ltd has been engaged by the Trustee for BL Maffra Solar Trust/BL Maffra Solar nominees Pty Ltd (BNRG Pty Ltd) to undertake an ecological assessment for the proposed Sub-5 Mega Watt (MW) battery supported solar farm at Maffra-Briagolong Road Maffra Victoria (VIC).

The purpose of this ecological assessment includes addressing the following information:

- Undertake a desktop search of threatened species and communities listed under the *Flora and Fauna Guarantee Act, 1988 (FFG)* and the *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC)*
- Undertake a desktop assessment of the EVC modelling and aerial imagery to determine if there is any native vegetation within the defined Study Area.
- Determine any legislative requirements based on the assessments results background search results and EVC determination.
- Determine if any planning permit requirements are triggered under the *Planning and Environment Act, 1987* under Clause 52.17 – native vegetation.
- Undertake a site assessment to determine the extent of native vegetation and complete a habitat hectares assessment.
- Summarise findings in an Ecological Report including areas of native vegetation that will be impacted in the development footprint.
- Determine any offset requirements.

Definitions

Study area: The area of land surveyed for this assessment (around 17.5 ha)

Development Footprint: All land impacted by the development within the study area (11.09 ha)

Subject Land: The lot boundary including the study area and development footprint

Locality: 10 km buffer from the study area

1.1 Locality

The study area is located around 4.5 km north of the township of Maffra, VIC and is located in the Wellington Shire Local Government Area (LGA). The study area is located within Lot 13 TP23981.

The study area is located east of the Maffra-Briagolong Road and is around 17.5 ha. The general surrounding landscape features are that of an agricultural landscape. The surrounding properties are small rural blocks with a mix of grazing and cropping. A historic rail trail and channel occur within the study area. The channel forms part of the Stratford Town supply. The locality and landscape is suitable for a solar farm due to road access, minimal native vegetation impacts and located in a regional landscape that does not have a high number of dwellings and located in an area on a site with low visibility.

Figure 1-1 shows the location map.

Figure 1-1. Location Map

1.2 Bioregion

Bioregions are determined by climate, geomorphology, soils and vegetation to classify the environment at a landscape scale (DELWP, 2021). Victoria has 28 bioregions.

The study area is located in the Gippsland Plain Bioregion (DELWP, 2021). The geology in this bioregion is detailed by (DELWP, 2021) as including '*flat low lying coastal and alluvial plains with a gently undulating terrain dominated by barrier dunes and floodplains and swampy flats.'*

Soils in this bioregion vary with elevation and vegetation type. Typical broad scale soil descriptions include:

- Upper terrain: red texture contrast soils, chromosols and sodosols and gradational texture soils, dermosols supporting lowland forest ecosystems.
- Dunes: Sandy soils, podosols and tenosols supporting heathy woodland and damp sands herb-rich woodland ecosystems.
- Fertile floodplains and swamps: Earths, pale yellow and grey texture contrast soils, hydrosols, supporting swamp scrub, plains grassy woodland, plains grassy forest, plains grassland and gilgai wetland ecosystems.

A range of features are noted in this bioregion including sandy beaches backed by dunes and cliffs, shallow inlets with extensive mud and sand flats and nine major rivers draining the bioregion. Average rainfall is between 500-1100 mm a year across the bioregion (DELWP, 2021).

1.3 Waterways and wetlands

There is one dam in the north east of the study area associated with a drainage line. The Strafford Town Supply Channel is the eastern boundary of the study area. Several areas of ephemerally damp areas occurred in pockets across the study area. No wetlands or defined waterways occur within the study area. An unnamed waterway leads to a large farm dam directly east of the study area in an adjoining lot.

The Macalister River, Avon River and associated wetlands occur around 2.5 km south-west of the study area.

There are four modelled wetland areas from DELWP's modelled wetland spatial data (DELWP 2018). These wetlands are located in the subject land and will not be impacted by the proposal. The wetlands are shown in 1.2.

The study area occurs within the West Gippsland Catchment Management Area (CMA).

1.4 Native vegetation in the locality

Within the 5 km locality 12 EVC's are mapped under the DELWP 2005 spatial data covering around 1955.22 ha within the locality. These are detailed below in Table 1-1. The nearest park/reserve is the Stafford Highway Park, around 10 km east of the study area. The Avon River is around 1.5 km north-east, and the Macalister River is around 2.6 km south-west of the study area. (see Figure 1.2).

Table 1-1 Native vegetation within the locality

EVC Number	EVC Name	Hectares within locality
16	Lowland Forest	3.69
19	Riparian Shrubland	152.87
47	Valley Grassy Forest	88.4
55	Plains Grassy Woodland	508.5
56	Floodplain Riparian Woodland	242.31
132	Plains Grassland	129.99
151	Plains Grassy Forest	774.32
334	Billabong Wetland Aggregate	20.52
259	Plains Grassy Woodland/Gilgai Wetland Mosaic	5.96
681	Deep Freshwater Marsh	21.41
690	Floodplain Riparian Woodland/Billabong Wetland Mosaic	0.96
691	Aquatic Herbland/Plains Sedgy Wetland Mosaic	6.29

1.5 Development proposal

The proposed solar farm is located in the western half of Lot 13 TP23981, west of the supply channel. Lot 13 TP23981is land zoned FZ - Farming.

This ecological assessment addresses the planning permit application, which is an application for the removal, destruction or lopping of native vegetation Lot 13 TP23981.

of the western parcel of Lot 7G A\PP2431 and associated road reserves is the study area for the proposed development. The study area is 17.5 ha, the development site is 11.09 ha. The aerial imagery shows remnant vegetation scattered across the study area.

A MV Line would connect the proposed solar farm to the existing electricity grid. Installation of the MV line would not result in the removal of native vegetation.

A security fence would be constructed around the infrastructure. The fence would be around 2 m tall. Internal boundary fences within the property would be used where reasonable. The security fence would be located more than 5 m from existing fence lines.

An access road would be constructed from the Maffra-Briagolong Road for the proposal. In the north. A secondary egress location would be located using existing gates connecting to the Maffra-Briagolong Road in the south.

Internal roads would be constructed for the proposal.

1.5.1 Site selection

The site assessment on 05th May 2022, undertaken by NGH ecologists to record native vegetation within the study area. The results of the vegetation present on the site followed the three-step approach to avoid, minimise and offset. Steps were taken to avoid and minimise impacts to native vegetation as a priority. The following was determined:

- The solar farm layout was located in the site in areas dominated by exotic vegetation where possible.
- 4 large trees within the study area were impacted.
- All scattered trees to be impacted would be offset.
- All areas of wooded vegetation within the study area were avoided.
- The area of grassland to be impacted would be offset.
- Further considerations included habitat assessment and suitability for threatened flora and fauna species
- No areas of EPBC Act listed threatened ecological communities will be impacted
- Only grassland areas of the FFG Act listed threatened ecological communities will be impacted.

1.5.2 Urban Heat Effect

The effects of solar panels on soil quality, microclimate, and native vegetation is a new area of study. It is expected that the shading produced by solar panels will reduce surface temperature and retain moisture levels. Research completed by Lambert et al. (2021) found that solar panels reduced the soil temperature by 10% (Lambert et al., 2021). The study area where the solar panels are proposed to be located was historically a woodland prior to vegetation clearance. However, the canopy and shrub layer has been removed and it is likely that the soil and grassy ground story vegetation has a

higher surface temperature than the surrounding woodland area. The addition of the solar panels is likely to reduce the surface temperature thus improving the microclimate by shading below the panels.

Further research by Armstrong et al. (2016), the solar panels caused seasonal and diurnal variation in air and soil microclimate. Specifically, during the summer a cooling of up to 5.2 °C and drying under the solar panels compared with gap areas between panels. In contrast, during the winter gap areas were up to 1.7 °C cooler compared with under the solar panels. Further, the diurnal variation in both temperature and humidity during the summer was reduced under the solar panels. Results from this research also showed lower species diversity in a species rich grassland environment due to the microclimate and vegetation changes; however, in the circumstance of the proposed solar farm, the remnant native grasses are considered C3 cool temperate grasslands which are likely to benefit from the changes in microclimate and changes in vegetation management. Armstrong et al (2016), research results determined the microclimate changes affected ground storey plant biomass and thus reduced species diversity under the solar panels.

Veryloesem et al (2022) found that solar panels had a negative impact on the vegetation where there were changes in microclimate between solar panels row spacing and underneath the panels. The microclimate changes include shading (from the panels) limiting a plant species ability to photosynthesise and changes in soil temperature. Given the limited research findings available for native vegetation and grasses in Australia, it is likely the solar panels shading would benefit C3 temperate grasses (which are present on site) and limit species richness in C4 grasses. C4 grasses are likely to tolerate the microclimate changes in the spacing between the rows. Within the study area the patches of C3 grasses are in the northern half of the development footprint and are likely to adapt to microclimate changes. C3 grasses- adapted to cool season establishment and growth in either wet or dry environments (DPI, n.d.), may benefit from the shading provided by solar panels, due to the changes in microclimate generated by solar panels.

Long-term monitoring and further research is needed to evaluate the effects of solar panels on vegetation.

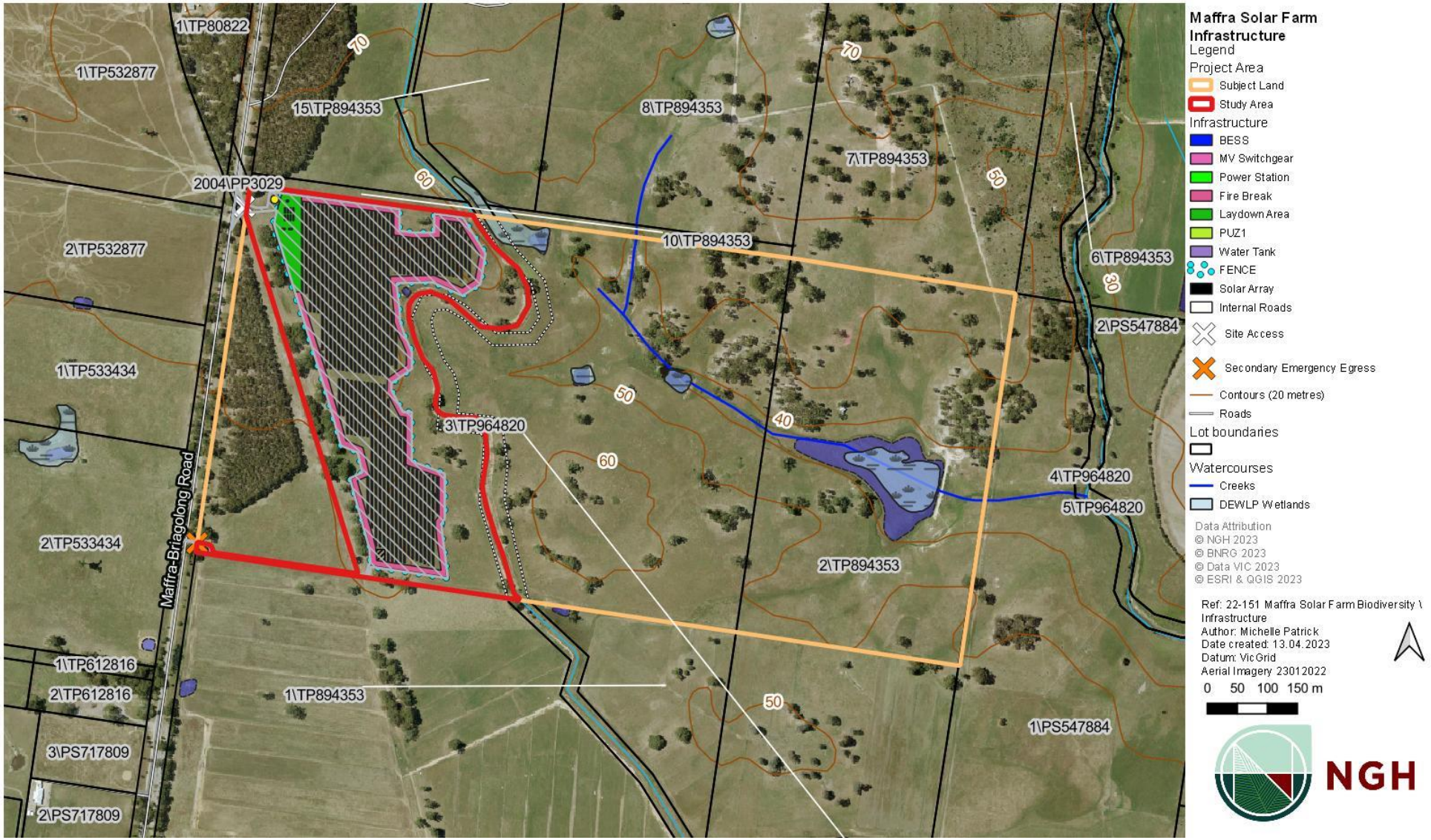

Figure 1-1. Infrastructure Layout

2. Legislative Requirements

This section details the legislative requirements in relation to the ecology assessment. Table 2-1 details the legislation and where it is assessed in the report.

Table 2-1 Legislative requirements for the assessment of the proposal

Legislation	Requirements	Section of this Report
Commonwealth Environment Protection and Biodiversity Conservation Act, 1999 (EPBC)	Matters of National Environmental Significance for threatened entities and RAMSAR wetlands	Section 5.5
Victorian Planning and Environment Act, 1987 (P&E)	Municipal Planning Schemes including Planning Zones and Overlays Clause 52.17 – Native Vegetation	Section 2.1
Flora and Fauna Guarantee Amendment Act, 2019 (formerly Flora and Fauna Guarantee Act 1988) (FFG Act	Threatened entities and critical habitat listed in Victoria	Section 5.1.6
Victorian Wildlife Act 1975	Protection of native fauna	Section 5.2
Catchment and Land Protection Act, 1994	Declared noxious weeds and pest animals.	Section 5.4

2.1 Planning and Environment Act, 1987

The *Planning and Environment Act, 1987* (P&E Act) was introduced in 1987. The purpose of this act is to establish a framework for planning the use, development, and protection of land in Victoria in the present and long-term interests of all Victorians. Each municipality has a Local Planning Scheme setting out policies and clauses specific to zones and overlays that relate to an area or parcel of land. The study area is in the Wellington Planning Scheme.

The zones and overlays for the Study Area are listed below.

- The study area is completely covered by FZ - Farming zone.
- The study area is partially covered by Bushfire Management Overlay – BMO overlay.
- The study area is completely covered by a Designated Bushfire Prone Area

Other relevant layers include:

- RDZ1 – Roads Category 1 located west of the study area along the Maffra-Briagolong Road
- PUZ1 – Public Use Zone (Service and Utility) located along the Strafford Town Supply Channel.

2.1.1 Zoning

The Study Area is in Farming Zone (FZ). The objectives of this Zone are:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To provide for the use of land for agriculture.
- To encourage the retention of productive agricultural land.
- To ensure that non-agricultural uses, including dwellings, do not adversely affect the use of land for agriculture.
- To encourage the retention of employment and population to support rural communities.
- To encourage use and development of land based on comprehensive and sustainable land management practices and infrastructure provision.
- To provide for the use and development of land for the specific purposes identified in a schedule to this zone.

The ecology assessment does not need to address any permit triggers for this zone.

2.1.2 Bushfire Management Overlay – BMO

Clause 44.06 Bushfire Management Overly (BMO) objectives include:

- To implement the Municipal Planning Strategy and the Planning Policy Framework.
- To ensure that the development of land prioritises the protection of human life and strengthens community resilience to bushfire.
- To identify areas where the bushfire hazard warrants bushfire protection measures to be implemented.
- To ensure development is only permitted where the risk to life and property from bushfire can be reduced to an acceptable level.

A Bushfire Management Plan has been prepared for this development by Fire Risk Consultants in consultation with the Country Fire Authority (CFA) outlines management zones in the development footprint. All native vegetation impacts have been assessed as part of this ecology report.

2.1.3 Bushfire Prone Area

The area is in a Bushfire Prone Area. A bushfire assessment has been competed by Fire Risk Consultants in consultation with the Country Fire Authority (CFA) completed for this development which include any native vegetation impacts.

2.1.4 Clause 52.17- Native Vegetation

Native plants that are indigenous to the region and important for biodiversity have the potential to be present in the study area. Based on an assessment of aerial imagery, native vegetation is likely to be present in study area. This may include native trees, shrubs, herbs, grasses or aquatic plants. There are a range of regulations that may apply including need to obtain a planning permit under Clause 52.17 of the Victorian municipal planning scheme.

The purpose of Clause 52.17 is to ensure no net loss to Victoria's biodiversity as a result of the removal, destruction or lopping of native vegetation (DELWP, 2017). By applying the three-step

approach, by avoiding, minimising and offsetting native vegetation loss set out in the native vegetation guidelines. The three-step approach includes:

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.

The requirements to remove native vegetation in Victoria must consider the following criteria in Table 2-2.

Table 2-2 Planning permit requirements for native vegetation removal

Criteria
Has the assessment pathway and reason for the assessment pathway been determined? Has the location category of the native vegetation proposed to be removed identified?
A description of the native vegetation to be removed
Maps showing the native vegetation
The offset requirement determined in accordance with section 5 of the Guidelines.
Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate.
Recent, dated photographs of the native vegetation.
Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five-year period before the application for a permit is lodged.
An avoid and minimise statement. The statement describes any efforts to avoid the removal of and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value.
A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the *Conservation, Forests and Lands Act 1987* that applies to the native vegetation to be removed
Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.
If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 6.
An offset statement explaining that an offset that meets the offset requirements for the native vegetation to be removed has been identified and how it will be secured.
A site assessment report of the native vegetation to be removed, completed by an accredited native vegetation assessor.
Information about impacts on rare or threatened species habitat.

2.1.5 Native vegetation assessment pathway

The development footprint is located in assessment pathway Location 1. The native vegetation guidelines (DELWP, 2017) identify assessment pathways as basic, intermediate, and detailed and these are divided into three location categories across the state of Victoria. These assessment pathways are determined to reduce overall impacts to Victoria's biodiversity.

Table 3 (p. 19 of the guidelines; (DELWP, 2017)) shows the assessment pathway and location category thresholds below. The study area is in Location 1 and 2 with 0.5 hectares, or more proposed to be removed and 3 large trees, requiring a detailed assessment shown in Table 2-3.

Table 2-3 Planning permit thresholds for native vegetation removal (Source: Table 3 from the Guidelines; (DELWP, 2017)).

Extent of native vegetation	Location category		
	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

2.2 Flora and Fauna Guarantee Act, 1988

The *Flora and Fauna Guarantee Act 1988* (FFG Act) was amended to the *Flora and Fauna Amendment Act in 2019.* The flora and fauna conservation and management objectives are:

a) to guarantee that all taxa of Victoria's flora and fauna, other than taxa specified in the excluded list, can persist, and improve in the wild and retain their capacity to adapt to environmental changes; and

b) to prevent taxa and communities of flora and fauna from becoming threatened and to recover threatened taxa and communities so their conservation status improves; and

c) to protect, conserve, restore and enhance biodiversity, including -
    a. flora and fauna and their habitats; and
    b. genetic diversity; and
    c. ecological communities; and
    d. ecological processes; and

d) to identify and mitigate the impacts of potentially threatening processes to address the important underlying causes of biodiversity decline; and

e) to ensure the use of biodiversity as a natural resource is ecologically sustainable; and

f) to identify and conserve areas of Victoria in respect of which critical habitat determinations are made.

One vegetation communities listed under the FFG Act is present on site, refer to section 5.2.2.

2.2.1 Wildlife Act 1975

Under the *Wildlife Act 1975* (Wildlife Act) all native wildlife is protected in Victoria. It is an offence to kill, take, control or harm wildlife under the *Wildlife Act 1975*. It is also an offence to use poisons to kill, destroy or take wildlife. Severe penalties (including imprisonment and fines) apply to those found guilty of an offence under the Wildlife Act.

If any wildlife is located within the habitat proposed for clearing; fauna salvage and relocation of such wildlife may be required as part of the planning permit. Any handling of wildlife must be undertaken by qualified wildlife handlers to ensure no wildlife are injured as a result of the proposed works.

2.3 Catchment and Land Protection Act, 1994

Under the *Catchment and Land Protection Act, 1994* (CaLP Act) control of declared noxious weeds and pest animals will require ongoing management prior, during and post construction.

Appropriately qualified contractors should be engaged to undertake weed (Accredited Chemical Users Permit (ACUP)) and pest animal control (1080 and PAPP).

Hygiene practices for reducing and spreading weeds and pathogens should be included in any Construction Environmental Management Plan.

The weeds and pest animals recorded during the site assessment are addressed in Section 5.4

2.3.1 Declared noxious weeds

In Victoria, the *Catchment and Land Protection Act 1994* (CaLP Act) separates noxious weeds into four categories (Agriculture Victoria, 2020). The CaLP Act defines four categories of noxious weeds as:

- State Prohibited Weeds.
- Regionally Prohibited Weeds.
- Regionally Controlled Weeds.
- Restricted Weeds.

2.3.2 State prohibited weeds

State Prohibited Weeds may not occur in Victoria, or any known infestations are very small. The Victorian Government is responsible for eradicating State Prohibited Weeds and all known infestations should be eradicated. These weeds are considered a significant threat if introduced (Agriculture Victoria, 2020).

2.3.3 Regionally prohibited weeds

Regionally prohibited weeds are capable of spreading across a region and the aim should be to eradicate them. Regionally prohibited weeds are not widely distributed so landowners must take all reasonable steps to eradicate these weeds to prevent them spreading further. Landowners (including public authorities) are responsible for the eradication of these weeds on their land (Agriculture Victoria, 2020).

2.3.4 Regionally controlled weeds

These regionally controlled weeds are usually widespread and highly invasive. Landowners need to take all reasonable steps to prevent the growth and spread of regionally controlled weeds on their land (Agriculture Victoria, 2020).

2.3.5 Restricted weeds

Restricted weeds cannot be traded, and this includes plants, seeds or propagules or contaminants. Restricted weeds are at risk of spreading within Victoria or other States or Territories of Australia. It is a landowner's responsibility to prevent the spread of these weeds (Agriculture Victoria, 2020).

3. Purpose of this assessment

The proposal must meet the requirements under Clause 52.17 – Native Vegetation under the P&E Act. This ecological assessment addresses the native vegetation requirements and any threatened entities that may be impacted under this Clause.

3.1 Assessment pathway for proposal

As outlined in Section 2.1.5, the study area is located in assessment pathway Location 1 and 2. The assessment pathway was determined to be detailed due as:

- 0.5 hectares or more is proposed to be removed
- 4 large trees are proposed to be removed

A habitat hectares assessment was undertaken for the proposed native vegetation removal in the development footprint. This was conducted to satisfy Clause 52.17.

Figure 3-1 shows the native vegetation risk assessment.

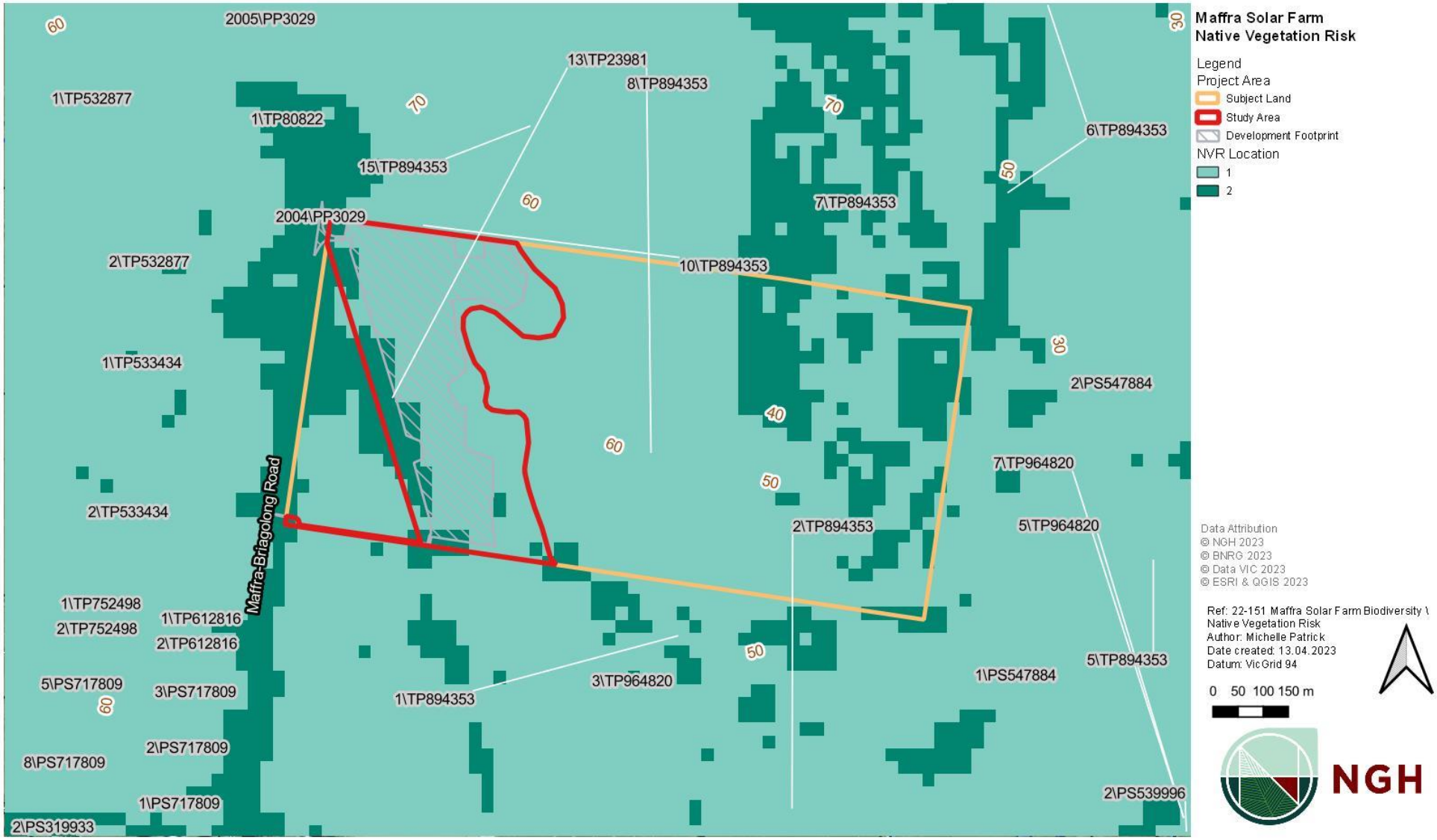

Figure 3-1. Native vegetation risk assessment pathway

4. Method

4.1 Desktop searches

The background searches included:

- A desktop search for threatened species using the Victorian Biodiversity Atlas (VBA). The VBA search included the study area and a buffer area of 5 km.
- An assessment of the threatened communities (FFG listed)
- A Matters of National Environmental Significance (MNES) desktop search with a 10 km buffer for nationally threatened flora, fauna and vegetation communities.

4.1.1 Assessment of threatened species and vegetation communities

Based on the background search results, the likelihood of occurrence (Table 4-1) is a broad way to categorise the likelihood of threatened flora and fauna presence based on the MNES results, VBA records and habitat features observed on site.

Table 4-1 Likelihood of threatened species being observed on site

Likelihood of Occurrence	Reasoning
Nil/Absent	Suitable habitat is not present within the study area.
Low	Considered unlikely to occur due to older records, unsuitable or degraded habitat.
Moderate	Potential habitat occurs on site. Low record numbers or species not recorded in the area for many years. Considered that the species may occur infrequently.
High	Observed on site. Important habitat occurs onsite (i.e., nesting sites, suitable habitat).

4.2 Field assessment

The site assessment was completed by two NGH Ecologists, including one VQA accredited Ecologist on 05th May 2022. The weather was cool, sunny with light wind. No rain occurred during the day. Heavy rain started in the at afternoon after the completion of the field assessment. The weather and climate statistics for the nearest weather station at Sale (Station number 085072) located around 18km south-east of the study area are detailed below in Figure 4-1 (Bureau of Meterology, 2022).

The site assessment included an assessment of native vegetation, scattered tree assessment, and incidental fauna observations. The methods used are outlined in the following sections.

Sale, Victoria
May 2022 Daily Weather Observations

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9 am						3 pm					
		Min	Max				Dir	Spd	Time	Temp	RH	Cld	Dir	Spd	MSLP	Temp	RH	Cld	Dir	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	8th		km/h	hPa	°C	%	8th		km/h	hPa
5	Th	8.0	16.0	6.6						10.5	55					15.9	49				

Figure 4-1 Weather and climate data site assessment.

4.2.1 Flora

The flora survey was completed on foot. The flora survey included using the habitat hectares methodology. The entire study area was assessed (as required under Clause 52.17 – Native Vegetation), to determine patches of native vegetation, scattered trees and any revegetation areas.

The methodology applied for the native vegetation assessment is described below.

Native vegetation assessment

The native vegetation assessment was undertaken based on the Guidelines of Clause 52.17 of the P&E Act for the removal, destruction or lopping, of native vegetation, (DELWP, 2017). The guidelines state native vegetation is assessed to ensure it meets the following criteria:

- An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; or
- Any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; or
- Any mapped wetland included in the current wetlands map, available in Department of Environment, Land, Water and Planning (DELWP) systems and tools.

During the site assessment, the habitat hectare method was applied to any native vegetation patch determined to have greater than 25% perennial ground cover.

Results of the assessment are described in Section 5.1.

Scattered and large trees within a habitat zone

Based upon the criteria in the guidelines (DELWP, 2017), a scattered tree is defined as a tree that is indigenous to the area which is:

- A native canopy tree (large or small in size) that does not form part of a patch; or
- A large, scattered tree that is greater than or equal to the diameter at breast height (DBH) as determined by the EVC benchmark.

All large trees within a habitat zone were recorded where the tree was greater than the EVC benchmark DBH. All stags (dead canopy trees) were recorded if they were greater than 40 cm DBH. Within the habitat zone, only tree stags that are greater than the EVC benchmark DBH are recorded.

For each scattered tree, large tree or stag the following information was recorded:

- Plant species identified (including scientific and common name).
- Location recorded using a handheld Geographical Positioning System (GPS).

- DBH measured and recorded.
- Tree health.
- Presence of habitat features such as hollows or nests.

The tree species list can be found in Appendix B and the summary information can be found in Section 5.

4.2.2 Ecological Vegetation Classes (EVC)

The vegetation communities found in the Gippsland Plain Bioregion are termed Ecological Vegetation Classes (EVCs). These EVCs were mapped by the Victorian Government based on landscape attributes to determine the pre-European native vegetation extent (DSE, 2004). Each Bioregion consists of a number of EVCs. Each EVC has pre-determined benchmarks which are used in the habitat hectare assessment to determine the site condition score (DSE, 2004).

The Ecological Vegetation Classes identified in the study area are provided in Section 5.1.

4.2.3 EVC Conservation Status

Each EVC has a Bioregional Conservation Status based on the extent cleared or remaining since European settlement. Table 4-2 lists the criteria for the conservation status for Ecological Vegetation Classes (DELWP, 2021).

The conservation status for each EVC found onsite is listed in Table 4-2.

Table 4-2 Criteria for the conservation status for Ecological Vegetation Classes (Source: (DELWP, 2021))

Category	Status Code	Criteria
Presumed Extinct	X	Probably no longer present in the bioregion (the accuracy of this assumption is limited by the use of remotely - sensed 1:100 000 scale woody vegetation cover mapping to determine depletion - grassland, open woodland and wetland types are particularly affected).
Endangered	E	Contracted to less than 10% of former range; OR Less than 10% pre-European extent remains; OR Combination of depletion, degradation, current threats and rarity is comparable overall to the above: • 10 to 30% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC reduced to 30% or less of former range and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a majority of former area.

Category	Status Code	Criteria
Vulnerable	V	10 to 30% pre-European extent remains; OR Combination of depletion, degradation, current threats and rarity is comparable overall to the above: • greater than 30% and up to 50% pre-European extent remains and moderately degraded over a majority of this area; or • greater than 50% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC where greater than 30% pre-European extent remains and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a minority of former area.
Depleted	D	Greater than 30% and up to 50% pre-European extent remains; OR Combination of depletion, degradation and current threats is comparable overall to the above and: • greater than 50% pre-European extent remains • and moderately degraded over a majority of this area.
Rare	R	Rare EVC (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as Endangered, Vulnerable or Depleted.
Least Concern	LC	Greater than 50% pre-European extent remains and subject too little to no degradation over a majority of this area.

4.2.4 Habitat hectares methodology

The habitat hectare methodology compares the EVC benchmark with site attributes and landscape components to determine the vegetation site condition (DELWP, 2017b).

Each area defined as native vegetation, where the perennial ground cover is more than 25% or three or more canopy trees driplines touch forming a canopy, a habitat hectares assessment is required to be undertaken. These areas are defined as habitat zones and are identified throughout the study area. The habitat zones are divided by similarities in their habitat components and vegetation condition.

The habitat hectares results are included in Section 0.

4.3 Fauna

During the site assessment, incidental fauna observations were recorded. These observations included habitat features observed on site as well fauna activity such as sightings, scats, burrows, warrens, hollows, logs, and rocky areas. No targeted surveys were undertaken as a part of this ecological assessment. Pest animal activity or sightings were included in this assessment.

4.4 Mapping

Assessment features were mapped on site using a Samsung Android Geographic Information System (GIS) device through use of 'QField' a GIS collection program. ESRI aerial imagery base map was utilised for the field assessment. All data layers were sourced from the layers publicly available from the Victorian Government or provided from the client. Mapping accuracy is within 3 metres. All layers collected were georeferenced to Geographic Datum of Australia (GDA) 94 Vic Grid.

5. Results

The results of the site assessment including a summary of EVCs, scattered trees, site observations of flora and fauna and assessment of threatened species habitat is provided in the following sections.

5.1 Flora

The results of the list of flora species identified whilst on site, are listed in Appendix A. The flora observations documented a total of 45 plant species. There were 34 native species and 11 exotic plants which included three high threat weed species.

A comprehensive species list is recommended to be compiled over many seasons and it is likely more flora species will be found across different seasons.

One ecological vegetation class (EVC) were recorded on site that include:

- EVC 55 Plains Grassy Woodland

The EVCs are shown in the map in Figure 5-4.

5.1.1 EVC 55 Plains Grassy Woodland

EVC 55 Plains Grassy Woodland of the Gippsland Plain (DSE, 2004) is described as:

'An open, eucalypt woodland to 15 m tall occurring on a number of geologies and soil types. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer.'

EVC 55 within the study area includes remnant grassland and woodlands covering more than 25% perennial native vegetation cover. The exotic species include grasses and herbs. Two habitat zones were identified, Habitat Zone 1 (grasslands), Habitat Zone 2 (Large Trees and Woodland).

Habitat Zone 1 is broken into 6 sub-zones, only sub-zone 1a -1c are proposed to be impacted and require offsetting. Habitat Zones 1d-1f will not be impacted (see Figure 5-1 and Figure 5-2) Habitat Zone 1 occurred as remnant grassland, dominated by Weeping Grass (*Microlaena stipoides)* with one small area dominated by native sedges and rushes.

Habitat Zone 2 has 5 (5a-5e) small zones. Within all of the zones there are 25 Large Trees. 1 large tree would be impacted due to encroachment into the Tree Protection Zone (>10%).

These trees are Forest Red Gum (*Eucalyptus* tereticornis) and River Red Gum (*Eucalyptus camaldulensis).* Woodland areas contained remnant trees, with continuous recruitment observed. The ground layer was native with a diverse structure of native species (refer to Appendix A).

Mapping showing the extent of EVC 55 within the study area and development footprint is presented in Figure 5-4.

Figure 5-1. Habitat Zone 1a dominated by native grasses

Figure 5-2. Habitat Zone 2e

5.1.2 Scattered trees

There are 6 scattered trees in the study area. Three of these trees are proposed to be removed. One tree is located in the development footprint and two others are located at the secondary access where they will be offset due to encroachment into the tree protection zone (see Figure 6-4).

A list of the scattered trees has been provided in Appendix B.

5.1.3 Vegetation Quality Assessment score

Table 5-1 presents the habitat hectare results for the habitat zones within the study area that will generate offsets.

Table 5-1 Habitat hectare scores for the habitat zones that would be impacted within the study area.

Habitat Components	Benchmark Score	Habitat Zone 1a-1c
Habitat Components		
EVC		55
Large Trees	**10**	0
Tree Canopy Cover	**5**	0
Understorey	**25**	15
Lack of Weeds	**15**	9
Recruitment	**10**	0
Organic Litter	**5**	0
Logs	**5**	0
Standardiser	**1**	1.15
Habitat Components score		20
Landscape Context		
Patch Size	**10**	2
Neighbourhood	**10**	1
Distance to Core Area	**5**	1
Landscape Context Score		4
Final Habitat Score		**32**
Percentile Score		0.32
Area (hectares)		3.50

5.1.4 Planted native vegetation

Two areas of planted native vegetation were identified. The road reserve of the Maffra – Briagolong Road was dominated by planted native vegetation, with an understory largely dominated by exotic grasses. The native vegetation present was either less than 10 years old or determined to not form part of an EVC. Some regeneration of native vegetation was occurring; however, it did not meet 25% occurrence within the patch. Confirmation of planted vegetation within the road reserve was achieved through assessment of historic imagery from 1957. A number of exotic species, including pine trees formed part of the planted vegetation. One remnant large tree, *e. tereticornis,* was located at the southernmost extent of the survey road reserve. This tree forms part of Habitat Zone 2.

A Blue Gum (*Eucalyptus globulus)* plantation is present within the lot, a sign stating the planting occurred in 1996 was present on site.

Under clause 52.17, the requirement to obtain a permit does not apply to planted vegetation. This exemption does not apply to native vegetation planted or managed with public funding. These areas and are mapped in Figure 5-4.

No areas of the road reserve or Blue Gum plantation are proposed for removal.

5.1.5 Exotic vegetation

All of the remaining vegetation in the development footprint is considered exotic. These areas do not trigger a planning permit or offset for removal, refer to Figure 5-3. These areas and are mapped in Figure 5-4.

Figure 5-3. Exotic vegetation

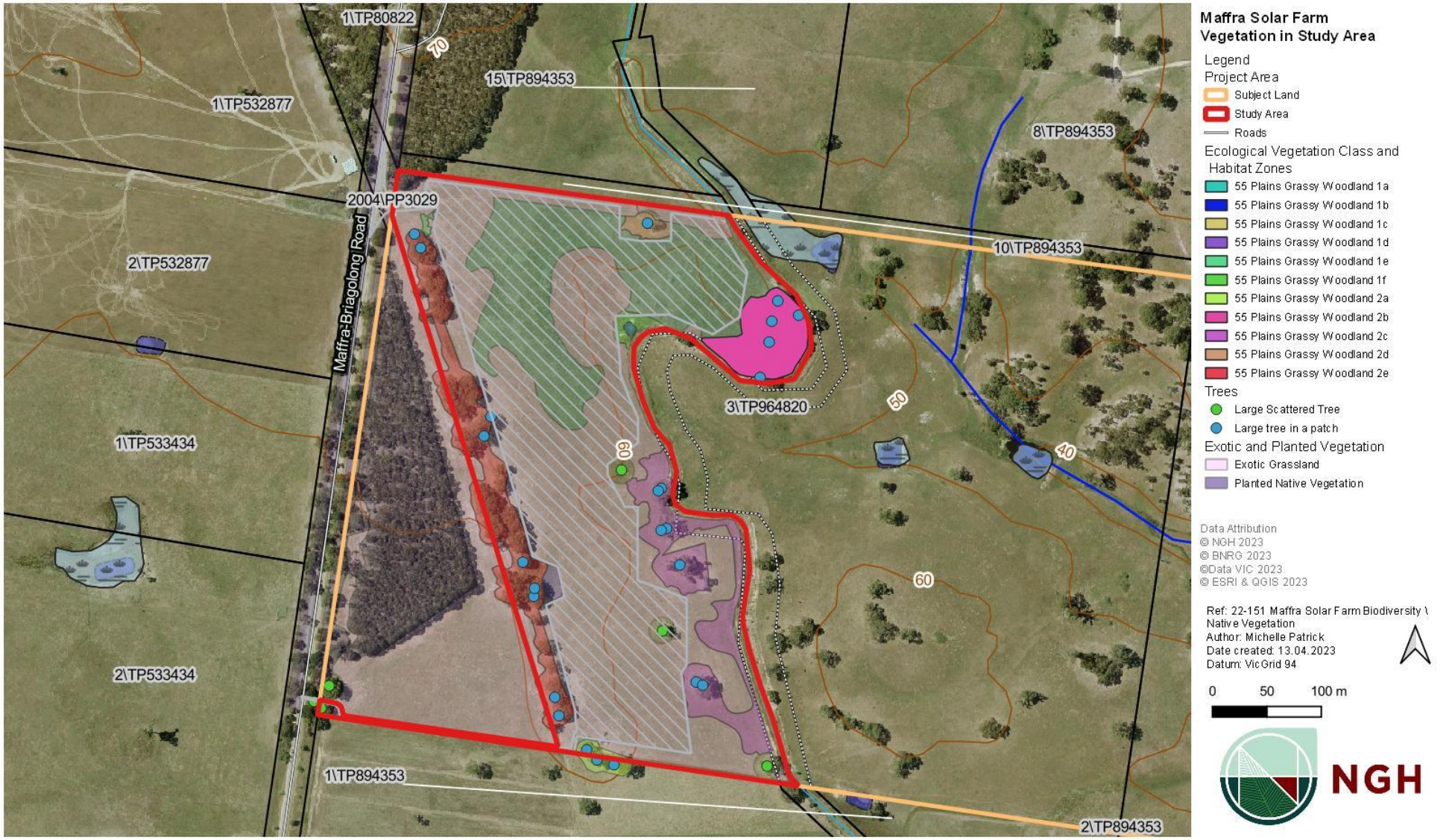

Figure 5-4 Vegetation in the study area.

5.1.6 Threatened flora

The Victorian Biodiversity Atlas (VBA) search results recorded seven flora within 5 kms of the Study Area. One of these species, the Giant Honey-myrtle *Melaleuca armillaris subsp. armillaris* is recorded around 700 m south-east of the study area. No records are located within or directly adjacent to the study area.

The VBA search results and evaluation of the likelihood of occurrence of threatened flora species can be found in Appendix C. This evaluation determined one species had a Low – Moderate potential of occurring and a potential to be impacted:

- Rough-grain Love-grass (*Eragrostis trachycarpa)*

An additional survey was undertaken in March 2023 and determined the species to be absent from the study area and road reserve (Ecological 2023).

5.2 Fauna

During the site assessment, incidental fauna observations were recorded. These observations included habitat features observed on site as well fauna activity such as sightings, scats, burrows, warrens, hollows, logs, and rocky areas. No targeted surveys were undertaken as a part of this ecological assessment. Pest animal activity or sightings were included in this assessment. Only common fauna species were observed.

5.2.1 Threatened fauna

No threatened fauna was observed during the site assessment. The Victorian Biodiversity Atlas (VBA) search results listed 28 threatened fauna records within 5 km of the study area. These species included:

- 20 birds including migratory birds.
- 3 fish.
- 3 mammals.
- 1 monotreme and,
- 1 reptile.

Based on the onsite habitat assessment, all threatened fauna species were evaluated as having a low likelihood of occurring.

5.2.2 Further surveys

No additional flora and fauna surveys are required

5.3 FFG Threatened communities

Each EVC has a bioregional conservation status. Within the Victorian Gippsland Plain bioregion, EVC 55 Plains Grassy Woodland is listed as Endangered.

Habitat Zones 1 and 2 were all disturbed from grazing and general agricultural land use however, some native vegetation in the ground storey persisted. A low stocking rate was present at the time of the surveys, many native ground-flora species were in flower or fruit/seed at the time of the survey within the woodland areas. A low diversity of flora species was observed within the

grassland zone (habitat zone 1), a moderate to high diversity was present within the woodland areas (habitat zone 2) Characteristics species of this FFG listed community occurred within both habitat zones. As such, EVC 55 within the study area was determined to form part of the FFG Act listed Threatened Vegetation Community *Forest Red Gum Grassy Woodland Community* (see Figure 5-5*).*

Around 3.516 ha (habitat zone 1) of the FFG listed community including 4 Large Trees would be impacted and offset. A total of 3.758 ha proposed to be removed. Habitat zone 1 is considered low vegetation condition and quality where there is an absence of canopy Eucalypts and shrubs. The groundstorey remains in a modified state.

Habitat zone 2 has been avoided by the proposed solar farm. This vegetation community has been considered under EPBC considerations in the next section of the report. The vegetation community retains woodland characteristics with an intact canopy and groundstorey vegetation. Measures have been taken to avoid and minimise impacts to this community.

5.4 Declared weeds and pest animals

Noxious weeds identified on site

Two noxious weed was identified during the site assessment.

The noxious weeds found on site are listed in Table 5-2.

Table 5-2 Declared noxious weeds in the Study Area.

Scientific Name	Common Name	Status
Lycium ferocissimum	African Boxthorn	Regionally Controlled
Rubus fruticosus	Blackberry	Regionally Controlled

Declared pest animals

There was evidence of European Rabbit (*Oryctolagus cuniculus*) on site in the form of droppings and it is likely that the Red Fox (*Vulpes vulpes*) is present in the locality.

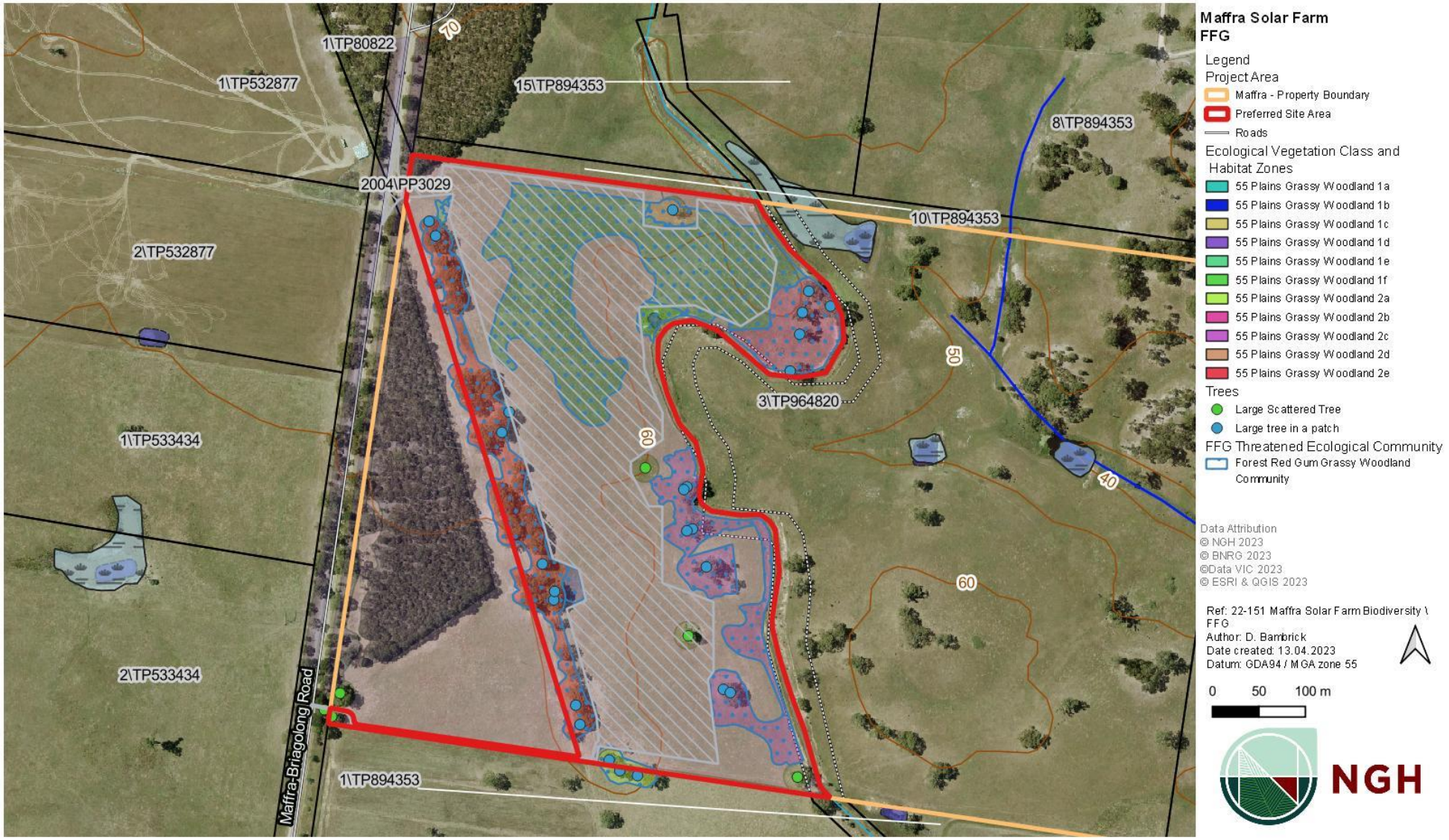

Figure 5-5 FFG Threatened Ecology Community *Forest Red Gum Grassy Woodland Community.*

5.5 Matters of National Environmental Significance

Under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), actions that have, or are likely to have, a significant impact on a Matters of National Environmental Significance require approval from the Australian Government Minister for the Environment (the Minister). The Minister will decide whether assessment and approval is required under the EPBC Act.

The nine matters of national environmental significance protected under the EPBC Act are:

a) world heritage properties
b) national heritage places
c) wetlands of international importance (listed under the Ramsar Convention)
d) listed threatened species and ecological communities
e) migratory species protected under international agreements
f) Commonwealth marine areas
g) the Great Barrier Reef Marine Park
h) nuclear actions (including uranium mines)
i) a water resource, in relation to coal seam gas development and large coal mining development

The matters relevant to the site are (c) and (d) wetlands of international importance and listed threatened species and ecological communities. These matters are discussed below.

5.5.1 Threatened communities

There was one threatened ecological communities (TEC) identified in the Protected Matters Search Tool (PMST) Matters of National Environmental Significance search, this was Gippsland Red Gum (*Eucalyptus tereticornis subsp. mediana*) Grassy Woodland and Associated Native Grassland. The condition thresholds for this community are listed in Table 5-4 below. All areas of EPBC Act listed TEC are being avoided by the proposed development (see Figure 5-6). No areas of EPBC Act listed TEC require offset.

Key diagnostic characteristics of this TEC are as follows (DEWHA, 2008)

- The ecological community occurs in two forms.
    - A grassland form in which the ground layer is the dominant vegetation layer. The tree canopy is absent or of scattered trees only (projective foliage cover of trees is 0 to 5%).
    - A woodland form in which the tree canopy layer is the dominant vegetation layer (projective foliage cover of trees is greater than 5%). The woodland form varies in appearance from a stable regrowth with mostly thin and closely spaced trees to an open, mature woodland with large and widely spaced trees.
- The ground layer is dominated by native graminoids. That is, 50% or more of the vegetation cover of the ground layer (i.e., excluding bare ground) is made up of native grasses and grass-like plants (such as sedges, rushes, lilies, Lomandra and similar plants).
- The tree canopy layer is typically dominated by Gippsland Red Gum (*Eucalyptus tereticornis subsp. mediana*). Small, localised occurrences of Black Sheoak or Drooping

- Sheoak may occur within patches of the ecological community. The geographic distribution is limited to the eastern Gippsland Plain, generally between the Strzelecki Ranges and the Tambo River valley

Table 5-3 condition thresholds

Threshold	Presence/absence within study area
Grassland form	
Minimum patch size 0.04 ha AND,	Present. The grassland area is greater than 3 ha
50 or more of the perennial ground layer vegetation cover comprises native species AND,	Present, around 50% of the grassland patch was dominated by Weeping Grass (*Microlaena stipoides)*
7 or more species of native plants are present, excluding trees and tall shrubs (over 5 metres)	Absent. No trees or shrubs were present in the grassland area. Less than 7 native plant species were present.
Conclusion	The Grassland form of this TEC does not occur within the study area
Grassy woodland from	
Minimum patch size 0.2 ha, AND	Present, the woodland area is greater than 3 ha
50% or more of the perennial ground layer vegetation comprises native species	Present, the ground layer was more than 50% native consistently across the patch, with some areas around 90% native perennial species,
Result	The Grassy woodland form of this TEC occurs within the study area

Table 5-4 MNES search results for Threatened Communities

Community Name	Threatened Status	Occurrence	Presence/Absence within study area
Gippsland Red Gum (*Eucalyptus tereticornis subsp. mediana*) Grassy Woodland and Associated Native Grassland	CE	Community likely to occur within area	Community occurred within habitat zone 2 (excluding scattered

Community Name	Threatened Status	Occurrence	Presence/Absence within study area
			trees)

Conclusion

Habitat Zone 2(a-e) is considered to qualify as the Gippsland Red Gum (*Eucalyptus tereticornis subsp. mediana*) Grassy Woodland and Associated Native Grassland threatened ecological community, however, no areas identified as this TEC would be impacted. Steps have been taken to ensure areas where this TEC occurs have been avoided through detailed design as part of the three step approach.

Therefore, no EPBC referral is required.

5.5.2 RAMSAR wetlands

The nearest RAMSAR wetland is the Gippsland Lakes, this site is located around 20 km south-east of the study area. The proposed works would not incur an impact on any wetland areas. A watercourse bisects the study area in the north-east corner. Environmental and sediment control measures would be implemented to ensure no pollutants or sediment runoff from the proposal travels downstream to any wetlands or waterways.

5.5.3 Threatened flora and fauna

From the MNES search results, the following records of nationally threatened flora and fauna are:

- Flora - 11
- Birds, including migratory birds – 22
- Fish – 2
- Amphibians – 3
- Mammals – 4

The EPBC listed species with a likelihood of occurring on site are listed in Appendix C. See Appendix D for the full list of MNES species.

No EPBC listed flora and fauna are considered likely to occur on site which has resulted in a low likelihood rating.

Conclusion

No EPBC Act referral is required as the impacts to these species are considered manageable through avoiding and mitigating impacts.

Figure 5-6. EPBC Threatened Ecological Community Gippsland Red Gum (*Eucalyptus tereticornis subsp. mediana*) Grassy Woodland and Associated Native Grassland.

6. Proposed native vegetation removal

Under the Wellington Planning Scheme, Clause 52.17-2 refers to the native vegetation guidelines (DELWP, 2017) for the native vegetation requirements that need consideration for a proposed planning permit application. Section 6 of this report outlines native vegetation impacts under this Clause including:

- The native vegetation assessment pathway
- The avoid and minimise statement
- The offset strategy

The Native Vegetation Removal Report that identifies the offset requirements where native vegetation will be impacted can be found in Appendix E. The offset quote can be found in Appendix F.

6.1 Proposed native vegetation assessment pathway

The native vegetation impact assessment determines the offset requirements for the vegetation loss that cannot be avoided or minimised due to the proposed development. Table 6-1 outlines the assessment pathway for the native vegetation impacts to meet the requirements of Clause 52.17 for a planning permit application.

Table 6-1 Planning permit requirements for native vegetation removal

Criteria	Assessment Pathway		Scattered trees or large trees in a patch	Report Section
	Basic/Intermediate Pathway	Detailed Pathway		
Has the assessment pathway and reason for the assessment pathway been determined? Has the location category of the native vegetation proposed to be removed been identified?	**No**	**Yes. Location 2, 0.5 hectares or more and four large trees**	N/A	This section
A description of the native vegetation to be removed	**Yes**	**Yes**	N/A	Section 5.1
Maps showing the native vegetation	**Yes**	**Yes**	N/A	Figure 5-4
The offset requirement determined in accordance with section 5 of the Guidelines.	**Yes**	**Yes**	N/A	Section 6.4
Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and	**Yes**	**Yes**	N/A	Section 5

Criteria	Assessment Pathway		Scattered trees or large trees in a patch	Report Section
	Basic/Intermediate Pathway	Detailed Pathway		
waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate.				
Recent, dated photographs of the native vegetation.	**Yes**	**Yes**	N/A	Section 6.3
Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five year period before the application for a permit is lodged.	**No recent planning permit application to remove native vegetation**	**No recent planning permit application to remove of native vegetation**	No recent planning permit application to remove of native vegetation	NA
An avoid and minimise statement. The statement describes any efforts to avoid the removal of and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value.	**Yes**	**Yes**	N/A	Section 6.2
A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the *Conservation, Forests and Lands Act 1987* that applies to the native vegetation to be removed	**N/A**	**N/A**	N/A	N/A
Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This is not required when the	**N/A**	**N/A**	N/A	N/A

Criteria	Assessment Pathway		Scattered trees or large trees in a patch	Report Section
	Basic/Intermediate Pathway	Detailed Pathway		
creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.				
If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 6.	**N/A**	**N/A**	N/A	N/A
An offset statement explaining that an offset that meets the offset requirements for the native vegetation to be removed has been identified and how it will be secured.	**Yes**	**Yes**	N/A	Section 6.4
A site assessment report of the native vegetation to be removed, completed by an accredited native vegetation assessor.	**Yes**	**Yes**	N/A	This report
Information about impacts on rare or threatened species habitat.	**Yes**	**Yes**	N/A	Sections 5.2.1 and 5.1.6

6.2 Avoid and minimise statement

Steps to avoid and minimise unnecessary impacts on native vegetation within the study area include:

- The site assessment identified all of the native vegetation on site and further steps in project design were undertaken to minimise native vegetation loss including:
    - Detailed design to avoid patches of native vegetation.
    - Inclusion of existing native vegetation within areas to be utilised for vegetation screening.
    - Design change to avoid all areas of EPBC Act listed native vegetation and all woodland areas.
- The development footprint is located mainly in areas covered by exotic pastures and areas with low quality vegetation.
- The existing access to the paddock will be upgraded and utilised to avoid impacting roadside vegetation.
- The proposal will impact 3.516 ha of EVC 55 grassland and 4 large trees that includes:

- offset (Habitat Zones 1a -1c,
- 3 scattered trees and
- 1 large tree in a patch (Habitat Zone 2e).

Three of the large trees are considered assumed loss due to encroachment into the Tree Protection Zone (>10%). 1 large tree is proposed to be removed as it is located in the development footprint. The total number of hectares impacted is 3.758.

- All native vegetation to be retained will be fenced during construction.
- Erect signage to say 'no-go zones' tree protection areas.
- Mitigation measures to minimise the biodiversity loss includes:
  - Take steps necessary to avoid harm or injury to wildlife.
  - Fauna salvage prior to tree removal, especially HBT removal.
  - A suitably qualified Zoologist or wildlife handler on site during tree removal or removal of the vegetation in the drainage basin.
  - Bushfire Management includes vegetation protection areas to avoid unnecessary slashing within vegetation to be retained where:
    - During the construction phase, all vegetation within 100 metres of the works areas that are within the property boundary (excluding the vegetation protection areas) are to be managed during the fire danger period so that the grassland is always less than 100mm in height.

6.3 Native vegetation removal report

The impacted native vegetation requiring offset includes 3.758 hectares for the proposed Solar Farm, including 4 large trees (see Figure 6-1, Figure 6-2, Figure 6-3).

The native vegetation removal includes the following:

- 3.516 ha of Habitat Zone 1a (EVC 55 Plains Grassy Woodland)
- 3 large scattered trees – 1 large scattered tree is located in the development footprint. Two large scattered trees are located at the secondary access point that are proposed to be offset due to assumed loss due to encroachment into the tree protection zone potentially being >10%.
- One large tree in a patch (Habitat Zone 2a) will offset due to the encroachment into the tree protection zone. The scattered tree 15m buffer was applied to this tree for offsetting. This tree will not be removed but is considered assumed loss and therefore offset.

A native vegetation removal report was completed on 30/03/2023. The native vegetation removal report must be submitted to DELWP using scenario testing software called EnSym. DELWP release the Native Vegetation Removal Report which provided the following assessment pathway information in Table 6.2 and the offset requirements for the offset strategy in Table 6.3.

Figure 6-4 shows the native vegetation proposed to be removed.

Figure 6-1. Habitat Zone 1a

Figure 6-2. Scattered tree in the development footprint

Figure 6-3. Scattered trees at secondary access gate

Table 6-2 Assessment pathway

Assessment Pathway	Detailed Assessment Pathway
Extent of native vegetation removal	3.758 (hectares)
Extent of past removal	0 (hectares)
Extent of proposed removal	3.758 (hectares)
Number of large trees	4
Location category	Location 2

Table 6-3 Offset requirements

Offset Items	Offset Requirements
General offset amount	1.323 General Habitat Units
Vicinity	West Gippsland Catchment Management Authority (CMA) or Wellington Shire Council
Minimum strategic biodiversity value score	0.402
Large trees	4 large trees

6.4 Offset strategy

As part of the planning permit application, evidence must be shown to the responsible authority that steps have been undertaken to ensure an offset is secured. Offsets for native vegetation removal in Victoria can be secured in two ways - first party offset or a third-party offset. The first party offset involves setting up the offset on private property i.e., the same property where the proposed removal is occurring. The requirements are outlined in Section 6.4.1.

Third party offsets are purchased through a broker, and this is outlined in Section 6.4.2.

6.4.1 First party offsets

No first party offset will be undertaken for this proposal.

6.4.2 Third party offsets

A third-party offset can be purchased through a credited broker (in the form of a third offset quote) and provided to the responsible authority as part of a planning permit application.

The offset requirements for 1.323 General Habitat Units must be located in the West Gippsland Catchment Management Authority (CMA) or Wellington Shire Council areas and have a minimum strategic biodiversity value score of 0.402.

A third party offset quote was obtained from Vegetation Link and this is included in Appendix F.

If approval is granted for the native vegetation removal, the third party offset quote must be secured and the credit extract provided to the responsible authority i.e., the credit extract is provided to the applicant once the quote has been purchased.

Further information about accredited credit brokers can be found here:

https://www.environment.vic.gov.au/native-vegetation/native-vegetation/offsets-for-the-removal-of-native-vegetation/i-need-to-secure-an-offset

Figure 6-4 Proposed Native Vegetation Removal

7. Mitigation measures

The following mitigation measures are recommended prior to construction to reduce impacts to biodiversity if a planning permit is approved for the proposed Solar Farm.

It is recommended that a fauna management plan is completed prior to construction to assess the hollow bearing trees prior to any tree clearance works. Fauna management plan should consider the following:

  - A pre-clearance survey of the site is required prior to tree removal to identify any Hollow bearing trees
  - Consider if any wildlife permits are required
  - Areas of vegetation to be retained are fenced prior to vegetation removal and construction commencing.
  - Take steps necessary to avoid harm or injury to wildlife.
  - Fauna salvage prior to tree removal, including HBT removal. Including checking of hollows for the presence of breeding or roosting fauna prior to removal.
  - Soft fall technique for HBT removal, ensuring tree and hollows are lowered slowly to the ground.
  - A suitably qualified ecologist or wildlife handler on site during tree removal or removal of the vegetation and habitat features.

- Construction of the boundary fence prior to construction and vegetation removal to define 'no-go areas.' The fencing is shown in Figure 6-4.
- The impact area is confined to the development footprint as per Figure 6-4 showing the vegetation proposed to be removed or retained.
- No areas outside the development footprint would be impacted, including vehicle movements. Any increase to the development footprint would require re-assessment of offset impacts and ecological impacts.
- The boundary vegetation and road reserve vegetation will be retained.
- Any threatened species finds protocol would be implemented, including having an ecologist on site during vegetation removal. If a species is identified during the construction phase that is suspected of being a threatened species, all works would stop to allow assessment of the species by a suitability qualified person prior to continuation.
- All machinery and plant equipment will be cleaned using a high-pressure washer (or other suitable device) prior to entering work sites.
  - Any exotic plant material containing seed heads, including topsoil containing weed propagules, will be disposed of at an appropriate waste management facility or otherwise properly treated to prevent weed spread.
- Herbicides will be used in accordance with the requirements on the label. Any person undertaking herbicide application will be trained to do so and have the proper certificate of completion/competency or statement of attainment issued by a registered training organisation.
- Any fallen timber encountered on site will be left *in situ* wherever possible or relocated to a suitable place nearby.
  - Fallen timber will not be 'pushed' into surrounding vegetation and would be 'lifted' and 'placed' to avoid unnecessary disturbance.

  - Any Coarse Woody Debris (CWD) created from the proposed works would be placed in surrounding vegetation.
  - Any CWD mulched would be spread thinly <100 mm deep in surrounding vegetation.
- Erosion and run-off control works, as well as rehabilitation and stabilisation measures, would be undertaken where necessary.
- Bushfire requirements include the following:
  - maintaining all exotic grasses to <10 mm in height within the designated development footprint.
  - All areas of native vegetation outside of this zone are to be retained.
  - Construction of a secondary access point.
  - During the construction phase, all vegetation within 100 metres of the works areas that are within the property boundary (excluding the vegetation protection areas) are to be managed during the fire danger period so that the grassland is always less than 100mm in height.
- Ongoing management of grass cover for the duration of the project may include slashing and grazing.

8. Conclusion

NGH Pty Ltd was engaged by the Trustee for BL Maffra Solar Trust/BL Maffra Solar nominees Pty Ltd (BNRG Pty Ltd) to undertake an ecological assessment for the proposed Sub-5 Mega Watt (MW) battery supported solar farm at Maffra-Briagolong Road Maffra Victoria (VIC).

The proposed vegetation removal requiring offsets includes 3.758 hectares (ha) EVC 55 Plains Grassy Woodland.

An offset strategy would be required and would need to meet the following requirements:

- General offset amount – 1.323 General Habitat Units
- Vicinity - West Gippsland Catchment Management Authority (CMA) or Wellington Shire Council
- Minimum strategic biodiversity value score – 0.402
- Large trees – 4
- If a permit is granted, a third-party offset is to be secured, the next step would involve contacting Vegetation Link to enter into a purchase agreement.

No EPBC Act referral is required as the impacts to these species are considered manageable through avoiding and mitigating impacts.

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Appendix A Flora List

E – Exotic; N- Native; V – Vulnerable (FFG); CE – Critically Endangered (FFG)

CaLP weed listing status R = Restricted, C= Regionally Controlled

Scientific Name	Common Name	Status	CaLP weed listing status	Habitat Zone 1	Habitat Zone 2
Acetosella vulgaris	Sheep sorrel	E		X	
Carex sp.	Sedge	N		X	
Crassula sp.	Stonecrop	N		X	
Eucalyptus tereticornis	Forest Red Gum	N			X
Eucalyptus camaldulensis	River Red Gum	N			X
Hypochaeris radicata	Cat's ear	E		X	X
Juncus sp	Rush	N		X	
Lolium perenne	Perennial Ryegrass	E		X	X
Lythrum hyssopifolia	Loosestrife	N		X	
Rumex brownii	Dock	N		X	
Rytidosperma sp.	Wallaby grass	N		X	X
Sonchus oleraceus	Sow thistle	E		X	X
Trifolium repens	Clover	E		X	X
Austrostipa sp. 1	Spear Grass	N		X	X
Austrostipa sp. 2	Spear Grass	N		X	X
Microlaena stipoides	Weeping Grass	N		X	X
Oxalis perennans	Wood Sorrel	N		X	X
Atriplex semibaccata	Creeping Saltbush	N		X	X
Eragrostis brownii	Brown Lovegrass	N		X	X
Gonocarpus sp.	Raspwort	N		X	X
Cynodon dactylon	Common Couch Grass	N		X	
Vittadinia cuneata	Fuzzweed	N		X	X
Dichondra repens	Kidney weed	N			X
Chloris truncata	Windmill Grass	N			X
Pimelea sp.	Rice flower	N		X	

Rytidosperma sp.	Wallaby Grass	N		X	X
Poa sp.	Winter Grass	N		X	X
Carex sp.	Sedge	N		X	X
Juncus flavidus	Rush	N		X	X
Persicaria sp.	Knotweed	N		X	
Paspalum distichum	Water Couch Grass	N		X	X
Eleocharis acuta	Tall Spike-rush	N		X	X
Asperula sp.	Woodruff	N		X	X
Themeda australis	Kangaroo Grass	N			X
Einadia nutans	Creeping Saltbush	N			X
*Helichrysum luteoalbu**m***	Jersey Cudweed	N			X
Lomandra filiformis	Mat-Grass	N			
Cheilanthes sp.	Rock fern	N			
Dichopogon strictus	Chocolate Lily	N			
Conyza sp.	*Fleabane*	E			
Lycium ferocissimum	*African Boxthorn*	E	C		
Paspalum dilatatum	Dallis Grass	E			
Plantago lanceolata	*Plantain*	E			
Romulea rosea	Onion Grass	E			
Rubus fruticosus	*Blackberry*	E	C		

Appendix B Tree List

Number	Scientific Name	Common Name	DBH	Status	Tree Protection Zone	Tree Status	Hollow Bearing Tree
1	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	85	Remove	10.2	Large tree in a patch	No
2	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	151	Remove	18.12	Large Scattered Tree	Yes
3	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	80	Remove	9	Large Scattered Tree	No
4	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	100	Remove	12	Large Scattered Tree	No
5	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	110	Retain	13.2	Large tree in a patch	Yes
6	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	116	Retain	13.92	Large tree in a patch	Yes
7	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	146	Retain	17.52	Large tree in a patch	Yes
8	*Eucalyptus camaldulensis*	River red gum	168	Retain	20.16	Large tree in a patch	Yes
9	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	129	Retain	15.48	Large tree in a patch	Yes
10	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	170	Retain	20.4	Large tree in a patch	Yes
11	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	148	Retain	17.76	Large tree in a patch	Yes
12	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	172	Retain	20.64	Large tree in a patch	Yes
13	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	164	Retain	19.68	Large tree in a patch	Yes
14	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	95	Retain	11.4	Large tree in a patch	Yes
15	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	83	Retain	9.96	Large tree in a patch	No
16	*Eucalyptus tereticornis*	Forest red gum	104	Retain	12.48	Large tree in a patch	No

Number	Scientific Name	Common Name	DBH	Status	Tree Protection Zone	Tree Status	Hollow Bearing Tree
	subsp. mediana						
17	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	82	Retain	9.84	Large tree in a patch	No
18	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	80	Retain	9.6	Large tree in a patch	No
19	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	83	Retain	9.96	Large tree in a patch	No
20	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	111	Retain	13.3	Large tree in a patch	No
21	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	105	Retain	12.6	Large tree in a patch	No
22	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	140	Retain	15	Large tree in a patch	No
23	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	170	Retain	15	Large tree in a patch	No
24	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	148	Retain	15	Large tree in a patch	No
25	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	81	Retain	9.72	Large tree in a patch	No
26	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	107	Retain	12.84	Large tree in a patch	No
27	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	83	Retain	9.96	Large tree in a patch	No
28	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	161	Retain	19.32	Large Scattered Tree	Yes
29	*Eucalyptus tereticornis subsp. mediana stag*	Forest red gum	114	Retain	13.68	Large Scattered Tree	Yes
30	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	100	Retain	12	Large Scattered Tree	No
31	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	67	Retain	8.04	Small tree in a patch	No
32	*Eucalyptus tereticornis*	Forest red gum	77	Retain	9.24	Small tree in a patch	No

Number	Scientific Name	Common Name	DBH	Status	Tree Protection Zone	Tree Status	Hollow Bearing Tree
	subsp. mediana						
33	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	74	Retain	8.88	Small tree in a patch	No
34	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	79	Retain	9.48	Small tree in a patch	No
35	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	69	Retain	8.28	Small tree in a patch	No
36	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	77	Retain	9.24	Small tree in a patch	No
37	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	56	Retain	6.72	Small tree in a patch	No
38	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	48	Retain	5.76	Small tree in a patch	No
39	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	47	Retain	5.64	Small tree in a patch	No
40	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	67	Retain	8.04	Small tree in a patch	No
41	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	67	Retain	8.04	Small tree in a patch	No
42	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	77	Retain	9.24	Small tree in a patch	No
43	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	68	Retain	8.16	Small tree in a patch	No
44	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	72	Retain	8.64	Small tree in a patch	No
45	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	57	Retain	6.84	Small tree in a patch	No
46	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	33	Retain	3.96	Small tree in a patch	No
47	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	71	Retain	8.52	Small tree in a patch	No
48	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	39	Retain	4.68	Small tree in a patch	No

Number	Scientific Name	Common Name	DBH	Status	Tree Protection Zone	Tree Status	Hollow Bearing Tree
49	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	75	Retain	9	Small tree in a patch	No
50	*Eucalyptus tereticornis subsp. mediana*	Forest red gum	156	Yes	18.72	Large tree in a patch	Yes

Appendix C Threatened Species

C.1 Threatened Flora & Threatened Communities

V = Vulnerable, E = Endangered, CE = Critically Endangered

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date (VBA)	Likelihood of Occurrence	Reasoning	Potential Impact
Amphibromus fluitans	River Swamp Wallaby-grass	Found mostly in permanent swamps, lagoons, billabongs, dams, and roadside ditches. Requires moderately fertile soils with some bare ground, caused by seasonally fluctuating water levels.	V		MNES			Low	No records within locality and no suitable habitat present	No Species unlikely to occur
Arthropodium sp. 1 (robust glaucous)	Tall Vanilla-lily	Currently known only from the upper Macalister, Tambo and Snowy River areas where this species has been recorded. The plant can be found in rocky situations (often in clefts and on ledges of low cliffs) within dry woodland.		E	VBA	1	5/03/2012	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur
Caladenia tessellata	Thick-lipped Spider Orchid	Generally found in grassy sclerophyll woodland on clay loam or sandy soils, though has been recorded in low woodland with stony soil.	V		MNES			Low	No records within locality however, some suitable habitat present	No Species unlikely to occur
Commersonia prostrata	Dwarf Kerrawang	Occurs on sandy, sometimes peaty soils in a wide variety of habitats: Snow Gum (Eucalyptus pauciflora) Woodland and Ephemeral Wetland floor at Rowes Lagoon; Blue leaved Stringybark (E. agglomerata) Open Forest at Tallong; and in Brittle Gum (E. mannifera) Low Open Woodland at Penrose; Scribbly Gum (E. haemostoma)/ Swamp Mahogany (E. robusta) Ecotonal Forest at Tomago.	E	E	MNES			Low	No records within locality and no associated species present	No Species unlikely to occur
Cullen parvum	Small Scurf-pea	The Small Scurf-pea is associated with alluvial plains, creeks, ephemeral pools and river channels. It has also been reported from artificial drains and other disturbed sites. It grows in grassy woodland or open forest vegetation dominated by species of *Eucalyptus*, or in grasslands.		E	VBA	1	22/01/2002	Low	Historic record present within locality however, no suitable habitat present	No Species unlikely to occur
Cullen tenax	Tough Scurf-pea	Widespread in Victoria but now much depleted from its former range and seldom collected. Generally, grows in drier parts of the state in grassland and grassy woodland on heavy soils.		E	VBA	1	27/11/1939	Low	Historic record within locality and some suitable habitat present. Unlikely to be present as it is an old record	No Species unlikely to occur
Dianella amoena	Matted Flax-lily	Largely confined to drier grassy woodland and grassland communities south of the Dividing Range.	E	CE	MNES			Low	No records within locality however, some suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date (VBA)	Likelihood of Occurrence	Reasoning	Potential Impact
Diuris punctata var. punctata	Purple Diuris	Occurs principally in lowland native grasslands, grassy woodlands, heathy woodlands, and open heathlands, usually on fertile, loamy soils and including periodically inundated areas.		E	VBA	1	17/11/2000	Low	A key threat to this species is grazing. Low quality suitable habitat (grassland) and moderate (woodland) habitat is present. This species is unlikely to occur in the area to be impacted due to historic and ongoing grazing practices.	No Species unlikely to occur in grassland area to be impacted due to grazing impacts
Dodonaea procumbens	Trailing Hopbush	Typically, in low lying, winter wet areas in woodland, low open forest, heathland, and grasslands. Populations have been found in sedge wetland, healthy woodland, and damp heathland in eastern Victoria.	V		MNES			Low	No records within locality and no suitable habitat present	No Species unlikely to occur
Eragrostis trachycarpa	Rough-grain Love-grass	Mostly confined to seasonally moist sites in the lower catchment of the Gippsland Lakes between Heyfield and Lakes Entrance.		E	VBA	2	5/03/2012	Low	Recent records within locality and some suitable habitat present	No, further surveys determined species absence.
Glycine latrobeana	Clover Glycine	Found in native grasslands, dry sclerophyll forests, woodlands, and low open woodlands with a grassy ground layer. Soils have a sandy component, and grasslands are typically dominated by Themeda triandra.	V	V	MNES			Low	No records within locality, one record in sale is from 1882, some suitable habitat present	No Low likelihood of species occurring,
Lepidium hyssopifolium	Basalt Peppercress	Generally found on open, bare ground with limited competition. Previously recorded from Eucalypt or Casuarina woodland with a grassy ground cover or tussock grassland, now can be found in weed-infested areas of heavy modification, high degradation, and high soil disturbance. Many populations are found among exotic pasture grasses.	E	E	MNES			Low	No records within locality and no suitable habitat present	No Species unlikely to occur
Melaleuca armillaris subsp. Armillaris	Giant Honey-myrtle	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.		E	VBA	1	18/01/2005	Low	Recorded within locality however, no suitable habitat present. Species is conspicuous and was not present on site.	No Species not present.
Pterostylis cucullate	Leafy Greenhood	Coastal Habitat The coastal form of the Leafy Greenhood is usually found in protected areas of stabilized coastal sand dunes under open to closed scrub dominated by Coast Tea-tree (*Leptospermum laevigatum*), and/or Moonah (*Melaleuca lanceolata*), with an open ground stratum. These sites are typically sheltered, facing south-easterly to westerly, with seasonally damp but well-drained humus-rich sandy loams, often with moss and deep leaf litter. Some coastal populations occur in Coastal Manna Gum (*Eucalyptus*	V	E	MNES			Low	No records within locality and no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date (VBA)	Likelihood of Occurrence	Reasoning	Potential Impact
		viminalis subsp. *pryoriana*) woodland with a sparse shrub layer (Bramwells 1993). Montane Habitat Inland populations occur on river banks or alluvial flood plains in protected positions with a southerly or easterly aspect and can be found amongst the sub-alpine vegetation in the Victorian Highlands. These populations have been recorded in Forest Red-gum (*Eucalyptus tereticornis*) vegetation near Bairnsdale and forest with a canopy dominated by Apple Box (*E. bridgesiana*), Yellow Box (*E. melliodora*), Red Stringybark (*E. macrorhyncha*), Manna Gum (*E. viminalis* subsp. *viminalis*) or Gippsland Blue Gum (*E. globulus* subsp. *pseudoglobulus*). The understorey consists of a few tall shrubs over a diverse herb field (Bramwells 1993).								
Senecio diaschides	Shingle Fireweed	Forest, woodland, rocky areas, near swamps and rivers, and other moist sites.		E	VBA	1	21/04/2011	Low	Recorded within locality and some suitable habitat present	No, No woodland areas would be impacted
Senecio psilocarpus	Swamp Fireweed	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.	V		MNES			Low	No records within locality and no suitable habitat present	No Species unlikely to occur
Thesium austral	Austral Toadflax	Austral Toadflax is semi-parasitic on roots of a range of grass species (Copeland 2000 pers. comm.; Leigh et al. 1984), notably Kangaroo Grass (Themeda triandra) (Scarlett et al. 1994). It occurs in subtropical, temperate and subalpine climates over a wide range of altitudes. It occurs on soils derived from sedimentary, igneous and metamorphic geology on a range of soils including black clay loams to yellow podzolics and peaty loams (Leigh et al. 1984; Hunter et al. 1999; Cohn 2004). It occurs in shrubland, grassland or woodland, often on damp sites (George 1984; Harden 1992). Vegetation types include open grassy heath dominated by Swamp Myrtle (Leptospermum myrtifolium), Small-fruit Hakea (Hakea microcarpa), Alpine Bottlebrush (Callistemon sieberi), Woolly Grevillea (Grevillea lanigera), Coral Heath (Epacris microphylla) and Poa spp. (Griffith 1991); Kangaroo Grass grassland surrounded by Eucalyptus woodland; and grassland dominated by Barbed-wire Grass (*Cymbopogon refractus*) (Leigh et al. 1984; Hunter et al. 1999). In NSW coastal sites, the associated plants included Coastal Wattle (*Acacia sophorae*), Coast Banksia (*Banksia integrifolia*), Zieria prostrata and Bitou Bush (*Chrysanthemoides monilifera*) (Cohn 2004).	V	E	MNES			Low	No records within locality, however suitable habitat present	No Species unlikely to occur
Xerochrysum palustre	Swamp Paper Daisy	Found in wetlands including sedge-swamps and shallow freshwater marshes, often on heavy black clay soils.	V	CE	MNES			Low	No records within locality and no suitable habitat present	No Species unlikely to occur
Threatened Ecological & Vegetation Communities										

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date (VBA)	Likelihood of Occurrence	Reasoning	Potential Impact
Gippsland Red Gum (Eucalyptus tereticornis subsp. mediana) Grassy Woodland and Associated Native Grassland		The Gippsland Red Gum (Eucalyptus tereticornis subsp. mediana) Grassy Woodland and Associated Native Grassland is a type of eucalypt woodland. The tree canopy is dominated by Gippsland Red Gum (Eucalyptus tereticornis subsp. mediana) and the ground layer is dominated by grasses or grass-like plants. The ecological community occurs in two forms. The grassy woodland form is dominated by a tree canopy with a graminoid ground layer. In the grassland form, the tree cover is largely absent. The woodland and grassland forms now show a degree of divergence in their floristic composition due to differences in their long-term management history.	CE		MNES			Present	Community occurred in habitat zone two, characteristic species and condition thresholds requirements were met	Yes, present on site. However, all of these areas are avoided
Forest Red Gum Grassy Woodland Community		The Forest Red Gum Grassy Woodland Community is a type of woodland found at a number of sites in Gippsland. The community is characteristically dominated by Forest Red Gum (Eucalyptus tereticornis = E. tereticornis subsp. mediana), often with co-dominant Red Box (E. polyanthemos). Coast Grey Box (E. bosistoana) occurs towards the coast, while Apple Box or But-But (E. bridgesiana) is often co-dominant on sandy sites. Beneath the eucalypts, there are often scattered small trees of Lightwood (Acacia implexa), and groves of Black She-oak (Allocasuarina littoralis) in some places. The herbaceous understorey is co-dominated by a variety of species. Dominant grasses include Weeping Grass (Microlaena stipoides = M. stipoides var. stipoides) and Wallaby Grass (Danthonia racemosa = Rytidosperma racemosum), often with Kangaroo grass (Themeda triandra) and/or Veined Spear Grass (Stipa rudis = Austrostipa rudis subsp. rudis). Thatch Saw Sedge (Gahnia radula) is abundant on some sites. Dominant forbs include Kidney-weed (Dichondra repens) and Stinking Pennywort (Hydrocotyle laxiflora), together with an array of perennial and annual plant species.		Listed				Present	Community occurred in all habitat zone, characteristic species and condition thresholds requirements we met	Yes, present on site. Any native vegetation impacted will be offset.

C.2 Threatened Fauna

V = Vulnerable, E = Endangered, CE = Critically Endangered

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
Amphibians										
Heleioporus australiacus	Giant Burrowing Frog	Found in heath, woodland and open dry sclerophyll forest on a variety of soil types except those that are clay based. Spends more than 95% of its time in non-breeding habitat in areas up to 300 m from breeding sites. Whilst in non-breeding habitat it burrows below the soil surface or in the leaf litter. Individual frogs occupy a series of burrow sites, some of which are used repeatedly. The home ranges of both sexes appear to be non-overlapping suggesting exclusivity of non-breeding habitat. Home ranges are approximately 0.04 ha in size.	V	CE	MNES			Low	No records within locality but suitable habitat present	No No aquatic habitat to be impacted
Litoria aurea	Green and Golden Bell Frog	Inhabits marshes, dams and stream-sides, particularly those containing bullrushes (Typha spp.) or spike rushes (Eleocharis spp.). Optimum habitat includes water-bodies that are unshaded, free of predatory fish such as Plague Minnow (Gambusia holbrooki), have a grassy area nearby and diurnal sheltering sites available.	V		MNES			Low	No records within locality but suitable habitat present	No No aquatic habitat to be impacted
Litoria raniformis	Growling Grass Frog	Emergent vegetation in or at the edges of still or slow-flowing water bodies such as lagoons, swamps, lakes, ponds, and farm dams. Submerged vegetation is an important provider of egg-laying sites, calling stages, and food/shelter for tadpoles. Large and relatively permanent waterbodies with a high proportion of emergent vegetation cover are more likely to be occupied.	V	V	MNES			Low	No records within locality but suitable habitat present	No No aquatic habitat to be impacted
Birds										
Anseranas semipalmata	Magpie Goose	Mainly found in shallow wetlands (less than 1 m deep) with dense growth of rushes or sedges. Equally at home in aquatic or terrestrial		V	VBA	1	20/05/2007	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		habitats; often seen walking and grazing on land; feeds on grasses, bulbs and rhizomes. Activities are centred on wetlands, mainly those on floodplains of rivers and large shallow wetlands formed by run-off. Often seen in trios or flocks on shallow wetlands, dry ephemeral swamps, wet grasslands and floodplains; roosts in tall vegetation								
Anthochaera phrygia	Regent Honeyeater	Primarily occurs in box-ironbark woodland, but also occurs in other forest types. Feeds on nectar and, to a lesser extent, insects and their exudates (lerps and honeydew). It mainly feeds on nectar from eucalypts and mistletoes and it prefers taller and larger diameter trees for foraging.	CE	CE	MNES			Low	No records within study area however, suitable habitat present	No No woodland areas to be impacted.
Ardea alba modesta	Eastern Great Egret	The Eastern Great Egret has been reported in a wide range of wetland habitats (for example inland and coastal, freshwater and saline, permanent and ephemeral, open and vegetated, large and small, natural and artificial). These include swamps and marshes; margins of rivers and lakes; damp or flooded grasslands, pastures or agricultural lands; reservoirs; sewage treatment ponds; drainage channels; salt pans and salt lakes; salt marshes; estuarine mudflats, tidal streams; mangrove swamps; coastal lagoons; and offshore reefs (Kushlan & Hancock 2005; Marchant & Higgins 1990; Martínez-Vilalta & Motis 1992). The species usually frequents shallow waters. The Eastern Great Egret may retreat to permanent wetlands or coastal areas when other wetlands are dry (for example, during drought). This may occur annually in some regions with regular wet and dry seasons or erratically where the availability of wetland habitat is also erratic. The Eastern Great Egret may potentially occur at wetlands that also support a range of other waterbirds or shorebirds,		V	VBA	12	10/11/2018	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		such as the Australian Painted Snipe, which is listed as vulnerable under the EPBC Act, and a number of species that are listed as migratory under the EPBC Act. The Eastern Great Egret is widespread in the Alligator Rivers region of the Northern Territory (Morton et al. 1993a), which is the stronghold of the Alligator Rivers subspecies of the Yellow Chat (*Epthianura crocea tunneyi*). The Yellow Chat (Alligator Rivers) is listed as endangered under the EPBC Act.								
Ardea intermedia plumifera	Plumed Egret	Mostly a denizen of the shallows in terrestrial wetlands, the Intermediate Egret prefers freshwater swamps, billabongs, floodplains and wet grasslands with dense aquatic vegetation, and is only occasionally seen in estuarine or intertidal habitats.		CE	VBA	1	15/03/1990	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur
Ardeotis australis	Australian Bustard	A wide range of open vegetation communities can support populations of the Australian Bustard. These range from tropical to semi-arid and temperate tussock grasslands, open-shrublands and grassy woodlands. In settled areas they visit pasture and crops. Bustards may roost in clumps of trees or on the ground, usually in an elevated position, for protection from predators. Over most of lowland Victoria, the original habitat of extensive tussock grasslands with a suite of herbs between the tussocks has been entirely converted to dense swords of introduced pasture grasses or crops. Australian Bustards cannot persist in such environments.		CE	VBA	1	22/01/1840	Low	One historic record within locality and no suitable habitat present	No Species unlikely to occur
Aythya australis	Hardhead	Hardheads are found in freshwater swamps and wetlands and occasionally in sheltered estuaries. They are rarely seen on land and tend to roost on low branches and stumps near the water. They prefer deep, fresh open water and densely vegetated wetlands for breeding.		V	VBA	18	15/07/2002	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
Biziura lobata	Musk Duck	Musk Ducks tend to be found in deep freshwater lagoons, with dense reed beds. They are normally seen singly or in pairs but may form medium to large groups in the winter. Flight usually takes place at night. The birds' bulky size means a large distance is required for take-off, and the landing is often quite clumsy.		V	VBA	44	3/02/2001	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur
Botaurus poiciloptilus	Australasian Bittern	Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes (*Typha* spp.) and spike rushes (*Eleocharis* spp.).	E	CE	VBA/MNES	4	25/07/1999	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur
Callocephalon fimbriatum	Gang-gang Cockatoo	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.	E	Not listed	MNES	8	21/03/2005	Low	Records within locality and foraging suitable habitat present	Low. Only foraging habitat proposed to be removed including only four trees.
Egretta garzetta	Little Egret	The Little Egret frequents tidal mudflats, saltwater and freshwater wetlands, and mangroves.		E	VBA	2	29/03/1999	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur
Falco hypoleucos	Grey Falcon	Usually restricted to shrubland, grassland, and wooded watercourses of arid / semi-arid regions. Roosts in eucalypts near water.	V		MNES			Low	No records within locality and no suitable habitat present	No Species unlikely to occur
Grantiella picta	Painted Honeyeater	Found in *Eucalyptus* and *Acacia* dominated forests and woodlands; presence and movement highly linked to presence of mistletoe.	V	V	MNES			Low	No records within locality however, suitable habitat is present	No No woodland areas are proposed for removal
Haliaeetus leucogaster	White-bellied Sea-Eagle	Habitats are characterised by the presence of large areas of open water including larger rivers, swamps, lakes, and the sea. Occurs at sites near the sea or sea-shore, such as around bays and inlets, beaches, reefs, lagoons, estuaries and mangroves; and at, or in the vicinity		E	VBA	4	7/02/2001	Low	Recorded within locality however, no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		of freshwater swamps, lakes, reservoirs, billabongs and saltmarsh. Terrestrial habitats include coastal dunes, tidal flats, grassland, heathland, woodland, and forest (including rainforest).								
Hieraaetus morphnoides	Little Eagle	Coastal forest, woodland, open scrub, tree-lined watercourses of the interior. It tends to avoid rainforest and heavy forest.		V	VBA	2	29/03/1999	Low	Historic records within locality some suitable habitat present	No No suitable habitat to be impacted
Lathamus discolor	Swift Parrot	Inhabits dry woodland, especially ironbark forests. Forages on flowers and psyllid lerps in eucalypts.	CE	CE	VBA/MNES	1	15/11/2000	Low	Historic record within locality and no suitable habitat present in study area	No suitable habitat present
Lewinia pectoralis	Lewin's Rail	Lewin's Rail mostly inhabits wetland areas with dense vegetation, including wetlands, farm dams, swamps, saline lakes and river flats where they usually forage around the water's edge in shallow water and close to cover for a variety of aquatic plants and invertebrate.		V	VBA	1	7/09/1996	Low	Historic record within locality however, no suitable habitat present	No Species unlikely to occur
Oxyura australis	Blue-billed Duck	The Blue-billed Duck is wholly aquatic and is seldom seen on land. Non-breeding flocks, often with several hundred individuals, congregate on large, deep open freshwater dams and lakes in autumn. The daylight hours are spent alone in small, concealed bays within vegetation or communally in large, exposed rafts far from the shore.		V	VBA	19	26/01/2000	Nil/Absent	Historic records within locality however, no suitable habitat present	No Species unlikely to occur
Pycnoptilus floccosus	Pilotbird	Its natural habitat is temperate wet sclerophyll forests and occasionally temperate rainforest, where there is dense undergrowth with abundant debris.	V		MNES			Low	No records within locality however, some suitable habitat present	No Species unlikely to occur
Rostratula australis	Australian Painted Snipe	Inhabits fringes of swamps, dams and nearby marshy areas where there is a cover of grasses, lignum, low scrub or open timber. Nests in stands of tall vegetation.	E	CE	MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to occur
Spatula rhynchotis	Australasian Shoveler	The Australasian Shoveler is found in all kinds of wetlands, preferring large undisturbed heavily vegetated freshwater swamps. It is also found on open waters		V	VBA	36	21/03/2005	Low	Records within locality however, no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		and occasionally along the coast.								
Fish										
Galaxiella pusilla	Dwarf Galaxias	Occurs in slow flowing and still, shallow, permanent-temporary freshwater habitats such as swamps, drains, and backwaters of streams and creeks, often containing dense aquatic and emergent plants.	V	E	MNES			Low	No records within locality however, some suitable habitat present	No No aquatic habitat to be impacted
Prototroctes maraena	Australian Grayling	Spends part of its lifecycle in freshwater and at least part of the larval and/or juvenile stages in coastal seas. Adults inhabit cool, clear, freshwater streams with gravel substrate and areas alternating between pools and riffle zones.	V	E	VBA/MNES	6	7/03/2018	Low	Recorded within locality and some suitable habitat present	No No aquatic habitat to be impacted
Mammals										
Dasyurus maculatus maculatus	Spotted-tail Quoll	Preference for mature wet forest habitat. Requirements include suitable den sites such as hollow logs, tree hollows, rock outcrops or caves, ample prey, and areas of intact vegetation.	E	E	MNES			Low	No records within locality, however some suitable habitat present	No Species unlikely to occur
Ornithorhynchus anatinus	Platypus	Platypuses can live in a range of freshwater bodies. They are mostly found where the banks are suitable for building stable burrows and where the water is shallow enough for them to dive down and feed on bottom dwelling creatures. They also prefer areas where there are trees, shrubs and grassy banks. Occasionally, platypuses venture into saltwater near the mouths of rivers but they do not live in such areas.		V	VBA	1	7/08/1956	Low	Historic records present however, no suitable habitat present	No Species unlikely to occur
Petauroides volans	Greater Glider	Greater Gliders are forest dependent and prefer older tree age classes in moist forest types. They use hollow-bearing trees for shelter and nesting, with each family group using multiple den trees within its home range. They eat mainly young eucalypt leaves, with a preference	E	V	MNES			Low	No records within locality, however, some suitable habitat present. Habitat present is fragmented and relatively isolated in the landscape, unlikely to support a population of this species.	No

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		for certain species.								
Petaurus australis australis	Yellow-bellied Glider	Occur in tall mature eucalypt forest generally in areas with high rainfall and nutrient rich soils. Forest type preferences vary with latitude and elevation; mixed coastal forests to dry escarpment forests in the north; moist coastal gullies and creek flats to tall montane forests in the south.	V		MNES			Low	No records within locality, however, some suitable habitat present Habitat present is fragmented and relatively isolated in the landscape, unlikely to support a population of this species.	Species unlikely to occur
Phascogale tapoatafa	Brush-tailed Phascogale	Typically inhabits open dry foothill forest with little ground cover, typically associated with box, ironbark and stringybark eucalyptus with sparse groundcover of herbs, grasses, shrubs or leaf litter. Also inhabit heath, swamps, rainforest and wet sclerophyll forest. Agile climber foraging preferentially in rough barked trees of 25 cm DBH or greater.		V	VBA	1	1/01/1945	Low	Historic record within locality however habitat is not considered particularly suitable where this species inhabits open dry foothill forest with little ground cover, typically associated with box, ironbark and stringybark eucalyptus.	No Species unlikely to occur
Pteropus poliocephalus	Grey-headed Flying-fox	Requires foraging and roosting sites; uses vegetation communities including rainforest, open forest, closed and pen woodlands, *Melaleuca* swamps and *Banksia* woodlands. Feeds on commercial fruit crops, introduced tree species; primary native food source is blossom from *Eucalyptus* and related genera.	V	V	VBA/MNES	2	1/01/1994	Low	Historic records within locality and some suitable habitat present	No Removal of three potential foraging trees is unlikely to impact this species.
Migratory										
Actitis hypoleucos	Common Sandpiper	The species 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. The Common Sandpiper has been recorded in estuaries and deltas of streams, as well as on banks farther upstream; around lakes, pools, billabongs, reservoirs, dams and claypans, and occasionally piers and jetties. The muddy margins utilised by the	M	V	VBA/MNES	1	26/02/2000	Nil/Absent	Historic record within locality however, no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		species are often narrow and may be steep. The species is often associated with mangroves, and sometimes found in areas of mud littered with rocks or snags (Geering et al. 2007; Higgins & Davies 1996).								
Apus pacificus	Fork-tailed Swift	The Fork-tailed Swift is almost exclusively aerial, flying from less than 1 m to at least 300 m above ground and probably much higher. In Australia, they mostly occur over inland plains but sometimes above foothills or in coastal areas.	M		MNES			Low	No records within locality and birds are exclusively aerial	No Species not likely to be dependent on habitat present
Calidris acuminata	Sharp-tailed Sandpiper	In Australasia, the Sharp-tailed Sandpiper prefers muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges, grass, saltmarsh or other low vegetation. This includes lagoons, swamps, lakes and pools near the coast, and dams, waterholes, soaks, bore drains and bore swamps, saltpans and hypersaline salt lakes inland. They also occur in saltworks and sewage farms. They use flooded paddocks, sedgelands and other ephemeral wetlands, but leave when they dry. They use intertidal mudflats in sheltered bays, inlets, estuaries or seashores, and also swamps and creeks lined with mangroves. They tend to occupy coastal mudflats mainly after ephemeral terrestrial wetlands have dried out, moving back during the wet season	M		MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to occur
Calidris ferruginea	Curlew Sandpiper	It generally occupies littoral and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats of sheltered coasts. It also occurs in non-tidal swamps, lakes and lagoons on the coast and sometimes inland. It forages in or at the edge of shallow water, occasionally on exposed algal mats or waterweed, or on banks of beach-cast seagrass or seaweed.	CE, V	CE	VBA/MNES	1	17/01/1987	Nil/Absent	Historic record within locality however, no suitable habitat present	No Species unlikely to occur
Calidris melanotos	Pectoral Sandpiper	In Australasia, the Pectoral Sandpiper prefers shallow fresh to saline wetlands.	M		MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		The species is found at coastal lagoons, estuaries, bays, swamps, lakes, inundated grasslands, saltmarshes, river pools, creeks, floodplains and artificial wetlands.								occur
Gallinago hardwickii	Latham's Snipe, Japanese Snipe	In Australia, Latham's Snipe occurs in permanent and ephemeral wetlands up to 2000 m above sea-level (Chapman 1969; Naarding 1981). They usually inhabit open, freshwater wetlands with low, dense vegetation (e.g., swamps, flooded grasslands or heathlands, around bogs and other water bodies) (Frith et. al. 1977; Naarding 1983; Weston 2006, pers. comm.). However, they can also occur in habitats with saline or brackish water, in modified or artificial habitats, and in habitats located close to humans or human activity (Frith et al. 1977; Naarding 1983).	M	2	VBA/MNES	2	15/01/2018	Nil/Absent	Records within locality however, no suitable habitat present	No suitable wetland habitat present in study area.
Hirundapus caudacutus	White-throated Needletail	White-throated Needletails are aerial birds and for a time it was commonly believed that they did not land while in Australia. It has now been observed that birds will roost in trees, and radio-tracking has since confirmed that this is a regular activity.	V, M		VBA/MNES	55	12/03/2003	Low	Records within locality and some suitable habitat present. However, birds are exclusively aerial	No Species not likely to be dependent on habitat present
Monarcha melanopsis	Black-faced Monarch	The Black-faced Monarch mainly occurs in rainforest ecosystems, including semi-deciduous vine-thickets, complex notophyll vine-forest, tropical (mesophyll) rainforest, subtropical (notophyll) rainforest, mesophyll (broadleaf) thicket/shrubland, warm temperate rainforest, dry (monsoon) rainforest and (occasionally) cool temperate rainforest.	M		MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to occur
Motacilla flava	Yellow Wagtail	Widespread wagtail, favouring wet meadows, marshland, grassy and muddy lakeshores. Occurs in fields and often near livestock during migration.	M		MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to occur
Myiagra cyanoleuca	Satin Flycatcher	Satin Flycatchers inhabit heavily vegetated gullies in eucalypt-dominated forests and taller woodlands, and on	M		MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		migration, occur in coastal forests, woodlands, mangroves and drier woodlands and open forests.								occur
Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew	It generally occupies coastal lakes, inlets, bays and estuarine habitats, and in New South Wales is mainly found in intertidal mudflats and sometimes saltmarsh of sheltered coasts. Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. It forages in or at the edge of shallow water, occasionally on exposed algal mats or waterweed, or on banks of beach-cast seagrass or seaweed. It roosts on sandy spits and islets, especially on dry beach sand near the high-water mark, and among coastal vegetation including low saltmarsh or mangroves. May also roost on wooden oyster leases or other similar structures	CE, M	CE	MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to occur
Pandion haliaetus	Osprey	Eastern Ospreys occur in littoral and coastal habitats and terrestrial wetlands of tropical and temperate Australia and offshore islands. They are mostly found in coastal areas but occasionally travel inland along major rivers.	M		MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to occur
Rhipidura rufifrons	Rufous Fantail	In east and south-east Australia, the Rufous Fantail mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts such as Tallowwood (Eucalyptus microcorys), Mountain Grey Gum (E. cypellocarpa), Narrow-leaved Peppermint (E. radiata), Mountain Ash (E. regnans), Alpine Ash (E. delegatensis), Blackbutt (E. pilularis) or Red Mahogany (E. resinifera); usually with a dense shrubby understorey often including ferns. They also occur in subtropical and temperate rainforests.	M		MNES			Low	No records within locality however, some suitable habitat present	No Species unlikely to occur
Tringa nebularia	Common Greenshank, Greenshank	The Common Greenshank is found in a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. It occurs in sheltered coastal habitats, typically with large mudflats and	M		MNES			Nil/Absent	No records within locality and no suitable habitat present	No Species unlikely to occur

Scientific Name	Common Name	Habitat	EPBC Status	FFG Status	VBA / MNES	Total Count	Most recent survey date	Likelihood of Occurrence	Reasoning	Potential Impact
		saltmarsh, mangroves or seagrass. Habitats include embayments, harbours, river estuaries, deltas and lagoons and are recorded less often in round tidal pools, rock-flats and rock platforms. The species uses both permanent and ephemeral terrestrial wetlands, including swamps, lakes, dams, rivers, creeks, billabongs, waterholes and inundated floodplains, claypans and salt flats. It will also use artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores.								

Appendix D MNES Search Results

Australian Government
Department of Agriculture, Water and the Environment

EPBC Act Protected Matters Report

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

Report created: 29-Apr-2022

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	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	31
Listed Migratory Species:	14

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	20
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:	None
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	5
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	1
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [Resource Information]

Ramsar Site Name	Proximity	Buffer Status
Gippsland lakes	10 - 20km upstream from Ramsar site	In feature area

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
Gippsland Red Gum (Eucalyptus tereticornis subsp. mediana) Grassy Woodland and Associated 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	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to 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

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Falco hypoleucos](#) Grey Falcon [929]	Vulnerable	Species or species habitat likely 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
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Pycnoptilus floccosus](#) Pilotbird [525]	Vulnerable	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
FISH			
[Galaxiella pusilla](#) Eastern Dwarf Galaxias, Dwarf Galaxias [56790]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Prototroctes maraena](#) Australian Grayling [26179]	Vulnerable	Species or species habitat known to occur within area	In feature area
FROG			
[Heleioporus australiacus](#) Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat may occur within area	In feature area
[Litoria aurea](#) Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Litoria raniformis			
Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat likely to occur within area	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 likely to occur within area	In feature area
Petauroides volans			
Greater Glider [254]	Vulnerable	Species or species habitat may 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
Pteropus poliocephalus			
Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In feature area
PLANT			
Amphibromus fluitans			
River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within area	In feature area
Caladenia tessellata			
Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat may occur within area	In feature area
Commersonia prostrata			
Dwarf Kerrawang [87152]	Endangered	Species or species habitat likely to occur within area	In feature area
Dianella amoena			
Matted Flax-lily [64886]	Endangered	Species or species habitat likely to occur within area	In feature area
Dodonaea procumbens			
Trailing Hop-bush [12149]	Vulnerable	Species or species habitat may occur within area	In feature area
Glycine latrobeana			
Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lepidium hyssopifolium Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterostylis cucullata Leafy Greenhood [15459]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Senecio psilocarpus Swamp Fireweed, Smooth-fruited Groundsel [64976]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat may occur within area	In feature area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	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
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Rhipidura rufifrons](#) Rufous Fantail [592]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to 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]		Species or species habitat known to occur within area	In feature area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
[Tringa nebularia](#) Common Greenshank, Greenshank [832]		Species or species habitat may occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to 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]		Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to 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
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Breeding known to occur within area	In feature area
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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to 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]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]		Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
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]		Species or species habitat may occur within area overfly marine area	In buffer area only

Extra Information

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

RFA Name	State	Buffer Status
Gippsland RFA	Victoria	In feature area

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Thomson River Mercury Recovery Project	2010/5734	Controlled Action	Completed	In feature area
Not controlled action				
Biodiversity Impacts Audit	2011/6191	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Bioregional Assessments

SubRegion	BioRegion	Website	Buffer Status
Gippsland	Gippsland Basin	BA website	In feature area

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 are 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

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

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

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
- 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.

Acknowledgements

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

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

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

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

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Appendix E Native Vegetation Removal Report

Native vegetation removal report

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

Date of issue: 30/03/2023
Time of issue: 11:48 am

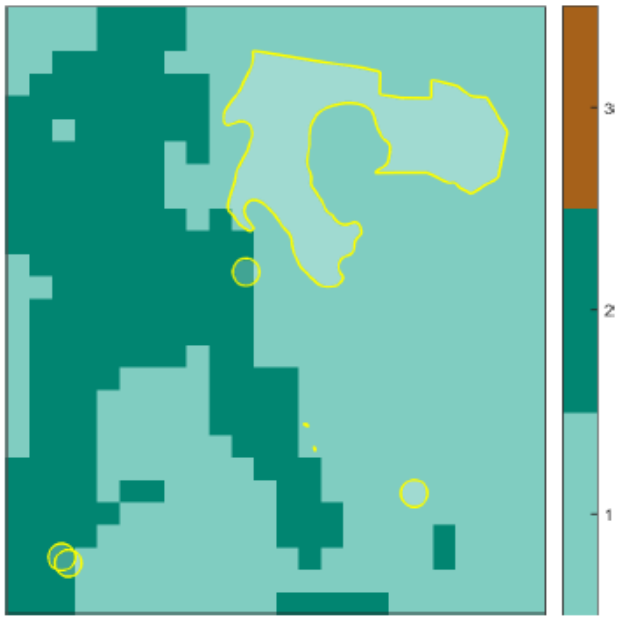
Report ID: NGH_2023_007

Project ID	22-151_Ensym_Maffra_29032023

Assessment pathway

Assessment pathway	Detailed Assessment Pathway
Extent including past and proposed	3.758 ha
Extent of past removal	0.000 ha
Extent of proposed removal	3.758 ha
No. Large trees proposed to be removed	4
Location category of proposed removal	Location 2 The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares of native vegetation in this location will not have a significant impact on any habitat for a rare or threatened species.

1. Location map



VICTORIA State Government | Environment, Land, Water and Planning

Native vegetation removal report

Offset requirements if a permit is granted

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

General offset amount[1]	1.323 general habitat units
Vicinity	West Gippsland Catchment Management Authority (CMA) or Wellington Shire Council
Minimum strategic biodiversity value score[2]	0.402
Large trees	4 large trees

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

Appendix 1 includes information about the native vegetation to be removed

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

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

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

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

Native vegetation removal report

Next steps

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

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

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

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

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

Additional application requirements must be met including:

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

Appendix 1: Description of native vegetation to be removed

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

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

Species habitat units = extent x condition 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 is calculated by the following equation in accordance with the Guidelines:

General habitat units = extent x condition 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 in a GIS file							Information calculated by EnSym					
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
1-a	Patch	gipp0055	Endangered	0	no	0.320	3.516	3.516	0.503		1.268	General
2-a	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.071	0.071	0.820		0.019	General
1-b	Patch	gipp0055	Endangered	0	no	0.320	0.001	0.001	0.270		0.000	General
1-c	Patch	gipp0055	Endangered	0	no	0.320	0.000	0.000	0.270		0.000	General
3-a	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.071	0.050	0.440		0.011	General
4-a	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.071	0.050	0.440		0.011	General
5-a	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.071	0.071	0.270		0.013	General

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

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

Species common name	Species scientific name	Species number	Conservation status	Group	Habitat impacted	% habitat value affected
Woolly Waterlily	*Philydrum lanuginosum*	502494	Vulnerable	Dispersed	Habitat importance map	0.0002
Annual Fireweed	*Senecio glomeratus subsp. longifructus*	507144	Rare	Dispersed	Habitat importance map	0.0002
Grey Billy-buttons	*Craspedia canens*	504643	Endangered	Dispersed	Habitat importance map	0.0001
Rough-grain Love-grass	*Eragrostis trachycarpa*	501197	Rare	Dispersed	Habitat importance map	0.0001
Veined Spear-grass	*Austrostipa rudis subsp. australis*	504940	Rare	Dispersed	Habitat importance map	0.0001
Spurred Helmet-orchid	*Corybas aconitiflorus*	500835	Rare	Dispersed	Habitat importance map	0.0001
Golden Grevillea	*Grevillea chrysophaea*	501530	Rare	Dispersed	Habitat importance map	0.0001
Bushy Hedgehog-grass	*Echinopogon caespitosus var. caespitosus*	501120	Endangered	Dispersed	Habitat importance map	0.0001
Forest Bitter-cress	*Cardamine papillata*	505034	Vulnerable	Dispersed	Habitat importance map	0.0001
Tall Vanilla-lily	*Arthropodium sp. 1 (robust glaucous)*	503699	Rare	Dispersed	Habitat importance map	0.0000
Slender Wire-lily	*Laxmannia gracilis*	501889	Rare	Dispersed	Habitat importance map	0.0000
Matted Flax-lily	*Dianella amoena*	505084	Endangered	Dispersed	Habitat importance map	0.0000
Purple Blown-grass	*Lachnagrostis punicea subsp. punicea*	504206	Rare	Dispersed	Habitat importance map	0.0000
Trailing Hop-bush	*Dodonaea procumbens*	501090	Vulnerable	Dispersed	Habitat importance map	0.0000
Yarra Gum	*Eucalyptus yarraensis*	501326	Rare	Dispersed	Habitat importance map	0.0000
Pale Swamp Everlasting	*Coronidium gunnianum*	504655	Vulnerable	Dispersed	Habitat importance map	0.0000
Purple Diuris	*Diuris punctata*	501084	Vulnerable	Dispersed	Habitat importance map	0.0000
Dwarf Milkwort	*Polygala japonica*	502623	Vulnerable	Dispersed	Habitat importance map	0.0000

Slender Pink-fingers	*Caladenia vulgaris*	504449	Rare	Dispersed	Habitat importance map	0.0000
Wavy Swamp Wallaby-grass	*Amphibromus sinuatus*	503625	Vulnerable	Dispersed	Habitat importance map	0.0000
Silky Kidney-weed	*Dichondra sp. 1*	505786	Rare	Dispersed	Habitat importance map	0.0000
One-flower Early Nancy	*Wurmbea uniflora*	503583	Rare	Dispersed	Habitat importance map	0.0000
Purple Blown-grass	*Lachnagrostis punicea subsp. filifolia*	504222	Rare	Dispersed	Habitat importance map	0.0000
Lanky Buttons	*Leptorhynchos elongatus*	501941	Endangered	Dispersed	Habitat importance map	0.0000
Slender Violet-bush	*Hybanthus monopetalus*	501711	Rare	Dispersed	Habitat importance map	0.0000
Maroon Leek-orchid	*Prasophyllum frenchii*	502709	Endangered	Dispersed	Habitat importance map	0.0000
Fringed Helmet-orchid	*Corybas fimbriatus*	500839	Rare	Dispersed	Habitat importance map	0.0000
Black Falcon	*Falco subniger*	10238	Vulnerable	Dispersed	Habitat importance map	0.0000
Austral Crane's-bill	*Geranium solanderi var. solanderi s.s.*	505337	Vulnerable	Dispersed	Habitat importance map	0.0000

Habitat group

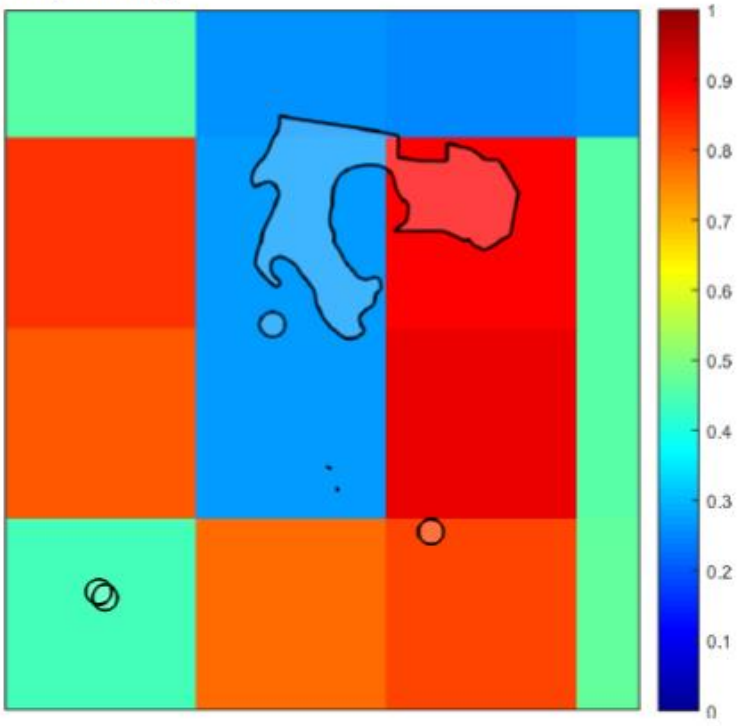
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

Habitat impacted

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

Appendix 3 – Images of mapped native vegetation

2. Strategic biodiversity values map



3. Aerial photograph showing mapped native vegetation

4. Map of the property in context

Yellow boundaries denote areas of proposed native vegetation removal.

Appendix F Native Vegetation Offset Quote

vegetationlink

Our reference: VLQ-8623-D

Your reference: 21-252 Maffra SF

30 March 2023

Michelle Patrick
NGH Consulting
Michelle.P@nghconsulting.com.au

Dear Michelle

RE: Quotation for the supply of native vegetation credits

Vegetation Link is an accredited offset provider with the Department of Energy, Environment and Climate Action (DEECA). We offer a specialised brokerage service to enable permit holders and developers to identify suitable native vegetation credits to meet their planning permit offset requirements.

Based on the information you have provided; I understand you require the following native vegetation offset:

Offset type	Vicinity	General habitat units (GHU)	Min. strategic biodiversity value (SBV)	Large trees
General	West Gippsland CMA	1.323	0.402	4

To meet your offset requirements, you can purchase native vegetation credits from a third party as per the options quoted below[1]. This quotation is valid for 14 days, subject to credit availability.

Option 1: CTA pathway – offset site located in the Wellington Shire area (approx. 4-6 week turnaround from acceptance of quote)	
Cost of native vegetation credits – **invoiced by DEECA**	$80,780.00
Transaction fees – **invoiced by Vegetation Link**	$1,120.00
Total (ex. GST)	**$81,900.00**
Total (inc. GST)	**$90,090.00**

Option 2: CTA pathway – offset site located in the Wellington Shire area (approx. 4-6 week turnaround from acceptance of quote)	
Cost of native vegetation credits – **invoiced by DEECA**	$82,580.00
Transaction fees – **invoiced by Vegetation Link**	$1,120.00
Total (ex. GST)	**$83,700.00**
Total (inc. GST)	**$92,070.00**

[1] *Note that the transaction fee includes DEECA NVOR transfer and allocation fees and a Vegetation Link fee*

If you would like to purchase credits, let us know that you accept the quote and return the attached **purchaser details form** by email. If more than one quotation option is provided above, specify which option you choose. Upon receipt of the form, we will begin the trade process. Further details of the process for credit allocation are in the FAQ below.

Should you have any queries, please do not hesitate to contact us on 1300 VEG LINK (1300 834 546) or email offsets@vegetationlink.com.au.

Sincerely,

Tesha Mahoney
Biodiversity Offset Broker

FAQs

What is a third party offset?

A third-party offset is an offset site owned by another landowner who manages and protects native vegetation on their land. Landowners who establish these offset sites are required to:

- Enter into a Landowner Agreement for the specified offset site. A landowner agreement is in perpetuity and is binding upon the current and future landowners of the site. It permanently restricts use of the site for many purposes.
- Implement a detailed 10-year Management Plan endorsed by the DEECA Native Vegetation Offset Register to manage and improve the biodiversity values of the site.

How is the price of native vegetation offset credit (GHUs, GBEUs etc.) determined?

Landowners who own offset sites set their own price for native vegetation credits. They determine the price based on numerous factors. This includes but not limited to site establishment, the cost to manage the site in perpetuity (e.g., maintain fencing, control pest species), foregone use cost, and administrative costs. Depending on how the site is registered, the credit fee may be paid to either DEECA or directly to the landowner.

Further information about the work some of our landowners are doing can be found on the Vegetation Link website.

What is the process after I accept the quote?

After you accept the quote and return the purchaser table, the following steps will be undertaken:

1. We will set up a contract between the parties involved and send the contract out for signing by all parties.
2. Once the contract is signed by all parties, invoices will be issued for the fees listed in the quotation. We will send you two invoices, one for our transaction fee invoiced by Vegetation Link and one for the credit fee, usually to be paid to DEECA or the landowner. We recommend providing remittances for your payments.
3. Once payments are received, Vegetation Link will send you an allocated credit extract from the Native Vegetation Offset Register and your executed contract as evidence that you have purchased the offset.

How long will the process take? When will I get my credits?

Generally, the process from quote acceptance to having evidence of allocated credits takes between 2-6 weeks. This is dependent on a range of factors including the type of landholder agreement, contract types and organisational workflows. We work as quickly as possible to get your credits to you within this time period.

We note that you **cannot** remove vegetation until you have been given permission by the Responsible Authority (usually the council that has issued your permit).

What happens if I don't have a permit yet?

When people are buying credits before a permit is issued, the following three options are most common:

- You can pay for the offsets before the planning permit is available, and then the offsets are allocated to the permit when it is available. This will incur an additional $50 fee from DEECA. When considering this option, it is important to realise that your estimated offset requirements may be different than the actual permit requirements.
- You can wait for the planning permit to be approved first and then request a quote to meet the requirements in your permit. Should credits be available, you can then start the offset purchase process. We then use the planning permit number for allocating the credits. Allocating credits to the permit is evidence that you have purchased your offset.
- You can request a quote to confirm availability and to get an idea of the cost of offsetting before you apply for a permit. Once you receive the planning permit you can request an updated quote. It is at this point that you can then go through the offset purchase process.

We cannot guarantee credit availability until a) contracts are executed, or b) credits have been held via a pending trade lodged with DEECA Native Vegetation Offset Register.

We cannot guarantee price until a) a quote has been accepted within 14 days, and b) a Credit Trading Agreement is signed within 21 days, and c) the invoice for the credits is paid within 28 days of the date the invoice is issued.

If I sign the contract, does that mean I MUST pay for the credits?

Yes, you have entered into a contract agreeing to pay for the offset credits therein and are required to pay for those credits. The credits must be paid for within 28 days of the date of the invoice.

Can you hold the credits for me, as I want to pay later?

We are unable to hold credits for later payment. Please also see 'What happens if I don't have a permit yet?' above.

For further information, see our website, the DEECA website or call us any time on 1300 834 546.