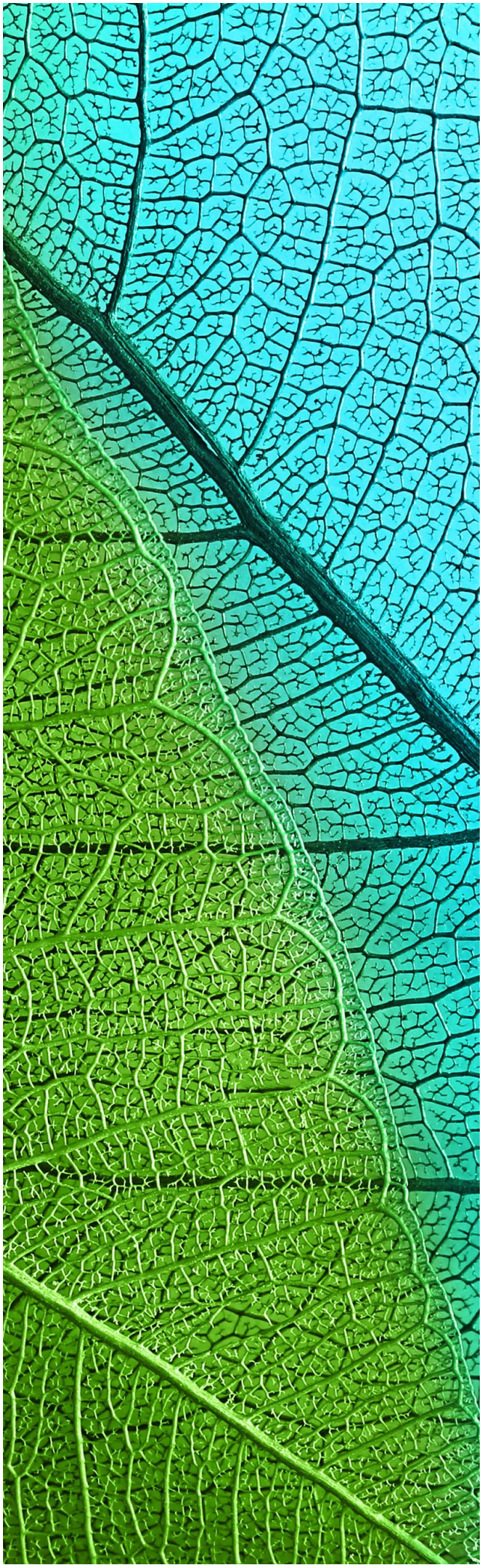

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89 Ross Watt Road, Gisborne

Flora and Fauna Assessment

Prepared for ID Ross Watt Road Pty Ltd

January 2023
Report No. 21137 (3.5)

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Report updates from May 2022 to January 2023

Section	Updates
Executive summary	Adjusted removal area and trees removed (including the shared pathway and maintenance track areas) as well as offset requirements, Targeted threatened species surveys now undertaken and species initially with potential to occur have not been recorded on site.
Section 5.2.2	Included reference to arborist report and tree health.
Section 5.3 and 5.5	Targeted surveys for threatened flora species, Golden Sun Moth and Striped Legless Lizard have been undertaken and none found. These results are now included in this report.
Section 6.2.1	Native vegetation and tree removal has been reduced from 3.424 hectares of native vegetation and 29 large trees to 2.993 hectares of native vegetation and 20 large trees, plus 7 large trees deemed to be lost.
Section 7.2.1	The avoid and minimise statement has been updated to include additional tree and native vegetation retention and the creation and management of conservation reserves along the northern boundary and Jacksons Creek.
Section 7.2.3	Offset requirements are reduced from 1.228 to 1.031 general habitat units and the protection of 27 large trees instead of 29 large trees.

Appendix 3, Figures 1 and 2	The latest layout has been applied to Figure 2, arborist tree numbers are included in Figure 1 and 2 as well as Appendix 3. The list of large trees in Appendix 3 has been amended regarding retained and removed trees.

1. Executive summary

Nature Advisory Pty Ltd undertook a flora and fauna assessment in August 2021 of an 85.57 hectare area of land in at 89 Ross Watt Road, Gisborne, a property proposed for residential subdivision and development.

The majority of vegetation within the study area consists of paddocks containing a mixture of introduced and native grass species. Large remnant Swamp Gum trees are scattered throughout. Overall, introduced grass species are more abundant than native grass species. Brown-top Bent is the most common species present. Small patches of ephemeral wetland vegetation predominantly comprised of Rush are most numerous in the eastern paddock adjacent to Swinburne Avenue. Riparian vegetation occurs along the banks of Jacksons Creek and a small patch of woodland is present in the south-eastern corner of the study area upslope of the riparian vegetation.

Fauna habitat comprised native treed vegetation, grassland and aquatic areas. Most Swamp Gum trees are hollow-bearing and provide important nesting and roosting habitat for birds, mammals and bats.

The following native vegetation was recorded in the study area:

- 40 patches of native vegetation, totalling 13.297 hectares (including 31 large trees in patches); and
- 42 large scattered trees.

Sixteen large scattered trees will be retained within public open space and tree reserves (Landscape Plan, CDA Design Group 2022). An additional seven large trees are proposed to be retained within lots but are deemed to be lost due to the size of these lots being less than 0.4 hectares.

The proponent proposed to remove the following vegetation:

- 2.99 hectares of native vegetation in patches, including one large tree in a patch;
- 19 large scattered trees; and
- 7 large scattered trees are deemed to be lost.

These patches were examples of *Higher Rainfall* Plains Grassy Woodland (EVC 55_63), Plains Grassy Woodland (EVC 55), Herb-rich Foothill Forest (EVC 23), Riparian Woodland (EVC 641) and Plains Grassy Wetland (EVC 125).

The DEWLP assessment pathway is determined by the location of the site and extent of native vegetation. The application site lies within Location category 2 and supports more than 0.5 ha of native vegetation. As such, the proposal will be assessed under the **Detailed** assessment pathway. This **would** trigger a referral to DELWP.

Offsets required to compensate for the proposed removal of native vegetation from the study area are provided below.

- 1.031 general habitat units and must include the following offset attribute requirements:
  - Minimum strategic biodiversity value (SBV) of 0.288;
  - Occur within the Port Phillip and Westernport CMA boundary or the Macedon Ranges municipal district; and
  - Include protection of 27 large trees.

Under the Guidelines all offsets must be secured prior to the removal of native vegetation. The offset target for the current proposal will be achieved via a third-party offset. An online search of the *Native Vegetation Credit Register* (NVCR) has shown that the required offset is currently available for purchase from a native vegetation credit owner (Appendix 8, DELWP 2020e). The required offset would be secured following approval of the application to remove native vegetation.

The *Native Vegetation Removal* (NVR) report for the proposed removal of native vegetation from within the study area is provided in Appendix 7. The tables below summarise the compliance of the information in this report with the relevant application requirements of the Guidelines (DELWP 2017a).

Application requirement		Response
1.	Information about the native vegetation to be removed.	Section 4.2 & 4.3.2; Appendix 7
2.	Topographic and land information relating to the native vegetation to be removed.	Section 4.1
3.	Recent, dated photographs of the native vegetation to be removed.	Appendix 5
4.	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.	N/A
5.	An avoid and minimise statement.	Section 4.3.1
6.	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
7.	Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.	N/A
8.	If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations (at decision guideline 8).	N/A
9.	An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines.	Section 4.3.6 & Appendix 8

Additional requirements for applications in the Detailed assessment pathway		
	Application requirement	Response
10.	A site assessment report of the native vegetation to be removed, including: ▪ A habitat hectare assessment of any patches of native vegetation, including the condition, extent (in hectares), Ecological Vegetation Class and bioregional conservation status. ▪ The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any large trees within patches. ▪ The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any scattered trees, and whether each tree is small or large.	Section 4.2; Appendices 2 & 3
11.	Information about impacts on rare or threatened species habitat, including: The relevant section of the Habitat importance map for each rare or threatened species requiring a species offset. For each rare or threatened species that the native vegetation to be removed is habitat for, according to the Habitat importance maps: ▪ The species' conservation status ▪ The proportional impact of the removal of native vegetation on the total habitat for that species ▪ Whether their habitats are highly localised habitats, dispersed habitats, or important areas of habitat within a dispersed species habitat.	Section 4.3.3 & Appendix 7

The following listed flora species were considered to have potential to occur within the study area, but were not recorded during targeted surveys within suitable habitat:

- Matted Flax-lily (EPBC Act: Endangered; FFG Act: Listed)
- Swamp Everlasting (EPBC Act: Vulnerable; FFG Act: Listed)

The following listed fauna species were considered to have potential to occur within the study area, but were not recorded during targeted surveys within suitable habitat :

- Golden Sun Moth (EPBC Act: vulnerable; FFG Act: Listed)
- Striped Legless Lizard (EPBC Act: vulnerable; FFG Act: Listed)

No listed ecological communities occur within the study area.

Targeted surveys have been undertaken to determine the status of these values in the study area and to assess any potential impacts on these values. None of these species have been recorded and thus a Referral under the EPBC Act was not required for the above-listed species.

Two Conservation Reserves will be established within the proposed development layout:

- A conservation reserve is planned along the northern boundary to retain existing native vegetation as well as two large trees and provide habitat connectivity between Jacksons Creek and the Racecourse Marshland Reserve to the east of the site.
- Thirty-one large trees will be retained in a conservation reserve along Jackson Creek (see Landscape Plan of CDA Design Group, 2022). A Conservation Management Plan is currently being prepared for this reserve including details on weed management, fencing and revegetation. Cattle, who have caused damage to the creek bank will be excluded from this reserve. It is envisioned that biodiversity within the reserve will improve and help protect habitat for Platypus, which have been recorded downstream in Jacksons Creek.

2. Introduction

ID Ross Watt Road Pty Ltd engaged Nature Advisory Pty Ltd to conduct a flora and fauna assessment of an 85.57 hectare area of land at 89 Ross Watt Road, Gisborne, a property proposed for residential subdivision and development. This was undertaken in August 2021.

The specific area investigated, referred to herein as the 'study area', comprises grassy paddocks bordered by Ross Watt Road and pastoral land to the north, Swinburne Avenue and residential housing to the east, and Jacksons Creek to the south and west.

This investigation was commissioned to provide information on the extent and condition of native vegetation in the study area according to Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a), herein referred to as 'the Guidelines', as well as any potential impacts on flora and fauna matters listed under the state *Flora and Fauna Guarantee Act 1988* (FFG Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This report outlines any implications under relevant national, state and local legislation and policy frameworks.

Specifically, the scope of the investigation included:

- A review of existing information on the flora and native vegetation of the study area and surrounds including:
  - The *Victorian Biodiversity Atlas* administered by the Department of Environment, Land, Water and Planning (DELWP);
  - The *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) *Protected Matters Search Tool*;
  - DELWP's *Native Vegetation Information Management system* (NVIM); and
  - DELWP's *Naturekit*.
- A site survey involving:
  - Characterisation and mapping of native vegetation on the site, as defined in Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (the 'Guidelines');
  - Assessment of native vegetation in accordance with the Guidelines, including habitat hectare assessment and/or scattered tree assessment;
  - Compilation of a flora species list for the site;
  - Assessment of the nature and quality of any native fauna habitat present; and
  - Assessment of the likelihood of occurrence of EPBC Act- and *Flora and Fauna Guarantee Act 1988* (FFG Act)-listed flora, fauna and communities on the site.

This report is divided into the following sections:

Section 3 provides the legislative background including details of all relevant Commonwealth, State and local legislation and policies.

Section 4 describes the sources of information, including the methods used for the field survey.

Section 5 presents the assessment results, including details of the native vegetation, flora and fauna of the study area.

Section 6 discusses the proposed impacts of the project.

Section 7 details the implications of the findings under the relevant legislation and policy.

This investigation was undertaken by a team from Nature Advisory comprising Emily Baldwin (Botanist), Peter Lansley (Zoologist), Emma Loboda (GIS Analyst), Kate Callister (Project Manager) and Inga Kulik (Senior Ecologist and Project Manager).

3. Planning and legislative considerations

This investigation and report address the application on the site of relevant legislation and planning policies that protect biodiversity. Local, state and Commonwealth controls are summarised below.

3.1. Local planning provisions

The study area is located within the Macedon Ranges local government area and is currently zoned General Residential Zone – Schedule 1 (GRZ1) in the Macedon Ranges Planning Scheme.

The study area is located within a Bushfire-prone Area.

Local planning provisions apply under the *Victorian Planning and Environment Act 1987*.

3.2. Overlays

The study area is subject to the following three overlays in the Macedon Ranges Planning Scheme:

- *Development Contributions Plan Overlay – Schedule 2* (DCPO2)
- *Development Plan Overlay – Schedule 4* (DPO4)
- *Land Subject to Inundation Overlay* (LSIO)

These overlays are not considered to be relevant to this ecological investigation.

3.3. State planning provisions

State planning provisions are established under the *Victorian Planning and Environment Act 1987*.

Clause 52.17 of all Victorian Planning Schemes states that:

A permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

A permit is not required if:

- An exemption in Table 52.17-7 specifically states that a permit is not required.
- A native vegetation precinct plan corresponding to the land is incorporated into the planning scheme and listed in the schedule to Clause 52.16.
- The native vegetation is specified in a schedule to Clause 52.17.

3.3.1. Exemptions

Exemptions listed in Table 52.17-7 relevant to the study area include:

- *Dead native vegetation:* Native vegetation that is dead is exempt and does not require a planning permit. This does not apply to a standing dead tree with a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level. As such, any dead trees with a trunk diameter of 40 centimetres or more at a height of 1.3 metres above ground level have been included in the tree data collected for this investigation.

3.3.2. Application requirements

Any application to remove, destroy or lop native vegetation must comply with the application requirements specified in the Guidelines (DELWP 2017a).

When assessing an application, Responsible Authorities are also obligated to refer to Clause 12.01-2 (Native vegetation management) in the Planning Scheme which in addition to the Guidelines, refers to the following:

- *Assessor's handbook – applications to remove, destroy or lop native vegetation* (Version 1.1) (DELWP 2018a).
- Statewide biodiversity information maintained by DELWP.

The application of the Guidelines (DELWP 2017a) are explained further in Appendix 1.

3.3.3. Referral to DELWP

Clause 66.02-2 of the planning scheme determines the role of DELWP in the assessment of native vegetation removal permit applications. If an application is referred, DELWP may make certain recommendations to the responsible authority in relation to the permit application.

Any application to remove, destroy or lop native vegetation must be referred to DELWP if:

- The impacts to native vegetation are in the Detailed Assessment Pathway;
- A property vegetation plan applies to the site; or
- The native vegetation is on Crown land which is occupied or managed by the responsible authority.

3.4. EPBC Act

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) protects a number of threatened species and ecological communities that are considered to be of national conservation significance. Any significant impacts on these species require the approval of the Australian Minister for the Environment.

If there is a possibility of a significant impact on nationally threatened species or communities or listed migratory species, a Referral under the EPBC Act should be considered. The Minister will decide after 20 business days whether the project will be a 'controlled action' under the EPBC Act, in which case it cannot be undertaken without the approval of the Minister. This approval depends on a further assessment and approval process (lasting between three and nine months, depending on the level of assessment).

Implications under the EPBC Act for the current proposal are discussed in Section 7.3.

3.5. FFG Act

The Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act) lists threatened and protected species and ecological communities (DELWP 2018b, DELWP 2017b). Any removal of protected flora, which includes threatened flora species and the plants that make up threatened communities, listed under the FFG Act from public land requires a Protected Flora Licence or Permit under the Act, obtained from DELWP.

The FFG Act only applies to private land where a license is required to remove grass trees, tree ferns and sphagnum moss for sale, or where an Interim Conservation Order has been made to protect critical habitat for a threatened species or community. As no such habitat has ever been declared, this mechanism under the FFG Act has never been implemented.

Implications under the FFG Act for the current proposal are discussed in Section 7.4.

3.6. EE Act

One or a combination of a number of criteria may trigger a requirement for a Referral to the Victorian Minister for Planning who will determine if an Environmental Effects Statement (EES) is required

according to the *Ministerial Guidelines for Assessment of Environmental Effects under the* Environment Effects Act 1978 (DSE 2006).

The criteria related to flora, fauna and native vegetation which trigger a Referral are outlined below.

One or more of the following would trigger a Referral:

- Potential clearing of 10 hectares or more of native vegetation from an area that:
  - Is of an Ecological Vegetation Class identified as endangered by the Department of Sustainability and Environment (in accordance with Appendix 2 of Victoria's Native Vegetation Management Framework); or
  - Is, or is likely to be, of very high conservation significance (as defined in accordance with Appendix 3 of Victoria's Native Vegetation Management Framework); and
  - Is not authorised under an approved Forest Management Plan or Fire Protection Plan
- Potential long-term loss of a significant proportion (e.g. 1 to 5 percent depending on the conservation status of the species) of known remaining habitat or population of a threatened species within Victoria
- Potential long-term change to the ecological character of a wetland listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'
- Potential extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems, over the long term

Two or more of the following would also trigger a Referral:

- Potential clearing of 10 hectares or more of native vegetation, unless authorised under an approved Forest Management Plan or Fire Protection Plan
- Matters listed under the Flora and Fauna Guarantee Act 1988:
  - Potential loss of a significant area of a listed ecological community; or
  - Potential loss of a genetically important population of an endangered or threatened species (listed or nominated for listing), including as a result of loss or fragmentation of habitats; or
  - Potential loss of critical habitat; or

Potential significant effects on habitat values of a wetland supporting migratory bird species.

Implications under the *Environment Effects Act 1978* (EE Act) for the current proposal are discussed in Section 7.5.

3.7. CaLP Act

The *Catchment and Land Protection Act 1994* (CaLP Act) requires that landowners (or a third party to whom responsibilities have been legally transferred) must eradicate regionally prohibited weeds and prevent the growth and spread of regionally controlled weeds.

Weed species listed on the CaLP Act that have been recorded in the study area are discussed in Section 7.6.

4. Existing information and methods

4.1. Existing information

Existing information used for this investigation is described below.

4.1.1. Existing reporting and documentation

The existing documentation below, relating to the study area was reviewed.

- Macedon Ranges Planning Scheme

4.1.2. Native vegetation

Pre-1750 (pre-European settlement) vegetation mapping administered by DELWP was reviewed to determine the type of native vegetation likely to occur in the study area and surrounds. Information on Ecological Vegetation Classes (EVCs) was obtained from published EVC benchmarks. These sources included:

- Relevant EVC benchmarks for the Victorian Volcanic Plain and Central Victorian Uplands bioregion[1] (DSE 2004a);
- *NatureKit* (DELWP 2020a).

4.1.3. Listed matters

Existing flora and fauna species records and information about the potential occurrence of listed matters was obtained from an area termed the 'search region', defined here as an area with a radius of ten kilometres from the approximate centre point of the study area (coordinates: latitude 37˚ 28' 26" S and longitude 144˚ 34' 47" E).

A list of the flora and fauna species recorded in the search region was obtained from the *Victorian Biodiversity Atlas* (VBA), a database administered by DELWP.

The online EPBC Act *Protected Matters Search Tool* (DAWE 2020a) was consulted to determine whether nationally listed species or communities potentially occurred in the search region based on habitat modelling.

4.2. Field methods

The field assessments were conducted on the 17th June 2021 (overview assessment), 4th August and 11th August 2021. During this assessment, the majority of the study area was surveyed on foot. Land designated as the Jacksons Creek Escarpment in the proposed development plan and roadside vegetation along Ross Watt Road was in addition surveyed for native vegetation on 6th May 2022.

Sites in the study area found to support native vegetation were mapped through a combination of aerial photograph interpretation and ground-truthing using a hand-held GPS (accurate to approximately five metres). Species and ecological communities listed as threatened under the EPBC Act were also mapped using the same method.

[1] A bioregion is defined as "a geographic region that captures the patterns of ecological characteristics in the landscape, providing a natural framework for recognising and responding to biodiversity values". In general bioregions reflect underlying environmental features of the landscape (DNRE 1997).

4.2.1. Native vegetation

Native vegetation is currently defined in Clause 73.01 of all Victorian planning schemes as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'. The Guidelines (DELWP 2017a) further classify native vegetation as belonging to two categories:

- Patch; or
- Scattered tree.

The definitions of these categories are provided below, along with the prescribed DELWP methods to assess them. Further details on definitions of patches and scattered trees are provided in Appendix 1.

Patch

A patch of native vegetation is either:

- 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[2] where the drip line[3] 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 at *MapShareVic* (DELWP 2020b).

Patch condition is assessed using the habitat hectare method (Parkes *et al.* 2003; DSE 2004b) whereby components of the patch (e.g. tree canopy, understorey and ground cover) are assessed against an EVC benchmark. The score effectively measures the percentage resemblance of the vegetation to its original condition.

The *Native Vegetation Information Management* (NVIM) system (DELWP 2020c) provides modelled condition scores for native vegetation to be used in certain circumstances.

Scattered tree

A scattered tree is:

- A native canopy tree[2] that does not form part of a patch.

Scattered trees are counted and mapped, the species identified and their circumference at 1.3 m above the ground is recorded.

4.2.2. Flora species and habitats

Records of flora species were made in conjunction with sampling methods used to undertake habitat hectare assessments of native vegetation described above. Specimens requiring identification using laboratory techniques were collected.

Species protected under the FFG Act were determined by crosschecking against the FFG Act *Protected Flora List* (DELWP 2017b).

[2] A native canopy tree is a mature tree (i.e. it is able to flower) that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type.
[3] The drip line is the outermost boundary of a tree canopy (leaves and/or branches) where the water drips on to the ground.

The potential for habitats to support listed flora species was assessed based on the criteria outlined below:

- The presence of suitable habitat for flora species such as soil type, floristic associations and landscape context; and
- The level of disturbance of suitable habitats by anthropogenic disturbances and invasions by pest plants and animals.

Wherever appropriate, a precautionary approach was adopted in determining the likelihood of occurrence or flora listed under the EPBC Act and/or FFG Act. That is, where insufficient evidence was available on the potential occurrence of a listed species, it is assumed that it could be in an area of suitable habitat.

4.2.3. Fauna species and habitats

During the site assessment, the presence of fauna habitat was noted. Fauna habitats are described using habitat components that include old-growth trees, fallen timber, leaf litter and surface rocks.

The study area's habitat connectivity (i.e. degree of isolation/fragmentation), including linkages to other habitats in the region, was determined using field observations, recent aerial photography and *NatureKit* (DELWP 2020a).

Wherever appropriate, a precautionary approach was adopted in determining the likelihood of occurrence of fauna listed under the EPBC Act and FFG Act. That is, where insufficient evidence was available on the potential occurrence of a listed species, it was assumed that it could be present in an area of suitable habitat.

4.2.4. Threatened ecological communities

The study area was assessed against published descriptions of relevant listed ecological communities modelled to potentially occur in the study area.

Reviewed ecological community descriptions comprised identification criteria and condition thresholds from listing advice for EPBC Act communities as well as FFG Act-listed community descriptions (SAC 2015).

4.3. Limitations of field assessment

Whilst this assessment was not designed to provide an exhaustive inventory of flora species in the study area, all efforts were made to schedule the site assessment at a time of year when the majority of native vegetation life forms are likely to be present. The timing of the survey was considered suitable to ascertain the extent and condition of native vegetation within the study area. The accuracy of some species identification may be reduced due to the fact that most grasses did not have inflorescences present. The timing of the survey and condition of vegetation was otherwise considered suitable to ascertain the extent and condition of native vegetation and fauna habitats.

5. Assessment results

5.1. Site description

The study area for this investigation (Figure 1) is 87.38 hectares of private land located at Gisborne, approximately 50 kilometres from Melbourne's CBD. The study area is bordered by Ross Watt Road and pastoral land to the north, Swinburne Avenue and residential housing to the east, and Jacksons Creek to the south and west.

The study area supports heavy soils on an undulating landscape sloping down towards Jacksons Creek. Several dams occur within the study area. The study area and surrounding land to the north and south are currently used for livestock grazing.

The majority of vegetation within the study area consists of paddocks containing a mixture of introduced and native grass species. Large remnant Swamp Gum trees are scattered throughout. Overall, introduced grass species are more abundant than native grass species. Brown-top Bent is the most common species present. Small patches of ephemeral wetland vegetation predominantly comprised of Rush are most numerous in the eastern paddock adjacent to Swinburne Avenue. Riparian vegetation occurs along the banks of Jacksons Creek and a small patch of woodland is present in the south-eastern corner of the study area upslope of the riparian vegetation.

Fauna habitat within the study area consists of native treed vegetation, grassland and aquatic areas. Large scattered remnant trees are numerous and hollow-bearing, however most are isolated from patches of treed vegetation adjacent to Jacksons Creek.

The following key fauna habitat areas occurred within the region:

- Gisborne Nature Conservation Reserve to the northeast. This reserve was separated from the study area by Ross Watt Road.
- Jacksons Creek along the southern and western boundaries of the study area.
- Rosslynne Reservoir approximately 200 metres to the northwest. A narrow strip of grassland and treed vegetation separated the reservoir from the study area.
- Lerderderg State Park approximately 4 kilometres to the southwest. A mixture of pastoral land and remnant bush separated the study area from the State Park.

The study area provides an important link between Gisborne Nature Conservation Reserve and Jacksons Creek and Rosslynne Reservoir.

The study area lies within the Victorian Volcanic Plain and Central Victorian Uplands bioregions and falls within the Port Phillip and Westernport catchment management area.

5.2. Native vegetation

5.2.1. Patches of native vegetation

Pre–European EVC mapping (DELWP 2020a) indicated that the study area and surrounds would have supported Higher Rainfall Plains Grassy Woodland (EVC 55_63), Plains Grassy Woodland (EVC 55), Herb-rich Foothill Forest (EVC 23) and Riparian Woodland (EVC 641) prior to European settlement based on modelling of factors including rainfall, aspect, soils and remaining vegetation.

Evidence on site, including floristic composition and soil characteristics, suggested suggests that Higher Rainfall Plains Grassy Woodland (EVC 55_63), Plains Grassy Woodland (EVC 55), Plains

Sedgy Wetland (EVC 647) and Tall Marsh (EVC 821) are present within the study area (Figure 1). A description of these EVCs is provided within the EVC benchmarks in Appendix 6.

40 patches (referred to herein as habitat zones) comprising the abovementioned EVCs, were identified in the study area (Table 1). This totalled an area of 13.297 hectares of native vegetation in patches and included 31 large trees.

Table 1: Description of habitat zones in the study area

Habitat Zone	EVC	Description
A	Plains Grassy Woodland (EVC 55)	Mature Black Wattle (60% cover) over a ground layer of Wallaby Grass (10% cover) and introduced weeds including Cape Weed and Couch (80% cover).
B	Plains Grassy Woodland (EVC 55)	Wallaby Grass (40% cover) formed the majority of native vegetation within this habitat zone. Scattered Rush was also present (1% cover). Weed cover was moderate (55%) and predominantly comprised Brown-top Bent, Couch and Ribwort.
C	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Characterised by Wallaby Grass (30% cover) and a moderate cover of bryophytes (10%) and weeds (40%). Brown-top Bent and Onion Grass were common.
D	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	A canopy of Gum Tree (15% cover) over an understorey of immature canopy specimens, Black Wattle and Blackwood (55% cover combined). Cherry Ballart was also present in the understorey. The groundstorey consisted of Wallaby Grass and Spear Grass (7% cover combined) with scattered Wood Sorrel and isolated Crane's Bill and Groundsel. A moderate cover of weeds (50%) was present. Blackberry, Drooping Cassinia and Canary Grass were the most common weed species observed.
E & F	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	This habitat zone comprised a ground layer of Wallaby Grass (30% cover). Weed cover was moderate (55%) and Brown-top Bent, Cape Weed and Cat's Ear were numerous.
G, H, I, J, K, L, M, N, P, Q & R	Plains Sedgy Wetland (EVC 647)	Rush (25% cover) was moderately abundant and weed cover high (60%). Brown-top Bent was widespread.
O	Plains Sedgy Wetland (EVC 647)	A moderate cover of Rush (40%) with Spike Sedge (10%) occurring in deeper water. Bulrush was also present (1% cover). Brown-top Bent was the main weed species observed (15% total weed cover).
S	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Blackwood (60% cover) shaded a groundstorey of Kangaroo Grass and Wallaby Grass (50% cover combined). Weed cover was moderate (50%) and Brown-top Bent and Canary Grass common.

Habitat Zone	EVC	Description
T	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Native vegetation comprised Black Wattle (55% cover), Blackwood (10% cover) and Wallaby Grass (20% cover). No mature canopy specimens of Blackwood were present. A moderate cover of weeds (45%) predominantly comprised Brown-top Bent and Canary Grass. Bryophyte cover was high (25%).
U	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Blackwood (50% cover) and Black Wattle (25% cover) constituted the highest stratum of vegetation as no canopy was present within this habitat zone. Ground layer vegetation consisted of Wallaby Grass (20% cover) and weeds such as Brown-top Bent and Canary Grass (65% cover combined).
V	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Black Wattle (80% cover) was the sole indigenous species present. In the ground layer, bryophytes were abundant (40% cover) but weed cover was high (70%). Common weed species included Brown-top Bent and Canary Grass.
W	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Black Wattle (80% cover) shaded a ground layer of Wallaby Grass (10% cover), bryophytes (25% cover) and a moderate cover of weeds (30%). Brown-top Bent and Canary Grass were common.
X	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Native vegetation comprised a canopy of Swamp Gum (7% cover) over an understorey of immature canopy specimens (10% cover), Blackwood and Black Wattle (8% cover combined). Wallaby Grass (40% cover) and bryophytes (30% cover) were abundant in the groundlayer and were interspersed with Brown-top Bent and Canary Grass (30% total weed cover).
Y	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Native vegetation comprised a Black Wattle and Blackwood (30% cover) canopy over a diverse but sparse understory (10% total cover) including Creeping Bossiaea, Sheep's Burr, Wallaby Grasses, Kangaroo Grass and Small-leaved Clematis. Bryophytes were largely absent. Weed cover was very high (70%) and comprised a canopy of Radiata Pine and a dense understory of Hawthorn, Blackberry, Sweet Briar and various exotic pasture grasses.
Z, AA, AB	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Native vegetation consisted largely of dense clusters of Blackwood (50%) over a very sparse understory layer (<1-5%) of Hairy Willow-herb, Bristly Wallaby-grass, Sheep's Burr and Rush. Bryophytes were absent. Understory weed cover was extremely high (80%) and consisted largely of Toowoomba Canary Grass.
AC	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Native vegetation consisted solely of an understory of Red-leg Grass, Bog Sedge and Scarlet Sundew (30%) with intermittent bryophytes (15%). Weed cover was high (30%) and consisted of Rat's-tail Fescue and Paspalum.

Habitat Zone	EVC	Description
AD	*Higher Rainfall* Plains Grassy Woodland (EVC 55_63)	Native vegetation consisted of a dense cluster of Black Wattle (45%) with scattered Windmill Grass and Crane's Bill (<1%). Bryopyhtes were present at low cover (1%). Weed cover in the ground layer was very high (80%) and largely consisted of Toowoomba Canary-grass with Blackberry, Morning Glory, Prunus, Hemlock and Scotch Broom.
AE	Herb-rich Foothill Forest (EVC 23)	Native vegetation consisted of several clusters of Manna Gum and Swamp Gum (3%), including 24 large trees, over a ground layer of dense Wallaby Grasses, Spear Grasses, Kangaroo Grass and Weeping Grass (60%). Native herbs such as Bluebells, Sweet Hound's-tongue, Tall Raspwort, Groundsel and Slender Dock were also present (5%). Weed cover was moderate (20%), and largely consisted of scattered patches of Blackberry, Sweet Vernal-grass and Spear Thistle.
AF-AM	Tall Marsh (EVC 821)	Creekline vegetation dominated by Narrow-leaf Cumbungi, Broad-leaf Cumbungi and Common Reed (40-60%), including a diversity of herbs and graminoids such as Club Sedge, Swamp Crassula, Common Water-ribbons, Common Spike-sedge, Slender Knotweed, Red Pondweed and Streaked Arrowgrass (10-25%). Bryophytes were present at low cover (3%). Pussy Willow was the dominant weed which separated these habitat zones, and had variable cover across them, from 50% in HZ AI to 10% in HZ AF.
AN	Riparian Woodland (EVC 641)	Native vegetation consisted of Manna Gum and Swamp Gum (20%), including 3 large trees, over a sparse ground layer of Wallaby Grasses, Spear Grasses, Kangaroo Grass and Weeping Grass (10%). Native herbs such as Crane's Bill, Tall Raspwort and Spreading Crassula were also present (<1%). Weed cover was very high (60%), and largely consisted of scattered patches of Blackberry and Sweet Vernal-grass.

The habitat hectare assessment results for these habitat zones are provided in Appendix 1. More detailed habitat scoring results are presented in Appendix 2. Details of large trees in patches are provided in Appendix 3. The DBHs of large trees within the Jackson Creek Reserve (mostly Manna Gums and Swamp Gums) have been estimated.

An additional site visit was undertaken by Aaron Organ (EHP) on 17th August 2022, who found that patches B, C, E and F did not qualify any longer as native vegetation as they no longer supported 25% perennial understorey species to constitute a patch under the Guidelines. For the purpose of this report these patches are still considered native vegetation, but this observation confirms the low quality of these patches, that were assessed with very low habitat scores between 16 and 21.

Table 2: Summary of habitat hectare assessment results

Habitat Zone	EVC	Area (ha)	Condition Score (out of 100)	Large Trees recorded
A	Plains Grassy Woodland (EVC 55)	0.031	21	0
B	Plains Grassy Woodland (EVC 55)	0.626	16	0
C	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.397	21	0
D	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	1.032	40	0
E	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	3.569	20	1
F	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.309	19	0
G	Plains Sedgy Wetland (EVC 647)	0.064	24	0
H	Plains Sedgy Wetland (EVC 647)	0.010	22	0
I	Plains Sedgy Wetland (EVC 647)	0.052	22	0
J	Plains Sedgy Wetland (EVC 647)	0.033	22	0
K	Plains Sedgy Wetland (EVC 647)	0.014	22	0
L	Plains Sedgy Wetland (EVC 647)	0.028	22	0
M	Plains Sedgy Wetland (EVC 647)	0.033	22	0
N	Plains Sedgy Wetland (EVC 647)	0.023	22	0
O	Plains Sedgy Wetland (EVC 647)	0.034	46	0
P	Plains Sedgy Wetland (EVC 647)	0.035	24	0
Q	Plains Sedgy Wetland (EVC 647)	0.081	24	0
R	Plains Sedgy Wetland (EVC 647)	0.002	22	0
S	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.005	17	0
T	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.039	17	0
U	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.017	18	0
V	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.001	13	0
W	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.003	22	0
X	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.739	32	2
Y	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.390	36	0
Z	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.009	16	0
AA	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.008	16	0
AB	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.110	19	0
AC	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.006	18	0
AD	Higher Rainfall Plains Grassy Woodland (EVC 55_63)	0.070	11	0
AE	Herb-rich Foothill Forest (EVC 23)	4.500	46	24
AF	Tall Marsh (EVC 821)	0.320	46	0
AG	Tall Marsh (EVC 821)	0.011	39	0
AH	Tall Marsh (EVC 821)	0.017	24	0
AI	Tall Marsh (EVC 821)	0.005	36	0
AJ	Tall Marsh (EVC 821)	0.010	45	0
AK	Tall Marsh (EVC 821)	0.390	56	0
AL	Tall Marsh (EVC 821)	0.078	49	0

Habitat Zone	EVC	Area (ha)	Condition Score (out of 100)	Large Trees recorded
AM	Tall Marsh (EVC 821)	0.079	46	0
AN	Riparian Woodland (EVC 641)	0.120	45	3
Total		**13.297**		**31**

Figure 1: Study area and native vegetation

Project: 89 Ross Watt Road, Gisborne
Client: ID Land
Date: 16/11/2022

Study area

Native vegetation

- Large tree in patch
- Large scattered tree
- Plains Grassy Woodland (EVC 55)
- Higher Rainfall Plains Grassy Woodland (EVC 55_63)
- Riparian Woodland (EVC 641)
- Plains Sedgy Wetland (ECV 647)
- Tall Marsh (EVC 821)
- Inaccessible - Presumed to be native
- Black Wattle and Common Cassinia present
- Black Wattle present

Note: Trees in arborist report labelled in yellow

N

Metres
0 80

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5.2.2. Scattered trees

Scattered trees recorded in the study area would have once comprised the canopy component of *Higher Rainfall* Plains Grassy Woodland (EVC 55_63).

71 large scattered trees (≥ 70-centimetre DBH) and large trees in patches occurred in the study area (Figure 1).

An arborist assessment has been undertaken by Rob Galbraith and Associates (2022). Most of the paddock trees proposed for removal were assessed as overmature Swamp Gums which typically suffered massive trunk failures associated with decay caused by termites and are at risk of further large collapses. Trees along the northern boundary and within Jackson's Creek Reserve were in better condition and worth of retention.

Details of all scattered trees and large trees in patches recorded are listed in Appendix 3.

5.3. Flora species

5.3.1. Species recorded

During the field assessments 30 plant species were recorded. Of these, 18 (60%) were indigenous and 12 (40%) were introduced or non-indigenous native in origin (Appendix 4).

5.3.2. Listed species

VBA records (DELWP 2020d) and the EPBC Protected Matters Search Tool (DAWE 2020a) indicated that within the search region there were records of, or there occurred potential suitable habitat for, 12 flora species listed under the Commonwealth EPBC Act and 11 listed under the state FFG Act, including 8 listed under both Acts. No flora species listed under the EPBC Act were recorded during the field survey.

Species considered 'likely to occur' are those that have a very high chance of being in the study area based on numerous records in the search region and suitable habitat in the study area. Species considered to have the 'potential to occur' are those for which suitable habitat exists, but recent records are scarce.

The likelihood of occurrence in the study area of species listed under the EPBC Act and FFG Act is addressed in Table 3. Species considered 'likely to occur' are those that have a very high chance of being in the study area based on numerous records in the search region and suitable habitat in the study area. Species considered to have the 'potential to occur' are those for which suitable habitat exists, but recent records are scarce.

This analysis indicates that the following two listed flora species have the potential to occur:

- Matted Flax-lily (EPBC Act: Endangered; FFG Act: Listed, flowering Dec–Feb)
- Swamp Everlasting (EPBC Act: Vulnerable; FFG Act: Listed, flowering Nov–March)

Targeted surveys have been undertaken for these species and they were not recorded in the study area (see Nature Advisory 2022a).

Table 3: Listed flora species and the likelihood of their occurrence in the study area

Common name	Scientific name	Conservation status		Habitat	Likelihood of occurrence
		EPBC	FFG		
Bacchus Marsh Wattle	*Acacia rostriformis*		L	Confined to the Bacchus Marsh area (Lerderderg Gorge, Long Forest, Coimadai, Balliang and Werribee) where it occurs in low hilly areas in Eucalyptus woodland. (vicflora.rbg.vic.gov.au)	No specimens observed within the study area - **unlikely to occur**.
River Swamp Wallaby-grass	*Amphibromus fluitans*	VU		River Swamp Wallaby-grass grows mostly in permanent swamps and also lagoons, billabongs, dams and roadside ditches. The species requires moderately fertile soils with some bare ground; conditions that are caused by seasonally-fluctuating water levels (DAWE 2020).	No records nearby, habitat highly disturbed - **unlikely to occur.**
Ornate Pink-fingers	*Caladenia ornata*	VU	L	Heathy forest and among shrubs on seasonally moist sandy loams (Jones 2006).	No suitable habitat present and no records nearby - **unlikely to occur**.
Candy Spider-orchid	*Caladenia versicolor*	VU	L	The candy spider-orchid is found on plains, sedgy woodland and shallow sands woodland dominated by Eucalyptus leucoxylon (yellow gum) (DAWE 2020).	Vegetation within the study area is highly modified and no records nearby - **unlikely to occur**.
Matted Flax-lily	*Dianella amoena*	EN	L	Lowland grassland and grassy woodlands on well-drained to seasonally waterlogged fertile sandy loams to heavy cracking soils derived from sedimentary or volcanic Geology. It is widely distributed from eastern to south-western Victoria (DAWE 2020).	No specimens observed within the study area but numerous records nearby - **potential to occur** along the northern boundary of the study area but **not recorded** during targeted surveys.
Sunshine Diuris	*Diuris fragrantissima*	EN	L	Native grasslands dominated by Kangaroo Grass, on heavy basalt soils, often with embedded basalt boulders. The sole remaining natural population at Sunshine occurs in a small (0.1 ha) remnant of Western (Basalt) Plains Grassland (DAWE 2020).	Habitat present is highly modified and no records nearby - **unlikely to occur.**

Common name	Scientific name	Conservation status		Habitat	Likelihood of occurrence
		EPBC	FFG		
Purple Diuris	*Diuris punctata*		L	Principally in lowland native grasslands, grassy woodlands, heathy woodlands and open heathlands, usually on fertile, loamy soils and including periodically inundated areas (Earl & Barlow 2004).	All nearby records relate to known population in Riddles Creek, approximately 10km east of the study area. Habitat on site highly degraded - **unlikely to occur.**
Trailing Hop-bush	*Dodonaea procumbens*	VU		Grows in low lying, often winter wet areas in woodland, low open-forest heathland and grasslands on sands and clays. Largely confined to SW of Victoria (DAWE 2020).	Habitat present is highly modified and no records nearby - **unlikely to occur**.
Black Gum	*Eucalyptus aggregata*	VU	L	Very restricted in Vic. to the Gisborne- Woodend region (Brooker & Slee 1996).	No specimens of this conspicuous species observed within the study area - **unlikely to occur**.
Large-flower Crane's-bill	*Geranium sp. 1*		L	Volcanic plains in Grassy Woodland, Plains Grassland and Plains Grassy Wetland (Bull 2014).	Known only from four population groups, the nearest being Riddlels Creek. Habitat highly degraded - **unlikely to occur.**
Clover Glycine	*Glycine latrobeana*	VU	L	Found across south-eastern Australia in native grasslands, dry sclerophyll forests, woodlands and low open woodlands with a grassy ground layer. In Victoria, populations occur in lowland grasslands, grassy woodlands and sometimes in grassy heath (DAWE 2020).	Habitat present is highly modified and no records in the locality - **unlikely to occur.**
Adamson's Blown-grass	*Lachnagrostis adamsonii subsp. adamsonii*	VU		Confined to slow moving creeks, swamps, flats, depressions or drainage lines that are seasonally inundated or waterlogged and usually moderately to highly saline. Appear to favour sites that have some shelter from the wind (DAWE 2020).	Habitat present is highly modified and no records in the locality - **unlikely to occur.**

Common name	Scientific name	Conservation status		Habitat	Likelihood of occurrence
		EPBC	FFG		
Basalt Peppercress	*Lepidium hyssopifolium* s.s.	EN	L	Known to establish on open, bare ground with limited competition from other plants. Previously recorded from Eucalypt woodland with a grassy ground cover, low open Casuarina woodland with a grassy ground cover and tussock grassland. Now generally found amongst exotic pasture grasses and beneath exotic trees (DAWE 2020).	Suitable habitat present but no records in the locality - **unlikely to occur.**
Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	CR	L	Occurs in grassland or open shrubland on basalt derived soils, usually comprising black or grey clays. Plants from more northerly populations occur on red clay complexes, while plants from southern populations occur on heavy grey-black clay loams. Topography is generally flat but populations may occur on slight rises or in slightly wettish depressions.	Habitat present is highly modified and no records nearby - **unlikely to occur**.
Maroon Leek-orchid	*Prasophyllum frenchii*	EN	L	Grows mainly in open sedge swampland or in wet grassland and wet heathland generally bordering swampy regions. Sites are generally low altitude, flat and moist. Soils are generally moderately rich damp sandy or black clay loams. Climate is mild, with an annual rainfall of 600–1100 mm, occurring predominantly in winter and spring (DAWE 2020).	Habitat present is highly modified and no records nearby - **unlikely to occur**.
Green-striped Greenhood	*Pterostylis chlorogramma*	VU	L	Occurs in mixed Box-Stringybark forest with a shrubby understorey, often with Pteridium esculentum as a major component on sandy or clay loam soils (Duncan et al. 2009).	No suitable habitat present - **unlikely to occur**.
Button Wrinklewort	*Rutidosis leptorhynchoides*	EN	L	In Victoria restricted to open stands of plains grassland and grassy woodlands, on fertile clays to clay loams, usually in areas where the grass cover is more open, either as a result of recurrent fires or grazing by native macropods or stock. It also occurs on low rises with shallow, stony soils at less than 100 m above sea level.	Habitat present is highly modified and no records nearby - **unlikely to occur**.

Common name	Scientific name	Conservation status		Habitat	Likelihood of occurrence
		EPBC	FFG		
Large-headed Fireweed	*Senecio macrocarpus*	VU	L	In Victoria, Large-fruit Fireweed occurs most commonly in grasslands on red-brown earth soils. It may also occur in grassy woodlands and open woodlands predominantly in the Western (Basalt) Plains grassland on red brown earth soils found on recent Quaternary (basalt) deposits (DAWE 2020).	No suitable habitat present and no records nearby - **unlikely to occur**.
Swamp Fireweed	*Senecio psilocarpus*	VU		Herb-rich winter-wet swamps on volcanic clays or peaty soils (Walsh 1999). Known from approximately 10 sites between Wallan, about 45 km north of Melbourne, and Honans Scrub in south-eastern South Australia (TSSC 2008).	Recorded in wetlands of the Gisborne Nature Conservation Reserve just north of the study area, but no habitat present on site - **unlikely to occur.**
Hairy-leaf Triggerplant	*Stylidium armeria subsp. pilosifolium*		L	Is thought to be confined to dry heathy vegetation on skeletal shaly soils in the southern foothills of the Macedon Range near Riddells Creek and the Pyrete Range (Best et al. 2009).	No suitable habitat present - **unlikely to occur**.
Swamp Everlasting	*Xerochrysum palustre*	VU	L	Grows in wetlands including sedge-swamps and shallow freshwater marshes, often on heavy black clay soils. Commonly associated genera include *Amphibromus, Baumea, Carex, Chorizandra, Craspedia, Eleocharis, Isolepis, Lachnagrostis, Lepidosperma, Myriophyllum, Phragmites australis, Themea triandra* and *Villarsia* (DAWE 2020).	Recorded in wetlands of the Gisborne Nature Conservation Reserve just north of the study area. Habitat on site highly degraded but **potential to occur**, especially in the north/northwest of the study area but **not recorded** during targeted surveys.

Notes: EPBC = threatened species status under EPBC Act (EX = presumed extinct in the wild; CR = critically endangered; EN = endangered; VU = vulnerable); **FFG** = threatened species status under the FFG Act = listed as threatened (L) under the FFG Act.

5.4. Fauna habitats

The study area supported the following three fauna habitat types.

- Native treed vegetation;
- Grassland; and
- Aquatic habitat.

Native Treed Vegetation: Native treed vegetation predominantly consisted of large scattered remnant Swamp Gum. A small area of woodland occurred in the south-eastern corner of the study area. Most Swamp Gum were very old and contained at least one hollow. Many had multiple hollows (see picture below). Hollows provide important nesting and roosting habitat for birds, mammals and bats. Swamp Gum also provide food resources either directly (flowers) or indirectly (insects) for fauna.

Grassland: Grassland covered the majority of the study area and comprised native and introduced species (see picture below). Patches of Wallaby Grass present may be suitable Golden Sun Moth habitat.

Aquatic habitat: Small patches of Plains Grassy Wetland and several dams were scattered throughout the study area. Most patches of wetland were ephemeral but contained water at the time of the survey (see pictures above and below). These patches provide habitat for frogs and waterbirds and are likely to provide important links between Jacksons Creek and Gisborne Nature Conservation Reserve. Both frogs and waterbirds were observed to be utilising aquatic habitat present.

5.5. Fauna species

5.5.1. Listed species

The review of existing information (including VBA records (DELWP 2020d) and the results of the EPBC Protected Matters Search Tool (DAWE 2020a)) indicated that within the search region there were records of, or there occurred potential suitable habitat for 17 fauna species listed under the Commonwealth EPBC Act and the state FFG Act. The likelihood of occurrence of these species in the study area was assessed and the results are presented in Table 4.

This analysis of potential occurrence of listed fauna species excludes:

- Marine fauna given that the study area is inland; and
- Migratory oceanic bird species (such as albatrosses and petrels) and migratory shorebirds given that the study area is inland.

Species considered 'likely to occur' are those that have a very high chance of being in the study area given the existence of numerous records in the search region and suitable habitat in the study area. Using the precautionary approach, species considered to have the 'potential to occur' are those for which suitable habitat exists, but recent records are scarce. This analysis indicates that 17 listed fauna species are likely to occur or have the potential to occur. These species are:

- Black Falcon (FFG Act listed)
- Eastern Great Egret (EPBC Act, migratory, FFG Act Listed)
- Latham's Snipe (EPBC Act, migratory)
- Little Eagle (FFG Act listed)
- Powerful Owl (FFG Act listed)
- Rufous Fantail (EPBC Act, migratory)
- Satin Flycatcher (EPBC Act, migratory)
- Swift Parrot (EPBC and FFG Act listed)
- White-throated Needletail (EPBC Act listed)
- Grey-headed Flying Fox (EPBC and FFG Act listed)
- Platypus (FFG Act listed)
- Southern Greater Glider (EPBC and FFG Act listed)
- Striped Legless Lizard (EPBC and FFG Act listed)
- Dwarf Galaxias (EPBC and FFG Act listed)
- Amethyst Hairstreak Butterfly (FFG Act listed)
- Golden Sun Moth (EPBC and FFG Act listed)
- Growling Grass Frog (EPBC and FFG Act listed)

The susceptibility of these species to impacts from development is discussed in Section 5.5.2.

Table 4: Listed fauna species and the likelihood of their occurrence in the study area

Common Name	Scientific Name	Conservation Status			Habitat	Number of Records	Date of Last Record	Likelihood of Occurrence
		EPBC-T	EPBC-M	FFG				
Birds								
Australasian Bittern	*Botaurus poiciloptilus*	EN		cr	Terrestrial wetlands, including a range of wetland types but prefers permanent water bodies with tall dense vegetation, particularly those dominated by sedges, rush, reeds or cutting grass (Marchant & Higgins 1990).	4	3/03/2017	Lack of habitat. Unlikely to occur.
Australian Painted-snipe	*Rostratula australis*	EN		cr	Generally inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of *lignum muehlenbeckia* or canegrass or sometimes tea-tree (Melaleuca). Sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber (DAWE 2020).	None	N/A	Lack of habitat. Unlikely to occur.
Black Falcon	*Falco subniger*			cr	Woodlands, open country and terrestrial wetlands; in arid and semi-arid zones; mainly over open plains and undulating land with large tracts of low vegetation. It is more commonly found in north-western Victoria and is only occasionally found in southern Victoria. It is a highly mobile species, moving in response to food availability and seasonal conditions (Marchant & Higgins 1993).	4	9/02/2018	Habitat exists. Potential to occur.
Common Greenshank	*Tringa nebularia*		M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)	en	Inhabits wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands (Higgins & Davies 1996).	None	N/A	Lack of habitat. Unlikely to occur.
Common Sandpiper	*Actitis hypoleucos*		M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)	vu	Inhabits a wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands. In Victoria, mostly found Westernport and Port Phillip Bay (Higgins & Davies 1996).	None	N/A	Lack of habitat. Unlikely to occur.
Curlew Sandpiper	*Calidris ferruginea*	CR	M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)	cr	Inhabits wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands (Higgins & Davies 1996).	None	N/A	Lack of habitat. Unlikely to occur.
Diamond Dove	*Geopelia cuneata*			vu	Mostly arid and semi-arid grassland savannah, often of spinifex and in low open woodlands with grassy understorey. Also often found in open riparian woodlands (Higgins & Davies 1996).	3	5/01/2017	Site is beyond normal range. Unlikely to occur,
Eastern Curlew	*Numenius madagascariensis*	CR	M (Bonn A1, ROKAMBA, JAMBA, CAMBA)	cr	Inhabits sheltered coasts, especially estuaries, embayment, harbours, inlets and coastal lagoons with large intertidal mudflats or sandflats, often with beds of sea grass (Higgins & Davies 1996).	None	N/A	Lack of habitat. Unlikely to occur.
Eastern Great Egret	*Ardea alba*		M (Bonn A1, ROKAMBA, JAMBA, CAMBA)	vu	Occurs in a variety of wetlands including: permanent water bodies on flood plains; shallows of deep permanent lakes, either open or vegetated with shrubs or trees; semi-permanent swamps with tall emergent vegetation (e.g. bulrush) and herb dominated seasonal swamps with abundant aquatic flora (Marchant & Higgins 1990).	8	12/09/2018	Habitat exists (farm dams) and high quality habitat available nearby. Likely to occur.

Common Name	Scientific Name	Conservation Status			Habitat	Number of Records	Date of Last Record	Likelihood of Occurrence
		EPBC-T	EPBC-M	FFG				
Grey Falcon	*Falco hypoleucos*	VU		vu	Inhabits arid and semi-arid zones; mainly on sandy and stony plains of inland drainage systems, lightly timbered with acacia. Hunt far into open areas, over spinifex, tussock grasslands and low shrublands. In Victoria, few records mostly in north and northwestern regions (Marchant & Higgins 1993).	None	N/A	Lack of habitat. Unlikely to occur.
Latham's Snipe	*Gallinago hardwickii*		M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)		Occurs in wide variety of permanent and ephemeral wetlands; it prefers open freshwater wetlands with dense cover nearby, such as the edges of rivers and creeks, bogs, swamps, waterholes. The species is widespread in southeast Australia and most of its population occurs in Victoria, except in the northwest of the state (Naarding 1983; Higgins & Davies 1996).	4	1/08/2016	Habitat exists (farm dams and wet pasture with soft substrate) and high quality habitat available nearby. Likely to occur.
Lewin's Rail	*Lewinia pectoralis*			vu	Occurs in a variety of densely vegetated wetland habitats, fresh or saline, and usually with areas of standing water. Requires shallow water areas for foraging (Marchant & Higgins 1993).	10	12/09/2018	Lack of habitat. Unlikely to occur.
Little Eagle	*Hieraaetus morphnoides*			vu	Open forests and woodlands, open country and grasslands, including floodplains and shrublands in semi-arid zone (Marchant & Higgins 1993).	5	17/12/1977	Habitat exists. Likely to occur.
Osprey	*Pandion cristatus*		M (Bonn A2S)		Rare vagrant to Victoria (Marchant & Higgins 1993). Littoral and coastal habitats and terrestrial wetlands. They are mostly found in coastal areas but occasionally travel inland along major rivers (Johnstone & Storr 1998; Marchant & Higgins 1993; Olsen 1995). They require extensive areas of open fresh, brackish or saline water for foraging (Marchant & Higgins 1993).	None	N/A	Lack of habitat. Unlikely to occur.
Painted Honeyeater	*Grantiella picta*	VU		en	Inhabits box-ironbark forests and woodlands and mainly feeds on the fruits of mistletoe. Strongly associated with mistletoe around the margins of open forests and woodlands. Can also be found in farmland containing remnant treed vegetation. Occurs at few localities. Uncommon breeding migrant from further north, arriving in October and leaving in February (Higgins et al. 2001; Tzaros 2005).	None	N/A	Lack of habitat. Unlikely to occur.
Pectoral Sandpiper	*Calidris melanotos*		M (Bonn A2H, ROKAMBA, JAMBA)		Inhabit shallow fresh to saline wetlands, usually coastal to near-coastal, but occasionally farther inland. Wetlands often have open fringing mudflats and low emergent or fringing vegetation (Higgins & Davies 1996).	None	N/A	Lack of habitat. Unlikely to occur.
Powerful Owl	*Ninox strenua*			vu	Found in open and tall wet sclerophyll forests with sheltered gullies and old growth forest with dense understorey. They are also found in dry forests with box and ironbark eucalypts and River Red Gum. Large old trees with hollows are required by this species for nesting. In Victoria, the Powerful Owl is widespread, having been recorded from most of the state. However, throughout its range it is uncommon and occurs in low densities (Higgins 1999). Also occurs in highly urbanised areas, such as metropolitan Melbourne, where they are heavily reliant upon various forms of movement corridors (riparian strips, roadside vegetation and recreational reserves) to both hunt within and navigate throughout the landscape (Carter et al. 2019).	25	26/06/2019	Some riparian habitat. Potential to occur.
Rufous Fantail	*Rhipidura rufifrons*		M (Bonn A2H)		In east and south-east Australia, mainly inhabits tall wet sclerophyll forests, often in gullies. When on passage in warmer months, they are sometimes recorded in drier sclerophyll forests and woodlands, as well as parks and gardens (Higgins et al. 2006). Virtually absent from south-eastern Australia during winter (Higgins et al. 2006).	28	3/06/2017	Some riparian habitat. Potential to occur.

Common Name	Scientific Name	Conservation Status			Habitat	Number of Records	Date of Last Record	Likelihood of Occurrence
		EPBC-T	EPBC-M	FFG				
Satin Flycatcher	*Myiagra cyanoleuca*		M (Bonn A2H)		Mostly found in eucalypt forest, particularly tall wet forests and woodland within gullies (Higgins et al. 2006). Also inhabits eucalypt woodland comprising an open understorey and a grassy ground layer (Higgins et al. 2006). Generally absent from rainforest (Higgins et al. 2006).	26	12/09/2009	Some riparian habitat. Potential to occur.
Sharp-tailed Sandpiper	*Calidris acuminata*		M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)		Inhabit shallow fresh to saline wetlands, usually coastal to near-coastal, but occasionally farther inland. Wetlands often have open fringing mudflats and low emergent or fringing vegetation (Higgins & Davies 1996).	None	N/A	Lack of habitat. Unlikely to occur.
Swift Parrot	*Lathamus discolor*	CR		cr	Prefers a select range of eucalypts in Victoria, including Yellow Gum, Grey Box, White Box, Red Ironbark and Yellow Box, as well as River Red-gum when this species supports abundant 'lerp' (Saunders & Tzaros 2011). The species is also known to forage within planted stands of Spotted Gum and Sugar Gum (Nature Advisory; unpublished data). Breeds in Tasmania and migrates to the mainland of Australia for the autumn, winter and early spring months. It lives mostly north of the Great Dividing Range, passing through two areas of Victoria on migration: the Port Phillip district and Gippsland (Emison et al. 1987; Higgins 1999; Kennedy & Tzaros 2005). Though it is also not uncommonly sighted in urban areas (Nature Advisory; unpublished data). Occurrence of this species on the mainland can substantially change from year to year depending on food availability, giving potential for this species to occur almost anywhere throughout its range (Emison et al. 1987).	None	N/A	Some habitat (Swamp Gum). Potential to occur.
White-bellied Sea-Eagle	*Haliaeetus leucogaster*			en	Maritime habitats, terrestrial large wetlands and coastal lands of tropical and temperate Australia and offshore islands, ranging far inland only over large rivers and wetlands. The eagles usually breed on coast and offshore islands and inland beside large lakes or rivers, usually in tall trees in or near water, also in cliffs, rock pinnacles and escarpments (Marchant & Higgins 1993).	1	23/05/2010	Lack of habitat. Unlikely to occur.
White-throated Needletail	*Hirundapus caudacutus*	VU	M (CAMBA, ROKAMBA, JAMBA)	vu	Aerial, over all habitats, but probably more over wooded areas, including open forest and rainforest. Often over heathland and less often above treeless areas such as grassland and swamps or farmland (Higgins 1999).	13	5/01/2017	Habitat exists. Potential to occur.
Yellow Wagtail	*Motacilla flava*		M (CAMBA, JAMBA, ROKAMBA)		Regular non-breeding visitor in northern Australia mainly spring-summer, vagrant to the south. Occupies a wide range of habitats, usually open areas with low vegetation such as crop, grassland and even parkland. Often recorded near water (Higgins, Peter & Cowling 1999)	None	N/A	Lack of habitat. Unlikely to occur.
Mammals								
Brush-tailed Phascogale	*Phascogale tapoatafa*			vu	Dry forest and woodland in association with box, ironbark and stringybark eucalypts (Menkhorst 1995). Closely associated with remnant vegetation, this species occupies large home ranges of woodland habitat (M=100Ha; F=20-70Ha) (Menkhorst 1995).	13	13/05/2016	Lack of habitat. Unlikely to occur.
Grey-headed Flying-fox	*Pteropus poliocephalus*	VU		vu	Brisbane, Newcastle, Sydney and Melbourne are occupied continuously. Elsewhere, during spring, they are uncommon south of Nowra and widespread in other areas of their range. Roosts in aggregations of various sizes on exposed branches. Roost sites are typically located near water, such as lakes, rivers or the coast. Roost vegetation includes rainforest patches, stands of *Melaleuca*, mangroves and riparian vegetation, but colonies also use highly modified vegetation in urban and suburban areas (DAWE 2020).	None	N/A	Mobile and wide-ranging species for which habitat exists. Potential to occur.

Common Name	Scientific Name	Conservation Status			Habitat	Number of Records	Date of Last Record	Likelihood of Occurrence
		EPBC-T	EPBC-M	FFG				
Long-nosed Potoroo	*Potorous tridactylus trisulcatus*	VU		vu	In Victoria, the species occupies a wide variety of wet forest and wet scrub, usually occuring on sandy loam soils where rainfall exceeds 750mm annually (Menkhorst 1995); In Tasmania, moist forest with dense shrub layer; in the north edge of rainforest (Menkhorst 1995). Dense understorey vegetation is an essential component for the species persistence, which can consist of grass trees, sedges, ferns, heath, tea-tree or melaleucas (Menkhorst 1995).	None	N/A	Lack of habitat. Unlikely to occur.
Platypus	*Ornithorhynchus anatinus*			vu	Inhabits freshwater streams, ranging from alpine creeks to tropical lowland rivers; also lakes, shallow reservoirs and farm dams (Menkhorst and knight 2001).	7	15/11/2017	Suitable habitat along the creek forming site boundary. Known to occur along Jacksons Creek.
Southern Greater Glider	*Petauroides volans*	VU		vu	In Victoria, this species inhabits forest habitats dominated by peppermint, stringybark, ash and gum eucalypts (Menkhorst 1995). Restricted to the central highlands and eastern Victoria, and common in areas of high rainfall. Rare in dry stringybark-box and Snow Gum forest, and does not occur in the box-ironbark or River Red-gum dominated Riverina regions (Menkhorst 1995).	13	29/11/1993	Some riparian habitat. Potential to occur.
Spot-tailed Quoll	*Dasyurus maculatus maculatus*	EN		en	Rainforest, wet and dry forest, coastal heath and scrub and River Red-gum woodlands along inland rivers (Menkhorst 1995).	3	1/01/1992	Habitat exists, although with such a low population in Victoria, unlikely to occur.
Reptiles								
Striped Legless Lizard	*Delma impar*	VU		en	Grassland specialist. Known to occur in some areas dominated by introduced species such as Harding Grass Phalaris aquatica, Serrated Tussock *Nasella trichotoma* and Flatweed *Hypocharis radicata* and at sites with a history of grazing and pasture improvement. shelter in grass tussocks, thick ground cover, soil cracks, under rocks, spider burrows, and underground debris such as timber. The majority of sites in Victoria and NSW occur on cracking clay soils with some surface rock which provide shelter for the species (DAWE 2020).	None	N/A	Habitat exists, but **not recorded** during targeted surveys.
Pink-tailed Worm-Lizard	*Aprasia parapulchella*	VU		en	Sites where the species is found generally include rocky outcrops or scattered partly buried rocks. This species is diurnal and largely fossorial, sheltering under rocks and vegetation, and in the burrow passages of small ants and termites within grassland and woodland habitats of south-eastern Australia (Robertson & Coventry 2019). It feeds primarily on the larvae and eggs of ants. In Victoria, the species is largely restricted to box-ironbark woodland in the greater Bendigo region, though it may also persist elsewhere in the state (Robertson & Coventry 2019).	None	N/A	Lack of habitat. Unlikely to occur.
Fish								
Dwarf Galaxias	*Galaxiella pusilla*	VU		en	Ranges from the Melbourne region to the Mitchell River basin in central Gippsland. Western populations (from Barwon River catchment west) recently [2015] split as Little Galaxias *G. toourtkoourt.* Vegetated margins of still water, ditches, swamps and backwaters of creeks, both ephemeral and permanent (Allen et al. 2002). Some wetlands where it occurs may partially or completely dry up during summer, with such wetlands reliant on seasonal flooding plus linkages to other sites where the species occurs, for habitat and population replenishment (Saddlier, Jackson & Hammer 2010). Dwarf Galaxias is also often found in association with burrowing freshwater crayfish (Engaeus spp.), with the crayfish burrows reportedly providing refuge from predators and dry conditions for the species (Saddlier, Jackson & Hammer 2010).	None	N/A	Habitat may exist (riparian zone). Potential to occur.
Flat-headed Galaxias	*Galaxias rostratus*	CR		vu	Still or gently flowing water on the margins of lakes, billabongs and streams. Usually swims in midwater over rock or sand bottoms, also in the vicinity of aquatic plants such as ribbon weed (Allen et al. 2002).	None	N/A	Lack of habitat. Unlikely to occur.

Common Name	Scientific Name	Conservation Status			Habitat	Number of Records	Date of Last Record	Likelihood of Occurrence
		EPBC-T	EPBC-M	FFG				
Invertebrates								
Amethyst Hairstreak Butterfly	*Jalmenus icilius*			en	Grassy open-woodland and Acacia shrubland in lower rainfall areas, particularly the arid zone, where the food plants (primarily *Acacia spp.*) grow as shrubs (Braby 2016).	25	22/01/2021	Occurs is Acacia shrubland including Blackwood *A.melanoxylon*. Potential to occur.
Caddisfly	*Archaeophylax canarus*			dd	Poorly known. Mostly in eastern ranges of Victoria, but also recorded Otway Range, Wombat Forest area and Whittlesea (EOL 2021). Caddisflies are usually found in waterways - streams, ponds, lakes, usually in still water; larvae occur in damp, rotting vegetation.	2	25/11/1998	Poorly known. Potential to occur along riparian zone.
Golden Sun Moth	*Synemon plana*	CE		vu	Areas that are, or have been native grasslands or grassy woodlands. It is known to inhabit degraded grasslands with introduced grasses being dominant, with a preference for the native wallaby grass being present (DEWHA 2009).	None	N/A	Small patches of suitable habitat (Spear-grass Austrostipa spp., Wallabygrass, Chilean Needle-grass) may occur, but **not recorded** during targeted surveys.
Amphibians								
Brown Toadlet	*Pseudophryne bibronii*			en	Wet and dry forest, grassy areas besides small creeks, alpine grasslands and mossy bogs (Cogger 2000). In Victoria, the Brown Toadlet is distributed from the north-east through to central and western Victoria with scattered records in Gippsland (SWIFFT 2020).	1	3/08/1980	No recent records and paucity of habitat. Unlikely to occur.
Growling Grass Frog	*Litoria raniformis*	VU		vu	Permanent, still or slow flowing water with fringing and emergent vegetation in streams, swamps, lagoons and artificial wetlands such as farm dams and abandoned quarries (Clemann & Gillespie 2004).	6	17/09/1988	Habitat exists within Jackson's Creek. Potential to occur.

Notes: EPBC-T = threatened species status under EPBC Act (EX = presumed extinct in the wild; CR = critically endangered; EN = endangered; VU = vulnerable); **EPBC-M**: migratory status under the EPBC Act (M = listed migratory taxa; Bonn Convention (A2H) - Convention on the Conservation of Migratory Species of Wild Animals – listed as a member of a family; Bonn Convention (A2S) - Convention on the Conservation of Migratory Species of Wild Animals - species listed explicitly; CAMBA - China-Australia Migratory Birds Agreement; JAMBA - Japan-Australia Migratory Birds Agreement; ROKAMBA - Republic of Korea Australia Migratory Birds Agreement); **FFG =** listed as threatened (L) under the FFG Act.

5.5.2. Susceptibility of listed fauna to impacts

The following analysis identifies the susceptibility to development of listed fauna species which may utilise the study area. This analysis includes consideration of the factors below.

- The mobility of the species
- The availability and extent of other suitable habitat in the region and the degree to which each species may rely on habitat in the study area

Targeted surveys will be required to determine the presence or absence of any listed fauna species considered to be susceptible to impacts from development.

Birds (non-migratory)

Three listed non-migratory bird species are considered to have the potential to occur in the study area. The susceptibility of these species to possible impacts from any development in the study area is discussed below.

- **Eastern Great Egret** (EPBC Act: Migratory; FFG Act: Vulnerable)

This species may occur in the study area during times following heavy rain events resulting in more extensive inundation of low-lying areas adjacent to the existing wetlands and dams. There are more extensive suitable areas nearby, e.g. Gisborne Nature Conservation Reserve, which has a high quality wetland that would provide suitable habitat for Eastern Great Egret. There is unlikely to be any significant impact on Eastern Great Egret arising from development of the study area.

- **Powerful Owl** (FFG Act: Vulnerable)

This species may occur in the study area in the forest remnant in the south-east corner and along the riparian area of Jacksons Creek where treed habitat is close to continuous. Extensive habitat lies not far to the west in the catchment of Rosslyne Reservoir. It may be expected therefore that the Powerful Owl would reach the study area at least occasionally during its foraging, given its large home range (Higgins 1999; Soderquist and Gibbons 2007) and existence of potentially suitable Herb-rich Foothill Forest (EVC 23). No significant impact is expected as no breeding trees are present on site.

- **Swift Parrot** (EPBC Act: Critically Endangered; FFG Act: Critically Endangered)

This species may occur in the study area in some years when on site Swamp Gums (*Eucalyptus ovata*) are flowering extensively and other more traditional habitat such as the Box Ironbark forests of northern and central Victoria (Kennedy and Tzaros 2005) fail to produce sufficient forage for the species. This would be an infrequent event but may be important intermittently such as during drought conditions. It is likely however that this species is able to find alternative foraging areas, as demonstrated by recent records of over 100 birds from planted Spotted Gums (*Corymbia maculata*) in the Melbourne area and ranging as far as Port Macquarie, NSW in numbers in winter 2021, with additional small numbers in south-east Queensland (eBird species maps, 2021). For this reason, no significant impacts are expected from the development for this species.

- **Black Falcon and Little Eagle** (FFG Act: critically endangered and vulnerable)

Both species may occasionally occur in the woodland areas of the study area and adjacent to it. Black Falcon and Little Eagle are highly mobile species, moving in response to food availability and seasonal conditions and would not be impacted significant by the removal of trees within the study area.

Migratory Birds

Six listed migratory bird species (excluding oceanic species and shorebirds) have the potential to occur in the study area. The susceptibility of these species to possible impacts from any development in the study area is discussed below.

- **Eastern Great Egret** – discussed under non-migratory species, above.
- **Latham's Snipe (EPBC Act: Migratory)**

This species may occur in the study area seasonally (late August to March) following rain events resulting in more extensive inundation of low-lying areas adjacent to the existing wetlands and dams, particularly where soft substrates (e.g. mud) results in suitable feeding habitat. More extensive suitable areas nearby (i.e. Gisborne Nature Conservation Reserve) have a high quality wetland that likely provides habitat for Latham's snipe in spring and summer and some birds may visit the study area intermittently. Given the extent of habitat however, the study area is unlikely to support more than a few birds and therefore the risk to the species populations arising from development of the site is low.

- **White-throated Needletail** (EPBC Act: Migratory; FFG Act: Vulnerable)

This species is a trans-equatorial migrant breeding in north-east Asia and spending its non-breeding season in Australia from September to April (Higgins 1999). It is likely to occur regularly in summer and early autumn on a few days per year when conditions are suitable, such as warm days with unsettled conditions such as low-pressure weather events approaching (e.g. thunderstorms and fronts). It forages aerial insects and is rarely if ever seen perching in Australia. Given its aerial habits and occasional occurrence, it is unlikely White-throated Needletail would be directly impacted by the development. Indirect impacts would amount to a very small loss of insect prey and represent a negligible loss to the species overall.

- **Rufous Fantail** (EPBC Act: Migratory)

This species breeds in densely forested habitats along the coast and Great Dividing Range of eastern Australia. It migrates north as far as southern New Guinea to spend winter (Higgins et al. 2006). This species may occur in the study area in the forest remnant in the south-east corner and along the riparian area of Jacksons Creek where treed habitat is close to continuous. Extensive habitat lies not far to the west in the catchment of Rosslyne Reservoir. Since the areas of potential habitat are not extensive and suboptimal for breeding, it is likely any impacts from development upon the species' regional population would be minimal. Indirect impacts would amount to a very small loss of insect prey and represent a negligible loss to the species overall.

- **Satin Flycatcher** (EPBC Act: Migratory)

This species breeds in densely forested habitats along the coast and Great Dividing Range of south eastern Australia, including Tasmania. It migrates north to New Guinea to spend winter (Higgins et al. 2006). This species may occur in the study area in the forest remnant in the south-east corner and along the riparian area of Jacksons Creek where treed habitat is close to continuous. Extensive potential habitat lies not far to the west in the catchment of Rosslyne Reservoir. Since the areas of potential habitat are not extensive in the study area and probably suboptimal for breeding, it is likely any impacts from

development upon the species' regional population would be minimal. Indirect impacts would amount to a very small loss of insect prey and represent a negligible loss to the species overall.

Mammals

Two listed mammal species are considered to have the potential to occur in the study area. The susceptibility of these species to possible impacts from any development in the study area is discussed below.

- **Platypus** (FFG Act: Vulnerable)

This species has been recorded along Jackson's Creek running downstream of the study area. There are seven records from the search region and the species may occupy habitats along the creek adjacent to the study area given habitat connectivity along Jackson's Creek to Rosslyne Reservoir where the species has previously been recorded. As no impacts are proposed on the creekline habitat, this species is not expected to be impacted by the proposed development.

- **Southern Greater Glider** (EPBC Act: Vulnerable; FFG Act: Vulnerable)

This species may occur in the study area in the forest remnant in the south-east corner and along the riparian area of Jacksons Creek where treed habitat is close to continuous. Extensive habitat lies close (<0.5 km) to the west in the catchment of Rosslyne Reservoir. Although there have been no records from the search region since 1993, Southern Greater Glider may still occur in the study area given the connectivity with more extensive potential habitat around the Rosslyne Reservoir, and large proportion of large trees with hollows on site and along the riparian strip of Jacksons Creek. Pre-clearance surveys and salvage will be required if any large trees with hollows are proposed to be removed.

- **Grey-headed Flying Fox** (EPBC Act: Vulnerable; FFG Act: Vulnerable)

Roost sites are typically located near water, such as lakes, rivers or the coast. This species may occasionally visit the site and feed on flowering eucalypts. No significant impacts are expected from the proposed development as a wide range of food sources is available adjacent to the study area.

Reptiles

One listed reptile species is considered to have the potential to occur in the study area. The susceptibility of this species to possible impacts from any development in the study area is discussed below.

- **Striped Legless Lizard** (EPBC Act: Vulnerable; FFG Act: Vulnerable)

The species could plausibly be present in remnant grassland fragments of the study area. Although much of the area is dominated by the introduced pasture grass Brown-top Bent (not considered suitable to support SLL populations).

Tile grids to survey for this species were laid out in early August 2021 and six surveys undertaken between mid-September and early December 2021 in accordance with the survey guidelines. No Striped Legless Lizard were found on the site and the habitat was considered very degraded (see Nature Advisory 2022b).

Frogs

One listed frog species is considered to have the potential to occur in the study area. The susceptibility of this species to possible impacts from any development in the study area is discussed below.

- **Growling Grass Frog** (EPBC Act: Vulnerable; FFG Act: Vulnerable)

This species may occur in the study area given its proximity to an extensive suitable area nearby (i.e. Gisborne Nature Conservation Reserve and its high-quality wetland bisecting the Calder Freeway). This species could occur within the adjacent Jacksons Creek and was initially thought to potentially move into

the study area to use the farm dams or small wetland remnants. However, after having visited the site multiple times for Striped Legless Lizard and Golden Sun Moth surveys, our zoologists concluded that the dams and wetlands on site do not support suitable breeding habitat for the species. There are also no records along the creek nearby from within the last 70 years. The closest record within Jacksons Creek is south of Sunbury, from 2020, which is over 40km away as the creek meanders. There is a large increase in elevation towards the site and no emergent vegetation within the dams or along their edges, so the habitat on site was considered unsuitable for Growling Grass Frog.

The more than 100m wide buffer from the creekline is sufficient to protect any Growling Grass Frog potentially occurring within Jackson Creek.

Fish

One listed fish species is considered to have the potential to occur in the study area. The susceptibility of this species to possible impacts from any development in the study area is discussed below.

- **Dwarf Galaxias** (EPBC Act: Vulnerable; FFG Act: Endangered)

This species could occur in the channel of the Jackson's Creek running along the boundary of the study area, and any ephemeral drainage line connecting with Jackson's Creek. Although there are no records from the search region, this may be due to lack of sampling for small native fish in the area. As no impacts are proposed on the creekline habitat, this species is unlikely to be impacted by the proposed development.

Invertebrates

Two listed invertebrate species are considered to have the potential to occur in the study area. The susceptibility of these species to possible impacts from any development in the study area is discussed below.

- **Amethyst Hairstreak** (FFG Act: Endangered)

According to NatureKit, there are no records at the site for Amethyst Hairstreak Butterfly. The closest record is at the southern end of Gisborne, more than 2km from site in 1915. These butterflies are very specific about their host trees (Acacia). Suitable host trees may be present in the creekline of Jacksons Creek, but these areas will not be impacted by the proposed development.

- **Golden Sun Moth** (EPBC Act: Critically Endangered; FFG Act: Vulnerable)

The species could plausibly be present in remnant grassland fragments of the study area. Although much of the area is dominated by the introduced pasture grass Brown-top Bent (not considered suitable to support GSM populations).

Targeted surveys for GSM were undertaken within suitable habitat on 17, 21 and 30 December 2021 and 21 January during suitable weather conditions, when GSM were flying at reference sites. No Golden Sun Moths were observed at the site (Nature Advisory 2022c).

5.6. Listed ecological communities

The EPBC Protected Matters Search Tool (DAWE 2020a) indicated that five ecological communities listed under the EPBC Act had the potential to occur in the search region (Table 5). Their occurrence in the study area was determined based on an assessment of the native vegetation present against published descriptions and condition thresholds for these communities. None of these communities were found to be present.

Table 5: EPBC Act listed ecological communities and likelihood of occurrence in the study area

Ecological Community	EPBC Status	Occurrence in the study area
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	CR	Patches of native vegetation present are too degraded to meet condition thresholds for this community.
Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	EN	Not present
Natural Temperate Grassland of the Victorian Volcanic Plain	CR	Not present
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	CR	Patches of native vegetation present are too degraded to meet condition thresholds for this community.
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CR	Not present

Notes: EPBC = status under the EPBC Act (CR = Critically Endangered; EN = Endangered).

6. Assessment of impacts

6.1. Proposed development

To determine impacts to native vegetation, the proposed development plan (7213_UD_DP02_V15.0, November 2022) was overlaid with the native vegetation mapped as part of this investigation. Native vegetation occurring in the following locations was considered to be removed based on the proposed development plan:

- Direct removal:
  - Native vegetation within all proposed building envelopes
  - Native vegetation within all proposed driveways
- Consequential removal:
  - Native vegetation within 10 metres of all proposed building envelopes
  - Native vegetation two metres either side of all proposed lot boundaries (to address the future fence exemption of Clause 52.17)

Impacts to trees

In accordance with the *Assessor's Handbook* (DELWP 2018a), a tree is deemed lost when earthworks encroach on more than 10% of its Tree Protection Zone (TPZ). A TPZ is defined as an area around the trunk of the tree which has a radius of 12 × the DBH (to a maximum of 15 metres but no less than 2 metres). Dead trees are treated in the same manner.

6.2. Impacts of proposed development

Various design measures have been undertaken for this proposal to avoid and minimise impacts to native vegetation. These are detailed in Section 7.2.1.

6.2.1. Native vegetation

The current development footprint will result in the loss of a total extent of 4.821 hectares of native vegetation as represented in Appendix 2 and documented in the *Native Vegetation Removal* (NVR) report provided by DELWP (Appendix 7).

This comprised:

- 4.821 hectares of native vegetation in patches (including one large trees in a patch); and
- 19 large scattered trees, equating to an area loss of 1.330 hectares.
- In addition, seven large scattered trees are deemed to be lost, equating to an area loss of 0.490 hectares.

The native vegetation to be removed is in an area mapped as an endangered Ecological Vegetation Class.

It is understood that no native vegetation has been approved for removal on the property within the last five years.

Photographs of native vegetation proposed for removal are provided in Appendix 5.

6.2.2. Modelled species important habitat

The current proposal footprint will not have a significant impact on any habitat of any rare or threatened species as determined in Appendix 7.

6.2.3. Listed flora species

The analysis of the likelihood of occurrence of listed flora species presented in Section 5.3.2 identified that the following species could be impacted by any development in the study area:

- Matted Flax-lily (EPBC Act: Endangered; FFG Act: Listed, flowers Dec–Feb) close to northern boundary
- Swamp Everlasting (EPBC Act: Vulnerable; FFG Act: Listed, flowers Nov–March) within wetland areas

Targeted surveys have been undertaken for these species within suitable habitat and none were recorded (Nature Advisory 2021a).

6.2.4. Fauna habitat

Twenty large remnant Swamp Gum trees are proposed to be removed as well as small patches of native grassland, wetland and woodland.

6.2.5. Listed fauna species

The analysis of susceptibility of listed fauna species to impacts presented in Section 5.5.2 identified that the following species could be impacted by any development in the study area, if found to be present:

- Golden Sun Moth (EPBC Act: critically endangered)
- Striped Legless Lizard (EPBC Act: vulnerable)

Targeted surveys for Golden Sun Moth (GSM) were undertaken within suitable habitat on 17, 21 and 30 December 2021 and 21 January during suitable weather conditions, when GSM were flying at reference sites. No GSM were observed at the site (Nature Advisory 2022c).

Tile grids to survey for this species were laid out in early August 2021 and six surveys undertaken between mid-September and early December 2021 in accordance with the survey guidelines. No Striped Legless Lizard were found on the site and the habitat was considered very degraded (Nature Advisory 2022b).

6.2.6. Threatened ecological communities

No listed communities are found to be present on site.

Figure 2: Native vegetation to be removed

Project: 89 Ross Watt Road, Gisborne
Client: ID Land
Date: 24/01/2023

Study area
Development layout
Shared path

Native vegetation

- Large scattered tree
- Large tree in patch
- Plains Grassy Woodland (EVC 55)
- Higher Rainfall Plains Grassy Woodland (EVC 55_63)
- Riparian Woodland (EVC 641)
- Plains Sedgy Wetland (ECV 647)
- Tall Marsh (EVC 821)
- Tree to be removed
- Tree deemed to be lost
- Native vegetation to be removed

Note: Trees in arborist report labelled in yellow

N

Metres
0 80

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7. Implications under legislation and policy

7.1. Summary of planning implications

A planning permit under Clause 52.17 of the Macedon Ranges Planning Scheme is required for the removal of native vegetation from within the study area.

7.2. Implications under the Guidelines

7.2.1. Avoid and minimise statement

In accordance with the Guidelines, all applications to remove native vegetation must provide an avoid and minimise statement which details any efforts undertaken to avoid the removal of, and minimise the impacts on biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value. Efforts to avoid and minimise impacts to native vegetation in the current application are presented as follows:

- *Strategic level planning* – N/A
- *Site level planning*
    - The quality of native vegetation patches and tree retention values (WOR as determined in the arborist report) have been considered when planning the development such that native vegetation and trees to be removed are within lower quality areas or of lesser retention value. Of 71 large trees on site only 20 trees are to be removed (with a further 7 deemed removed but protected via a section 173 agreement).
    - The proponent will retain fourteen large remnant trees within public open space and tree reserves (Landscape Plan, CDA Design Group 2022). An additional seven large trees are proposed to be retained within lots but are deemed to be lost due to the size of these lots being less than 0.4 hectares. However, they are to be protected via approved building envelopes and enforced through a section 173 agreement on the title. They will therefore continue to contribute to habitat and landscape values within the development.
    - A conservation reserve is proposed along the northern boundary to retain existing native vegetation (patches S, T, U, V, W and X as well as two large trees in patches) and provide habitat connectivity between Jacksons Creek and the Racecourse Marshland Reserve to the east of the site. Enhancements will be undertaken to improve native vegetation quality and extent within these areas.
    - With the exception of a small area for an alluvial outfall, a shared pathway and maintenance track, native vegetation along Jacksons Creek Reserve will not be impacted (see Figure 2). An additional 31 large trees will be retained in a conservation reserve along Jackson Creek (see Landscape Plan of CDA Design Group, 2022). A Conservation Management Plan is currently being prepared for this reserve including details on weed management, fencing and revegetation. Cattle, who have caused damage to the creek bank will be excluded from this reserve. It is envisioned that biodiversity within the reserve will improve and help protect potential habitat for Platypus, which have been recorded downstream in Jacksons Creek.
    - A Surface/Stormwater Management Strategy (Alluvium 2022) has been prepared that minimises impacts on Jacksons Creek and suitable Platypus habitat. A drainage reserve and outfall channel is proposed using an existing natural drainage line from the site. Its section going through treed vegetation comprises bedrock and will therefore be very

resilient to changes in the hydrology (Alluvium 2022). Earthworks in form of a small bund or shaping of the channel are proposed at the alluvial fan at the downstream end of this waterway to ensure the current alignment is maintained. Alluvium (2022) concluded that from a channel stability perspective, additional stormwater delivery will have little to no impact on this waterway as dense vegetation and large basalt boulders prevent any small increase in total flow energy from eroding the channel bed or banks.

- No further retention of large old trees within the property was considered feasible due to design considerations.

7.2.2. Assessment pathway

The assessment pathway is determined by the location category and the extent of native vegetation as detailed for the study area as follows:

- **Location Category:** Location 2
- **Extent of native vegetation:** A total of 4.821 hectares of native vegetation (including 27 large trees and 2.993 ha native vegetation in patches).

Based on these details, the Guidelines stipulate that the proposal is to be assessed under the **Detailed** assessment pathway.

This proposal **would** trigger a referral to DELWP based on the criteria specified in Section 3.3.3.

7.2.3. Offset requirements

Offsets required to compensate for the proposed removal of native vegetation from the study area are provided below.

- 1.031 general habitat units and must include the following offset attribute requirements:
  - Minimum strategic biodiversity value (SBV) of 0.288
  - Occur within the Port Phillip and Westernport CMA boundary or the Macedon Ranges municipal district.
  - Include protection of 27 large trees.

Under the Guidelines all offsets must be secured prior to the removal of native vegetation.

7.2.4. Offset statement

The offset target for the current proposal will be achieved via a third-party offset. An online search of the *Native Vegetation Credit Register* (NVCR) has shown that the required offset is currently available for purchase from a native vegetation credit owner (DELWP 2020e). Evidence that the required offset is available is provided in Appendix 8. The required offset would be secured following approval of the application to remove native vegetation.

7.3. EPBC Act

The EPBC Act protects a number of threatened species and ecological communities that are considered to be of national conservation significance. Any significant impacts on these species require the approval of the Australian Minister for the Environment.

Based on the relevant guidelines, the proposed development of the study area does not result in a significant impact on EPBC Act-listed values and a referral under the EPBC Act will not be required for the proposed development.

7.4. FFG Act

The Victorian FFG Act lists threatened and protected species and ecological communities (DELWP 2018b, DELWP 2017b). Any removal of threatened flora species or communities (or protected flora) listed under the FFG Act from public land requires a Protected Flora Permit under the Act, obtained from DELWP.

The FFG Act only applies to private land in relation to the commercial collection of grasstrees, tree-ferns and sphagnum moss.

The land addressed in this assessment is private land; therefore, a Protected Flora Licence or Permit under the FFG Act would not be required for the current proposal.

7.5. EE Act

The *Ministerial Guidelines for Assessment of Environmental Effects under the* Environment Effects Act 1978 (DSE 2006), identifies criteria which trigger a Referral to the State Minister for Planning.

Based on the relevant criteria, a Referral to the State Minister for Planning may be required under the EE Act for the aspects covered by the current investigation.

7.6. CaLP Act

The *Catchment and Land Protection Act 1994* (CaLP Act) requires that landowners (or a third party to whom responsibilities have been legally transferred) must eradicate regionally prohibited weeds and prevent the growth and spread of regionally controlled weeds.

Property owners who do not eradicate Regionally prohibited weeds or prevent the growth and spread of Regionally controlled weeds for which they are responsible, may be issued with a Land Management Notice or Directions Notice that requires specific control work to be undertaken.

In accordance with the *Catchment and Land Protection Act 1994*, the noxious weed species listed below, which were recorded in the study area, must be controlled.

- Blackberry;
- Spear Thistle; and
- Sweet Briar.

Precision control methods that minimise off-target kills (e.g. spot spraying) should be used in environmentally sensitive areas (e.g. within or near native vegetation, waterways, etc.).

7.7. Construction mitigation recommendations

Recommendations to avoid and minimise impacts to native vegetation are provided in this report in Section 7.2.1.

Additional recommendations to mitigate impacts to vegetation during construction are provided below:

- Establish appropriate vegetation protection zones around areas of native vegetation to be retained prior to works.
- Establish appropriate tree protection zones around scattered native trees to be retained prior to works.
- Ensure all construction personnel are appropriately briefed prior to works, and that no construction personnel, machinery or equipment are placed inside vegetation/tree protection zones.

- A suitably qualified zoologist should undertake a pre-clearance survey of planted trees to be removed in the week prior to removal to identify the presence of any nests or hollows.
- If considered necessary based on the results of the pre-clearance survey, a suitably qualified zoologist should be on site during any tree removal works to capture and relocate any misplaced fauna that may be present.

8. References

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Nature Advisory 2022a, 89 Ross Watt Road, Gisborne - Targeted Flora Survey, Report Number 21137.04(1.0), Hawthorn East, February 2022.

Nature Advisory 2022b, 89 Ross Watt Road, Gisborne - Targeted Striped Legless Lizard Survey, Report Number 21137.02(1.0), Hawthorn East, February 2022.

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Appendix 1: Details of the assessment process in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017a)

Purpose and objective

Policies and strategies relating to the protection and management of native vegetation in Victoria are defined in the State Planning Policy Framework (SPPF). The objective identified in Clause 12.01 of all Victorian Planning Schemes is 'To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'.

This is to be achieved through the following three-step approach, as detailed in the Guidelines:

1. Avoid the removal, destruction or lopping of native vegetation.
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

Note: While a planning permit may still be required, if native vegetation does not meet the definition of either a patch or a scattered tree, an offset under the Guidelines is not required.

Assessment pathways

The first step in determining the type of assessment required for any site in Victoria is to determine the assessment pathway for the proposed native vegetation removal. The three possible assessment pathways for applications to remove native vegetation in Victoria are:

- Basic;
- Intermediate; or
- Detailed.

This assessment pathway is determined by two factors:

- **Location Category**, as determined using the states' Location Map. The location category indicates the potential risk to biodiversity from removing a small amount of native vegetation. The three location categories are defined as:
  - Location 1 – shown in light blue-green on the Location Map; occurring over most of Victoria.
  - Location 2 – shown in dark blue-green on the Location Map; includes areas mapped as endangered EVCs and/or sensitive wetlands and coastal areas.
  - Location 3 – shown in brown on the Location Map; includes areas where the removal of less than 0.5 hectares of native vegetation could have a significant impact on habitat for rare and threatened species.
- **Extent of native vegetation** – The extent of any patches and scattered trees proposed to be removed (as well as the extent of any past native vegetation removal), with consideration as to whether the proposed removal includes any large trees. Extent of native vegetation is determined as follows:
  - **Patch** – the area of the patch in hectares.
  - **Scattered Tree** – the extent of a scattered tree is dependent on whether the scattered tree is small or large. A tree is considered to be a large tree if it is greater or equal to the large tree benchmark diameter at breast height (DBH) for the relevant bioregional EVC. Any scattered

tree that is not a large tree is a small scattered tree. The extent of large and small scattered trees is determined as follows:

- **Large scattered tree** – the area of a circle with a 15-metre radius, with the trunk of the tree at the centre.
- **Small scattered tree** – the area of a circle with a ten-metre radius, with the trunk of the tree at the centre.

The assessment pathway for assessing an application to remove native vegetation is then determined as detailed in the following matrix table:

Extent of native vegetation	Location Category		
	Location 1	Location 2	Location 3
< 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
< 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
≥ 0.5 hectares	Detailed	Detailed	Detailed

Note: If the native vegetation to be removed includes more than one location category, the higher location category is used to determine the assessment pathway.

Landscape scale information – strategic biodiversity value

The strategic biodiversity value (SBV) is a measure of a location's importance to Victoria's biodiversity, relative to other locations across the state. It is represented as a score between 0 and 1 and determined from the Strategic biodiversity value map, available from *NVIM* (DELWP 2020c).

Landscape scale information – habitat for rare or threatened species

Habitat importance for rare or threatened species is a measure of the importance of a location in the landscape as habitat for a particular rare or threatened species, in relation to other habitat available for that species. It is represented as a score between 0 and 1 and is determined from the Habitat importance maps, administered by DELWP.

This includes two groups of habitat:

- **Highly localised habitats** – Limited in area and considered to be equally important, therefore having the same habitat importance score.
- **Dispersed habitats** – Less limited in are and based on habitat distribution models.

Habitat for rare or threatened species is used to determine the type of offset required in the detailed assessment pathway.

Biodiversity value

A combination of site-based and landscape scale information is used to calculate the biodiversity value of native vegetation to be removed. Biodiversity value is represented by a general or species habitat score, detailed as follows.

Firstly, the extent and condition of native vegetation to be removed are combined to determine the habitat hectares as follows:

Habitat hectares = extent of native vegetation x condition score

Secondly, the habitat hectare score is combined with a landscape factor to obtain an overall measure of biodiversity value. Two landscape factors exist as follows:

- **General landscape factor** – determined using an adjusted strategic biodiversity score, and relevant when no habitat importance scores are applicable;
- **Species landscape factor** – determined using an adjusted habitat importance score for each rare or threatened species habitat mapped at a site in the Habitat importance map.

These factors are then used as follows to determine the biodiversity value of a site:

General habitat score = habitat hectares x general landscape factor

Species habitat score = habitat hectares x species landscape factor

Offset requirements

A native vegetation offset is required for the approved removal of native vegetation. Offsets conform to one of two types and each type incorporates a multiplier to address the risk of offset:

- A **general offset** is required when the removal of native vegetation does not have a significant impact on any habitat for rare or threatened species (i.e. the proportional impact is below the species offset threshold). In this case a multiplier of 1.5 applies to determine the general offset amount.

General offset (amount of general habitat units) = general habitat score x 1.5

- A **species offset** is required when the removal of native vegetation has a significant impact on habitat for a rare or threatened species (i.e. the proportional impact is above the species offset threshold). In this case a multiplier of 2 applies to determine the species offset amount.

Species offset (amount of species habitat units) = Species habitat score x 2

Note: if native vegetation does not meet the definition of either a patch or scattered tree an offset is not required.

Offset attributes

Offsets must meet the following attribute requirements, as relevant:

- General offsets
  - **Offset amount** – general offset = general habitat score x 1.5

- **Strategic biodiversity value (SBV)** – the offset has at least 80% of the SBV of the native vegetation removed
- **Vicinity** – the offset is in the same CMA boundary or municipal district as the native vegetation removed
- Habitat for rare and threatened species – N/A
- **Large trees** – the offset include the protection of at least one large tree for every large tree to be removed

- Species offsets
  - **Offset amount** – species offset = species habitat score x 2
  - Strategic biodiversity value (SBV): N/A
  - Vicinity: N/A
  - **Habitat for rare and threatened species** – the offset comprises mapped habitat according to the Habitat importance map for the relevant species
  - **Large trees** – the offset include the protection of at least one large tree for every large tree to be removed

Appendix 2: Detailed habitat hectare assessment results

Habitat Zone			A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Bioregion			CVU	CVU	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP
EVC Number			55	55	55_63	55_63	55_63	55_63	647	647	647	647	647	647	647	647	647
Total area of Habitat Zone (ha)			0.031	0.626	0.397	1.032	3.569	0.309	0.064	0.010	0.052	0.033	0.014	0.028	0.033	0.023	0.034
Site Condition	Large Old Trees	/10	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
	Tree Canopy Cover	/5	0	0	0	4	3	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Lack of Weeds	/15	4	2	7	4	2	2	2	2	2	2	2	2	9	2	2
	Understorey	/25	5	5	5	15	5	5	5	5	5	5	5	5	15	5	5
	Recruitment	/10	0	0	0	0	0	0	3	3	3	3	3	3	3	3	3
	Organic Matter	/5	2	4	4	5	4	4	4	4	4	4	4	4	3	4	4
	Logs	/5	5	0	0	4	0	0	0	0	0	0	0	0	0	0	0
	Site condition standardising multiplier*		1.00	1.00	1.00	1.00	1.00	1.00	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
	Site Condition subtotal		*16*	*11*	*16*	*35*	*14*	*14*	*19*	*19*	*19*	*19*	*19*	*19*	*19*	*41*	*19*
Landscape Context	Patch Size	/10	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1
	Neighbourhood	/10	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1
	Distance to Core	/5	3	3	3	1	3	3	3	1	1	1	1	1	3	1	1
Total Condition Score		**/100**	**21**	**16**	**21**	**40**	**20**	**19**	**24**	**22**	**22**	**22**	**22**	**22**	**22**	**46**	**22**

* Modified approach to habitat scoring - refer to Table 14 of DELWP's Vegetation Quality Assessment Manual (DSE, 2004).

Habitat Zone			P	Q	R	S	T	U	V	W	X
Bioregion			VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP
EVC Number			647	647	647	55_63	55_63	55_63	55_63	55_63	55_63
Total area of Habitat Zone (ha)			0.035	0.081	0.002	0.005	0.039	0.017	0.001	0.003	0.739
Site Condition	Large Old Trees	/10	0	0	0	0	0	0	0	0	2
	Tree Canopy Cover	/5	N/A	N/A	N/A	0	0	0	0	0	2
	Lack of Weeds	/15	2	2	2	6	6	0	2	6	6
	Understorey	/25	5	5	5	5	5	5	5	5	10
	Recruitment	/10	3	3	3	0	0	5	0	5	3
	Organic Matter	/5	4	4	4	4	4	2	4	4	5
	Logs	/5	0	0	0	0	0	4	0	0	0
	Site condition standardising multiplier*		1.36	1.36	1.36	1.00	1.00	1.00	1.00	1.00	1.00
	Site Condition subtotal		*19*	*19*	*19*	*15*	*15*	*16*	*11*	*20*	*28*
Landscape Context	Patch Size	/10	1	1	1	1	1	1	1	1	1
	Neighbourhood	/10	1	1	1	0	0	0	0	0	0
	Distance to Core	/5	3	3	1	1	1	1	1	1	3
Total Condition Score		**/100**	**24**	**24**	**22**	**17**	**17**	**18**	**13**	**22**	**32**

* Modified approach to habitat scoring - refer to Table 14 of DELWP's Vegetation Quality Assessment Manual (DSE, 2004)

Habitat Zone			Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN
Bioregion			VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	CVU
EVC Number			55_63	55_63	55_63	55_63	55_63	55_63	23	821	821	821	821	821	821	821	821	641
Total area of Habitat Zone (ha)			0.39	0.009	0.008	0.11	0.006	0.07	4.50	0.32	0.011	0.017	0.005	0.01	0.39	0.078	0.079	0.120
Site Condition	Large Old Trees	/10	0	0	0	0	0	0	4	NA	NA	NA	NA	NA	NA	NA	NA	10
		No. large trees in habitat zone	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	3
	Tree Canopy Cover	/5	5	0	0	3	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	5
	Lack of Weeds	/15	0	0	0	0	4	0	7	7	4	0	0	4	7	7	4	4
	Understorey	/25	15	5	5	5	5	5	15	15	15	15	15	15	20	15	15	10
	Recruitment	/10	6	5	5	5	0	0	5	6	3	3	3	6	6	6	6	3
	Organic Matter	/5	2	2	2	2	5	2	5	3	3	3	5	5	5	5	5	5
	Logs	/5	4	0	0	0	0	0	2	NA	NA	NA	NA	NA	NA	NA	NA	0
		Site condition standardising multiplier *	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.00
	Site Condition subtotal		*32*	*12*	*12*	*15*	*14*	*7*	*38*	*42*	*34*	*29*	*31*	*41*	*52*	*45*	*41*	*37*
Landscape Context	Patch Size	/10	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	4
	Neighbourhood	/10	0	0	0	0	0	0	1	0	1	1	1	0	0	0	1	1
	Distance to Core	/5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Total Condition Score		**/100**	**36**	**16**	**16**	**19**	**18**	**11**	**46**	**46**	**39**	**34**	**36**	**45**	**56**	**49**	**46**	**45**

Appendix 3: Large trees in patches and scattered trees recorded in the study area

Tree no. (NA/Arb)*	Common Name	Scientific Name	DBH (cm)	Habitat Category	Radius of TPZ (m)	Remove /Retain	Notes
1/28	Swamp Gum	*Eucalyptus ovata*	131	Large Scattered Tree	15	Deemed lost	
2/29	Swamp Gum	*Eucalyptus ovata*	224	Large Scattered Tree	15	Retain	
3/30	Swamp Gum	*Eucalyptus ovata*	142	Large Scattered Tree	15	Deemed lost	
4/31	Swamp Gum	*Eucalyptus ovata*	117	Large Scattered Tree	14.04	Remove	
5/32	Swamp Gum	*Eucalyptus ovata*	150	Large Scattered Tree	15	Remove	
6/38	Swamp Gum	*Eucalyptus ovata*	136	Large Scattered Tree	15	Retain	
7/48	Swamp Gum	*Eucalyptus ovata*	111	Large Scattered Tree	13.32	Retain	Dead
8/54	Swamp Gum	*Eucalyptus ovata*	102	Large Scattered Tree	12.24	Retain	
9/51	Swamp Gum	*Eucalyptus ovata*	130	Large Scattered Tree	15	Retain	
10/52	Swamp Gum	*Eucalyptus ovata*	114	Large Scattered Tree	13.68	Retain	
11/53	Swamp Gum	*Eucalyptus ovata*	123	Large Scattered Tree	14.76	Retain	
12/47	Swamp Gum	*Eucalyptus ovata*	162	Large Scattered Tree	15	Remove	
13/49	Swamp Gum	*Eucalyptus ovata*	153	Large Scattered Tree	15	Remove	
14/50	Swamp Gum	*Eucalyptus ovata*	159	Large Scattered Tree	15	Remove	
15/45	Swamp Gum	*Eucalyptus ovata*	135	Large Scattered Tree	15	Retain	
16/46	Swamp Gum	*Eucalyptus ovata*	164	Large Scattered Tree	15	Retain	
17/39	Swamp Gum	*Eucalyptus ovata*	169	Large Scattered Tree	15	Remove	
18/44	Swamp Gum	*Eucalyptus ovata*	133	Large Scattered Tree	15	Remove	
19/10	Gum Tree	*Eucalyptus* sp.	163	Large Scattered Tree	15	Remove	
20/10A	Gum Tree	*Eucalyptus* sp.	115	Large Scattered Tree	13.8	Remove	Dead
21/43	Swamp Gum	*Eucalyptus ovata*	124	Large Scattered Tree	14.88	Remove	
22	Gum Tree	*Eucalyptus* sp.	103	Large Scattered Tree	12.36	Remove	Dead
23	Swamp Gum	*Eucalyptus ovata*	128	Large Scattered Tree	15	Remove	
24/36B	Swamp Gum	*Eucalyptus ovata*	136	Large Tree in HZ X	15	Retain	
25/36	Swamp Gum	*Eucalyptus ovata*	159	Large Tree in HZ X	15	Retain	
26/28	Swamp Gum	*Eucalyptus ovata*	126	Large Scattered Tree	15	Deemed lost	
27/24	Swamp Gum	*Eucalyptus ovata*	139	Large Scattered Tree	15	Deemed lost	
28/25	Swamp Gum	*Eucalyptus ovata*	142	Large Scattered Tree	15	Retain	
29/26	Swamp Gum	*Eucalyptus ovata*	110	Large Scattered Tree	13.2	Retain	
30/27	Swamp Gum	*Eucalyptus ovata*	159	Large Scattered Tree	15	Remove	
31/16	Swamp Gum	*Eucalyptus ovata*	150	Large Scattered Tree	15	Deemed lost	
32/16A	Gum Tree	*Eucalyptus* sp.	110	Large Scattered Tree	13.2	Remove	Dead
33/42	Swamp Gum	*Eucalyptus ovata*	147	Large Scattered Tree	15	Retain	
34	Swamp Gum	*Eucalyptus ovata*	124	Large Scattered Tree	14.88	Remove	
35/41	Swamp Gum	*Eucalyptus ovata*	124	Large Scattered Tree	14.88	Remove	

Tree no. (NA/Arb)*	Common Name	Scientific Name	DBH (cm)	Habitat Category	Radius of TPZ (m)	Remove /Retain	Notes
36	Gum Tree	*Eucalyptus* sp.	87	Large Scattered Tree	10.44	Remove	Dead
37/12	Swamp Gum	*Eucalyptus ovata*	105	Large Scattered Tree	12.6	Remove	
38/14	Swamp Gum	*Eucalyptus ovata*	116	Large Scattered Tree	13.92	Deemed lost	
39/15	River Red Gum	*Eucalyptus camaldulensis*	145	Large Scattered Tree	15	Deemed lost	
40/11	Swamp Gum	*Eucalyptus ovata*	126	Large Scattered Tree	15	Remove	
41/22	Swamp Gum	*Eucalyptus ovata*	130	Large Tree in HZ E	15	Remove	
42/21A	Manna Gum	*Eucalyptus viminalis*	103	Large Scattered Tree	12	Retain	
43/21D	Manna Gum	*Eucalyptus viminalis*	125	Large Scattered Tree	15	Retain	
44/21C	Manna Gum	*Eucalyptus viminalis*	130	Large Scattered Tree	15	Retain	
45/21B	Swamp Gum	*Eucalyptus ovata*	123	Large Scattered Tree	15	Retain	
46	Manna Gum	*Eucalyptus sp.*	130	Large Tree in HZ AE	15	Retain	dead
47	Manna Gum	*Eucalyptus viminalis*	130	Large Tree in HZ AE	15	Retain	
48	Swamp Gum	*Eucalyptus ovata*	130	Large Tree in HZ AE	15	Retain	
49	Manna Gum	*Eucalyptus viminalis*	90	Large Tree in HZ AE	10.8	Retain	
50	Swamp Gum	*Eucalyptus ovata*	110	Large Tree in HZ AE	13.2	Retain	
51/20	Manna Gum	*Eucalyptus viminalis*	120	Large Tree in HZ AE	14	Retain	
52/18	Manna Gum	*Eucalyptus viminalis*	100	Large Tree in HZ AE	12	Retain	
53	Manna Gum	*Eucalyptus viminalis*	130	Large Tree in HZ AE	15	Retain	
54	Manna Gum	*Eucalyptus viminalis*	130	Large Tree in HZ AE	15	Retain	
55	Manna Gum	*Eucalyptus viminalis*	110	Large Tree in HZ AE	13.2	Retain	
56	Manna Gum	*Eucalyptus viminalis*	100	Large Tree in HZ AE	12	Retain	
57	Manna Gum	*Eucalyptus viminalis*	110	Large Tree in HZ AE	13.2	Retain	
58	Manna Gum	*Eucalyptus viminalis*	90	Large Tree in HZ AE	10.8	Retain	
59	Manna Gum	*Eucalpytus viminalis*	100	Large Tree in HZ AE	12	Retain	
60/17	Manna Gum	*Eucalyptus viminalis*	110	Large Tree in HZ AE	13.2	Retain	
61	Manna Gum	*Eucalyptus viminalis*	120	Large Tree in HZ AE	14	Retain	
62	Manna Gum	*Eucalyptus viminalis*	120	Large Tree in HZ AE	14	Retain	
63	Manna Gum	*Eucalyptus viminalis*	100	Large Tree in HZ AE	12	Retain	
64	Manna Gum	*Eucalyptus viminalis*	130	Large Tree in HZ AE	15	Retain	
65	Manna Gum	*Eucalyptus viminalis*	130	Large Tree in HZ AE	15	Retain	
66/17B	Manna Gum	*Eucalyptus viminalis*	100	Large Tree in HZ AE	15	Retain	
67/17C	Manna Gum	*Eucalyptus viminalis*	130	Large Tree in HZ AE	15	Retain	
68	Manna Gum	*Eucalyptus viminalis*	120	Large Tree in HZ AN	14	Retain	
69	Manna Gum	*Eucalyptus viminalis*	100	Large Tree in HZ AN	12	Retain	
70	Manna Gum	*Eucalyptus viminalis*	100	Large Tree in HZ AN	12	Retain	
71	Manna Gum	*Eucalyptus viminalis*	130	Large Tree in HZ AE	15	Retain	

Notes: DBH = Diameter at breast height (130 cm from the ground); **TPZ =** Tree Protection Zone.
*NA – Nature Advisory tree number, Arb – Arborist's tree number

Appendix 4: Flora species recorded in the study area

Origin	Common name	Scientific name	EPBC	FFG-T	FFG-P	CaLP Act
	Black Wattle	*Acacia mearnsii*			P	
*	Blackberry	*Rubus fruticosus* spp. agg.				C
	Blackwood	*Acacia melanoxylon*				
*	Brown-top Bent	*Agrostis capillaris*				
	Bulrush	*Typha* spp.				
*	Canary Grass	*Phalaris aquatica*				
*	Cape weed	*Arctotheca calendula*				
*	Cat's Ear	*Hypochaeris radicata*				
	Cherry Ballart	*Exocarpos cupressiformis*				
*	Clover	*Trifolium* spp.				
	Couch	*Cynodon dactylon*				
	Crane's Bill	*Geranium* spp.				
	Crassula	*Crassula* spp.				
*	Drooping Cassinia	*Cassinia sifton*				
	Eucalypt	*Eucalyptus* spp.				
	Groundsel	*Senecio* spp.			P	
	Kangaroo Grass	*Themeda triandra*				
	Mistletoe	*Amyema* spp.				
*	Onion Grass	*Romulea rosea*				
*	Ribwort	*Plantago lanceolata*				
	Rush	*Juncus* spp.				
*	Sheep Sorrel	*Acetosella vulgaris*				
	Spear Grass	*Austrostipa* spp.				
*	Spear Thistle	*Cirsium vulgare*				C
	Spike Sedge	*Eleocharis acuta*				
	Swamp Gum	*Eucalyptus ovata*				
*	Sweet Briar	*Rosa rubiginosa*				C
	Wallaby Grass	*Rytidosperma* spp.				
	Wood Sorrel	*Oxalis* spp.				
	Woodruff	*Galium odoratum*				

Notes:
EPBC = threatened species status under the EPBC Act (EX = presumed extinct in the wild; CR = critically endangered; EN = endangered; VU = vulnerable);
FFG-T = listed as threatened (L) under the FFG Act; **FFG-P**: listed as protected (P) under the FFG Act;
CaLP Act: declared noxious weeds under the CaLP Act (C = Regionally Controlled Weeds [Land owners have the responsibility to take all reasonable steps to prevent the growth and spread of Regionally controlled weeds on their land].

* = introduced to Victoria

Appendix 5: Photographs of native vegetation proposed for removal (taken on 4th & 11th August 2021)

Large scattered Swamp Gum tree

Hollows in large scattered Swamp Gum

Habitat zone A – Plains Grassy Woodland (EVC 55)

Habitat zone B –Plains Grassy Woodland (EVC 55)

Habitat zone C – *Higher Rainfall* Plains Grassy Woodland (EVC 55_63)

Habitat zone L – Plains Sedgy Wetland (EVC 647)

Habitat zone P – Plains Sedgy Wetland (EVC 647)

Habitat zone T – *Higher Rainfall* Plains Grassy Woodland (EVC 55_63)

Habitat zone X – *Higher Rainfall* Plains Grassy Woodland (EVC 55_63)

Large scattered Swamp Gum tree

Appendix 6: EVC benchmarks

Higher Rainfall Plains Grassy Woodland (EVC 55_63) – Victorian Volcanic Plain

Plains Sedgy Wetland (EVC 647) – Victorian Volcanic Plain

Plains Grassy Woodland (EVC 55) – Central Victorian Uplands

Department of Sustainability and Environment

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Volcanic Plain bioregion

EVC 55_63: Higher Rainfall Plains Grassy Woodland

Description:

An open, eucalypt woodland to 15 m tall or acacia/sheoak woodland to 10 m tall. 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. This variant occupies areas receiving greater than 700 mm annual rainfall.

Large trees:

Species	DBH(cm)	# / ha
Eucalyptus spp.	70 cm	15 / ha
Acacia melanoxylon	40 cm	
Allocasuarina verticillata	40 cm	

Tree Canopy Cover:

% cover	Character Species	Common Name
20%	*Eucalyptus ovata*	Swamp Gum
	Eucalyptus viminalis	Manna Gum
	Acacia melanoxylon	Blackwood
	Allocasuarina verticillata	Drooping Sheoak

Understorey:

Life form	# Spp	% Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	10%	MS
Small Shrub	2	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	5%	LH
Medium Herb	8	15%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	12	45%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
MS	*Acacia pycnantha*	Golden Wattle
MS	*Acacia paradoxa*	Hedge Wattle
SS	*Pimelea humilis*	Common Rice-flower
PS	*Astroloma humifusum*	Cranberry Heath
PS	*Bossiaea prostrata*	Creeping Bossiaea
MH	*Leptorhynchos squamatus*	Scaly Buttons
MH	*Chysocephalum apiculatum*	Common Everlasting
MH	*Gonocarpus tetragynus*	Common Raspwort
MH	*Acaena echinata*	Sheep's Burr
SH	*Dichondra repens*	Kidney-weed
SH	*Hydrocotyle laxiflora*	Stinking Pennywort
LTG	*Austrostipa mollis*	Supple Spear-grass
LTG	*Austrostipa bigeniculata*	Kneed Spear-grass
MTG	*Themeda triandra*	Kangaroo Grass
MTG	*Poa morrisii*	Soft Tussock-grass
MTG	*Austrodanthonia setacea*	Bristly Wallaby-grass
MTG	*Austrodanthonia racemosa* var. *racemosa*	Stiped Wallaby-grass
MNG	*Microlaena stipoides* var. *stipoides*	Weeping Grass

Recruitment:

Continuous

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Organic Litter:
10 % cover

Logs:
10 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	*Lycium ferocissimum*	African Box-thorn	high	high
LH	*Cirsium vulgare*	Spear Thistle	high	high
LH	*Sonchus oleraceus*	Common Sow-thistle	high	low
LH	*Plantago lanceolata*	Ribwort	high	low
MH	*Hypochoeris radicata*	Cat's Ear	high	low
LNG	*Holcus lanatus*	Yorkshire Fog	high	high
MTG	*Vulpia bromoides*	Squirrel-tail Fescue	high	low
MTG	*Romulea rosea*	Onion Grass	high	low
MTG	*Briza minor*	Lesser Quaking-grass	high	low
MTG	*Briza maxima*	Large Quaking-grass	high	low

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Department of Sustainability and Environment

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Volcanic Plain bioregion

EVC 647: Plains Sedgy Wetland

Description:
Occurs in seasonally wet depressions on volcanic and sedimentary plains, typically associated with fertile, silty, peaty or heavy clay paludal soils. Primarily sedgy-herbaceous vegetation, sometimes with scattered or fringing eucalypts or tea-tree/paperbark shrubs in higher rainfall areas. A range of aquatic herbs can be present, and species-richness is mostly relatively low to moderate, but higher towards drier margins.

Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	2	5%	LH
Medium Herb	5	40%	MH
Small or Prostrate Herb	5	10%	SH
Large Tufted Graminoid	2	5%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	4	25%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG

LF Code		Species typical of at least part of EVC range	Common Name
LH		*Epilobium billardierianum*	Variable Willow-herb
MH		*Potamogeton tricarinatus s.l.*	Floating Pondweed
MH		*Myriophyllum simulans*	Amphibious Water-milfoil
MH		*Stellaria angustifolia*	Swamp Starwort
MH		*Lilaeopsis polyantha*	Australian Lilaeopsis
SH		*Neopaxia australasica*	White Purslane
SH		*Lobelia pratioides*	Poison Lobelia
SH	v	*Helichrysum aff. rutidolepis (Lowland Swamps)*	Pale Swamp Everlasting
SH		*Eryngium vesiculosum*	Prickfoot
LTG		*Carex tereticaulis*	Hollow Sedge
MTG	k	*Lachnagrostis filiformis (perennial variety)*	Wetland Blown-grass
MTG		*Lachnagrostis filiformis*	Common Blown-grass
MTG		*Glyceria australis*	Australian Sweet-grass
MNG		*Eleocharis acuta*	Common Spike-sedge
MNG	v	*Amphibromus sinuatus*	Wavy Swamp Wallaby-grass

Recruitment:
Episodic/Flood. Desirable period between disturbances is 5 years.

Organic Litter:
10% cover

Logs:
5 m/0.1 ha.(where trees are overhanging the wetland)

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MTG	*Juncus bulbosus*	Bulbous Rush	high	high

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EVC 647: Plains Sedgy Wetland - Victorian Volcanic Plain bioregion

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Department of Sustainability and Environment

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Central Victorian Uplands bioregion

EVC 55: Plains Grassy Woodland

Description:
An open, eucalypt woodland to 15m 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.

Large trees:

Species	DBH(cm)	#/ha
Eucalyptus spp.	80 cm	15 / ha

Tree Canopy Cover:

%cover	Character Species	Common Name
15%	*Eucalyptus viminalis*	Manna Gum
	Eucalyptus ovata	Swamp Gum

Understorey:

Life form	#Spp	%Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	3	10%	T
Medium Shrub	3	5%	MS
Small Shrub	4	10%	SS
Prostrate Shrub	2	5%	PS
Medium Herb	9	20%	MH
Small or Prostrate Herb	4	5%	SH
Large Tufted Graminoid	2	10%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	6	25%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Ground Fern	1	1%	GF
Bryophytes/Lichens	na	10%	BL

Victoria The Place To Be

EVC 55: Plains Grassy Woodland - Central Victorian Uplands bioregion

LF Code	Species typical of at least part of EVC range	Common Name
T	*Acacia melanoxylon*	Blackwood
T	*Exocarpos cupressiformis*	Cherry Ballart
MS	*Acacia pycnantha*	Golden Wattle
MS	*Acacia paradoxa*	Hedge Wattle
SS	*Pimelea humilis*	Common Rice-flower
SS	*Lissanthe strigosa ssp. subulata*	Peach Heath
SS	*Hibbertia stricta s.l.*	Upright Guinea-flower
SS	*Tetratheca ciliata*	Pink-bells
PS	*Acrotriche serrulata*	Honey-pots
PS	*Astroloma humifusum*	Cranberry Heath
MH	*Gonocarpus tetragynus*	Common Raspwort
MH	*Poranthera microphylla*	Small Poranthera
MH	*Hypericum gramineum*	Small St John's Wort
SH	*Hydrocotyle laxiflora*	Stinking Pennywort
SH	*Drosera whittakeri ssp. aberrans*	Scented Sundew
SH	*Solenogyne dominii*	Smooth Solenogyne
SH	*Opercularia ovata*	Broad-leaf Stinkweed
LTG	*Austrostipa mollis*	Supple Spear-grass
LTG	*Austrostipa rudis ssp. nervosa*	Veined Spear-grass
LNG	*Lepidosperma longitudinale*	Pithy Sword-sedge
MTG	*Lomandra filiformis*	Wattle Mat-rush
MTG	*Schoenus apogon*	Common Bog-sedge
MTG	*Themeda triandra*	Kangaroo Grass
MTG	*Dianella revoluta s.l.*	Black-anther Flax-lily
MNG	*Microlaena stipoides var. stipoides*	Weeping Grass
GF	*Pteridium esculentum*	Austral Bracken

Recruitment:
Continuous

Organic Litter:
10 % cover

Logs:
10 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MH	*Hypochoeris radicata*	Cat's Ear	high	low
MH	*Leontodon taraxacoides ssp. taraxacoides*	Hairy Hawkbit	high	low
MH	*Centaurium erythraea*	Common Centaury	high	low
MH	*Hypochoeris glabra*	Smooth Cat's-ear	high	low
LNG	*Holcus lanatus*	Yorkshire Fog	high	high
MTG	*Briza maxima*	Large Quaking-grass	high	low
MTG	*Anthoxanthum odoratum*	Sweet Vernal-grass	high	high
MTG	*Romulea rosea*	Onion Grass	high	low
MTG	*Briza minor*	Lesser Quaking-grass	high	low
MNG	*Aira elegantissima*	Delicate Hair-grass	high	low

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Appendix 7: Native Vegetation Removal (NVR) 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: **27/01/2023**
Time of issue: **3:14 pm**

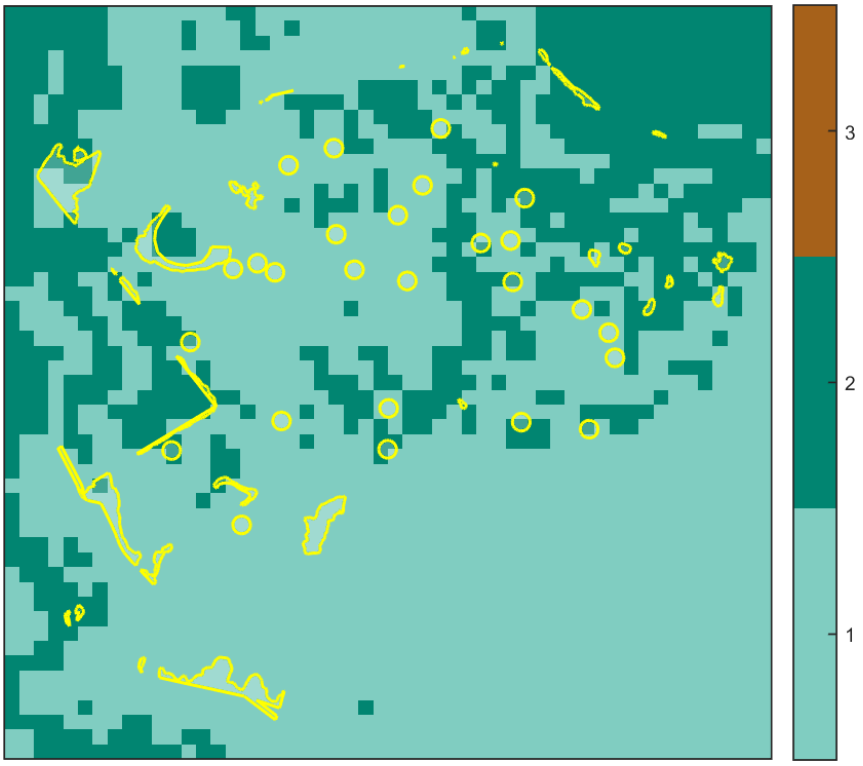
Report ID: NAA_2023_009

Project ID	21137_Ross_Watt_Rd_Removal_230124

Assessment pathway

Assessment pathway	**Detailed Assessment Pathway**
Extent including past and proposed	4.821 ha
Extent of past removal	0.000 ha
Extent of proposed removal	4.821 ha
No. Large trees proposed to be removed	27
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



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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]	1.031 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Macedon Ranges Shire Council
Minimum strategic biodiversity value score[2]	0.288
Large trees	27 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

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.

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

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

Appendix 1: Description of native vegetation to be removed

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

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

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**
1-20	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.460		0.015	General
1-23	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-22	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.460		0.015	General
1-34	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.430		0.015	General
1-4	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-40	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-5	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-A	Patch	cvu_0055	Endangered	0	no	0.210	0.031	0.031	0.330		0.006	General

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
1-B	Patch	cvu_0055	Endangered	0	no	0.160	0.626	0.626	0.330		0.100	General
1-C	Patch	vvp_0055_63	Endangered	0	no	0.210	0.397	0.397	0.370		0.086	General
1-D	Patch	vvp_0055_63	Endangered	0	no	0.400	0.096	0.096	0.337		0.038	General
1-E1	Patch	vvp_0055_63	Endangered	0	no	0.200	0.526	0.526	0.490		0.118	General
1-F	Patch	vvp_0055_63	Endangered	0	no	0.190	0.309	0.309	0.125		0.050	General
1-G	Patch	vvp_0647	Endangered	0	no	0.240	0.064	0.064	0.320		0.015	General
1-H	Patch	vvp_0647	Endangered	0	no	0.220	0.010	0.010	0.250		0.002	General
1-I	Patch	vvp_0647	Endangered	0	no	0.220	0.052	0.052	0.184		0.010	General
1-J	Patch	vvp_0647	Endangered	0	no	0.220	0.033	0.033	0.140		0.006	General
1-M	Patch	vvp_0647	Endangered	0	no	0.220	0.033	0.033	0.490		0.008	General
1-N	Patch	vvp_0647	Endangered	0	no	0.220	0.023	0.023	0.580		0.006	General
1-P	Patch	vvp_0647	Endangered	0	no	0.240	0.035	0.035	0.500		0.009	General
1-Q	Patch	vvp_0647	Endangered	0	no	0.240	0.081	0.081	0.380		0.020	General
1-R	Patch	vvp_0647	Endangered	0	no	0.220	0.002	0.002	0.460		0.000	General
1-S	Patch	vvp_0055_63	Endangered	0	no	0.170	0.005	0.005	0.470		0.001	General
1-V	Patch	vvp_0055_63	Endangered	0	no	0.130	0.001	0.001	0.470		0.000	General
1-12	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.462		0.015	General
1-13	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.460		0.015	General
1-14	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-17	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.460		0.015	General

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
1-18	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.460		0.015	General
1-19	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.460		0.015	General
1-21	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.460		0.015	General
1-35	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-32	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.120		0.012	General
1-E2	Patch	vvp_0055_63	Endangered	0	no	0.200	0.066	0.066	0.294		0.013	General
1-E3	Patch	vvp_0055_63	Endangered	1	no	0.200	0.363	0.363	0.305		0.071	General
1-K	Patch	vvp_0647	Endangered	0	no	0.220	0.014	0.014	0.380		0.003	General
1-L	Patch	vvp_0647	Endangered	0	no	0.220	0.028	0.028	0.380		0.006	General
1-36	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-37	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-Y2	Patch	vvp_0055_63	Endangered	0	no	0.360	0.068	0.068	0.864		0.034	General
1-Y1	Patch	vvp_0055_63	Endangered	0	no	0.360	0.013	0.013	0.470		0.005	General
1-Y3	Patch	vvp_0055_63	Endangered	0	no	0.360	0.000	0.000	0.470		0.000	General
1-AD	Patch	vvp_0055_63	Endangered	0	no	0.110	0.009	0.009	0.580		0.001	General
1-AG	Patch	vvp_0821	Least Concern	0	no	0.390	0.011	0.011	0.290		0.004	General
1-AE	Patch	vvp_0055_63	Endangered	0	no	0.460	0.019	0.019	0.290		0.008	General
1-O	Patch	vvp_0647	Endangered	0	no	0.460	0.002	0.002	0.500		0.001	General
1-30	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.320		0.014	General

Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	Type	BioEVC	BioEVC conservation status	Large tree(s)	Partial removal	Condition score	Polygon Extent	Extent without overlap	SBV score	HI score	Habitat units	Offset type
1-1	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-3	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.380		0.015	General
1-27	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.320		0.014	General
1-26	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.318		0.014	General
1-31	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.120		0.012	General
1-38	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.190		0.013	General
1-39	Scattered Tree	vvp_0055_63	Endangered	1	no	0.200	0.070	0.070	0.250		0.013	General
1-E4	Patch	vvp_0055_63	Endangered	0	no	0.200	0.013	0.013	0.490		0.003	General
1-AE1	Patch	vvp_0055_63	Endangered	0	no	0.460	0.063	0.063	0.310		0.028	General
1-X	Patch	vvp_0055_63	Endangered	0	no	0.320	0.000	0.000	0.410		0.000	General
1-X1	Patch	vvp_0055_63	Endangered	0	no	0.320	0.000	0.000	0.410		0.000	General
1-X2	Patch	vvp_0055_63	Endangered	0	no	0.320	0.002	0.002	0.410		0.001	General
1-X3	Patch	vvp_0055_63	Endangered	0	no	0.320	0.001	0.001	0.420		0.000	General
1-T	Patch	vvp_0055_63	Endangered	0	no	0.170	0.000	0.000	0.470		0.000	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
Swamp Fireweed	*Senecio psilocarpus*	504659	Vulnerable	Dispersed	Habitat importance map	0.0001
Yarra Gum	*Eucalyptus yarraensis*	501326	Rare	Dispersed	Habitat importance map	0.0001
Swamp Everlasting	*Xerochrysum palustre*	503763	Vulnerable	Dispersed	Habitat importance map ; special site	0.0000
Plains Yam-daisy	*Microseris scapigera s.s.*	504657	Vulnerable	Dispersed	Habitat importance map	0.0000
Tufted Club-sedge	*Isolepis wakefieldiana*	501789	Rare	Dispersed	Habitat importance map	0.0000
Pale Swamp Everlasting	*Coronidium gunnianum*	504655	Vulnerable	Dispersed	Habitat importance map	0.0000
Brown Toadlet	*Pseudophryne bibronii*	13117	Endangered	Dispersed	Habitat importance map	0.0000
Dwarf Silver Wattle	*Acacia nano-dealbata*	500064	Rare	Dispersed	Habitat importance map	0.0000
White-throated Needletail	*Hirundapus caudacutus*	10334	Vulnerable	Dispersed	Habitat importance map	0.0000
Speckled Warbler	*Chthonicola sagittatus*	10504	Vulnerable	Dispersed	Habitat importance map	0.0000
Chestnut-rumped Heathwren	*Calamanthus pyrrhopygius*	10498	Vulnerable	Dispersed	Habitat importance map	0.0000
Powerful Owl	*Ninox strenua*	10248	Vulnerable	Dispersed	Habitat importance map	0.0000

Habitat group

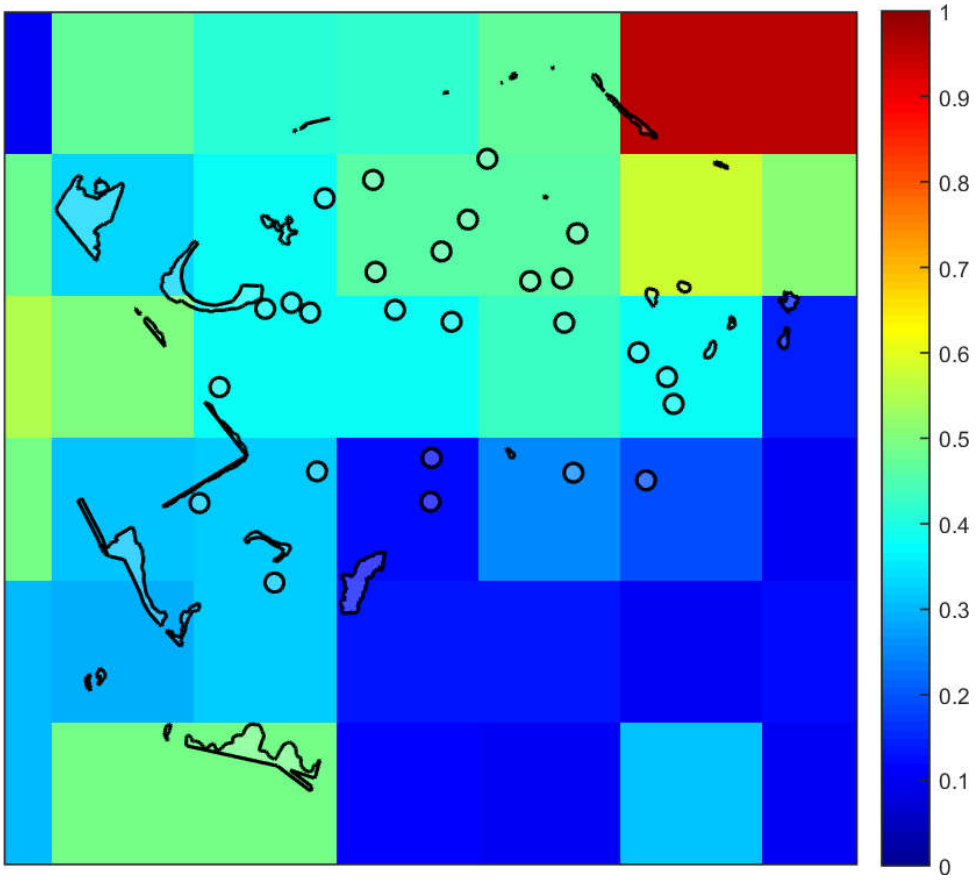
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

Habitat impacted

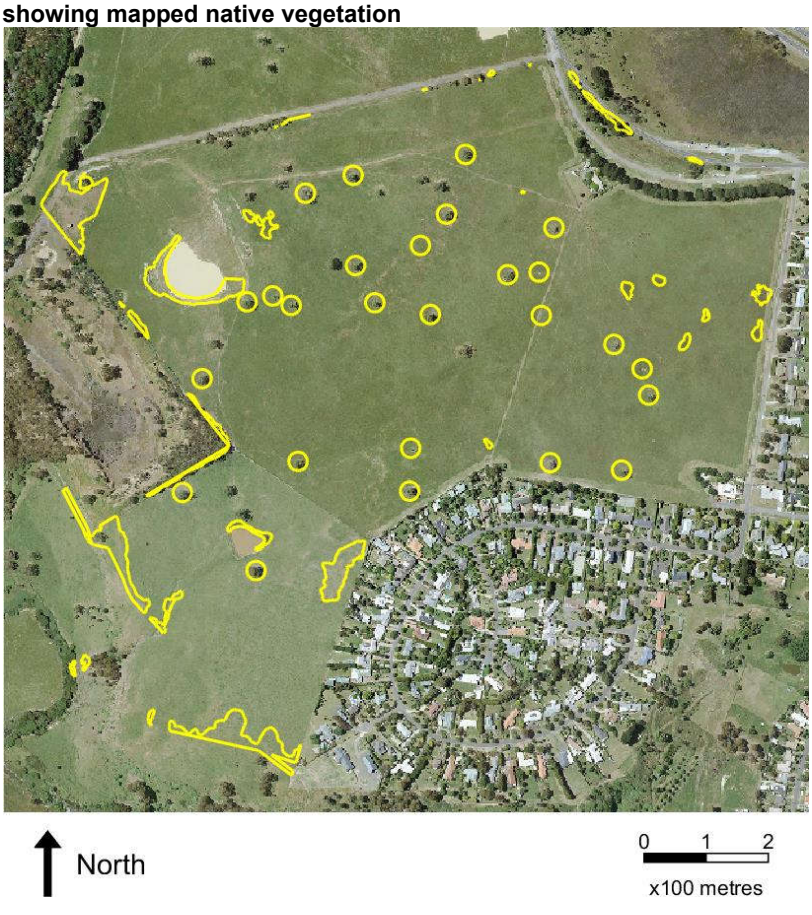
- Habitat importance maps are the maps defined in the Guidelines that include all the mapped habitat for a rare or threatened species
- Top ranking maps are the maps defined in the Guidelines that depict the important areas of a dispersed species habitat, developed from the highest habitat importance 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

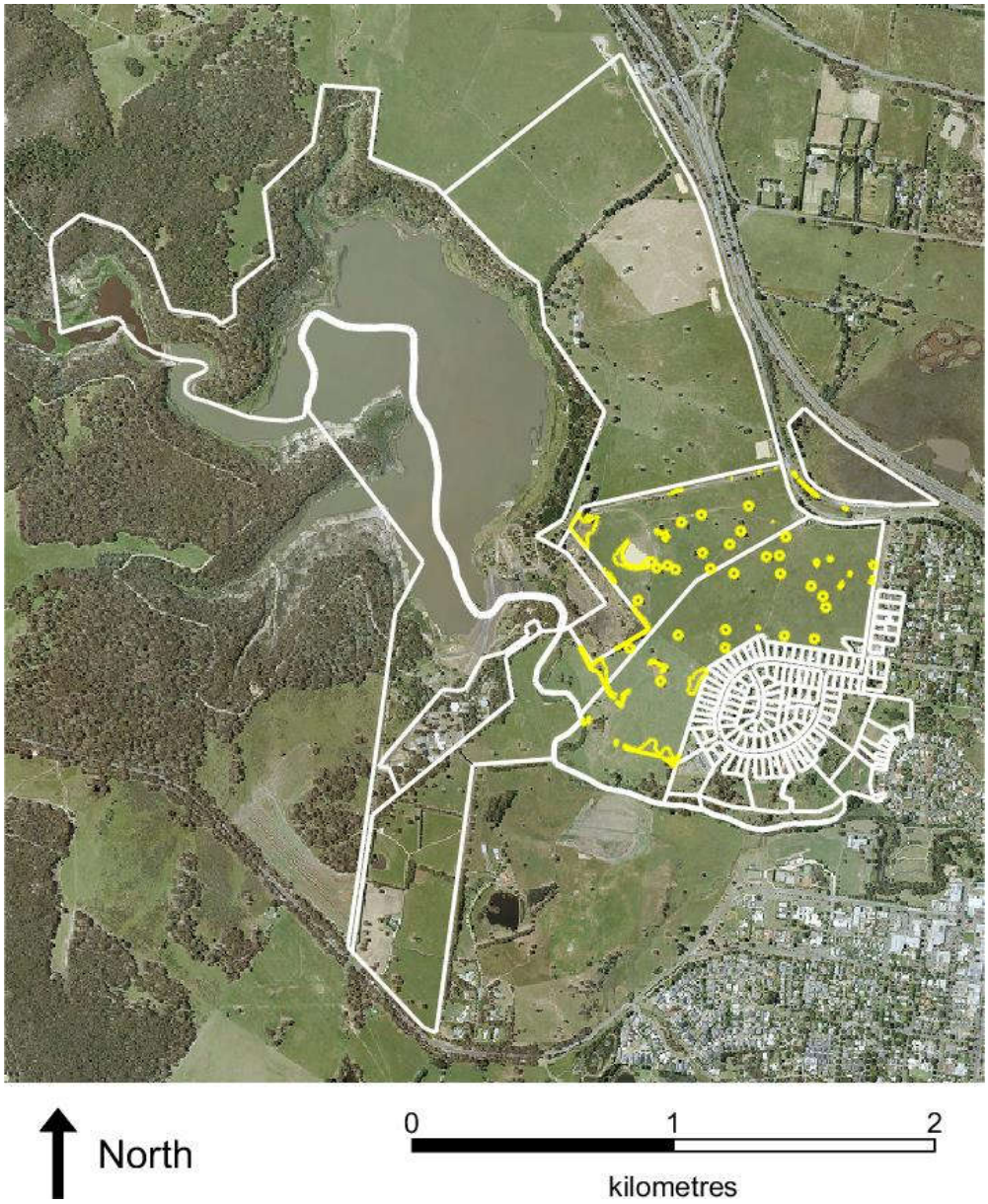
2. Strategic biodiversity values map



3. Aerial photograph showing mapped native vegetation



4. Map of the property in context



Yellow boundaries denote areas of proposed native vegetation removal.

Appendix 8: Evidence that native vegetation offset requirement is available

Report of available native vegetation credits

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

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

Date and time: 24/01/2023 02:37 **Report ID: 17437**

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
1.031	0.288	27	CMA	Port Phillip and Westernport
			or LGA	Macedon Ranges Shire

Details of available native vegetation credits on 24 January 2023 02:37

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0277	6.426	454	Port Phillip and Westernport	Mornington Peninsula Shire	No	Yes	No	Abezco, Ethos, VegLink
BBA-0670	18.072	148	Port Phillip and Westernport	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	16.368	1491	Port Phillip and Westernport	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	45.193	2622	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-2790	2.911	116	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2870	2.544	431	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-2871	16.335	1668	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3710_01	7.606	322	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3740_01	1.097	92	Port Phillip And Westernport	Cardinia Shire, Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3744_01	2.428	377	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3764_01	8.011	51	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3773_01	6.928	1262	North Central	Macedon Ranges Shire	Yes	Yes	No	VegLink

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

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

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

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

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-3746_01	4.962	563	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink

LT - Large Trees *CMA - Catchment Management Authority* *LGA - Municipal District or Local Government Authority*

Next steps

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

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

Broker contact details

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

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

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

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