

# 132A OLD MELBOURNE ROAD, LITTLE RIVER

## FLORA AND FAUNA IMPACT ASSESSMENT

**Prepared for Pacific National**

July 2023  
Report No. 21312.08 (1.2)



**Nature  
Advisory**

(Formerly Brett Lane & Associates Pty Ltd)

5/61-63 Camberwell Road  
Hawthorn East, VIC 3123  
PO Box 337, Camberwell VIC 3124  
(03) 9815 2111  
[www.natureadvisory.com.au](http://www.natureadvisory.com.au)

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# 1. Executive summary

## 1.1. Introduction

Pacific National engaged Nature Advisory Pty Ltd to conduct a detailed flora and fauna assessment of a 545-hectare area of land, known as 132A Old Melbourne Road, Little River. The specific area investigated, referred to herein as the 'study area', comprised land bounded by the Melbourne to Geelong rail corridor in the north, West Back 1 Track and Belfridges 1 Track in the east, Devines Road in the west and Little River Road (Old Melbourne Road) in the south.

This flora and fauna impact assessment is required to support an application to rezone and develop the land as an intermodal freight facility.

This investigation was commissioned to provide detailed 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 for future use of the land.

## 1.2. Assessment results

The study area supported basaltic soils on a gently undulating landscape, with a low rocky ridge situated in the far north-east of the study area.

Vegetation in the study area consisted of cereal crops in most of the western, central and southern parts of the study area and these areas did not support any native vegetation. Most of the land in the study area not subject to cropping, supported native vegetation in the form of Low-rainfall Plains Grassland (EVC 132\_63).

A total of 31 patches of native vegetation (referred to herein as habitat zones) were identified in the study area, totalling 271.61 hectares (Figure 1).

Two scattered trees occurred in the study area (Figure 1), one of which was large ( $\geq 80$ -centimetre DBH) and the other small ( $< 80$ -centimetre DBH).

Apart from cropped areas, fauna habitat within the study area comprised vast areas of relatively uniform native grassland on a landscape which has been scarcely physically modified. Except for pollinating invertebrates, the intact native grassland recorded provides near-optimal habitat for all other faunal groups reliant on such grasslands. Aquatic habitat was also present throughout the study area as farm dams along an ephemeral drainage system. All the farm dams provided poor aquatic habitat for fauna, as they were all devoid of vegetation and fouled by livestock. Several larger pools in the ephemeral drainage system in the north of the study area provided moderate quality aquatic habitat. Two Wedge-tailed Eagle nests were recorded, one of them active.

Two EPBC Act-listed ecological communities have been confirmed as occurring within the study area. Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP) was confirmed as occurring in numerous habitat zones throughout the study area that supported Plains Grassland (EVC 132\_63) vegetation. A total of 85.699 hectares of NTGVVP was recorded. The distribution of the NTGVVP throughout the study area is presented in Figure 1. Habitat Zone F was confirmed as qualifying as the Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHWTLP) community. The location of Habitat Zone F is presented in Figure 1 and its area is 1.362 hectares.

It should be noted that the presence and extent of the NTGVVP community within the adjacent rail reserve (Habitat Zone T) is yet to be determined, as access to the rail corridor has not yet been granted. From 'over the fence' observations, most of the native vegetation in the rail corridor is likely to qualify as NTGVVP. Similar vegetation exists in the property abutting the eastern boundary of the study area.

All the Plains Grassland recorded was the FFG Act listed community Western Basalt Plains Grassland.

One threatened flora species – Large-headed Fireweed – listed under the EPBC Act was recorded during targeted surveying. A total of 300 individuals of Large-headed Fireweed were recorded in the study area. No individuals of any other EPBC-Act flora with potential to occur were detected during the August, November, and December 2022 targeted surveys.

One flora species – Jersey Cudweed – protected under the FFG Act was recorded within the public gazetted road reserve during targeted flora survey in August 2022. Three individuals of Jersey Cudweed were recorded on public land.

Four fauna species listed under the EPBC Act have the potential to occur in the study area due to the presence of suitable habitat. Targeted surveying for Striped Legless-lizard and Golden Sun-moth was required due to their susceptibility to impacts. However, targeted surveys did not detect the presence of these species and so they are considered unlikely to occur. Hence, there are no implications under the EPBC Act in regards to fauna.

### 1.3. Impacts of proposed development

To determine impacts to native vegetation, the proposed development plan – Master Plan Rev G – was overlaid with the native vegetation mapped as part of this investigation. The current proposal footprint will result in the loss of a total extent of 80.778 hectares of native vegetation as represented in Figure 3 and documented in the *Native Vegetation Removal (NVR)* report provided by DEECA (Appendix 8)

This comprises the following:

- 80.677 hectares of native vegetation in patches (including 0 large trees in patches); and
- 2 scattered trees (namely 1 large scattered tree and 1 small scattered tree), equating to an area loss of 0.101 hectares.

These impacts include the following losses:

- 79.416 hectares of Western Basalt Plains Grassland (all areas of EVC 132\_63)
- 41.422 hectares of NTGVVP
- 300 Large-headed fireweed individuals
- 1.362 hectares of SHWTLP.

### 1.4. Design recommendations

Where possible, development plans should be modified to move the development further south to avoid impacts to Large-headed Fireweed on the northern boundary. To avoid further impacts on Large-headed Fireweed, a small flora conservation area should be considered centrally within the development.

Disturbance to active Wedge-tailed Eagle nests is discouraged during breeding season. Further protection of the nest(s) and relocation should be considered. Nest to be removed between January and June if avoidance is not practicable.

### 1.5. Implications under legislation and policy

A planning permit under Clause 52.17 of the Wyndham Planning Scheme would be required for the proposed removal of native vegetation from the study area. The need for a planning permit is also triggered by the removal of native vegetation in the southeast of the study area that is subject to ES01.

This proposal **would** trigger a referral to DEECA.

Offsets required to compensate for the proposed removal of native vegetation from the study area are as follows:

- 0.324 general habitat units and must include the following offset attribute requirements:
  - Minimum strategic biodiversity value (SBV) of 0.376
  - Occur within the Port Phillip and Westernport Catchment Management Authority (CMA) boundary or Wyndham City Council municipal district.
  - Include protection of at least one large tree.
- 4.859 species units of habitat for Prickly Arrowgrass, *Triglochin mucronata*
- 10.715 species units of habitat for Werribee Blue-box, *Eucalyptus baueriana* subsp. *thalassina*
- 44.874 species units of habitat for Red-chested Button-quail, *Turnix pyrrhothorax*
- 57.511 species units of habitat for Grassland Earless Dragon, *Tympanocryptis pinguicolla*
- 54.934 species units of habitat for Small Golden Moths, *Diuris basaltica*
- 41.139 species units of habitat for Narrow Goodenia, *Goodenia macbarronii*
- 54.934 species units of habitat for Snowy Mint-bush, *Prostanthera nivea* var. *nivea*
- 54.934 species units of habitat for Small Scurf-pea, *Cullen parvum*
- 54.934 species units of habitat for Tough Scurf-pea, *Cullen tenax*
- 32.843 species units of habitat for Brittle Greenhood, *Pterostylis truncata*
- 17.724 species units of habitat for Fragrant Saltbush, *Rhagodia parabolica*
- 50.379 species units of habitat for Button Wrinklewort, *Rutidosis Leptorhynchoides*
- 54.934 species units of habitat for Large-headed Fireweed, *Senecio macrocarpus*
- 54.934 species units of habitat for Rye Beetle-grass, *Tripogon loliiformis*
- 54.934 species units of habitat for Plump Swamp Wallaby-grass, *Amphibromus pithogastrus*
- 54.934 species units of habitat for Heath Spear-grass, *Austrostipa exilis*
- 54.934 species units of habitat for Brackish Plains Buttercup, *Ranunculus diminutus*
- 35.720 species units of habitat for Sunshine Diuris, *Diuris fragrantissima*
- 54.934 species units of habitat for Melbourne Yellow-gum, *Eucalyptus leucoxydon* subsp. *connata*

- 54.934 species units of habitat for Basalt Podolepis, *Podolepis linearifolia*
- 53.890 species units of habitat for Spiny Rice-flower, *Pimelea spinescens* subsp. *spinescens*
- 49.664 species units of habitat for Clumping Golden Moths, *Diuris gregaria*
- 54.934 species units of habitat for Pale-flower Crane's-bill, *Geranium* sp. 3

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

Given the above requirements, offset requirements for the project could only be partially achieved within the study area (by retaining the remainder of the native vegetation recorded). Additional offsets are proposed to be secured through a third-party offset provider. Sufficient offsets are not available to purchase.

A Referral under the EPBC Act will be required due to impacts upon listed communities (NTGVVP) and species (Large-headed Fireweed).

A Protected Flora Permit under the FFG Act would be required from DEECA to remove the plant taxa comprising the Western Basalt Plains Grassland community and Jersey Cudweed from public land (being the road reserve centrally located within the study area).

A Referral to the state minister for Planning is required under the EE Act for the proposed development.

#### **1.6. Mitigation recommendations**

Recommendations to avoid and minimise impacts to native vegetation are provided in this report in Section 6.2.



## 2. Introduction

Pacific National engaged Nature Advisory Pty Ltd to conduct a detailed flora and fauna assessment of a 545-hectare area of land, known as 132A Old Melbourne Road, Little River. The specific area investigated, referred to herein as the 'study area', comprised land bounded by the Melbourne to Geelong rail corridor in the north, West Back 1 Track and Belfridges 1 Track in the east, Devines Road in the west and Little River Road (Old Melbourne Road) in the south (See Figure 1).

This flora and fauna impact assessment is required to support an application to rezone and develop the land as an intermodal freight facility.

This investigation was commissioned to provide detailed 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 for future use of the land.

Specifically, the scope of the investigation included:

- An initial site survey involving the following:
  - Detailed refinement of the existing 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 (scoring of vegetation quality) and/or scattered tree assessment;
  - Compilation of flora and fauna species lists for the site;
  - Assessment of the nature and quality of fauna habitat; 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.
- A targeted flora survey in August 2022 in order to:
  - Determine presence, location and extent of any Spiny Rice-flower, Large-headed Fireweed and any FFG Act-protected flora within the study area.

This investigation was undertaken by a team from Nature Advisory comprising Brett Macdonald (Senior Ecologist), Emma Wagner (Senior GIS Analyst), Tessa Doherty (Botanist) and Alan Brennan (Director).

## 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 Wyndham local government area and is currently zoned Special Use Zone (SU7) in the north-east corner and the remainder is zoned Green Wedge Zone (GWZ) in the Wyndham 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

Part of the study area is subject to the Environmental Significance Overlay – Schedule 1 (ESO1) overlay in the Wyndham Planning Scheme, which is relevant to this assessment.

The purpose of this overlay is to protect the integrity of major waterways in the Wyndham municipality (Skeleton Creek including the Dry Creek tributary, Werribee River including the Davis Creek tributary, Lollypop Creek and Little River) from the deleterious effects of development in their immediate catchments.

### 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

No exemptions to Clause 52.17 are relevant to this project.

#### 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 DEECA.

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

### 3.3.3. Referral to DEECA

Clause 66.02-2 of the planning scheme determines the role of DEECA in the assessment of native vegetation removal permit applications. If an application is referred, DEECA 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 DEECA 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 6.3.

### 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 DEECA.

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.

- Wyndham Planning Scheme.
- Nature Advisory (2022), *132A Old Melbourne Road, Little River – Detailed Flora and Fauna Assessment* - Report no. 21312 (2.0), Nature Advisory Pty Ltd, Hawthorn East, consultant report prepared for Tract.

#### 4.1.2. Native vegetation

Pre-1750 (pre-European settlement) vegetation mapping administered by DEECA 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 bioregion<sup>1</sup> (DSE 2004a);
- *NatureKit* (DELWP 2021a).

#### 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 boundary of the study area.

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 DEECA.

The online EPBC Act *Protected Matters Search Tool* (DAWE 2021a) 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 initial field assessment was conducted over 7 days between the 2<sup>nd</sup> and 17<sup>th</sup> March 2022. During this assessment, the study area was surveyed initially by vehicle and then on foot. Areas supporting native vegetation and/or fauna habitat were inspected in more detail on foot. As access was not available to the rail reserve abutting the northern boundary of the study area, this area was visually examined from the fence line along the northern study area boundary.

Sites in the study area found to support native vegetation or with potential to support listed matters 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

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<sup>1</sup> 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).



listed as threatened under the EPBC Act or FFG Act (where they occurred on public land) were also mapped using the same method.

#### 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 DEECA 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<sup>2</sup> where the drip line<sup>3</sup> 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 2021b).

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 2021c) provides modelled condition scores for native vegetation to be used in certain circumstances.

##### Scattered tree

A scattered tree is:

- A native canopy tree<sup>2</sup> 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.

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<sup>2</sup> 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.

<sup>3</sup> The drip line is the outermost boundary of a tree canopy (leaves and/or branches) where the water drips on to the ground.

#### 4.2.2. Flora species and habitats

##### Initial survey

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).

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.

##### Targeted surveys

A targeted survey for Spiny Rice-flower and Large-headed Fireweed was undertaken across four days on the 11<sup>th</sup>, 17<sup>th</sup>, 22<sup>nd</sup> and 31<sup>st</sup> of August 2022. Further flora surveys were carried out on 30<sup>th</sup> of November, and 5<sup>th</sup>, 12<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> of December 2022, targeting the remaining FFG and EPBC listed species in the table below. During these surveys, areas identified to support suitable habitat for these species, namely all habitat zones containing Plains Grassland (EVC 132\_63), were inspected thoroughly along transects spaced five metres apart in areas to be impacted (Figure 2). Surveys were timed to match the flowering period of the target species. Survey methodology is consistent with Department of Climate Change, Energy, Environment and Water (DCCEEW) and DEECA standards. Areas outside the construction footprint were surveyed along transect spaced between five and 50 metres apart. These non-standard wider transects were only used in areas being considered as on-site offset sites. Any target species were recorded using a hand-held GPS accurate to approximately 5 metres.

Table 1 below shows the schedule for targeted surveys within the study area, including species for which surveying has already occurred. Green shading indicates the flowering time for each species.

**Table 1: Targeted survey schedule for EPBC Act and FFG Act-listed flora species**

Common Name	Scientific Name	Optimal survey (flowering) time												
		J	F	M	A	M	J	J	A	S	O	N	D	
<b>Species listed under both the EPBC Act and FFG Act</b>														
Button Wrinklewort	<i>Rutidosia leptorrhynchoides</i>													
Clover Glycine	<i>Glycine latrobeana</i>													
Large-headed Fireweed	<i>Senecio macrocarpus</i>													
Matted Flax-lily	<i>Dianella amoena</i>													

Common Name	Scientific Name	Optimal survey (flowering) time											
		J	F	M	A	M	J	J	A	S	O	N	D
Spiny Rice-flower	<i>Pimelea spinescens</i> subsp. <i>spinescens</i>								X				
<b>Species listed under only the FFG Act</b>													
Cut-leaf Burr-daisy	<i>Calotis anthemoides</i>											X	X
Small Milkwort	<i>Comesperma polygaloides</i>											X	X
Small Scurf-pea	<i>Cullen parvum</i>											X	X
Tough Scurf-pea	<i>Cullen tenax</i>											X	X
Narrow Goodenia	<i>Goodenia macbarronii</i>											X	X
Purple Blown-grass	<i>Lachnagrostis punicea</i> subsp. <i>punicea</i>											X	X
Basalt Podolepis	<i>Podolepis linearifolia</i>											X	X
Basalt Sun-orchid	<i>Thelymitra gregaria</i>											X	
Rye Beetle-grass	<i>Tripogonella loliiiformis</i>											X	X

Note: X = month survey was undertaken. Species without an X have not yet been surveyed.

#### 4.2.3. Fauna species and habitats

The techniques below were used to detect fauna species utilising the study area.

- Incidental searches for mammal scats, tracks and signs (e.g. diggings, signs of feeding and nests/burrows).
- Turning over logs/rocks and other ground debris for reptiles, frogs and mammals.
- Daytime bird observations.
- General searches for reptiles and frogs; including identification of frog calls in seasonally wet areas.

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 2021a).

Wherever appropriate, a precautionary approach was adopted in determining the likelihood of occurrence or 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 is assumed that it could be in an area of suitable habitat.

### Targeted surveys

Targeted searches for Striped Legless Lizard (SLL) were carried out from September until December. SLL surveys involved arrays of roof tiles laid on the ground in June followed by weekly tile checks from September. Targeted surveys for Golden Sun Moth (GSM) were carried out in December. GSM surveys consisted of walking transects with spacing that decreased after each negative resulting survey.

#### 4.2.4. Threatened ecological communities

The likelihood of listed threatened ecological communities occurring in the study area was determined by checking general field observations 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

The initial site assessment was carried out in early autumn. The short duration and seasonal timing of field assessments can result in some species not being detected when they may occur at other times. Additionally, some flora species and life-forms may be undetectable at the time of the survey or unidentifiable due to a lack of flowers or fruit. 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.

These limitations were not considered to compromise the validity of the current investigation, which was designed to address the relevant policies and decision guidelines.

Targeted flora surveys can fail to record some species (or individuals of the same species) that are present for various reasons such as short survey duration. However, targeted surveying was carried out during the flowering period of otherwise inconspicuous species. The survey period was therefore considered optimal for detecting the presence, abundance and location of the targeted species. Visibility was variable across the site although biomass was high across the majority of the study area. This can lead to well-concealed plants being overlooked, although this is considered unlikely as the species were not recorded in the highest quality grassland areas where visibility was good.

An unusually wet spring and summer, for the third year in a row, may have had effects on the life cycle of Golden Sun Moth and Striped Legless Lizard, however there are no studies available testing this hypothesis.

## 5. Assessment results

### 5.1. Site description

The study area for this investigation (Figure 1) was approximately 545 hectares of private land located at Little River, some 25 kilometres north-east of the City of Geelong CBD. It is bordered by the Melbourne to Geelong rail corridor in the north, West Back 1 Track and Belfridges 1 Track in the east, Devines Road in the west and Little River Road (Old Melbourne Road) in the south.

The study area supported basaltic soils on a gently undulating landscape, with a low rocky ridge situated in the far north-east of the study area. Outcropping basaltic rock varied considerably across the site, with the highest concentrations on elevated land and the lowest concentration on lower-lying flatter areas. Most of the western, central and southern parts of the study area were virtually free of rock, as these areas were largely cropped. An ephemeral drainage line dissects the study area in a north-south orientation. Several on-stream dams are situated along this drainage line.

Past and present land use in the study area is dry-land cropping and domestic stock grazing, as too is that in the surrounding landscape.

Vegetation in the study area consisted of cereal crops in most of the western, central and southern parts of the study area and these areas did not support any native vegetation. Most land in the study area not subject to cropping, supported native vegetation in the form of *Low-rainfall* Plains Grassland (EVC 132\_63). This native vegetation was heavily dominated by various species of indigenous spear grasses and wallaby grasses and to a lesser extent Red-leg Grass and Windmill Grass. Various other species of indigenous graminoids were also present at much lower cover. Indigenous forb diversity and cover was very low over most of the study area with bindweed, Grassland Wood-sorrel, Jersey Cudweed and Common Cudweed being the most abundant.

Introduced weed diversity was moderate and cover was moderate to high. The most abundant species were annual grasses, Serrated Tussock, Artichoke Thistle, Wild Sage, African Box-thorn and Spear Thistle, which are high threat weeds in native grassland.

Indigenous trees in the study area were limited to two scattered River Red-gums adjacent the homestead area, All other trees in the study area were planted non-indigenous native eucalypts and introduced species, mostly associated with the homestead and various wind breaks throughout the study area.

Except for cropped areas, fauna habitat within the study area comprised vast areas of relatively uniform native grassland on a landscape which has been scarcely physically modified, With the exception of pollinating invertebrates, the intact native grassland recorded provides near-optimal habitat for all other faunal groups reliant on such grasslands. This habitat is also well connected to surrounding areas of native grassland, particularly the high-quality native grassland along the rail reserve and on the properties to the east and west.

The study area lies within the Victorian Volcanic Plain bioregion 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 2021a) indicated that the study area and surrounds would have supported Plains Grassland (EVC 132), Plains Grassy Wetland (EVC 125), Plains Grassy



Woodland (EVC 55) and Creekline Grassy Woodland (EVC 68) 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 that *Low-rainfall* Plains Grassland (EVC 132\_63) and Plains Grassy Wetland (EVC 125) were present in the study area (Figure 1). A description of these are provided within the EVC benchmarks in Appendix 6.

A total of 31 patches (referred to herein as habitat zones) comprising the abovementioned EVCs, were identified in the study area (Table 2). This totalled an approximate area of 270 hectares of native vegetation in patches.

**Table 2: Description of habitat zones in the study area**

Habitat Zone	EVC	Description
A, L, N, V, W & Z	<i>Low-rainfall</i> Plains Grassland (EVC 132_63)	<p><b>Moderate quality native vegetation</b></p> <p>Heavily dominated by various species of indigenous spear grass and wallaby grasses and to a lesser extent Red-leg Grass and Windmill Grass. Various other species of indigenous graminoids were also present at much lower cover, such as Kangaroo Grass, Rigid Panic, tussock grasses and Wattle Matt-rush. Indigenous forb diversity and cover was very low throughout the zones, bindweed, Grassland Wood-sorrel, Jersey Cudweed and Common Cudweed being the most abundant. Others included Wiry Dock, sheep's burr and Kidney weed. Indigenous forb diversity was generally highest within 50 metres of the rail reserve.</p> <p>Introduced weed cover was moderate to high. The most abundant species were annual grasses, Artichoke Thistle, Wild Sage, African Box-thorn, Horehound and Spear Thistle, and to a lesser extent Serrated Tussock and Chilean Needle-grass, which are all high threat weeds in this EVC.</p>
B, D, G, H & I	<i>Low-rainfall</i> Plains Grassland (EVC 132_63)	<p><b>Low quality native vegetation</b></p> <p>Dominated by indigenous spear and wallaby grasses and introduced Serrated Tussock and annual grasses, with a scattering of Artichoke Thistle. Indigenous forbs very scarce, predominantly bindweed, Grassland Wood-sorrel and Jersey Cudweed.</p>
C, E, J, AA, AC, AB, O, P, Q & U	<i>Low-rainfall</i> Plains Grassland (EVC 132_63)	<p><b>Low quality native vegetation</b></p> <p>Heavily dominated by indigenous spear and wallaby grasses, with a scattering of introduced annual grasses and Serrated Tussock. Indigenous forbs very scarce, predominantly bindweed, Grassland Wood-sorrel and Jersey Cudweed.</p>
F	Plains Grassy Wetland (EVC 125)	<p><b>Moderate quality native vegetation</b></p> <p>Dominated by indigenous wallaby grass, swamp wallaby-grass, rush and introduced annual grasses and broad-leaf weeds. A variety of indigenous forbs were present at low cover. These comprised Nardoo, woodruff, Common Sneezeweed, Slender Goodenia and Rough Raspwort.</p>

Habitat Zone	EVC	Description
K	<i>Low-rainfall Plains Grassland</i> (EVC 132_63)	<b>Moderate quality native vegetation</b> Dominated by indigenous spear and wallaby grasses, introduced annual grasses and Cat's Ear. Scattered throughout were indigenous Red-leg Grass and Windmill Grass and introduced Artichoke Thistle and Spear Thistle. Indigenous forb diversity and cover was very low.
X, Y, AD, AE, AF, AG & AH	<i>Low-rainfall Plains Grassland</i> (EVC 132_63)	Dominated by indigenous spear and Red-leg Grass, Windmill Grass, introduced annual grasses and Spear Thistle. Indigenous forb diversity and cover was very low.
T	<i>Low-rainfall Plains Grassland</i> (EVC 132_63)	<b>High to very high quality native vegetation</b> Not directly assessed. Patchy in areas, but where present usually dominated by indigenous Kangaroo Grass, with many other indigenous graminoids and forbs, including a number of threatened species. Introduced weed cover varied considerably, the most dominant being introduced trees, such as naturalised native Blackwood.

The habitat hectare assessment results for these habitat zones are provided in Table 3. More detailed habitat scoring results are presented in Appendix 2.

**Table 3: Summary of habitat hectare assessment results**

Habitat Zone	EVC no.	Area (ha)	Condition Score (out of 100)
A	132_63	200.997	51
B	132_63	0.148	20
C	132_63	0.556	30
D	132_63	0.046	23
E	132_63	1.089	32
F	125	1.362	39
G	132_63	0.113	23
H	132_63	0.988	26
I	132_63	0.075	23
J	132_63	1.982	26
K	132_63	3.132	30
L	132_63	7.234	30
N	132_63	19.271	35
O	132_63	0.959	35
P	132_63	0.238	25

Habitat Zone	EVC no.	Area (ha)	Condition Score (out of 100)
Q	132_63	0.750	22
U	132_63	1.238	18
V	132_63	9.387	49
W	132_63	4.302	32
X	132_63	0.403	35
Y	132_63	0.291	26
Z	132_63	3.092	32
AA	132_63	1.855	32
AB	132_63	0.277	28
AC	132_63	0.453	28
AD	132_63	0.156	35
AE	132_63	0.059	35
AF	132_63	0.260	35
AG	132_63	0.786	35
AH	132_63	0.719	35
<b>Total</b>		<b>271.61</b>	

The location and extent of the habitat zones are shown in Figure 1.

### 5.2.1. Scattered trees

Scattered trees recorded in the study area are likely to have once comprised the canopy component of Plains Grassy Woodland (EVC 55\_61), but rather errant trees, naturally scattered on *Low-rainfall* Plains Grassland (EVC 132\_63).

Two scattered trees occurred in the study area (Figure 1), one of which was large ( $\geq 80$ -centimetre DBH) and the other small ( $< 80$ -centimetre DBH).

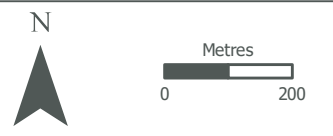
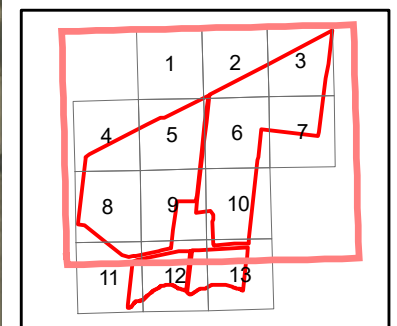
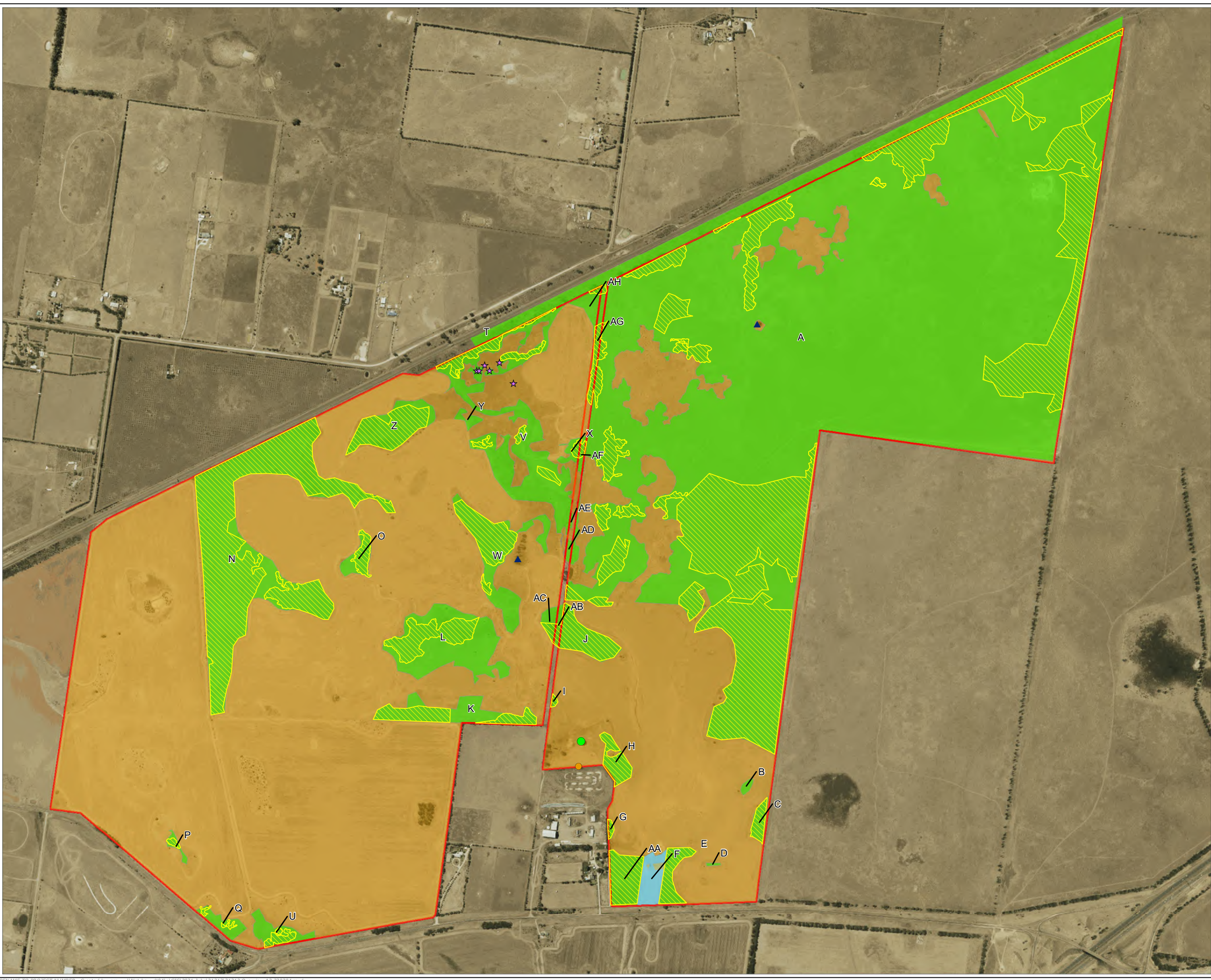
Details of all scattered trees recorded are listed in Appendix 3.



**Figure 1 -:** Biodiversity Detailed Assessment

**Project:** 132A Old Melbourne Road, Little River  
**Client:** Tract  
**Date:** 23/03/2022

- Study area**
- Pts\_220308**
- Class**
- Large scattered tree
  - Small scattered tree
  - ▲ Wedge-tailed Eagle nest
  - ★ Large-fruit Fireweed
- Native vegetation**
- Plains Grassland - Low-rainfall (EVC 132\_63)
  - Plains Grassy Wetland (EVC 125)
  - Non-native vegetation
  - Natural Temperate
  - Grasslands of the Victorian Volcanic Plain



PO Box 337, Camberwell, VIC 3124, Australia  
[www.natureadvisory.com.au](http://www.natureadvisory.com.au)  
 03 9815 2111 - [info@natureadvisory.com.au](mailto:info@natureadvisory.com.au)



### 5.3. Flora species

#### 5.3.1. Listed species

VBA records (DELWP 2021d) and the EPBC Protected Matters Search Tool (DAWE 2021a) indicated that within the search region there were records of, or there occurred potential suitable habitat for, 18 species listed under the Commonwealth EPBC Act and 39 listed under the state FFG Act, including 13 listed under both Acts. One flora species listed under the EPBC Act was recorded during the initial field survey. This was Large-headed Fireweed, listed as critically endangered under the EPBC Act. Six individuals were recorded in and adjacent the northern part of Habitat Zone V (see Figure 1).

The likelihood of occurrence in the study area of species listed under the EPBC Act and FFG Act is addressed in Table 4. 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 14 listed flora species are likely to occur or have the potential to occur:

- Cut-leaf Burr-daisy (FFG Act-listed only);
- Small Milkwort (FFG Act-listed only);
- Small Scurf-pea (FFG Act-listed only);
- Tough Scurf-pea (FFG Act-listed only);
- Matted Flax-lily (EPBC and FFG Act-listed);
- Clover Glycine (EPBC and FFG Act-listed);
- Narrow Goodenia (FFG Act-listed only);
- Purple Blown-grass (FFG Act-listed only);
- Spiny Rice-flower (EPBC and FFG Act-listed);
- Basalt Podolepis (FFG Act-listed only);
- Button Wrinklewort (EPBC and FFG Act-listed);
- Large-headed Fireweed (EPBC and FFG Act-listed);
- Basalt Sun-orchid (FFG Act-listed only); and
- Rye Beetle-grass (FFG Act-listed only).



### 5.3.2. Targeted flora survey results

A targeted survey for Spiny Rice-flower and Large-headed Fireweed were undertaken in August 2022. A total of 294 Large-headed fireweed plants were detected within the study area during this targeted survey. Along with the six individuals found in the initial survey this totals 300 individuals of this species recorded in the study area. These were mostly recorded in and adjacent to Habitat Zone V in the far north and south of the zone (Figure 2) in areas of higher quality native vegetation. Some isolated individuals were recorded in Habitat Zones X, Z and N.

No Spiny Rice-flower plants were detected in the August 2022 targeted survey.

One FFG Act-protected species, Jersey Cudweed, was recorded on public land in the north of the study area. Three individuals of this species were found in proximity along the gazetted road reserve in the study area (Figure 2).

Further targeted surveys were conducted in November and December 2022 for the species below:

- Cut-leaf Burr-daisy (FFG Act-listed only);
- Small Milkwort (FFG Act-listed only);
- Small Scurf-pea (FFG Act-listed only);
- Tough Scurf-pea (FFG Act-listed only);
- Matted Flax-lily (EPBC and FFG Act-listed);
- Clover Glycine (EPBC and FFG Act-listed);
- Narrow Goodenia (FFG Act-listed only);
- Purple Blown-grass (FFG Act-listed only);
- Basalt Podolepis (FFG Act-listed only);
- Button Wrinklewort (EPBC and FFG Act-listed);
- Large-headed Fireweed (EPBC and FFG Act-listed);
- Basalt Sun-orchid (FFG Act-listed only); and
- Rye Beetle-grass (FFG Act-listed only).

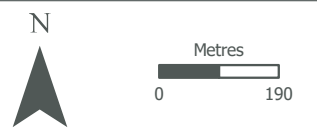
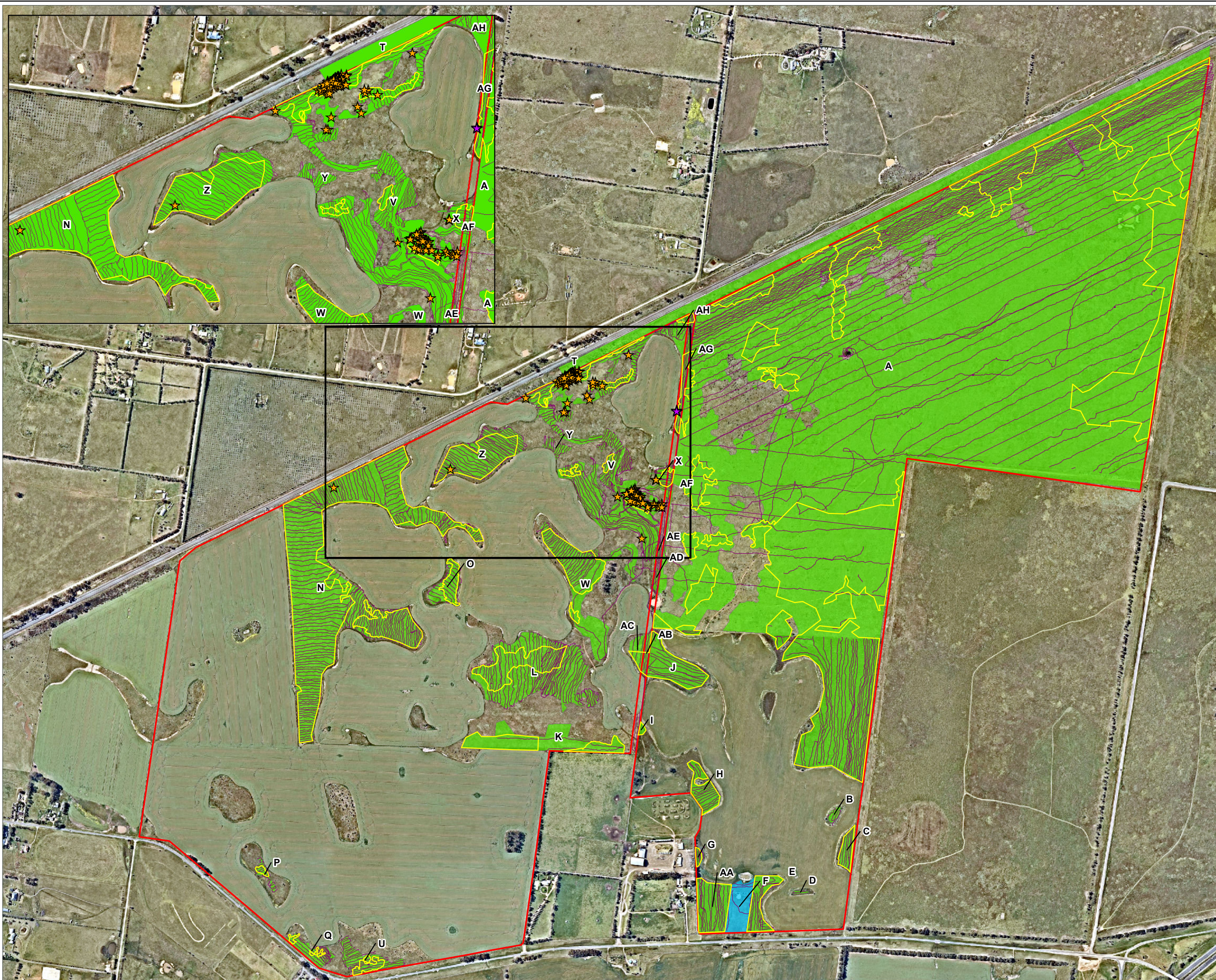
No listed flora species were recorded during the November and December 2022 targeted surveys.



**Figure 2:** Targeted survey transects and threatened species locations

**Project:** 132A Old Melbourne Road, Little River  
**Client:** Tract  
**Date:** 15/09/2022

- ▭ Study area
- Threatened and protected flora species search transects
- Threatened species and protected flora**
- ★ Jersey Cudweed
- ★ Large-headed Fireweed
- Natural Temperate
- ▭ Grasslands of the Victorian Volcanic Plain
- Native vegetation**
- ▭ Plains Grassy Wetland (EVC 125)
- ▭ Plains Grassland (EVC 132\_63)



PO Box 337, Camberwell, VIC 3124, Australia  
[www.natureadvisory.com.au](http://www.natureadvisory.com.au)  
 03 9815 2111 - [info@natureadvisory.com.au](mailto:info@natureadvisory.com.au)



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

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Buloke	<i>Allocasuarina luehmannii</i>		Vulnerable	Woodlands on non-calcareous soils. Commonly grows with Grey Box (Entwisle 1996).	16	6/07/2011	No suitable habitat present in the study area – <b>unlikely to occur.</b>
River Swamp Wallaby-grass	<i>Amphibromus fluitans</i>	Vulnerable		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 2021).	4	16/12/2001	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Drooping Mistletoe	<i>Amyema pendula subsp. longifolia</i>		Critically Endangered	Very rare in Victoria where known by a few collections near the Murray River in the north-west of the State: Wallpolla Island, west of Mildura (1933), Hattah-Kulkyne National Park (2019) and Tooleybuc (1971), in each case, parasitic on <i>Eucalyptus camaldulensis</i> (Walsh 1999)	1	6/10/2002	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Cut-leaf Burr-daisy	<i>Calotis anthemoides</i>		Critically Endangered	Scattered north and west of Melbourne (e.g. Sunshine, Camperdown, Moyston, Dunkeld, Numurkah regions) on heavy soils prone to waterlogging, but now rather rare due to habitat depletion (Walsh 1999). Wet depressions in Plains Grassland, Plains Grassy Wetland and Plains Grassy Woodland (Bull 2014).	4	16/09/2009	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Small Milkwort	<i>Comesperma polygaloides</i>		Critically Endangered	Found in remnant native grasslands and grassy woodlands on heavy soils (Walsh 1999) on the Western Basalt Plains, dominated by Kangaroo Grass, Silver Tussock and, less commonly, wallaby grasses and spear grasses (DSE 1999)	33	17/12/2013	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Small Scurf-pea	<i>Cullen parvum</i>		Endangered	The species grows in grasslands and grassy (River Red-gum) woodlands in areas with rainfall of between 450 and 700 mm (Jeanes, 1996). These sites are subject to irregular flooding, and have relatively rich soils derived from alluvium. An exception is the population near Shelford, which grows on rocky clay soils derived from basalt (DSE 2005).	14	6/01/2011	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Tough Scurf-pea	<i>Cullen tenax</i>		Endangered	Grasslands and grassy woodlands, subject to irregular flooding, with relatively rich soils derived from alluvium. *An exception is the population near Shelford, which grows from rocky clay soils derived from basalt* (DSE 2005).	4	8/12/2003	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Matted Flax-lily	<i>Dianella amoena</i>	Endangered	Critically Endangered	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 2021).	23	16/02/2014	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Small Golden Moths	<i>Diuris basaltica</i>	Endangered	Critically Endangered	Grows in herb-rich native grasslands, dominated by Kangaroo Grass ( <i>Themeda triandra</i> ) on heavy basaltic soils, often embedded with basalt boulders. All locations that the species is known to occur form part of the 'Natural Temperate Grassland of the Victorian Volcanic Plain' (DAWE 2021).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur.</b>
Sunshine Diuris	<i>Diuris fragrantissima</i>	Endangered	Critically Endangered	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 2021).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur.</b>

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Trailing Hop-bush	<i>Dodonaea procumbens</i>	Vulnerable		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 2021).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur</b> .
Rough-grain Love-grass	<i>Eragrostis trachycarpa</i>		Endangered	A relatively rare grass, first collected at Providence Ponds in 1955 and apparently confined to seasonally moist sites in the lower catchment of the Gippsland Lakes (between Heyfield and Lakes Entrance) (Walsh 1994).	3	1/01/1984	No suitable habitat present in the study area – <b>unlikely to occur</b> .
Werribee Blue-box	<i>Eucalyptus baueriana</i> subsp. <i>thalassina</i>		Endangered	Restricted to the Werribee River catchment, mainly around the Bacchus Marsh area but extending south to Werribee. Grows close to watercourses in alluvial soils (Vicflora 2022)	4	19/03/2014	No suitable habitat present in the study area – <b>unlikely to occur</b> .
Melbourne Yellow-gum	<i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>		Endangered	Limited to the outer areas of Melbourne and Geelong on hilly, well drained slopes of sandstone origin. Extremely common in the Brisbane Ranges and also in small pockets near Torquay and Anglesea, and in the north-east metropolitan Melbourne and Sunbury area.	4	23/11/2010	No suitable habitat present in the study area – <b>unlikely to occur</b> .
Purple Eyebright	<i>Euphrasia collina</i> subsp. <i>muelleri</i>	Endangered	Endangered	Grows in heathland and heathy woodland on sand and in open forest. Prefers environments where light levels are very high. Habitats suitable for the Purple Eyebright are prone to fire or periodic inundation by water, including open grassland, grassy woodland, heath in perched swamps and heathy woodland (DAWE 2021).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur</b> .
Pale-flower Crane's-bill	<i>Geranium</i> sp. 3		Endangered	Open, grassy areas of dry woodlands and forests (Smith 1999).	1	6/01/2011	No suitable habitat present in the study area – <b>unlikely to occur</b> .

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Clover Glycine	<i>Glycine latrobeana</i>	Vulnerable	Vulnerable	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 2021).	6	7/11/2008	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Narrow Goodenia	<i>Goodenia macbarronii</i>		Endangered	Most commonly associated with forest and woodland communities dominated by various species of Eucalyptus, Callitris and Angophora, but has also been reported from Melaleuca and Callistemon shrublands, grasslands, and from disturbed sites, such as along roadsides. It is generally associated with drainage lines, creeks, soaks, swamps, small lagoons, alluvial fans and moist areas, most frequently on sandy soils (Berwick 1996; NSW NPWS 2001; Paul 2002).	7	20/01/2009	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Smooth Grevillea	<i>Grevillea rosmarinifolia subsp. glabella</i>		Endangered	Occurs mainly in the Little Desert area, north central region, Brisbane Ranges, and Warrandyte State Park. Grows in mallee, open woodland and shrub associations, usually on sandy soils (Makinson 2000)	1	1/10/1980	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Adamson's Blown-grass	<i>Lachnagrostis adamsonii subsp. adamsonii</i>	Vulnerable		Occurs in moderately to strongly saline sites (ephemeral swamps, depressions and drainage lines), between Portarlington on the Bellarine Peninsula in the east and around Cavendish to the west of the Grampians. Does not tolerate prolonged inundation (Brown 2015)	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Purple Blown-grass	<i>Lachnagrostis punicea subsp. punicea</i>		Endangered	Seasonally wet, heavy clay soils (Walsh 1994).	3	1/11/2010	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>



Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Salt Lawrenzia	<i>Lawrenzia spicata</i>		Endangered	An occasional component of saltmarsh communities along the coast, rare in saline depressions and around salt lakes of south-western Vic (Walsh 1996)	7	16/01/2010	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Basalt Peppercross	<i>Lepidium hyssoifolium</i> s.s.	Endangered	Endangered	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 2021).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur.</b>
White Sunray	<i>Leucochrysum albicans</i> subsp. <i>tricolor</i>	Endangered	Endangered	Occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils. Plants can be found in natural or semi-natural vegetation and grazed or ungrazed habitat. Bare ground is required for germination. The unpalatability of this species is likely to protect it in heavily grazed areas where patches of bare ground are likely to develop, favouring recruitment (DAWE 2021).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur.</b>
Hairy Shepherd's Purse	<i>Microlepidium pilosulum</i>		Critically Endangered	Rare, primarily near-coastal sites west of Cape Otway, usually associated with saltmarsh vegetation (Entwisle 1996)	1	26/11/2009	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Austral Tobacco	<i>Nicotiana suaveolens</i>		Endangered	Drier inland areas often in rocky places, especially escarpments (Jeanes 1996).	16	3/11/2012	No suitable habitat present in the study area – <b>unlikely to occur.</b>

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Spiny Rice-flower	<i>Pimelea spinescens subsp. spinescens</i>	Critically Endangered	Critically Endangered	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 (Carter & Walsh 2006).	621	16/02/2014	Optimal habitat present in the study area and numerous nearby recent records. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Basalt Podolepis	<i>Podolepis linearifolia</i>		Endangered	Grasslands with heavy clay soils on the Basalt Plains (Jeanes 1999).	15	15/10/2012	<i>Only applicable on public land.</i> Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Fragrant Leek-orchid	<i>Prasophyllum suaveolens</i>	Endangered	Critically Endangered	Occurs in open, species rich native grassland dominated by Themeda triandra with perennial herbs and lilies on poorly drained red-brown soil derived from basalt (DSE 2003).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur.</b>
Snowy Mint-bush	<i>Prostanthera nivea var. nivea</i>		Vulnerable	Largely confined to shrubland and open woodland associated with granite outcrops (e.g. Mts Hope, Terrick Terrick, Kooyora and Pilot, and the You Yangs), also in Lerderderg Gorge, Barwon Heads and Anglesea areas. Sparingly established in heathland reserve at Sandringham (Jeanes 1999).	16	6/08/2017	No suitable habitat present in the study area – <b>unlikely to occur.</b>

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Green-striped Greenhood	<i>Pterostylis chlorogramma</i>	Vulnerable	Endangered	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).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur</b> .
Leafy Greenhood	<i>Pterostylis cucullata</i>	Vulnerable		Tea-tree scrubs on tall sandy and calcareous dunes, in moist, open or even deep shaded locations (Jones 1994).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur</b> .
Brittle Greenhood	<i>Pterostylis truncata</i>		Critically Endangered	Open forest, often in flat open areas with shallow granite outcrops or on sheltered ridges (Jones 1994).	822	4/05/2014	No suitable habitat present in the study area – <b>unlikely to occur</b> .
Fragrant Saltbush	<i>Rhagodia parabolica</i>		Vulnerable	Steep rocky and broad ridges between Sunbury and Geelong, but can be locally common (Walsh 1996).	11	26/02/2019	No suitable habitat present in the study area – <b>unlikely to occur</b> .
Button Wrinklewort	<i>Rutidosia leptorhynchoides</i>	Endangered	Endangered	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 (NSW OEH 2012).	39	11/05/2011	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur</b> .
Small-flower Wallaby-grass	<i>Rytidosperma monticola</i>		Endangered	In Victoria, recorded from non-montane areas near Maryborough, Grampians, Plenty River near Greensborough, Mornington Peninsula, Beechworth and the upper Genoa River (Walsh 1994).	1	25/02/2008	No suitable habitat present in the study area – <b>unlikely to occur</b> .

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Large-headed Fireweed	<i>Senecio macrocarpus</i>	Vulnerable	Critically Endangered	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 2021).	74	15/10/2012	Suitable habitat present in the study area – <b>Recorded in study area.</b>
Swamp Fireweed	<i>Senecio psilocarpus</i>	Vulnerable		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).	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur.</b>
Southern Swainson-pea	<i>Swainsona behriana</i>		Endangered	Rare, widespread but sporadic in Victoria, mostly in lowlands west of Melbourne, but extending to montane areas in the east (e.g. Omeo, Cobungra, Gelantipy). Usually found in grassland and grassy woodland on relatively fertile soils (Jeanes 1996)	None	N/A	While suitable habitat is present in the study area, the lack of historical records in the search region suggest it is <b>unlikely to occur.</b>
Basalt Sun-orchid	<i>Thelymitra gregaria</i>		Critically Endangered	Tussock grasslands on rich, water-retentive red-brown soils derived from basalt (Backhouse & Jeanes 1995, Jones 2006 in in DSEWPC 2003).	1	23/11/2010	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Tiny Arrowgrass	<i>Triglochin minutissima</i>		Endangered	Damp saline lakes or saltmarsh (Conn & Aston 1994).	1	22/10/1983	No suitable habitat present in the study area – <b>unlikely to occur.</b>

Common Name	Scientific name	Conservation status		Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Prickly Arrowgrass	<i>Triglochin mucronata</i>		Endangered	Herbfields on damp saline soils and coastal saltmarshes (Conn & Aston 1994).	2	20/08/2009	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Rye Beetle-grass	<i>Tripogonella loliiformis</i>		Endangered	Dry and rocky sites (Walsh 1994). Grows in shallow soils over-lying (or on the edges of) flat basalt rocks in Plains Grassland where there is an accumulation of moss and organic matter (D. Coppolino personal obs).	30	18/11/2018	Suitable habitat present in the study area. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
Swamp Everlasting	<i>Xerochrysum palustre</i>	Vulnerable	Critically Endangered	Grows in wetlands including sedge-swamps and shallow freshwater marshes, often on heavy black clay soils. Commonly associated genera include <i>Amphibromus</i> , <i>Baumea</i> , <i>Carex</i> , <i>Chorizandra</i> , <i>Craspedia</i> , <i>Eleocharis</i> , <i>Isolepis</i> , <i>Lachnagrostis</i> , <i>Lepidosperma</i> , <i>Myriophyllum</i> , <i>Phragmites australis</i> , <i>Themeda triandra</i> and <i>Villarsia</i> (DAWE 2021).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>

**Notes:** EPBC = threatened species status under EPBC Act; FFG = threatened species status under the FFG Act; Light grey shading = potential or likely to occur; Dark grey shading = recorded

## 5.4. Fauna habitats

Except for cropped areas, fauna habitat within the study area comprised vast areas of relatively uniform native grassland on a landscape which has been scarcely physically modified. With the exception of pollinating invertebrates, intact native grassland provides near-optimal habitat for all other faunal groups reliant on such grasslands. Aquatic habitat was also present throughout the study area as farm dams along an ephemeral drainage system. All the farm dams provided poor aquatic habitat for fauna, as they were all devoid of vegetation and fouled by livestock. Several larger pools in the ephemeral drainage system in the north of the study area provided moderate quality aquatic habitat. Two Wedge-tailed Eagle nests were recorded, one of them active.

## 5.5. Fauna species

### 5.5.1. Listed species

The review of existing information (including VBA records (DELWP 2021d) and the results of the EPBC Protected Matters Search Tool (DAWE 2021a) indicated that within the search region there were records of, or there occurred potential suitable habitat for, 31 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 5.

This analysis of potential occurrence of listed fauna species excludes:

- Marine fauna given that the study area is inland
- 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 four listed fauna species are likely to occur or have the potential to occur. These species are:

- Fork-tailed Swift (EPBC Act: migratory);
- White-throated Needletail (EPBC Act: vulnerable & migratory);
- Striped Legless Lizard (EPBC Act: vulnerable); and
- Golden Sun Moth (EPBC Act: critically endangered).



Table 5: Listed fauna species and the likelihood of their occurrence in the study area

Common Name	Scientific name	Conservation status			Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC-T	EPBC-M	FFG				
<b>Birds</b>								
Australasian Bittern	<i>Botaurus poiciloptilus</i>	Endangered		Critically Endangered	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).	134	15/04/2019	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Australian Painted-snipe	<i>Rostratula australis</i>	Endangered		Critically Endangered	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 <i>Lignum muehlenbeckia</i> 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 2021).	10	12/01/2012	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Black-faced Monarch	<i>Monarcha melanopsis</i>		M (Bonn A2H)		Rainforests, eucalypt woodlands, coastal scrub and damp gullies (Higgins et al. 2006)	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>		M (CAMBA, ROKAMBA, JAMBA)		Extremely uncommon migrant. Few sightings in Victoria. Mostly occurs in well-watered open grasslands on the fringes of wetlands. Roosts in mangroves and other dense vegetation (DAWE 2021).	1	1/05/2005	Extremely uncommon migrant - <b>unlikely to occur</b>
Fork-tailed Swift	<i>Apus pacificus</i>		M (CAMBA, ROKAMBA, JAMBA)		The species can occur in wet sclerophyll forest but mainly prefers open forest or plains. It is almost exclusively aerial and feeds up to hundreds of metres above the ground, but can feed among open forest canopy. The species breeds internationally and seldom roosts in trees (Higgins 1999).	15	8/05/2015	May occasionally forage above study area – <b>potential to occur</b>
Glossy Ibis	<i>Plegadis falcinellus</i>		M (Bonn A2S)		Prefer freshwater inland wetlands, in particular, permanent or ephemeral water bodies and swamps with abundant vegetation (Marchant & Higgins 1990).	953	2/02/2020	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Grey Falcon	<i>Falco hypoleucos</i>	Vulnerable		Vulnerable	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	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Latham's Snipe	<i>Gallinago hardwickii</i>		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 wide spread in southeast Australia and most of its population occurs in Victoria, except in the northwest of the state (Naarding 1983; Higgins & Davies 1996).	85	11/04/2019	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Orange-bellied Parrot	<i>Neophema chrysogaster</i>	Critically Endangered		Critically Endangered	The Orange-bellied Parrot is endemic to south-eastern Australia. Its current non-breeding mainland distribution is from the mouth of the Murray River in South Australia, along the coast, to the east of Jack Smith Lake in South Gippsland, Victoria, covering approximately 1000 km of coastline. The most used sites in Victoria are around Port Phillip Bay and Bellarine Peninsula. In South Australia, Carpenter Rocks is the main site. During winter on the mainland, found mostly within 3 km of the coast. In Victoria, they mostly occur in sheltered coastal habitats, such as bays, lagoons and estuaries, or, rarely, saltworks. They are also found in low samphire herbland dominated by Beaded Glasswort <i>Sarcocornia quinqueflora</i> , Sea Heath <i>Frankenia pauciflora</i> or Sea-blite <i>Suaeda australis</i> , and in taller shrubland dominated by Shrubby Glasswort <i>Sclerostegia arbuscula</i> . They are sometimes found in low samphire dominated by Grey Glasswort <i>Halosarcia halocnemoides</i> or in Chenopodium herbfields. Breeds at Melaleuca in Tasmania during spring/summer months (DAWE 2021).	1363	20/07/2020	No suitable habitat present in the study area – <b>unlikely to occur.</b>

Common Name	Scientific name	Conservation status			Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC-T	EPBC-M	FFG				
Oriental Pratincole	<i>Glareola maldivarum</i>		M (CAMBA, ROKAMBA, JAMBA)		Open country near water, occur on plains, floodplains, grassland, terrestrial wetlands, and artificial wetlands (Higgins & Davies 1996).	11	9/05/2003	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Painted Honeyeater	<i>Grantiella picta</i>	Vulnerable		Vulnerable	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).	9	19/10/2015	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Plains-wanderer	<i>Pedionomus torquatus</i>	Critically Endangered		Critically Endangered	This species is highly sensitive to changes in grassland cover and density. Typically inhabits treeless native grasslands with sparse cover, with a preference for grasslands composed of wallaby grass and spear grass (Marchant & Higgins 1993). Habitat becomes unsuitable when grassland becomes dense (CA 2016). Evidence suggests it avoids areas of tree cover, with no records of the species within 300m of trees (>10m high) in their strongholds in New South Wales or Victoria (CA 2016).	19	14/02/2013	No suitable habitat present in the study area, grassland too dense – <b>unlikely to occur.</b>
Regent Honeyeater	<i>Anthochaera phrygia</i>	Critically Endangered		Critically Endangered	Inhabits dry box-ironbark eucalypt forests near rivers and creeks on inland slopes of the Great Dividing Range. Can also occur in small remnant patches or in mature trees in farmland or partly cleared agricultural land (Higgins et al. 2001).	3	1/05/1989	No suitable habitat present in the study area, grassland too dense – <b>unlikely to occur.</b>
Rufous Fantail	<i>Rhipidura rufifrons</i>		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	16/04/2016	No suitable habitat present in the study area, grassland too dense – <b>unlikely to occur.</b>
Satin Flycatcher	<i>Myiagra cyanoleuca</i>		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).	9	30/11/2015	No suitable habitat present in the study area, grassland too dense – <b>unlikely to occur.</b>
Superb Parrot	<i>Polytelis swainsonii</i>	Vulnerable		Endangered	Occurs in eucalypt dominated forests and woodlands, namely comprised of River Red-gum, Yellow Box and Grey Box, with seasonal occurrences in box-pine and Boree woodland (Baker-Gabb 2011). The species range extends along major riverine systems and the inland slopes of the Great Divide, stretching from central Victoria to north of Tamworth in NSW. Breeds in hollow branch or trunk of tall eucalypts within 9 km of feeding areas. Mostly feeds in box woodlands and wooded farmlands; less often in riparian forests (Higgins 1999).	1	24/04/1999	No suitable habitat present in the study area, grassland too dense – <b>unlikely to occur.</b>
Swift Parrot	<i>Lathamus discolor</i>	Critically Endangered		Critically Endangered	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).	112	13/06/2021	No suitable habitat present in the study area, grassland too dense – <b>unlikely to occur.</b>

Common Name	Scientific name	Conservation status			Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC-T	EPBC-M	FFG				
White-throated Needletail	<i>Hirundapus caudacutus</i>	Vulnerable	M (CAMBA, ROKAMBA, JAMBA)	Vulnerable	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).	23	8/02/2018	May occasionally forage above study area – <b>potential to occur</b>
Yellow Wagtail	<i>Motacilla flava</i>		M (CAMBA, JAMBA, ROKAMBA)	#N/A	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	No suitable habitat present in the study area, grassland too dense – <b>unlikely to occur.</b>
<b>Mammals</b>								
Eastern Barred Bandicoot	<i>Perameles gunnii</i>	Endangered		Endangered	The habitat of the Eastern Barred Bandicoot (mainland) is perennial tussock grassland and eucalypt woodland with a grassy ground layer (Dufty 1994b; Seebeck 1995a, 2001). Drainage lines and areas of high vegetative cover have been identified as prime habitat. The key determining factor for persistence of this species appears to be high structural complexity and heterogeneity within the environment, reflected in its absence from agricultural areas but persistence in rubbish dumps and other variable habitats.	6	6/02/1982	While suitable habitat is present in the study area, this species is almost entirely confined to fenced off habitat in the region – <b>unlikely to occur.</b>
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	Vulnerable		Vulnerable	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 2021).	7	26/02/2019	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Southern Brown Bandicoot	<i>Isodon obesulus obesulus</i>	Endangered		Endangered	Suitable habitat for Southern Brown Bandicoots (eastern) is defined to be any patches of native or exotic vegetation, within their distribution, which contains understorey vegetation structure with 50–80% average foliage density in the 0.2–1 m height range. In areas where native habitats have been degraded or diminished, exotic vegetation, such as Blackberry ( <i>Rubus</i> spp.), can and often does, provide important habitat (DAWE 2021).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Spot-tailed Quoll	<i>Dasyurus maculatus maculatus</i>	Endangered		Endangered	Rainforest, wet and dry forest, coastal heath and scrub and River Red-gum woodlands along inland rivers (Menkhorst 1995).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Swamp Antechinus	<i>Antechinus minimus maritimus</i>	Vulnerable		Vulnerable	Dense wet heath, tussock grassland, sedgeland heathy woodland and coastal heath and scrub (Menkhorst 1995). Requires mature, dense vegetation with thick ground cover (DAWE 2021). Shelters in short burrows or underneath dense leaf litter. Rarely occurs more than 200m above sea level. Though this species has also previously been detected at sites which had experienced some structural disturbance in the South Gippsland region (Nature Advisory; unpublished data).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
<b>Reptiles</b>								
Grassland Earless Dragon	<i>Tympanocryptis pinguicollis</i>	Endangered		Critically Endangered	The species is confined to native tussock grassland on basalt plains north and west of Melbourne, with no confirmed sightings in Victoria since the 1960's (Robertson & Cooper 2000).	4	16/02/1990	While suitable habitat is present in the study area, the lack of historical records in more than 30 years in the search region suggest it is <b>unlikely to occur.</b>
Striped Legless Lizard	<i>Delma impar</i>	Vulnerable		Endangered	Grassland specialist. Known to occur in some areas dominated by introduced species such as Harding Grass <i>Phalaris aquatica</i> , Serated Tussock <i>Nasella trichotoma</i> and Flatweed <i>Hypochaeris radicata</i> 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 under ground 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 2021).	8	9/11/2019	Optimal habitat present in the study area and nearby recent records. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>

Common Name	Scientific name	Conservation status			Habitat	Records in search region	Date of last record	Likelihood of occurrence
		EPBC-T	EPBC-M	FFG				
<b>Fish</b>								
Australian Grayling	<i>Prototroctes maraena</i>	Vulnerable		Endangered	Large and small coastal streams and rivers with cool, clear waters with a gravel substrate and altering pools and riffles (Cadwallader & Backhouse 1983).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Dwarf Galaxias	<i>Galaxiella pusilla</i>	Vulnerable		Endangered	Ranges from the far west of the state through to the Mitchell River basin in central Gippsland. 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 (Saddler, Jackson & Hammer 2010). Dwarf Galaxias is also often found in association with burrowing freshwater crayfish ( <i>Engaeus spp.</i> ), with the crayfish burrows reportedly providing refuge from predators and dry conditions for the species (Saddler, Jackson & Hammer 2010).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
Yarra Pygmy Perch	<i>Nannoperca obscura</i>	Vulnerable		Vulnerable	Streams and small lakes, prefers flowing water with abundant aquatic vegetation (Allen et al. 2002).	None	N/A	No suitable habitat present in the study area – <b>unlikely to occur.</b>
<b>Invertebrates</b>								
Golden Sun Moth	<i>Synemon plana</i>	Critically Endangered		Vulnerable	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). Also known to be closely associated with exotic grass species, with populations found in grassland almost entirely composed of Chilean needlegrass (Richter et al. 2013).	174	26/11/2018	Optimal habitat present in the study area and numerous nearby recent records. Targeted surveys did not locate any individuals – <b>Unlikely to occur.</b>
<b>Frogs</b>								
Growling Grass Frog	<i>Litoria raniformis</i>	Vulnerable		Vulnerable	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).	1554	1/03/2019	No suitable habitat present in the study area – <b>unlikely to occur.</b>

**Notes:** EPBC-T = threatened species status under EPBC Act; 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 = threatened species status under the FFG Act.



### 5.5.2. Susceptibility of listed fauna to impacts

Fork-tailed Swift and White-throated Needletail are aerial specialists who may forage above the study area occasionally but would not make direct use of the habitat there. They are therefore very unlikely to be impacted by any future development of the study area.

Striped Legless Lizard and Golden Sun Moth are both terrestrial species and may utilise vast areas of native grassland throughout the study area. Given the negative results of the targeted surveys, these species are considered unlikely to occur. Given this finding, significant impacts are unlikely.

## 5.6. Listed ecological communities

### 5.6.1. EPBC Act-listed communities

The EPBC Protected Matters Search Tool (DAWE 2021a) indicated that six ecological communities listed under the EPBC Act had the potential to occur in the search region (Table 6). 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.

**Table 6: EPBC Act listed ecological communities and occurrence in the study area**

Ecological Community	EPBC Status	Occurrence in the study area
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	CR	Does not occur
Grey Box ( <i>Eucalyptus microcarpa</i> ) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	EN	Does not occur
Natural Damp Grassland of the Victorian Coastal Plains	CR	Does not occur
Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)	CR	Numerous areas in the study area were confirmed as qualifying as this community in area in areas of EVC 132_63 vegetation. The distribution of the community throughout the study area is presented on Figure 1 and the total area of the community was 85.699 hectares.
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHWTLP)	CR	Habitat Zone F was confirmed as qualifying as this community (area of 1.362 hectares).
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	CR	Does not occur

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

### 5.6.2. FFG Act-listed communities

According to DEECA's FFG Act Characteristics of Threatened Communities descriptions, one FFG Act-listed ecological community occurs within the study area. This is Western Basalt Plains Grassland community, which corresponds to all areas of EVC 132\_63 being 270.248 hectares.

## 6. Assessment of impacts

### 6.1. Proposed development

The current proposal will involve rezoning the land and construction of an integrated freight facility at 132A Old Melbourne Road in Little River, Victoria.

To determine impacts to native vegetation, the proposed development plan — Master Plan Rev G — was overlaid with the native vegetation mapped as part of this investigation. Native vegetation occurring in the following locations was considered removed based on the proposed development plan:

- Direct removal:
  - Native vegetation within all proposed building envelopes and storage areas;
  - Native vegetation within all proposed driveways and roads
- Consequential removal:
  - Native vegetation within 10 metres of all proposed building envelopes.
  - Trees with the more than 10% of their Tree Protection Zone (TPZ) encroached. In accordance with the *Assessor's Handbook* (DELWP 2018a), a tree is deemed lost when earthworks encroach on more than 10% of the TPZ. A TPZ is defined as an area around the trunk of the tree that has a radius of  $12 \times$  the DBH (to a maximum of 15 metres but no less than 2 metres). Dead trees are treated in the same manner.

The impacts to native vegetation are shown in Figure 3.

### 6.2. Design recommendations

The following design recommendations are provided to avoid/minimise impacts biodiversity:

Where possible, development plans should be modified to move the development further south to avoid impacts to Large-headed Fireweed on the northern boundary. To avoid further impacts on Large-headed Fireweed, a small flora conservation area should be considered centrally within the development.

### 6.3. Impacts of proposed development

Various design measures have been implemented to avoid and minimise impacts to native vegetation. These are detailed in Section 7.2.1.

#### 6.3.1. Native vegetation

The current proposal footprint will result in the loss of a total extent of 80.778 hectares of native vegetation as represented in Figure 3 and documented in the *Native Vegetation Removal* (NVR) report provided by DEECA (Appendix 8). This comprises the following:

- 80.677 hectares of native vegetation in patches (including 0 large trees in patches); and
- 2 scattered trees (namely 1 large scattered tree and 1 small scattered tree), equating to an area loss of 0.101 hectares;

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

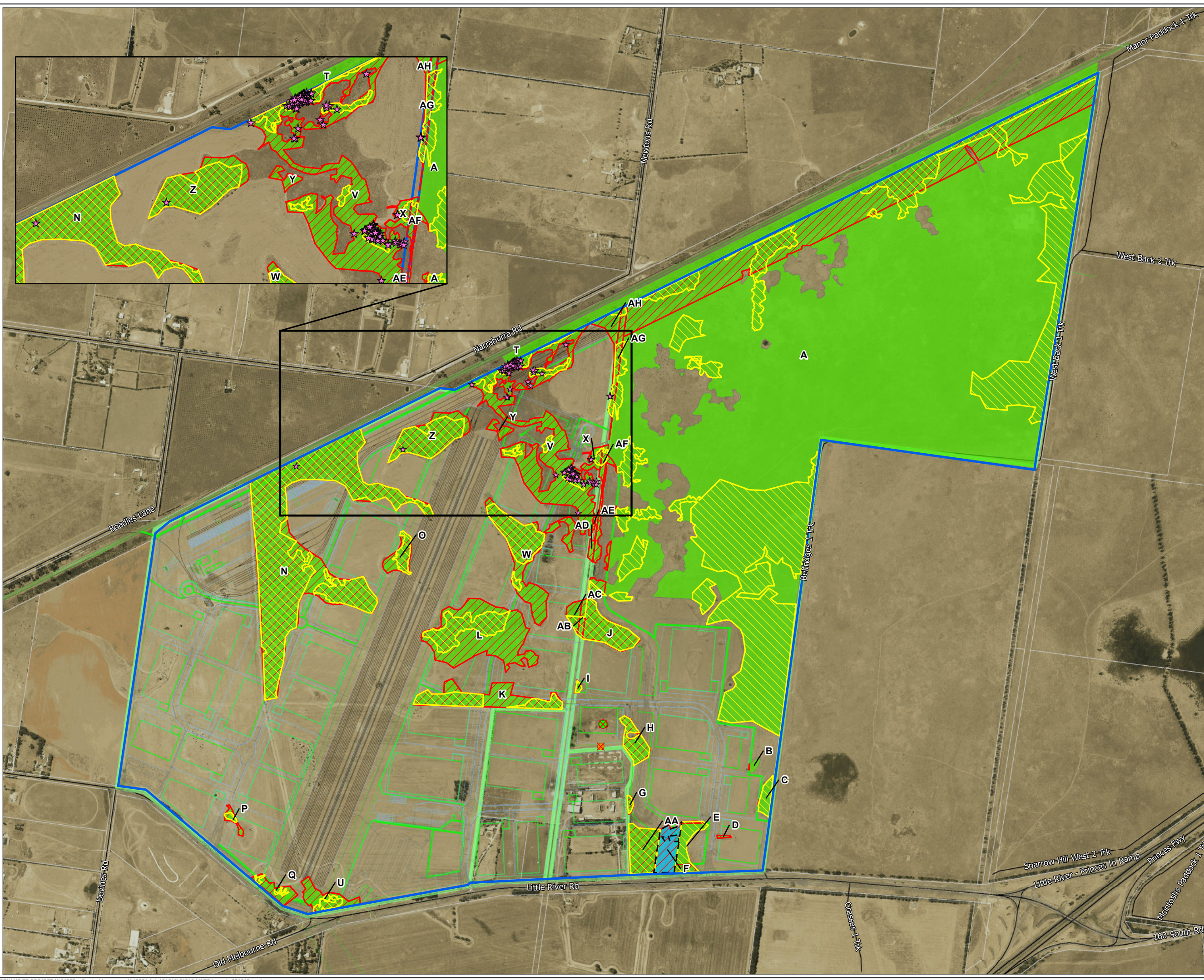
It is understood that no native vegetation has been approved for removal on the property within the last five years.



**Figure 3: Impacts to native vegetation and threatened flora**

**Project:** 132A Old Melbourne Road, Little River  
**Client:** Pacific National  
**Date:** 26/05/2023

- Study area
- Native vegetation**
- Plains Grassy Wetland (EVC 125)
- Plains Grassland (EVC 132\_63)
- Large scattered tree
- Small scattered tree
- × Tree to be removed
- Native vegetation to be removed
- EPBC-Act listed Matters**
- Seasonal Herbaceous Wetlands of the Temperate Lowland Plains
- Natural Temperate Grasslands of the Victorian Volcanic Plain
- ★ Large-headed Fireweed to be removed



N

Metres

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PO Box 337, Camberwell, VIC 3124, Australia  
[www.natureadvisory.com.au](http://www.natureadvisory.com.au)  
 03 9815 2111 - [info@natureadvisory.com.au](mailto:info@natureadvisory.com.au)



### 6.3.2. Modelled species important habitat

The current proposal footprint will have a significant impact on habitat for the following threatened species, as determined in Appendix 7:

- Prickly Arrowgrass, *Triglochin mucronata*
- Werribee Blue-box, *Eucalyptus baueriana* subsp. *thalassina*
- Red-chested Button-quail, *Turnix pyrrhothorax*
- Grassland Earless Dragon, *Tympanocryptis pinguicolla*
- Small Golden Moths, *Diuris basaltica*
- Narrow Goodenia, *Goodenia macbarronii*
- Snowy Mint-bush, *Prostanthera nivea* var. *nivea*
- Small Scurf-pea, *Cullen parvum*
- Tough Scurf-pea, *Cullen tenax*
- Brittle Greenhood, *Pterostylis truncata*
- Fragrant Saltbush, *Rhagodia parabolica*
- Button Wrinklewort, *Rutidosis leptorhynchoides*
- Large-headed Fireweed, *Senecio macrocarpus*
- Rye Beetle-grass, *Tripogon loliiformis*
- Plump Swamp Wallaby-grass, *Amphibromus pithogastrus*
- Heath Spear-grass, *Austrostipa exilis*
- Brackish Plains Buttercup, *Ranunculus diminutus*
- Sunshine Diuris, *Diuris fragrantissima*
- Melbourne Yellow-gum, *Eucalyptus leucoxydon* subsp. *connata*
- Basalt Podolepis, *Podolepis linearifolia*
- Spiny Rice-flower, *Pimelea spinescens* subsp. *spinescens*
- Clumping Golden Moths, *Diuris gregaria*
- Pale-flower Crane's-bill, *Geranium* sp. 3

### 6.3.3. Listed flora species

The updated analysis of the likelihood of occurrence of listed flora species presented in Section 5.3.1 identified that the following species could be impacted by the proposed development in the study area:

- Large-headed Fireweed (EPBC and FFG Act-listed);
- Jersey Cudweed (FFG Act-listed)

A total of 300 Large-headed fireweed individuals were detected within the footprint of the proposed development during targeted surveys and will therefore be directly impacted by the proposed development. A total of three Jersey Cudweed plants would be directly impacted on public land.

#### **6.3.4. Threatened ecological communities**

The proposed development footprint will result in the following losses:

- 79.416 hectares of Western Basalt Plains Grassland (all areas of EVC 132\_63)
- 41.422 hectares of NTGVVP (being a subset of areas supporting EVC 132\_63)
- 1.362 hectares of Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHWTLP)

## 7. Implications under legislation and policy

### 7.1. Planning implications

A planning permit under Clause 52.17 of the Wyndham Planning Scheme would be required for the proposed removal of native vegetation from the study area. The need for a planning permit is also triggered by the removal of native vegetation in the southeast of the study area that is subject to ES01.

### 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 that describes any efforts undertaken to avoid the removal of, and minimise the impacts to biodiversity and other values of native vegetation, and how these efforts were focused on areas of native vegetation with the highest value. Efforts to avoid and minimise impacts to native vegetation in the current application are presented as follows:

- Strategic level planning – Not applicable.
- Site level planning – Based on the advice of Nature Advisory, the proposed development has been reduced in scope from one that would occupy the entire study area and remove more than 271 hectares of native vegetation to a more compact proposal restricted to the western portion of the study area that will impact just over 80 hectares of native vegetation. In accepting additional ecological advice, the development has been located to impact the more isolated patches of native vegetation with minimal impacts on the 200+ hectare Habitat Zone A. The proponent has advised that operational constraints limit the options for avoiding further native vegetation.
- Furthermore, the proponent advises that no feasible opportunities exist to further avoid and minimise impacts to native vegetation without undermining the key objectives of the proposal.

#### 7.2.2. Assessment pathway

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

- **Location Category:** Location 3.
- **Extent of native vegetation:** A total of 80.778 hectares of native vegetation (including 1 large tree).

Based on the extent of native vegetation removal being  $\geq 0.5$  hectares and being in Location 3, the Guidelines stipulate that the proposal is to be assessed under the **Detailed** assessment pathway, as determined by the following matrix:

**Table 7: Assessment pathway matrix**

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
$\geq 0.5$ hectares	Detailed	Detailed	<b>Detailed</b>

This proposal **would** trigger a referral to DEECA based on the above criteria.



### 7.2.3. Offset requirements

Offsets required to compensate for the proposed removal of native vegetation from the study area are as follows:

- 0.324 general habitat units and must include the following offset attribute requirements:
  - Minimum strategic biodiversity value (SBV) of 0.376
  - Occur within the Port Phillip and Westernport Catchment Management Authority (CMA) boundary or Wyndham City Council municipal district.
  - Include protection of at least one large tree.
- 4.859 species units of habitat for Prickly Arrowgrass, *Triglochin mucronate*
- 10.715 species units of habitat for Werribee Blue-box, *Eucalyptus baueriana* subsp. *thalassina*
- 44.874 species units of habitat for Red-chested Button-quail, *Turnix pyrrhothorax*
- 57.511 species units of habitat for Grassland Earless Dragon, *Tympanocryptis pinguicolla*
- 54.934 species units of habitat for Small Golden Moths, *Diuris basaltica*
- 41.139 species units of habitat for Narrow Goodenia, *Goodenia macbarronii*
- 54.934 species units of habitat for Snowy Mint-bush, *Prostanthera nivea* var. *nivea*
- 54.934 species units of habitat for Small Scurf-pea, *Cullen parvum*
- 54.934 species units of habitat for Tough Scurf-pea, *Cullen tenax*
- 32.843 species units of habitat for Brittle Greenhood, *Pterostylis truncate*
- 17.724 species units of habitat for Fragrant Saltbush, *Rhagodia parabolica*
- 50.379 species units of habitat for Button Wrinklewort, *Rutidosis Leptorhynchoides*
- 54.934 species units of habitat for Large-headed Fireweed, *Senecio macrocarpus*
- 54.934 species units of habitat for Rye Beetle-grass, *Tripogon loliiformis*
- 54.934 species units of habitat for Plump Swamp Wallaby-grass, *Amphibromus pithogastrus*
- 54.934 species units of habitat for Heath Spear-grass, *Austrostipa exilis*
- 54.934 species units of habitat for Brackish Plains Buttercup, *Ranunculus diminutus*
- 35.720 species units of habitat for Sunshine Diuris, *Diuris fragrantissima*
- 54.934 species units of habitat for Melbourne Yellow-gum, *Eucalyptus leucoxydon* subsp. *connata*
- 54.934 species units of habitat for Basalt Podolepis, *Podolepis linearifolia*
- 53.890 species units of habitat for Spiny Rice-flower, *Pimelea spinescens* subsp. *spinescens*
- 49.664 species units of habitat for Clumping Golden Moths, *Diuris gregaria*
- 54.934 species units of habitat for Pale-flower Crane's-bill, *Geranium* sp. 3

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

Offsets cannot occur within 150 metres of any dwellings and associated buildings on the subject land or adjoining properties covered by a BMO or within 50 metres of these structures on all other land, unless written consent from the CFA specifies that such buffers are not required.

Given the above requirements, offset requirements for the project could only be partially achieved within the study area (by retaining the remainder of the native vegetation recorded). Additional offsets are proposed to be secured through a third-party offset provider. Sufficient offsets are not available to purchase.

### 7.3. EPBC Act

The EPBC Act protects threatened species and ecological communities 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 results of the current assessment indicated that the proposed development has the potential to result in a significant impact on the EPBC Act-listed values presented below. As such **a Referral under the EPBC Act will be required.**

#### *Ecological communities*

Two EPBC Act-listed ecological communities have been confirmed within the study area.

**Natural Temperate Grassland of the Victorian Volcanic Plain (NTGVVP)** was confirmed as occurring in numerous habitat zones throughout the study area, in areas of EVC 132\_63 vegetation, with a total area of 85.699 hectares. The distribution of the NTGVVP throughout the study area is presented in Figure 1.

Habitat Zone F was confirmed as qualifying as the **Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains (SHWTLP)** community. The location of Habitat Zone F is presented in Figure 1 and its area is 1.362 hectares.

It should be noted that the presence and extent of the **NTGVVP community within the adjacent rail reserve** (Habitat Zone T) is yet to be determined, as access to the rail corridor has not yet been granted. From 'over the fence' observations, most of the native vegetation in the rail corridor is likely to qualify as NTGVVP.

#### *Flora*

One EPBC Act-listed flora species was recorded within the study area during the initial March 2022 survey and the August 2022 targeted survey (Large-headed Fireweed – see Figure 2) while no Spiny Rice-flower plants were detected. **A total of 300 Large-headed Fireweed plants were recorded and will be impacted** by proposed removal of the Habitat Zones in which it occurs (Figure 3).

A further three species previously considered to have the potential to occur within the study area, namely Matted Flax-lily, Clover Glycine, and Button Wrinklewort were not recorded in the November and December 2022 surveys and therefore unlikely to be impacted by the proposed works.

#### *Fauna*

Four EPBC Act-listed threatened fauna species are considered to have the potential to occur within the study area, based on previous records of species in the search region and the presence of suitable habitat observed during the field assessment. These are listed below.

- Fork-tailed Swift;
- White-throated Needletail;
- Striped Legless Lizard (detection grid setup – June to July; then surveying - September - December); and
- Golden Sun Moth (December - January).

As discussed above in Section 5.5.2 above, only Striped Legless Lizard and Golden Sun Moth were susceptible to impacts from any development proposal in the study area. Targeted surveys across all mapped areas of EVC 132\_63 were undertaken from September (SLL) until December (SLL, GSM). Neither of these two species were detected, therefore there are **no further implications under the EPBC Act in regards to fauna.**

#### 7.4. FFG Act

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

FFG Act values listed as threatened or protected may be susceptible to impacts from the proposed development.

##### *Ecological communities*

According to DEECA's FFG Act Characteristics of Threatened Communities descriptions, one FFG Act-listed ecological community was found to occur in the study area. This was Western Basalt Plains Grassland community.

**A Protected Flora Permit would be required from DEECA to remove the plant taxa comprising the Western Basalt Plains Grassland community from public land (being the road reserve centrally located within the study area).**

##### *Flora*

Targeted surveys for the 12 species assessed as potential/likely to occur did not produce any records, and therefore **no further implications exist under the FFG-Act for listed flora.**

One FFG Act-protected species, **Jersey Cudweed**, was recorded on public land during targeted surveys. Three individuals were recorded and **will require a Protected Flora Permit to be removed.**

#### 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 is required under the EE Act** for the proposed development, as the referral criteria is triggered.

#### 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.**

- **Saffron Thistle**
- **Spear Thistle**
- **Artichoke Thistle**

- **African Box-thorn**
- **Horehound**
- **Serrated Tussock**
- **Sticky Ground-cherry**
- **Sweet Briar**
- **Apple of Sodom**

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.).



## 8. Mitigation recommendations and further assessment

### 8.1. Mitigation recommendations

Recommendations to avoid and minimise impacts to native vegetation are provided in this report in Section 6.2.

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.
- Ensure all construction personnel are appropriately briefed prior to works, and that no construction personnel, machinery or equipment are placed inside vegetation zones.
- A suitably qualified zoologist should undertake a pre-clearance survey of scattered trees to be removed during 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.
- Two Wedge-tailed Eagle nests were identified – one active and one inactive (Figure 1). Removal of such trees is strongly discouraged and works within a 500m radius of an active nest are recommended to take place outside breeding season (outside Jun-Oct). A qualified zoologist can advise which nest is being used so works can proceed around the inactive nest. The Wedge-tailed Eagle is protected under the Wildlife Act 1975 in Victoria and protected across all states and territories in Australia. In Victoria, it is an offence to disturb, kill, take, control or harm Wedge-tailed Eagles without authorisation from DEECA. Further mitigation measures from the nest(s) removal are listed below:
  - Nest(s) relocation to nearby large tree.
  - Nest(s) relocation to newly constructed tower.
  - Removal between January and June provided juveniles have abandoned nest.

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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 2021c).

#### *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 DEECA.

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:

$$\text{Habitat hectares} = \text{extent of native vegetation} \times \text{condition score}$$

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:

$$\text{General habitat score} = \text{habitat hectares} \times \text{general landscape factor}$$

$$\text{Species habitat score} = \text{habitat hectares} \times \text{species landscape factor}$$

#### 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.

$$\text{General offset (amount of general habitat units)} = \text{general habitat score} \times 1.5$$

- 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.

$$\text{Species offset (amount of species habitat units)} = \text{Species habitat score} \times 2$$

**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
Bioregion			VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP
EVC Number			132_63	132_63	132_63	132_63	132_63	125	132_63	132_63	132_63
Total area of Habitat Zone (ha)			200.997	0.148	0.556	0.046	1.089	1.362	0.113	0.988	0.075
Site Condition	Large Old Trees	/10	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tree Canopy Cover	/5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lack of Weeds	/15	7	4	9	6	9	9	6	7	6
	Understorey	/25	15	5	5	5	5	10	5	5	5
	Recruitment	/10	0	0	0	0	0	0	0	0	0
	Organic Matter	/5	3	3	5	3	5	5	3	3	3
	Logs	/5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Site condition standardising multiplier*			1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
<i>Site Condition subtotal</i>			<b>34</b>	<b>16</b>	<b>26</b>	<b>19</b>	<b>26</b>	<b>33</b>	<b>19</b>	<b>20</b>	<b>19</b>
Landscape Context	Patch Size	/10	8	1	1	1	2	2	1	2	1
	Neighbourhood	/10	5	0	0	0	1	1	0	1	0
	Distance to Core	/5	4	3	3	3	3	3	3	3	3
<b>Total Condition Score</b>			<b>/100</b>	<b>51</b>	<b>20</b>	<b>30</b>	<b>23</b>	<b>32</b>	<b>39</b>	<b>23</b>	<b>26</b>

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



Habitat Zone			J	K	L	N	O	P	Q	U	V
Bioregion			VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP
EVC Number			132_63	132_63	132_63	132_63	132_63	132_63	132_63	132_63	132_63
Total area of Habitat Zone (ha)			1.982	3.132	7.234	19.271	0.959	0.238	0.750	1.238	9.387
Site Condition	Large Old Trees	/10	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tree Canopy Cover	/5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lack of Weeds	/15	7	9	7	9	7	6	4	4	4
	Understorey	/25	5	5	5	5	5	5	5	5	15
	Recruitment	/10	0	0	0	0	6	3	3	0	0
	Organic Matter	/5	3	3	3	3	5	3	3	3	5
	Logs	/5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Site condition standardising multiplier*			1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
<i>Site Condition subtotal</i>			<b>20</b>	<b>23</b>	<b>20</b>	<b>23</b>	<b>31</b>	<b>23</b>	<b>20</b>	<b>16</b>	<b>33</b>
Landscape Context	Patch Size	/10	2	2	4	6	1	1	1	1	8
	Neighbourhood	/10	1	2	3	3	2	0	0	0	4
	Distance to Core	/5	3	3	3	3	1	1	1	1	4
<b>Total Condition Score</b>			<b>/100</b>	<b>26</b>	<b>30</b>	<b>30</b>	<b>35</b>	<b>35</b>	<b>25</b>	<b>22</b>	<b>49</b>

Habitat Zone			W	X	Y	Z	AA	AB	AC	AD	AE
Bioregion			VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP	VVP
EVC Number			132_63	132_63	132_63	132_63	132_63	132_63	132_63	132_63	132_63
Total area of Habitat Zone (ha)			4.302	0.403	0.291	3.092	1.855	0.277	0.453	0.156	0.059
Site Condition	Large Old Trees	/10	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Tree Canopy Cover	/5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Lack of Weeds	/15	9	7	4	9	9	7	7	7	7
	Understorey	/25	5	5	5	5	5	5	5	5	5
	Recruitment	/10	0	0	3	0	0	0	0	0	0
	Organic Matter	/5	3	3	3	3	5	3	3	3	3
	Logs	/5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Site condition standardising multiplier*			1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
Site Condition subtotal			23	20	20	23	26	20	20	20	20
Landscape Context	Patch Size	/10	2	8	1	2	2	2	2	8	8
	Neighbourhood	/10	4	3	2	4	1	3	3	3	3
	Distance to Core	/5	3	4	3	3	3	3	3	4	4
<b>Total Condition Score</b>			<b>/100</b>	<b>32</b>	<b>35</b>	<b>26</b>	<b>32</b>	<b>32</b>	<b>28</b>	<b>28</b>	<b>35</b>

Habitat Zone			AF	AG	AH	
Bioregion			VVP	VVP	VVP	
EVC Number			132_63	132_63	132_63	
Total area of Habitat Zone (ha)			0.260	0.786	0.719	
Site Condition	Large Old Trees	/10	NA	NA	NA	
	Tree Canopy Cover	/5	NA	NA	NA	
	Lack of Weeds	/15	7	7	7	
	Understorey	/25	5	5	5	
	Recruitment	/10	0	0	0	
	Organic Matter	/5	3	3	3	
	Logs	/5	NA	NA	NA	
	Site condition standardising multiplier*			1.36	1.36	1.36
	Site Condition subtotal			20	20	20
Landscape Context	Patch Size	/10	8	8	8	
	Neighbourhood	/10	3	3	3	
	Distance to Core	/5	4	4	4	
<b>Total Condition Score</b>		<b>/100</b>	<b>35</b>	<b>35</b>	<b>35</b>	

### Appendix 3: Scattered trees recorded in the study area

Tree no.	Common Name	Scientific Name	DBH (cm)	Size Class	Radius of TPZ (m)	Remove/Retain	Notes
1	River Red-gum	<i>Eucalyptus camaldulensis</i>	55	Small	6.6	Remove	
2	River Red-gum	<i>Eucalyptus camaldulensis</i>	93	Large	11.6	Remove	

**Notes:** DBH = Diameter at breast height (130 cm from the ground); **TPZ** = Tree Protection Zone; **TBD** = To Be Determined.



## Appendix 4: Flora species recorded in the study area and listed threatened species known to occur in the search region

Origin	Common name	Scientific name	EPBC	FFG-T	FFG-P	CaLP Act	WONS	Recorded
	Snowy River Wattle	<i>Acacia boormanii</i>		Endangered	p			
	Sheep's Burr	<i>Acaena spp.</i>						x
*	Hair Grass	<i>Aira spp.</i>						x
	Buloke	<i>Allocasuarina luehmannii</i>		Vulnerable	P			
	Sea Water-mat	<i>Athenia marina</i>		Critically Endangered				
	River Swamp Wallaby-grass	<i>Amphibromus fluitans</i>	Vulnerable					
	Swamp Wallaby-grass	<i>Amphibromus spp.</i>						x
	Drooping Mistletoe	<i>Amyema pendula subsp. longifolia</i>		Critically Endangered				
	Common Woodruff	<i>Asperula conferta</i>						x
	Marsh Saltbush	<i>Atriplex paludosa subsp. paludosa</i>		Endangered				
	Berry Saltbush	<i>Atriplex semibaccata</i>						x
	Kneed Spear-grass	<i>Austrostipa bigeniculata</i>						x
	Short-crown Spear-grass	<i>Austrostipa curticoma</i>						x
	Dense Spear-grass	<i>Austrostipa densiflora</i>						x
	Rough Spear-grass	<i>Austrostipa scabra</i>						x
	Spear Grass	<i>Austrostipa spp.</i>						x
	Grey Mangrove	<i>Avicennia marina subsp. australasica</i>		Endangered				
	Red-leg Grass	<i>Bothriochloa macra</i>						x
*	Twiggy Turnip	<i>Brassica fruticulosa</i>						x
*	Large Quaking-grass	<i>Briza maxima</i>						x
*	Lesser Quaking-grass	<i>Briza minor</i>						x
*	Prairie Grass	<i>Bromus catharticus</i>						x
*	Great Brome	<i>Bromus diandrus</i>						x
*	Soft Brome	<i>Bromus hordeaceus</i>						x
	Cut-leaf Burr-daisy	<i>Calotis anthemoides</i>		Critically Endangered	p			
*	Saffron Thistle	<i>Carthamus lanatus</i>				C		x
*	Drooping Cassinia	<i>Cassinia sifton</i>						x
	Common Sneezeweed	<i>Centipeda cunninghamii</i>			p			x
	Glaucous Goosefoot	<i>Chenopodium glaucum</i>						x
	Windmill Grass	<i>Chloris truncata</i>						x

Origin	Common name	Scientific name	EPBC	FFG-T	FFG-P	CaLP Act	WONS	Recorded
*	Spear Thistle	<i>Cirsium vulgare</i>				C		x
	Small-leaved Clematis	<i>Clematis microphylla s.l.</i>						x
	Small Milkwort	<i>Comesperma polygaloides</i>		Critically Endangered	P			
	Bindweed	<i>Convolvulus spp.</i>						x
	Pale Swamp Everlasting	<i>Coronidium gunnianum</i>		Critically Endangered	p			
	Small Scurf-pea	<i>Cullen parvum</i>		Endangered	P			
	Tough Scurf-pea	<i>Cullen tenax</i>		Endangered	P			
*	Artichoke Thistle	<i>Cynara cardunculus subsp. flavescens</i>				C		x
*	Couch	<i>Cynodon dactylon var. dactylon</i>						x
*	Cocksfoot	<i>Dactylis glomerata</i>						x
	Black-anther Flax-lily	<i>Dianella admixta</i>						x
	Matted Flax-lily	<i>Dianella amoena</i>	Endangered	Critically Endangered	P			
#	Silky Blue-grass	<i>Dichanthium sericeum subsp. sericeum</i>						x
	Kidney-weed	<i>Dichondra repens</i>						x
	Small Golden Moths	<i>Diuris basaltica</i>	Endangered	Critically Endangered	p			
	Sunshine Diuris	<i>Diuris fragrantissima</i>	Endangered	Critically Endangered	p			
	Swamp Diuris	<i>Diuris palustris</i>		Endangered	p			
#	Trailing Hop-bush	<i>Dodonaea procumbens</i>	Vulnerable					
	Nodding Saltbush	<i>Einadia nutans</i>						x
	Common Spike-sedge	<i>Eleocharis acuta</i>						x
	Dark Bottle-washers	<i>Enneapogon nigricans</i>						x
	Variable Willow-herb	<i>Epilobium billardioreanum</i>						x
	Rough-grain Love-grass	<i>Eragrostis trachycarpa</i>		Endangered				
	Werrabee Blue-box	<i>Eucalyptus baueriana subsp. thalassina</i>		Endangered				
	River Red-gum	<i>Eucalyptus camaldulensis</i>						x
*	Sugar Gum	<i>Eucalyptus cladocalyx</i>						x
	Melbourne Yellow-gum	<i>Eucalyptus leucoxydon subsp. connata</i>		Endangered				
	Mugga	<i>Eucalyptus sideroxydon subsp. sideroxydon</i>		Endangered				
	Common Cudweed	<i>Euchiton involucratus s.l.</i>			p			x

Origin	Common name	Scientific name	EPBC	FFG-T	FFG-P	CaLP Act	WONS	Recorded
#	Flat Spurge	<i>Euphorbia drummondii</i> s.l.						x
	Purple Eyebright	<i>Euphrasia collina</i> subsp. <i>muelleri</i>	Endangered	Endangered	P			
*	Galenia	<i>Galenia pubescens</i> var. <i>pubescens</i>						x
	Pale-flower Crane's-bill	<i>Geranium</i> sp. 3		Endangered				
	Clover Glycine	<i>Glycine latrobeana</i>	Vulnerable	Vulnerable	P			
	Slender Goodenia	<i>Goodenia gracilis</i>						x
	Narrow Goodenia	<i>Goodenia macbarronii</i>		Endangered	P			
	Golden Grevillea	<i>Grevillea chrysophaea</i>		Vulnerable	p			
	Smooth Grevillea	<i>Grevillea rosmarinifolia</i> subsp. <i>glabella</i>		Endangered	p			
	Brisbane Range Grevillea	<i>Grevillea steiglitziana</i>		Endangered	p			
	Rough Raspwort	<i>Haloragis aspera</i>						x
*	Ox-tongue	<i>Helminthotheca echioides</i>						x
	Australian Grass-wrack	<i>Heterozostera nigricaulis</i>		Endangered				
*	Cat's Ear	<i>Hypochaeris</i> spp.						x
	Rush	<i>Juncus</i> spp.						x
	Adamson's Blown-grass	<i>Lachnagrostis adamsonii</i> subsp. <i>adamsonii</i>	Vulnerable					
	Purple Blown-grass	<i>Lachnagrostis punicea</i> subsp. <i>punicea</i>		Endangered				
	Jersey Cudweed	<i>Laphangium luteoalbum</i>			p			x
	Salt Lawrenca	<i>Lawrenca spicata</i>		Endangered				
*	Hairy Hawkbit	<i>Leontodon saxatilis</i> subsp. <i>saxatilis</i>						x
*	Common Peppercross	<i>Lepidium africanum</i>						x
	Basalt Peppercross	<i>Lepidium hyssopifolium</i> s.s.	Endangered	Endangered	p			
	Lanky Buttons	<i>Leptorhynchos elongatus</i>		Endangered	p			
	White Sunray	<i>Leucochrysum albicans</i> subsp. <i>tricolor</i>	Endangered	Endangered	p			
*	Rye Grass	<i>Lolium</i> spp.						x
	Wattle Mat-rush	<i>Lomandra filiformis</i>						x
	Dwarf Mat-rush	<i>Lomandra nana</i>						x
*	African Box-thorn	<i>Lycium ferocissimum</i>				C	WONS	x
	Coast Hollyhock	<i>Malva preissiana</i> s.s (white-flowered coastal form)		Endangered				

Origin	Common name	Scientific name	EPBC	FFG-T	FFG-P	CaLP Act	WONS	Recorded
*	Horehound	<i>Marrubium vulgare</i>				C		x
	Nardoo	<i>Marsilea spp.</i>			p			x
	Weeping Grass	<i>Microlaena stipoides var. stipoides</i>						x
	Hairy Shepherd's Purse	<i>Microlepidium pilosulum</i>		Critically Endangered				
*	Cane Needle-grass	<i>Nassella hyalina</i>						x
*	Chilean Needle-grass	<i>Nassella neesiana</i>				R	WONS	x
*	Serrated Tussock	<i>Nassella trichotoma</i>				C	WONS	x
	Austral Tobacco	<i>Nicotiana suaveolens</i>		Endangered				
	Grassland Wood-sorrel	<i>Oxalis perennans</i>						x
*	Paspalum	<i>Paspalum dilatatum</i>						x
*	Sticky Ground-cherry	<i>Physalis hederifolia</i>				C		x
	Spiny Rice-flower	<i>Pimelea spinescens subsp. spinescens</i>	Critically Endangered	Critically Endangered	p			
*	Buck's-horn Plantain	<i>Plantago coronopus</i>						x
*	Ribwort	<i>Plantago lanceolata</i>						x
	Common Tussock-grass	<i>Poa labillardierei</i>						x
	Grey Tussock-grass	<i>Poa sieberiana</i>						x
	Basalt Podolepis	<i>Podolepis linearifolia</i>		Endangered	p			
*	Wireweed	<i>Polygonum arenastrum</i>						x
	Common Purslane	<i>Portulaca oleracea</i>						x
	Fragrant Leek-orchid	<i>Prasophyllum suaveolens</i>	Endangered	Critically Endangered	p			
	Green-striped Greenhood	<i>Pterostylis chlorogramma</i>	Vulnerable	Endangered	p			
	Leafy Greenhood	<i>Pterostylis cucullata</i>	Vulnerable		p			
	Brittle Greenhood	<i>Pterostylis truncata</i>		Critically Endangered	p			
	Coast Bush-pea	<i>Pultenaea canaliculata</i>		Endangered				
#	Fragrant Saltbush	<i>Rhagodia parabolica</i>		Vulnerable				
*	Sweet Briar	<i>Rosa rubiginosa</i>				C		x
	Slender Dock	<i>Rumex brownii</i>						x
	Wiry Dock	<i>Rumex dumosus</i>						x
	Button Wrinklewort	<i>Rutidosia leptorhynchoides</i>	Endangered	Endangered	p			
	Common Wallaby-grass	<i>Rytidosperma caespitosum</i>						x
	Brown-back Wallaby-grass	<i>Rytidosperma duttonianum</i>						x



Origin	Common name	Scientific name	EPBC	FFG-T	FFG-P	CaLP Act	WONS	Recorded
	Small-flower Wallaby-grass	<i>Rytidosperma monticola</i>		Endangered				
	Bristly Wallaby-grass	<i>Rytidosperma setaceum</i>						x
	Wallaby Grass	<i>Rytidosperma spp.</i>						x
	Coast Saltwort	<i>Salsola tragus subsp. pontica</i>		Endangered				
*	Wild Sage	<i>Salvia verbenaca</i>						x
	Roly-poly	<i>Sclerolaena spp.</i>						x
	Large-headed Fireweed	<i>Senecio macrocarpus</i>	Vulnerable	Critically Endangered	p			x
	Swamp Fireweed	<i>Senecio psilocarpus</i>	Vulnerable		p			
	Cotton Fireweed	<i>Senecio quadridentatus</i>			p			x
*	Pigeon Grass	<i>Setaria spp (naturalised)</i>						x
*	Apple of Sodom	<i>Solanum linnaeanum</i>				C		x
	Sow Thistle	<i>Sonchus spp.</i>			p			x
	Southern Swainson-pea	<i>Swainsona behriana</i>		Endangered				
	Basalt Sun-orchid	<i>Thelymitra gregaria</i>		Critically Endangered	p			
	Kangaroo Grass	<i>Themeda triandra</i>						x
	Yellow Rush-lily	<i>Tricoryne elatior</i>						x
	Tiny Arrowgrass	<i>Triglochin minutissima</i>		Endangered				
	Prickly Arrowgrass	<i>Triglochin mucronata</i>		Endangered				
	Rye Beetle-grass	<i>Tripogonella loliiformis</i>		Endangered				
*	Great Mullein	<i>Verbascum thapsus subsp. thapsus</i>				R		x
	Fuzzy New Holland Daisy	<i>Vittadinia cuneata</i>			p			x
*	Squirrel-tail Fescue	<i>Vulpia bromoides</i>						x
	Bronze Bluebell	<i>Wahlenbergia luteola</i>						x
	Bluebell	<i>Wahlenbergia spp.</i>						x
	Rigid Panic	<i>Walwhalleya proluta</i>						x
	Swamp Everlasting	<i>Xerochrysum palustre</i>	Vulnerable	Critically Endangered	p			

**Notes:** EPBC = threatened species status under the EPBC Act; FFG-T = threatened species status under the FFG Act; FFG-P: listed as protected (P) under the FFG Act; CaLP Act: declared noxious weeds under the CaLP Act (S = State Prohibited Weeds [any infestations are to be reported to DEECA. DEECA is responsible for control of State Prohibited Weeds]; P = Regionally Prohibited Weeds [Land owners must take all reasonable steps to eradicate regionally prohibited weeds on their land]; 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]; R = Restricted Weeds [Trade in these weeds and their propagules, either as plants, seeds or contaminants in other materials is prohibited]. \* = introduced to Victoria # = Victorian native taxa occurring outside their natural range

## Appendix 5: Fauna species recorded in the study area

Origin	Common name	Scientific name	EPBC-T	EPBC-M	FFG-T
<b>Birds</b>					
	Australasian Pipit	<i>Anthus novaeseelandiae</i>			
	Australian Hobby	<i>Falco longipennis</i>			
	Australian Magpie	<i>Cracticus tibicen</i>			
	Australian Reed Warbler	<i>Acrocephalus australis</i>			
	Australian Shelduck	<i>Tadorna tadornoides</i>			
	Australian Wood Duck	<i>Chenonetta jubata</i>			
	Black-shouldered Kite	<i>Elanus axillaris</i>			
	Brown Falcon	<i>Falco berigora</i>			
*	Common Starling	<i>Sturnus vulgaris</i>			
	Crested Pigeon	<i>Ocyphaps lophotes</i>			
*	European Goldfinch	<i>Carduelis carduelis</i>			
	Golden-headed Cisticola	<i>Cisticola exilis</i>			
*	House Sparrow	<i>Passer domesticus</i>			
	Little Raven	<i>Corvus mellori</i>			
	Magpie-lark	<i>Grallina cyanoleuca</i>			
	Nankeen Kestrel	<i>Falco cenchroides</i>			
	Peregrine Falcon	<i>Falco peregrinus</i>			
	Striated Fieldwren	<i>Calamanthus fuliginosus</i>			
	Superb Fairy-wren	<i>Malurus cyaneus</i>			
	Wedge-tailed Eagle	<i>Aquila audax</i>			
	White-faced Heron	<i>Egretta novaehollandiae</i>			
	White-fronted Chat	<i>Epthianura albifrons</i>			
	Yellow-rumped Thornbill	<i>Acanthiza chrysorrhoa</i>			
	Zebra Finch	<i>Taeniopygia castanotis</i>			
<b>Mammals</b>					
	Eastern Grey Kangaroo	<i>Macropus giganteus</i>			
*	European Brown Hare	<i>Lepus europeus</i>			
*	European Rabbit	<i>Oryctolagus cuniculus</i>			
*	Red Fox	<i>Vulpes vulpes</i>			
<b>Frogs</b>					
	Spotted Marsh Frog SCR	<i>Limnodynastes tasmaniensis SCR</i>			

**Notes:** **EPBC-T** = threatened species status under EPBC Act (EX = presumed extinct in the wild; CE = 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:** L = listed as threatened under the FFG Act.

\* = introduced to Victoria

## Appendix 6: EVC benchmarks

### Victorian Volcanic Plain bioregion:

- *Low-rainfall* Plains Grassland (EVC 132\_63)
- Plains Grassy Wetland (EVC 125)

# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Volcanic Plain bioregion

### EVC 132\_63: *Low-rainfall* Plains Grassland

#### Description:

Treeless vegetation mostly < 1 m tall dominated by largely graminoid and herb life forms. Occupies cracking basalt soils prone to seasonal waterlogging in areas receiving < 500 mm annual rainfall.

#### Life forms:

Life form	#Spp	%Cover	LF code
Small Shrub*	1	5%	SS
Prostrate Shrub	1	5%	PS
Large Herb*	2	5%	LH
Medium Herb	8	20%	MH
Small or Prostrate Herb*	3	10%	SH
Large Tufted Graminoid	1	5%	LTG
Medium to Small Tufted Graminoid	10	30%	MTG
Medium to Tiny Non-tufted Graminoid*	2	5%	MNG
Bryophytes/Lichens and Soil Crust**	na	20%	BL

\* Largely seasonal life form

\*\* Note: treat as one life form in this EVC

LF Code	Species typical of at least part of EVC range	Common Name
SS	<i>Pimelea curviflora</i> s.s.	Curved Rice-flower
PS	<i>Atriplex semibaccata</i>	Berry Saltbush
LH	<i>Ptilotus macrocephalus</i>	Feather-heads
MH	<i>Acaena echinata</i>	Sheep's Burr
MH	<i>Plantago gaudichaudii</i>	Narrow Plantain
MH	<i>Maireana enchylaenoides</i>	Wingless Bluebush
MH	<i>Calocephalus citreus</i>	Lemon Beauty-heads
SH	<i>Solenogyne dominii</i>	Smooth Solenogyne
SH	<i>Oxalis perennans</i>	Grassland Wood-sorrel
SH	<i>Chamaesyce drummondii</i>	Flat Spurge
SH	<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia
LTG	<i>Austrostipa bigeniculata</i>	Kneed Spear-grass
MTG	<i>Austrostipa scabra</i>	Rough Spear-grass
MTG	<i>Austrostipa nodosa</i>	Knotty Spear-grass
MTG	<i>Whalleya proluta</i>	Rigid Panic
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
TTG	<i>Centrolepis strigosa</i> ssp. <i>strigosa</i>	Hairy Centrolepis
TTG	<i>Centrolepis aristata</i>	Pointed Centrolepis
SC	<i>Convolvulus erubescens</i> spp. agg.	Pink Bindweed

#### Recruitment:

Episodic/Fire or Grazing. Desirable period between disturbances is 5 years.

#### Organic Litter:

10% cover



# EVC 132\_63: *Low-rainfall* Plains Grassland - Victorian Volcanic Plain bioregion

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Plantago lanceolata</i>	Ribwort	high	low
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
LH	<i>Sonchus oleraceus</i>	Common Sow-thistle	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
MH	<i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Trifolium subterraneum</i>	Subterranean Clover	high	low
MH	<i>Plantago coronopus</i>	Buck's-horn Plantain	high	low
MH	<i>Trifolium striatum</i>	Knotted Clover	high	low
MH	<i>Trifolium dubium</i>	Suckling Clover	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
MTG	<i>Vulpia bromoides</i>	Squirrel-tail Fescue	high	low
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>	Soft Brome	high	low
MTG	<i>Briza maxima</i>	Large Quaking-grass	high	low
MTG	<i>Lolium rigidum</i>	Wimmera Rye-grass	high	low
MTG	<i>Lolium perenne</i>	Perennial Rye-grass	high	low
MTG	<i>Nassella neesiana</i>	Chilean Needle-grass	high	high
MNG	<i>Cynosurus echinatus</i>	Rough Dog's-tail	high	low
MNG	<i>Juncus capitatus</i>	Capitate Rush	high	low

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# EVC/Bioregion Benchmark for Vegetation Quality Assessment

## Victorian Volcanic Plain bioregion

### EVC 125: Plains Grassy Wetland

#### Description:

This EVC is usually treeless, but in some instances can include sparse River Red Gum *Eucalyptus camaldulensis* or Swamp Gum *Eucalyptus ovata*. A sparse shrub component may also be present. The characteristic ground cover is dominated by grasses and small sedges and herbs. The vegetation is typically species-rich on the outer verges but is usually species-poor in the wetter central areas.

#### Life Forms:

Life form	#Spp	%Cover	LF code
Large Herb	5	5%	LH
Medium Herb	6	10%	MH
Small or Prostrate Herb	3	10%	SH
Large Tufted Graminoid	3	15%	LTG
Large Non-tufted Graminoid	1	5%	LNG
Medium to Small Tufted Graminoid	8	30%	MTG
Medium to Tiny Non-tufted Graminoid	2	10%	MNG
Bryophytes/Lichens	na	10%	BL

#### LF Code

#### Species typical of at least part of EVC range

#### Common Name

LH	<i>Epilobium billardierianum</i>	Variable Willow-herb
LH	<i>Villarsia reniformis</i>	Running Marsh-flower
LH	<i>Epilobium billardierianum ssp. cinereum</i>	Grey Willow-herb
MH	<i>Potamogeton tricarinatus s.l.</i>	Floating Pondweed
MH	<i>Lilaeopsis polyantha</i>	Australian Lilaeopsis
MH	<i>Utricularia dichotoma s.l.</i>	Fairies' Aprons
SH	<i>Eryngium vesiculosum</i>	Prickfoot
SH	<i>Neopaxia australasica</i>	White Purslane
SH	<i>Lobelia pratioides</i>	Poison Lobelia
LTG	<i>Juncus flavidus</i>	Gold Rush
LTG	<i>Deyeuxia quadriseta</i>	Reed Bent-grass
LTG	<i>Amphibromus nervosus</i>	Common Swamp Wallaby-grass
LTG	<i>Poa labillardierei</i>	Common Tussock-grass
MTG	<i>Triglochin procerum s.l.</i>	Water Ribbons
MTG	<i>Glyceria australls</i>	Australian Sweet-grass
MTG	<i>Juncus holoschoenus</i>	Joint-leaf Rush
MTG	<i>Austrodanthonia duttoniana</i>	Brown-back Wallaby-grass
MNG	<i>Eleocharis acuta</i>	Common Spike-sedge
MNG	<i>Eleocharis pusilla</i>	Small Spike-sedge

#### Recruitment:

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

#### Organic Litter:

20% cover

#### Logs:

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

# EVC 125: Plains Grassy Wetland - Victorian Volcanic Plain bioregion

## Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
LH	<i>Cirsium vulgare</i>	Spear Thistle	high	high
MH	<i>Leontodon taraxacoides</i> ssp. <i>taraxacoides</i>	Hairy Hawkbit	high	low
MH	<i>Hypochoeris radicata</i>	Cat's Ear	high	low
LTG	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	high	high
LNG	<i>Holcus lanatus</i>	Yorkshire Fog	high	high
MTG	<i>Briza minor</i>	Lesser Quaking-grass	high	low
MTG	<i>Romulea rosea</i>	Onion Grass	high	low
TTG	<i>Cyperus tenellus</i>	Tiny Flat-sedge	high	low

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[Appendix 7: Native Vegetation Removal \(NVR\) report](#)



# Scenario test – native vegetation removal

This report provides offset requirements for internal testing of different proposals to remove native vegetation. **This report DOES NOT support an application to remove, destroy or lop native vegetation under Clause 52.16 or 52.17 of planning schemes in Victoria.** A report must be obtained from the Department of Environment, Land, Water and Planning (DELWP).

Date of issue: 31/05/2023

Time of issue: 5:01 pm

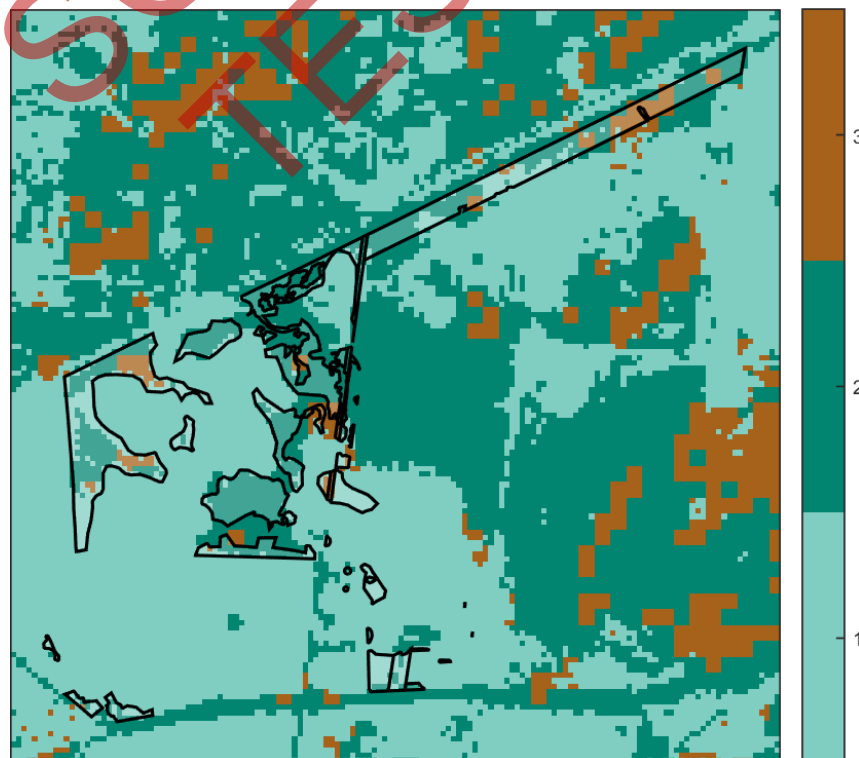
Report ID: Scenario Testing

Project ID	21312_Little_River_rd_230531
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## Assessment pathway

Assessment pathway	Detailed Assessment Pathway
Extent including past and proposed	80.778 ha
Extent of past removal	0.000 ha
Extent of proposed removal	80.778 ha
No. Large trees proposed to be removed	1
Location category of proposed removal	Location 3 The native vegetation is in an area where the removal of less than 0.5 hectares could have a significant impact on habitat for one or more rare or threatened species. The native vegetation is also in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map); and a wetland designated under the Convention on Wetlands of International Importance (the Ramsar Convention).

### 1. Location map



# Scenario test – native vegetation removal

## Offset requirements if a permit is granted

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

<b>General offset amount<sup>1</sup></b>	0.324 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Wyndham City Council
Minimum strategic biodiversity value score <sup>2</sup>	0.376
Large trees*	0 large trees
<b>Species offset amount<sup>3</sup></b>	<p>4.859 species units of habitat for Prickly Arrowgrass, <i>Triglochin mucronata</i></p> <p>10.715 species units of habitat for Werribee Blue-box, <i>Eucalyptus baueriana</i> subsp. <i>thalassina</i></p> <p>44.874 species units of habitat for Red-chested Button-quail, <i>Turnix pyrrhotorax</i></p> <p>57.511 species units of habitat for Grassland Earless Dragon, <i>Tympanocryptis pinguicolla</i></p> <p>54.934 species units of habitat for Small Golden Moths, <i>Diuris basaltica</i></p> <p>41.139 species units of habitat for Narrow Goodenia, <i>Goodenia macbarronii</i></p> <p>54.934 species units of habitat for Snowy Mint-bush, <i>Prostanthera nivea</i> var. <i>nivea</i></p> <p>54.934 species units of habitat for Small Scurf-pea, <i>Cullen parvum</i></p> <p>54.934 species units of habitat for Tough Scurf-pea, <i>Cullen tenax</i></p> <p>32.843 species units of habitat for Brittle Greenhood, <i>Pterostylis truncata</i></p> <p>17.724 species units of habitat for Fragrant Saltbush, <i>Rhagodia parabolica</i></p> <p>50.379 species units of habitat for Button Wrinklewort, <i>Rutidosia leptorhynchoides</i></p> <p>54.934 species units of habitat for Large-headed Fireweed, <i>Senecio macrocarpus</i></p> <p>54.934 species units of habitat for Rye Beetle-grass, <i>Tripogon loliiformis</i></p> <p>54.934 species units of habitat for Plump Swamp Wallaby-grass, <i>Amphibromus pithogastrus</i></p> <p>54.934 species units of habitat for Heath Spear-grass, <i>Austrostipa exilis</i></p> <p>54.934 species units of habitat for Brackish Plains Buttercup, <i>Ranunculus diminutus</i></p> <p>35.720 species units of habitat for Sunshine Diuris, <i>Diuris fragrantissima</i></p> <p>54.934 species units of habitat for Melbourne Yellow-gum, <i>Eucalyptus leucoxydon</i> subsp. <i>connata</i></p> <p>54.934 species units of habitat for Basalt Podolepis, <i>Podolepis linearifolia</i></p> <p>53.890 species units of habitat for Spiny Rice-flower, <i>Pimelea spinescens</i> subsp. <i>spinescens</i></p> <p>49.664 species units of habitat for Clumping Golden Moths, <i>Diuris gregaria</i></p> <p>54.934 species units of habitat for Pale-flower Crane's-bill, <i>Geranium</i> sp. 3</p>
Large trees*	1 tree
<b>* The total number of large trees that the offset must protect</b>	1 large tree to be protected in either the general, species or combination across all habitat units protected

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

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

<sup>3</sup> The species offset amount(s) required is the sum of all species habitat units in Appendix 1.

# Scenario test – native vegetation removal

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

SCENARIO  
TESTING

# Scenario test – native vegetation removal

## 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.

**This report DOES NOT support an application to remove, destroy or lop native vegetation under Clause 52.16 or 52.17 of planning schemes in Victoria.**

If you wish to remove the mapped native vegetation you must submit the related shapefiles to the Department of Environment, Land, Water and Planning (DELWP) for processing, by email to [ensymnvrtool.support@delwp.vic.gov.au](mailto:ensymnvrtool.support@delwp.vic.gov.au). DELWP will provide a *Native vegetation removal report* that is required to meet the permit application requirements in accordance with *Guidelines for the removal, destruction or lopping of native vegetation* (Guidelines).

SCENARIO  
TESTING



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

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

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

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

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

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

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

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

### Native vegetation to be removed

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-I	Patch	vvp_0132_63	Endangered	0	no	0.230	0.075	0.075	0.478	0.610	0.028	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.599	0.028	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.599	0.028	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.599	0.028	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.599	0.028	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.599	0.028	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.599	0.028	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.599	0.028	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.599	0.028	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>

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
										0.599	0.028	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.599	0.028	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.599	0.028	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.599	0.028	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.599	0.028	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.599	0.028	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-K	Patch	vvp_0132_63	Endangered	0	no	0.300	3.119	3.119	0.737	0.571	1.470	10019 Red-chested Button-quail <i>Turnix pyrrhotorax</i>
										0.534	1.748	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.704	1.595	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.435	1.565	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.704	1.595	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.704	1.595	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.704	1.595	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.010	1.656	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.037	1.628	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.704	1.595	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.704	1.595	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.704	1.595	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>

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
										0.704	1.595	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.704	1.595	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.704	1.595	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.120	1.871	504414 Sunshine Diuris <i>Diuris fragrantissima</i>
										0.704	1.595	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.704	1.595	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.704	1.595	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.522	1.579	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.704	1.595	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-P	Patch	vvp_0132_63	Endangered	0	no	0.250	0.238	0.238	0.470	0.620	0.096	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.365	0.096	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.365	0.096	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.365	0.096	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.365	0.096	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.365	0.096	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.365	0.096	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.365	0.096	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.365	0.096	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.365	0.096	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>

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
										0.365	0.096	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.365	0.096	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.365	0.096	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.365	0.096	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-O	Patch	vvp_0132_63	Endangered	0	no	0.350	0.959	0.959	0.470	0.770	0.594	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.302	0.594	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.302	0.594	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.302	0.594	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.302	0.594	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.302	0.594	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.302	0.594	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.302	0.594	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.302	0.594	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.302	0.594	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.302	0.594	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.302	0.594	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.302	0.594	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.302	0.594	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>

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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
										0.302	0.594	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.302	0.594	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-Z	Patch	vvp_0132_63	Endangered	0	no	0.320	3.092	3.092	0.701	0.562	1.546	10019 Red-chested Button-quail <i>Turnix pyrrhоторax</i>
										0.702	1.859	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.736	1.744	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.448	1.745	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.736	1.744	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.736	1.744	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.736	1.744	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.736	1.744	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.736	1.744	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.736	1.744	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.736	1.744	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.736	1.744	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.736	1.744	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.736	1.744	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon subsp. connata</i>
										0.736	1.744	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.736	1.744	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>

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
										0.590	1.744	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.736	1.744	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-Y	Patch	vvp_0132_63	Endangered	0	no	0.260	0.291	0.291	0.952	0.872	0.142	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.769	0.134	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.769	0.134	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.769	0.134	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.769	0.134	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.769	0.134	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.769	0.134	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.769	0.134	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.769	0.134	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.769	0.134	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.769	0.134	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.769	0.134	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.769	0.134	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.769	0.134	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.769	0.134	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-X	Patch	vvp_0132_63	Endangered	0	no	0.350	0.403	0.403	0.978	0.873	0.265	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>

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
										0.778	0.251	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.778	0.251	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.778	0.251	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.778	0.251	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.601	0.252	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.523	0.250	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.778	0.251	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.778	0.251	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.778	0.251	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.778	0.251	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.778	0.251	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.778	0.251	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxyton</i> subsp. <i>connata</i>
										0.778	0.251	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.778	0.251	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.778	0.251	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-L	Patch	vvp_0132_63	Endangered	0	no	0.300	7.234	7.234	0.969	0.574	3.416	10019 Red-chested Button-quail <i>Turnix pyrrhotorax</i>
										0.720	4.082	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.785	3.887	501473 Small Golden Moths <i>Diuris basaltica</i>

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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
										0.597	3.892	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.785	3.887	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.785	3.887	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.785	3.887	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.785	3.887	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.785	3.887	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.785	3.887	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.785	3.887	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.785	3.887	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.785	3.887	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.785	3.887	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>
										0.785	3.887	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.785	3.887	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.782	3.888	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.785	3.887	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-H	Patch	vvp_0132_63	Endangered	0	no	0.260	0.988	0.988	0.470		0.283	General
1-V	Patch	vvp_0132_63	Endangered	0	no	0.490	9.387	9.387	0.939	0.766	8.122	507580 Werribee Blue-box <i>Eucalyptus baueriana</i> subsp. <i>thalassina</i>
										0.051	7.250	10019 Red-chested Button-quail <i>Turnix pyrrhotorax</i>

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
										0.860	8.625	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.761	8.118	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.761	8.118	502746 Snowy Mint-bush <i>Prostanthera nivea</i> <i>var. nivea</i>
										0.761	8.118	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.761	8.118	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.209	8.138	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.543	8.140	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.330	8.115	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.761	8.118	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.761	8.118	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.761	8.118	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.761	8.118	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.761	8.118	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.761	8.118	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>
										0.761	8.118	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.553	8.110	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.062	8.042	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.761	8.118	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3

SCENARIO TESTING



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-W	Patch	vvp_0132_63	Endangered	0	no	0.320	4.302	4.302	0.960	0.788	2.461	507580 Werribee Blue-box <i>Eucalyptus baueriana</i> subsp. <i>thalassina</i>
										0.276	2.165	10019 Red-chested Button-quail <i>Turnix pyrrhothorax</i>
										0.571	2.588	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.728	2.449	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.093	2.441	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.728	2.449	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.728	2.449	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.728	2.449	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.196	2.455	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.422	2.445	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.652	2.447	502982 Button Wrinklewort <i>Rutidosia leptorhynchoides</i>
										0.728	2.449	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.728	2.449	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.728	2.449	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.728	2.449	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.728	2.449	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.728	2.449	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon</i> subsp. <i>connata</i>
										0.728	2.449	504658 Basalt Podolepis <i>Podolepis linearifolia</i>

SCENARIO TESTING

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
										0.652	2.447	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.428	2.454	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.728	2.449	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-AH	Patch	vvp_0132_63	Endangered	0	no	0.350	0.719	0.719	0.938	0.570	0.395	10019 Red-chested Button-quail <i>Turnix pyrrhоторax</i>
										0.327	0.468	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.726	0.439	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.710	0.439	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.726	0.439	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.726	0.439	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.726	0.439	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.726	0.439	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.726	0.439	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.726	0.439	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.726	0.439	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.726	0.439	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.726	0.439	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.726	0.439	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon</i> subsp. <i>connata</i>
										0.726	0.439	504658 Basalt Podolepis <i>Podolepis linearifolia</i>

SCENARIO TESTING

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
										0.726	0.439	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.726	0.439	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.726	0.439	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-AC	Patch	vvp_0132_63	Endangered	0	no	0.280	0.453	0.453	0.470	0.721	0.218	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.553	0.238	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.456	0.218	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.456	0.218	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.456	0.218	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.456	0.218	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.456	0.218	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.456	0.218	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.456	0.218	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.456	0.218	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.456	0.218	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.456	0.218	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.456	0.218	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon</i> subsp. <i>connata</i>
										0.456	0.218	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.247	0.219	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.456	0.218	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3

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-AB	Patch	vvp_0132_63	Endangered	0	no	0.280	0.277	0.277	0.470	0.722	0.133	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.791	0.145	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.653	0.133	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.653	0.133	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.653	0.133	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.653	0.133	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.653	0.133	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.653	0.133	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.653	0.133	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.653	0.133	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.653	0.133	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.653	0.133	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.653	0.133	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>
										0.653	0.133	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.390	0.134	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.653	0.133	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-G	Patch	vvp_0132_63	Endangered	0	no	0.230	0.113	0.113	0.469		0.029	General
1-D	Patch	vvp_0132_63	Endangered	0	no	0.230	0.046	0.046	0.460		0.012	General
1-1	Scattered Tree	vvp_0055_61	Endangered	1	no	0.200	0.070	0.070	0.960	0.520	0.021	10019 Red-chested Button-quail <i>Turnix pyrrhothorax</i>

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
										0.800	0.025	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.570	0.022	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.570	0.022	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.570	0.022	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.570	0.022	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.570	0.022	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.570	0.022	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.570	0.022	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.570	0.022	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.570	0.022	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.570	0.022	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.570	0.022	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.570	0.022	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon</i> subsp. <i>connata</i>
										0.570	0.022	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.570	0.022	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.570	0.022	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-2	Scattered Tree	vvp_0055_61	Endangered	0	no	0.200	0.031	0.031	0.960	0.500	0.009	10019 Red-chested Button-quail <i>Turnix pyrrhotorax</i>
										0.790	0.011	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>



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
										0.500	0.009	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.500	0.009	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.500	0.009	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.500	0.009	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.500	0.009	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.500	0.009	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.500	0.009	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.500	0.009	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.500	0.009	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.500	0.009	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.500	0.009	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.500	0.009	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxyton</i> subsp. <i>connata</i>
										0.500	0.009	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.500	0.009	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.500	0.009	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-AE	Patch	vvp_0132_63	Endangered	0	no	0.350	0.059	0.059	0.990	0.750	0.036	507580 Werribee Blue-box <i>Eucalyptus baueriana</i> subsp. <i>thalassina</i>
										0.884	0.039	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.772	0.036	501473 Small Golden Moths <i>Diuris basaltica</i>

SCENARIO TESTING

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
										0.772	0.036	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.772	0.036	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.772	0.036	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.210	0.036	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.772	0.036	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.772	0.036	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.772	0.036	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.772	0.036	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.772	0.036	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.772	0.036	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.772	0.036	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>
										0.772	0.036	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.560	0.036	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.772	0.036	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-AF	Patch	vvp_0132_63	Endangered	0	no	0.350	0.260	0.260	0.979	0.872	0.170	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.778	0.162	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.778	0.162	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.778	0.162	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.778	0.162	502776 Tough Scurf-pea <i>Cullen tenax</i>

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
										0.576	0.162	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.647	0.161	502982 Button Wrinklewort <i>Rutidosia leptorhynchoides</i>
										0.778	0.162	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.778	0.162	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.778	0.162	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.778	0.162	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.778	0.162	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.778	0.162	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.778	0.162	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.778	0.162	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.778	0.162	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-AD	Patch	vvp_0132_63	Endangered	0	no	0.350	0.156	0.156	0.990	0.769	0.097	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.605	0.097	507580 Werribee Blue-box <i>Eucalyptus baueriana subsp. thalassina</i>
										0.463	0.103	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.770	0.097	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.770	0.097	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.770	0.097	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.770	0.097	502776 Tough Scurf-pea <i>Cullen tenax</i>

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
										0.605	0.097	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.770	0.097	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.770	0.097	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.770	0.097	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.770	0.097	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.770	0.097	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.770	0.097	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.770	0.097	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.770	0.097	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.016	0.097	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.770	0.097	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-AG	Patch	vvp_0132_63	Endangered	0	no	0.350	0.787	0.787	0.955	0.573	0.433	10019 Red-chested Button-quail <i>Turnix pyrrhotorax</i>
										0.283	0.512	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.742	0.485	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.368	0.483	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.742	0.485	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.742	0.485	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.742	0.485	502776 Tough Scurf-pea <i>Cullen tenax</i>

SCENARIO TESTING

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
										0.742	0.485	502982 Button Wrinklewort <i>Rutidosia leptorhynchoides</i>
										0.742	0.485	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.742	0.485	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.742	0.485	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.742	0.485	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.742	0.485	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.742	0.485	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon subsp. connata</i>
										0.742	0.485	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.742	0.485	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.660	0.486	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.742	0.485	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-N	Patch	vvp_0132_63	Endangered	0	no	0.350	19.271	19.271	0.844	0.600	10.788	10019 Red-chested Button-quail <i>Turnix pyrrhorthorax</i>
										0.422	12.763	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.607	11.941	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.607	11.941	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.607	11.941	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.607	11.941	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.607	11.941	502776 Tough Scurf-pea <i>Cullen tenax</i>



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
										0.607	11.941	502982 Button Wrinklewort <i>Rutidosia leptorhynchoides</i>
										0.607	11.941	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.607	11.941	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.607	11.941	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.607	11.941	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.607	11.941	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.210	13.490	504414 Sunshine Diuris <i>Diuris fragrantissima</i>
										0.607	11.941	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.607	11.941	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.607	11.941	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.607	11.941	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.607	11.941	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-A	Patch	vvp_0132_63	Endangered	0	no	0.510	19.960	19.960	0.984	0.608	16.365	10019 Red-chested Button-quail <i>Turnix pyrrhоторax</i>
										0.725	18.995	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.747	18.038	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.747	18.038	501513 Narrow Goodenia <i>Goodenia macbarronii</i>
										0.747	18.038	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.747	18.038	502773 Small Scurf-pea <i>Cullen parvum</i>

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
										0.747	18.038	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.022	18.222	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.747	18.038	502982 Button Wrinklewort <i>Rutidosia leptorhynchoides</i>
										0.747	18.038	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.747	18.038	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.747	18.038	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.747	18.038	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.747	18.038	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.245	20.359	504414 Sunshine Diuris <i>Diuris fragrantissima</i>
										0.747	18.038	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.747	18.038	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.747	18.038	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.747	18.038	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.747	18.038	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-J	Patch	vvp_0132_63	Endangered	0	no	0.260	1.982	1.982	0.470	0.721	0.887	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.168	0.965	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.163	0.887	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.163	0.887	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.163	0.887	502773 Small Scurf-pea <i>Cullen parvum</i>

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
										0.163	0.887	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.163	0.887	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.163	0.887	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.163	0.887	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.163	0.887	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.163	0.887	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.163	0.887	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.163	0.887	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.163	0.887	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.115	0.889	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.163	0.887	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-Q	Patch	vvp_0132_63	Endangered	0	no	0.220	0.750	0.750	0.930	0.730	0.285	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.219	0.257	10019 Red-chested Button-quail <i>Turnix pyrrhotorax</i>
										0.325	0.302	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.702	0.281	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.702	0.281	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.702	0.281	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.702	0.281	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.350	0.279	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>

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
										0.702	0.281	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.702	0.281	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.702	0.281	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.702	0.281	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.702	0.281	504314 Brackish Plains Buttercup <i>Ranunculus diminitus</i>
										0.702	0.281	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.702	0.281	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.680	0.281	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.702	0.281	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-U	Patch	vvp_0132_63	Endangered	0	no	0.180	1.238	1.238	0.956	0.620	0.361	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.110	0.345	10019 Red-chested Button-quail <i>Turnix pyrrhothorax</i>
										0.171	0.405	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.683	0.376	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.683	0.376	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.683	0.376	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.683	0.376	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.167	0.372	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.545	0.375	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>

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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
										0.683	0.376	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.683	0.376	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.683	0.376	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.683	0.376	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.683	0.376	504314 Brackish Plains Buttercup <i>Ranunculus diminitus</i>
										0.683	0.376	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.683	0.376	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.683	0.376	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.683	0.376	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-AA	Patch	vvp_0132_63	Endangered	0	no	0.320	1.855	1.855	0.460	0.659	0.985	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.094	1.072	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.337	0.985	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.337	0.985	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.337	0.985	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.337	0.985	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.030	0.986	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.298	0.986	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.337	0.985	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.337	0.985	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>



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
										0.337	0.985	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.337	0.985	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.337	0.985	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.337	0.985	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.307	0.985	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.337	0.985	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-F	Patch	vvp_0125	Endangered	0	no	0.390	1.362	1.362	0.460	0.644	0.873	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.406	0.961	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.556	0.873	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.556	0.873	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.556	0.873	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.556	0.873	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.232	0.882	502821 Brittle Greenhood <i>Pterostylis truncata</i>
										0.523	0.873	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.556	0.873	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.556	0.873	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.556	0.873	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.556	0.873	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.556	0.873	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>

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
										0.556	0.873	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.298	0.873	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.029	0.819	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.556	0.873	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-E	Patch	vvp_0132_63	Endangered	0	no	0.320	0.062	0.062	0.460	0.550	0.031	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.393	0.035	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.550	0.031	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.550	0.031	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.550	0.031	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.550	0.031	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.550	0.031	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.550	0.031	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.550	0.031	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.550	0.031	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.550	0.031	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.550	0.031	504314 Brackish Plains Buttercup <i>Ranunculus diminitus</i>
										0.550	0.031	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon subsp. connata</i>
										0.279	0.031	504658 Basalt Podolepis <i>Podolepis linearifolia</i>

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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
										0.550	0.031	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.550	0.031	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-E1	Patch	vvp_0132_63	Endangered	0	no	0.320	0.235	0.235	0.462	0.698	0.127	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.161	0.136	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.625	0.127	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.625	0.127	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.625	0.127	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.625	0.127	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.488	0.128	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.625	0.127	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.625	0.127	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.625	0.127	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.625	0.127	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.625	0.127	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.625	0.127	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon</i> subsp. <i>connata</i>
										0.625	0.127	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.137	0.127	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.625	0.127	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-B	Patch	vvp_0132_63	Endangered	0	no	0.200	0.003	0.003	0.470		0.001	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-C	Patch	vvp_0132_63	Endangered	0	no	0.300	0.002	0.002	0.470		0.001	General
1-A4	Patch	vvp_0132_63	Endangered	0	no	0.510	0.352	0.352	0.470	0.735	0.311	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.611	0.341	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.565	0.311	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.565	0.311	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.565	0.311	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.565	0.311	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.565	0.311	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.565	0.311	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.565	0.311	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.565	0.311	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.565	0.311	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.565	0.311	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.565	0.311	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>
										0.565	0.311	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.543	0.312	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.565	0.311	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-A1	Patch	vvp_0132_63	Endangered	0	no	0.510	0.111	0.111	0.990	0.750	0.099	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.759	0.100	501473 Small Golden Moths <i>Diuris basaltica</i>

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
										0.759	0.100	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.759	0.100	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.759	0.100	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.759	0.100	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>
										0.759	0.100	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.759	0.100	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.759	0.100	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.759	0.100	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.759	0.100	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.759	0.100	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxylon</i> subsp. <i>connata</i>
										0.759	0.100	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.418	0.099	504823 Spiny Rice-flower <i>Pimelea spinescens</i> subsp. <i>spinescens</i>
										0.759	0.100	505344 Pale-flower Crane's-bill <i>Geranium</i> sp. 3
1-A2	Patch	vvp_0132_63	Endangered	0	no	0.510	0.033	0.033	0.977	0.882	0.032	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicolla</i>
										0.759	0.030	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.759	0.030	502746 Snowy Mint-bush <i>Prostanthera nivea</i> var. <i>nivea</i>
										0.759	0.030	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.759	0.030	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.759	0.030	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>



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
										0.514	0.030	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.759	0.030	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.759	0.030	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.759	0.030	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.759	0.030	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.759	0.030	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.759	0.030	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxydon subsp. connata</i>
										0.759	0.030	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.576	0.030	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.759	0.030	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>
1-A3	Patch	vvp_0132_63	Endangered	0	no	0.510	0.505	0.505	0.989	0.750	0.451	503447 Prickly Arrowgrass <i>Triglochin mucronata</i>
										0.024	0.412	10019 Red-chested Button-quail <i>Turnix pyrrhotorax</i>
										0.496	0.485	12922 Grassland Earless Dragon <i>Tympanocryptis pinguicollis</i>
										0.775	0.457	501473 Small Golden Moths <i>Diuris basaltica</i>
										0.775	0.457	502746 Snowy Mint-bush <i>Prostanthera nivea var. nivea</i>
										0.775	0.457	502773 Small Scurf-pea <i>Cullen parvum</i>
										0.775	0.457	502776 Tough Scurf-pea <i>Cullen tenax</i>
										0.743	0.457	502929 Fragrant Saltbush <i>Rhagodia parabolica</i>

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
										0.159	0.458	502982 Button Wrinklewort <i>Rutidosis leptorhynchoides</i>
										0.775	0.457	503116 Large-headed Fireweed <i>Senecio macrocarpus</i>
										0.775	0.457	503455 Rye Beetle-grass <i>Tripogon loliiformis</i>
										0.775	0.457	503624 Plump Swamp Wallaby-grass <i>Amphibromus pithogastrus</i>
										0.775	0.457	503984 Heath Spear-grass <i>Austrostipa exilis</i>
										0.775	0.457	504314 Brackish Plains Buttercup <i>Ranunculus diminutus</i>
										0.775	0.457	504484 Melbourne Yellow-gum <i>Eucalyptus leucoxyton subsp. connata</i>
										0.775	0.457	504658 Basalt Podolepis <i>Podolepis linearifolia</i>
										0.469	0.457	504823 Spiny Rice-flower <i>Pimelea spinescens subsp. spinescens</i>
										0.032	0.458	504887 Clumping Golden Moths <i>Diuris gregaria</i>
										0.775	0.457	505344 Pale-flower Crane's-bill <i>Geranium sp. 3</i>

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## 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
Sunshine Diuris	<i>Diuris fragrantissima</i>	504414	Endangered	Highly Localised Habitat	Habitat importance map	0.9721
Small Golden Moths	<i>Diuris basaltica</i>	501473	Endangered	Dispersed	Habitat importance map	0.0565
Heath Spear-grass	<i>Austrostipa exilis</i>	503984	Rare	Dispersed	Habitat importance map	0.0478
Red-chested Button-quail	<i>Turnix pyrrhоторax</i>	10019	Vulnerable	Dispersed	Habitat importance map	0.0341
Werribee Blue-box	<i>Eucalyptus baueriana subsp. thalassina</i>	507580	Endangered	Dispersed	Top ranking map	0.0318
Prickly Arrowgrass	<i>Triglochin mucronata</i>	503447	Rare	Dispersed	Top ranking map	0.0298
Melbourne Yellow-gum	<i>Eucalyptus leucoxylon subsp. connata</i>	504484	Vulnerable	Dispersed	Habitat importance map	0.0277
Grassland Earless Dragon	<i>Tympanocryptis pinguicolla</i>	12922	Critically endangered	Dispersed	Habitat importance map	0.0246
Basalt Podolepis	<i>Podolepis linearifolia</i>	504658	Endangered	Dispersed	Habitat importance map	0.0229
Button Wrinklewort	<i>Rutidosia leptorhynchoides</i>	502982	Endangered	Dispersed	Habitat importance map ; special site	0.0155
Werribee Blue-box	<i>Eucalyptus baueriana subsp. thalassina</i>	507580	Endangered	Dispersed	Habitat importance map	0.0142
Large-headed Fireweed	<i>Senecio macrocarpus</i>	503116	Endangered	Dispersed	Habitat importance map ; special site	0.0135
Plump Swamp Wallaby-grass	<i>Amphibromus pithogastrus</i>	503624	Endangered	Dispersed	Habitat importance map	0.0112
Spiny Rice-flower	<i>Pimelea spinescens subsp. spinescens</i>	504823	Endangered	Dispersed	Habitat importance map	0.0111
Clumping Golden Moths	<i>Diuris gregaria</i>	504887	Endangered	Dispersed	Habitat importance map	0.0108
Brackish Plains Buttercup	<i>Ranunculus diminutus</i>	504314	Rare	Dispersed	Habitat importance map	0.0104
Prickly Arrowgrass	<i>Triglochin mucronata</i>	503447	Rare	Dispersed	Habitat importance map	0.0099

Fragrant Saltbush	<i>Rhagodia parabolica</i>	502929	Rare	Dispersed	Habitat importance map	0.0087
Small Scurf-pea	<i>Cullen parvum</i>	502773	Endangered	Dispersed	Habitat importance map	0.0087
Narrow Goodenia	<i>Goodenia macbarronii</i>	501513	Vulnerable	Dispersed	Habitat importance map	0.0086
Snowy Mint-bush	<i>Prostanthera nivea var. nivea</i>	502746	Rare	Dispersed	Habitat importance map	0.0072
Tough Scurf-pea	<i>Cullen tenax</i>	502776	Endangered	Dispersed	Habitat importance map	0.0062
Brittle Greenhood	<i>Pterostylis truncata</i>	502821	Endangered	Dispersed	Habitat importance map	0.0062
Pale-flower Crane's-bill	<i>Geranium sp. 3</i>	505344	Rare	Dispersed	Habitat importance map	0.0061
Rye Beetle-grass	<i>Tripogon loliiformis</i>	503455	Rare	Dispersed	Habitat importance map	0.0060
Arching Flax-lily	<i>Dianella sp. aff. longifolia (Benambra)</i>	505560	Vulnerable	Dispersed	Habitat importance map	0.0049
Large-flower Crane's-bill	<i>Geranium sp. 1</i>	505342	Endangered	Dispersed	Habitat importance map	0.0047
Pale Swamp Everlasting	<i>Coronidium gunnianum</i>	504655	Vulnerable	Dispersed	Habitat importance map	0.0047
Velvet Daisy-bush	<i>Olearia pannosa subsp. cardiophylla</i>	502317	Vulnerable	Dispersed	Habitat importance map	0.0043
Rosemary Grevillea	<i>Grevillea rosmarinifolia subsp. rosmarinifolia</i>	504066	Rare	Dispersed	Habitat importance map	0.0041
Golden Cowslips	<i>Diuris behrii</i>	501061	Vulnerable	Dispersed	Habitat importance map	0.0039
Branching Groundsel	<i>Senecio cunninghamii var. cunninghamii</i>	503104	Rare	Dispersed	Habitat importance map	0.0038
Striped Legless Lizard	<i>Delma impar</i>	12159	Endangered	Dispersed	Habitat importance map ; special site	0.0035
Small Milkwort	<i>Comesperma polygaloides</i>	500798	Vulnerable	Dispersed	Habitat importance map ; special site	0.0030
Small Milkwort	<i>Comesperma polygaloides</i>	500798	Vulnerable	Dispersed	Top ranking map ; special site	0.0024
Swamp Diuris	<i>Diuris palustris</i>	501082	Vulnerable	Dispersed	Habitat importance map	0.0023
Hairy Tails	<i>Ptilotus erubescens</i>	502825	Vulnerable	Dispersed	Habitat importance map	0.0022
Dark Wire-grass	<i>Aristida calycina var. calycina</i>	503630	Rare	Dispersed	Habitat importance map	0.0021
Cane Spear-grass	<i>Austrostipa breviglumis</i>	503268	Rare	Dispersed	Habitat importance map	0.0019

Dwarf Brooklime	<i>Gratiola pumilo</i>	503753	Rare	Dispersed	Habitat importance map	0.0019
Silky Kidney-weed	<i>Dichondra sp. 1</i>	505786	Rare	Dispersed	Habitat importance map	0.0017
Clover Glycine	<i>Glycine latrobeana</i>	501456	Vulnerable	Dispersed	Habitat importance map	0.0017
Buloke Mistletoe	<i>Amyema linophylla subsp. orientalis</i>	500217	Vulnerable	Dispersed	Habitat importance map	0.0016
Australian Painted Snipe	<i>Rostratula australis</i>	10170	Critically endangered	Dispersed	Habitat importance map	0.0014
Growling Grass Frog	<i>Litoria raniformis</i>	13207	Endangered	Dispersed	Habitat importance map	0.0013
Golden Sun Moth	<i>Synemon plana</i>	15021	Critically endangered	Dispersed	Habitat importance map	0.0013
Buloke	<i>Allocasuarina luehmannii</i>	500678	Endangered	Dispersed	Habitat importance map	0.0013
Austral Tobacco	<i>Nicotiana suaveolens</i>	502275	Rare	Dispersed	Habitat importance map	0.0012
Large-headed Fireweed	<i>Senecio macrocarpus</i>	503116	Endangered	Dispersed	Top ranking map ; special site	0.0010
Salt Lawrenca	<i>Lawrenca spicata</i>	501888	Rare	Dispersed	Habitat importance map	0.0009
Matted Flax-lily	<i>Dianella amoena</i>	505084	Endangered	Dispersed	Habitat importance map	0.0009
Purple Diuris	<i>Diuris punctata</i>	501084	Vulnerable	Dispersed	Habitat importance map	0.0009
Freckled Duck	<i>Stictonetta naevosa</i>	10214	Endangered	Dispersed	Habitat importance map	0.0008
Blue-billed Duck	<i>Oxyura australis</i>	10216	Endangered	Dispersed	Habitat importance map	0.0008
Australian Little Bittern	<i>Ixobrychus dubius</i>	10195	Endangered	Dispersed	Habitat importance map	0.0008
Black Falcon	<i>Falco subniger</i>	10238	Vulnerable	Dispersed	Habitat importance map	0.0007
Eastern Great Egret	<i>Ardea modesta</i>	10187	Vulnerable	Dispersed	Habitat importance map	0.0007
Intermediate Egret	<i>Ardea intermedia</i>	10186	Endangered	Dispersed	Habitat importance map	0.0007
Waterbush	<i>Myoporum montanum</i>	502240	Rare	Dispersed	Habitat importance map	0.0007
Musk Duck	<i>Biziura lobata</i>	10217	Vulnerable	Dispersed	Habitat importance map	0.0007
Plains-wanderer	<i>Pedionomus torquatus</i>	10020	Critically endangered	Dispersed	Habitat importance map	0.0006
Baillon's Crake	<i>Porzana pusilla palustris</i>	10050	Vulnerable	Dispersed	Habitat importance map	0.0006



Hardhead	<i>Aythya australis</i>	10215	Vulnerable	Dispersed	Habitat importance map	0.0005
Australasian Shoveler	<i>Anas rhynchosotis</i>	10212	Vulnerable	Dispersed	Habitat importance map	0.0005
Port Lincoln Snake	<i>Parasuta spectabilis</i>	12813	Vulnerable	Dispersed	Habitat importance map	0.0005
Australasian Bittern	<i>Botaurus poiciloptilus</i>	10197	Endangered	Dispersed	Habitat importance map	0.0005
Brolga	<i>Grus rubicunda</i>	10177	Vulnerable	Dispersed	Habitat importance map	0.0002
Little Egret	<i>Egretta garzetta nigripes</i>	10185	Endangered	Dispersed	Habitat importance map	0.0002
Common Greenshank	<i>Tringa nebularia</i>	10158	Vulnerable	Dispersed	Habitat importance map	0.0001
Black-tailed Godwit	<i>Limosa limosa</i>	528553	Vulnerable	Dispersed	Habitat importance map	0.0001
Elegant Parrot	<i>Neophema elegans</i>	10307	Vulnerable	Dispersed	Habitat importance map	0.0001
Floodplain Fireweed	<i>Senecio campylocarpus</i>	507136	Rare	Dispersed	Habitat importance map	0.0001
Common Sandpiper	<i>Actitis hypoleucos</i>	10157	Vulnerable	Dispersed	Habitat importance map	0.0001
Lewin's Rail	<i>Lewinia pectoralis pectoralis</i>	10045	Vulnerable	Dispersed	Habitat importance map	0.0000
Creeping Rush	<i>Juncus revolutus</i>	501839	Rare	Dispersed	Habitat importance map	0.0000
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	10226	Vulnerable	Dispersed	Habitat importance map	0.0000

#### Habitat group

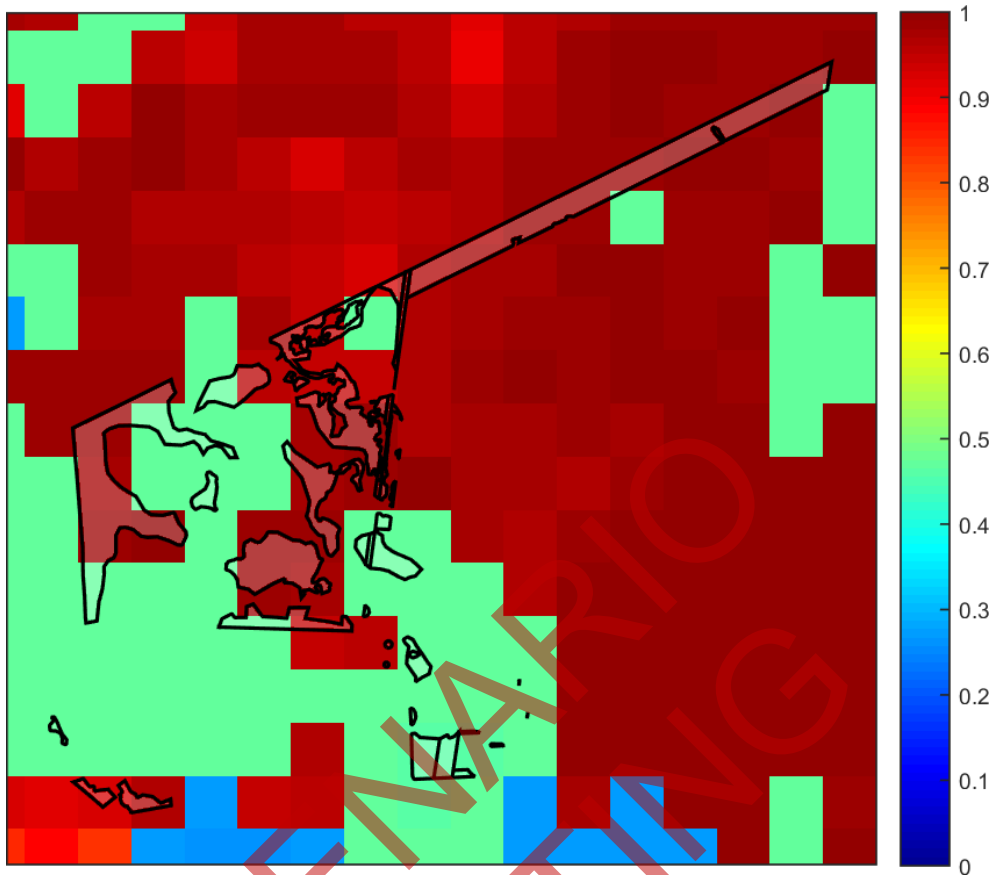
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

#### 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.

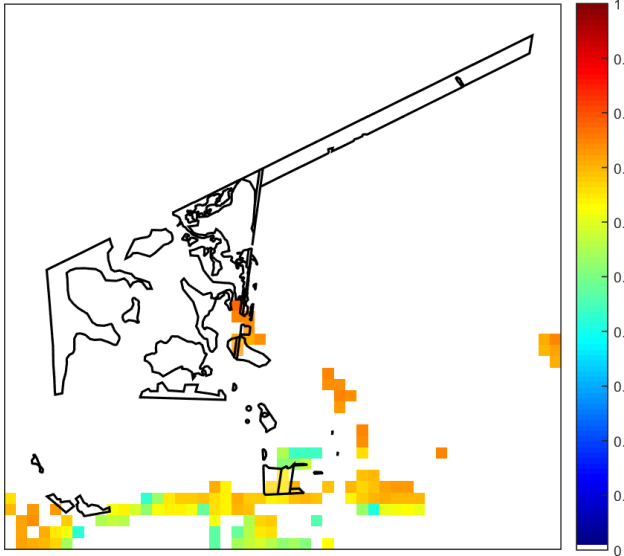
# Appendix 3 – Images of mapped native vegetation

## 2. Strategic biodiversity values map

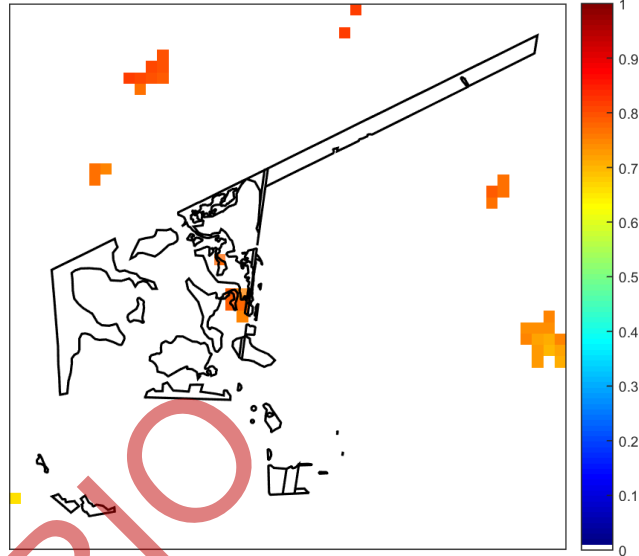


### 3. Habitat importance maps

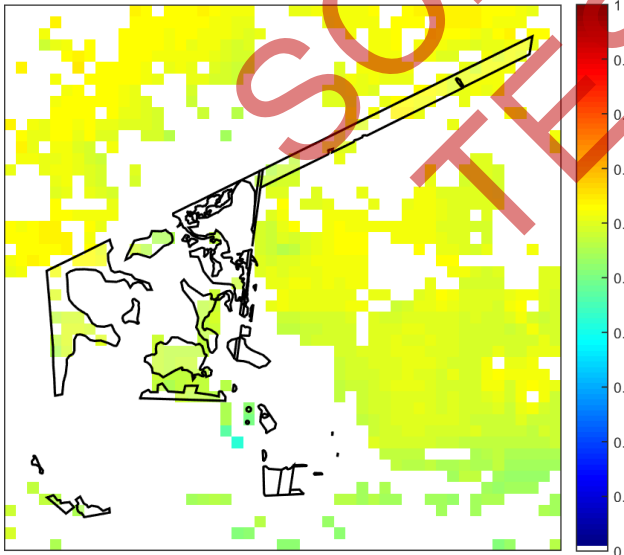
Prickly Arrowgrass  
*Triglochin mucronata*  
503447



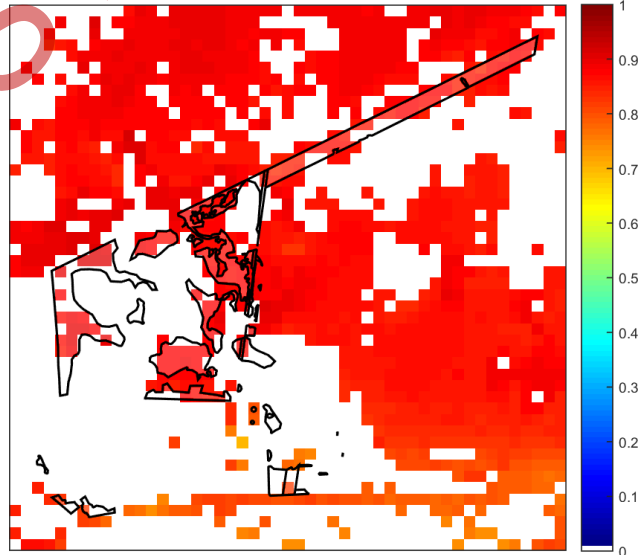
Werribee Blue-box  
*Eucalyptus baueriana* subsp. *thalassina*  
507580



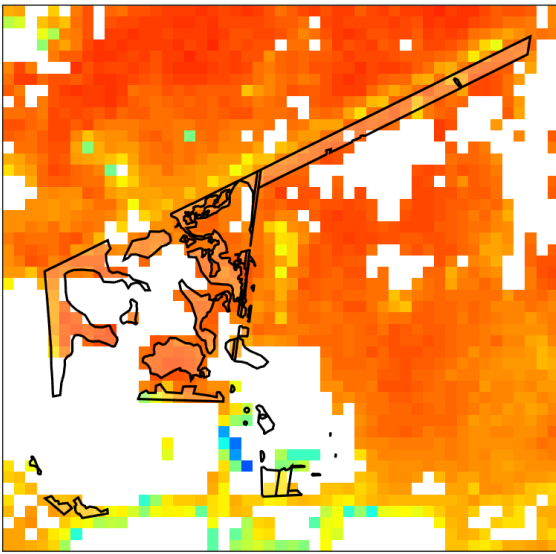
Red-chested Button-quail  
*Turnix pyrrhothorax*  
10019



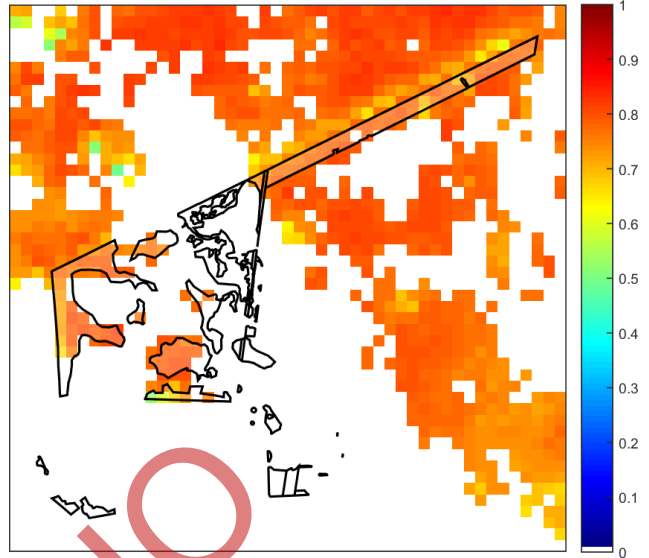
Grassland Earless Dragon  
*Tympanocryptis pinguicolla*  
12922



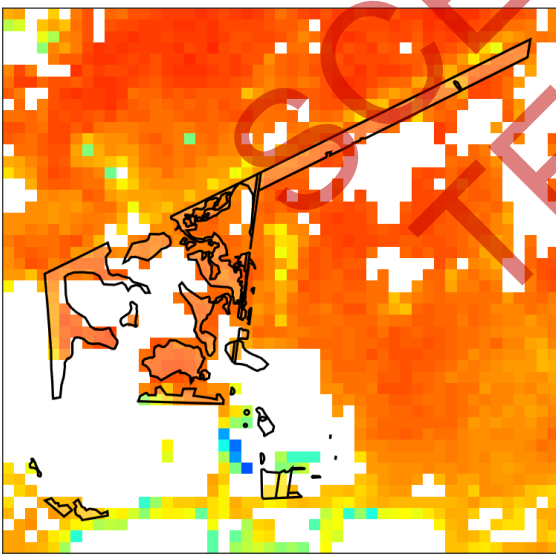
Small Golden Moths  
*Diuris basaltica*  
501473



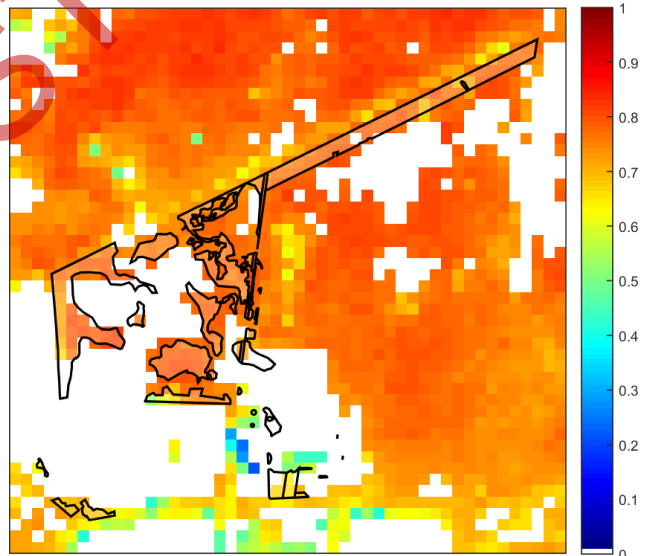
Narrow Goodenia  
*Goodenia macbarronii*  
501513



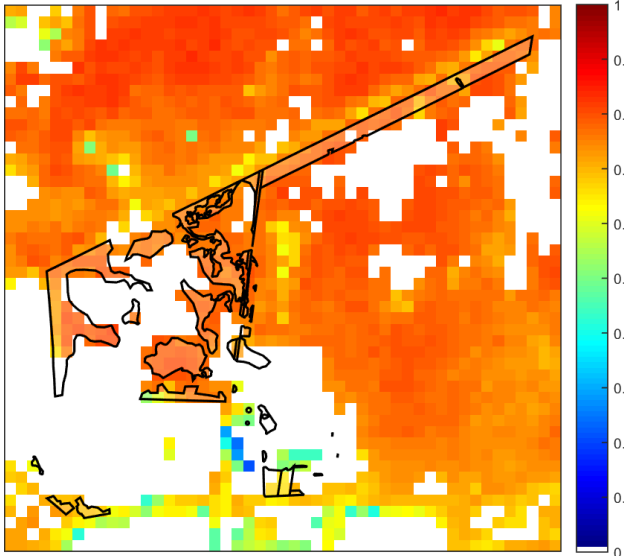
Snowy Mint-bush  
*Prostanthera nivea* var. *nivea*  
502746



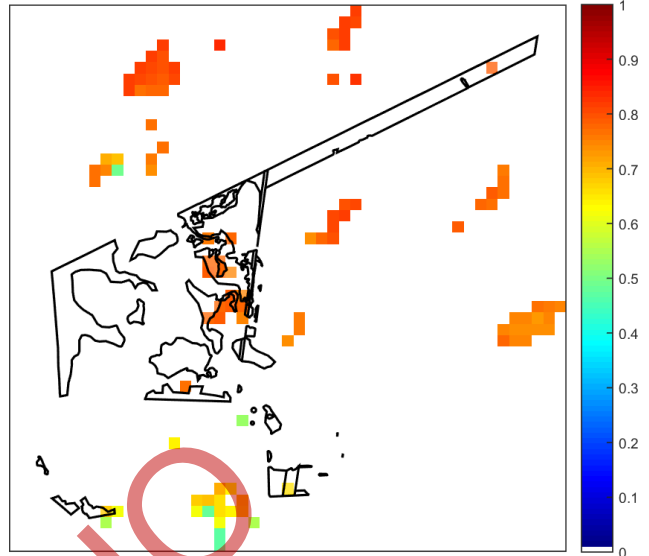
Small Scurf-pea  
*Cullen parvum*  
502773



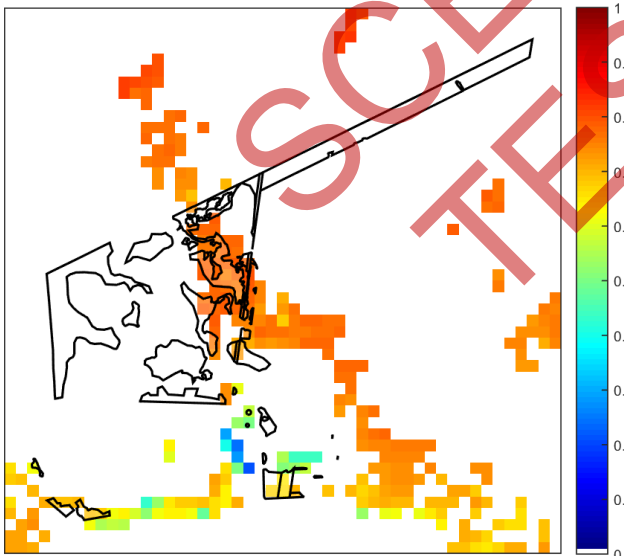
Tough Scurf-pea  
*Cullen tenax*  
502776



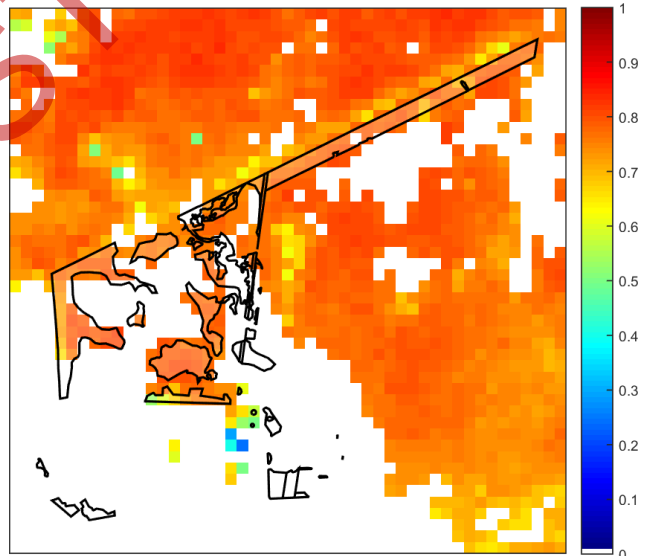
Brittle Greenhood  
*Pterostylis truncata*  
502821



Fragrant Saltbush  
*Rhagodia parabolica*  
502929

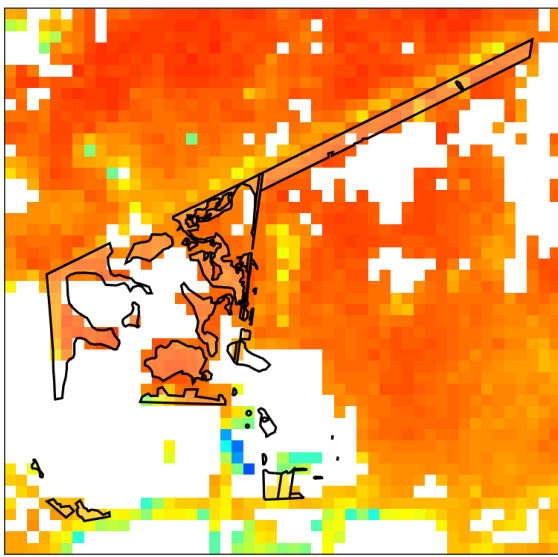


Button Wrinklewort  
*Rutidosia leptorhynchoides*  
502982

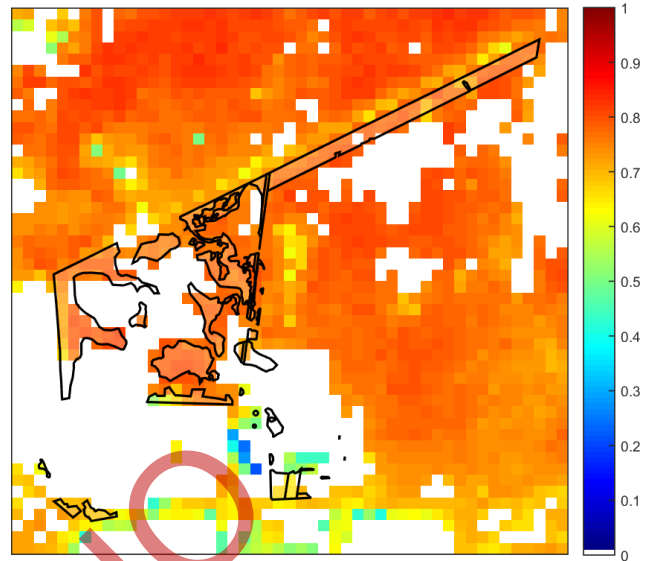




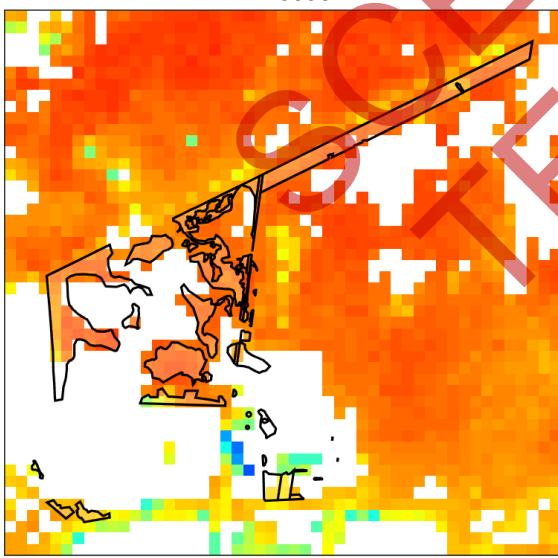
Large-headed Fireweed  
*Senecio macrocarpus*  
503116



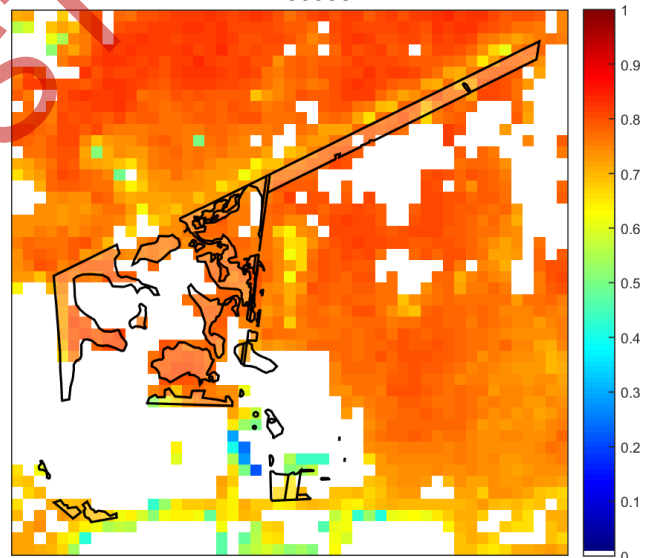
Rye Beetle-grass  
*Tripogon loliiformis*  
503455



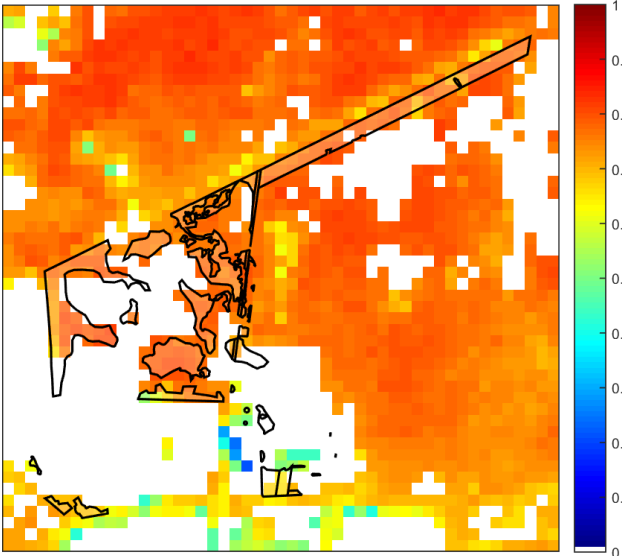
Plump Swamp Wallaby-grass  
*Amphibromus pithogastrus*  
503624



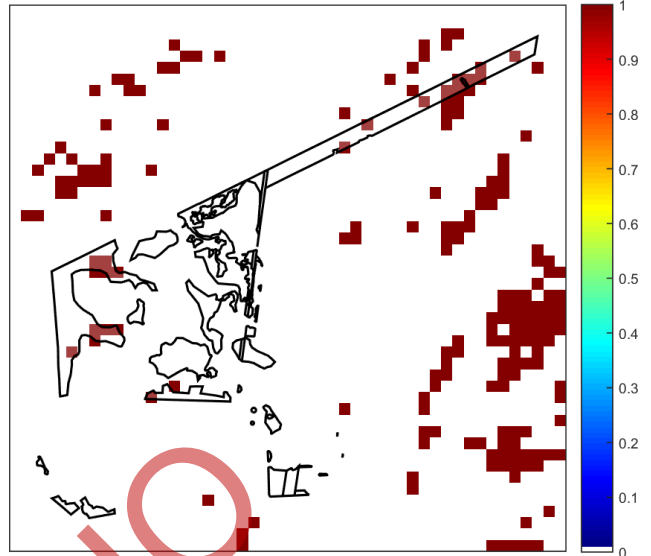
Heath Spear-grass  
*Austrostipa exilis*  
503984



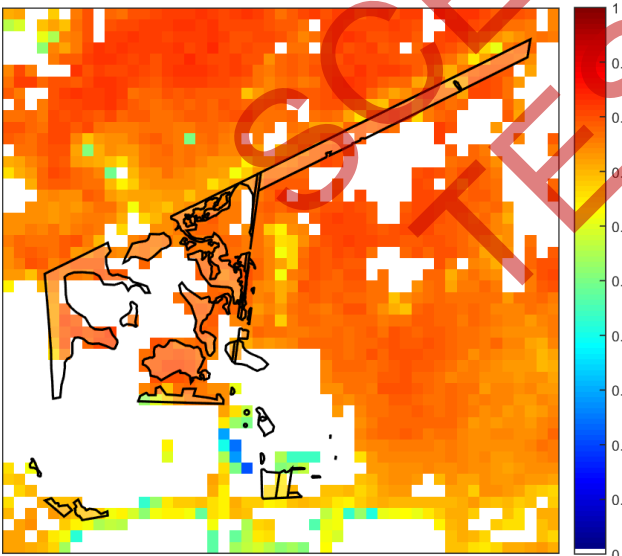
Brackish Plains Buttercup  
*Ranunculus diminutus*  
504314



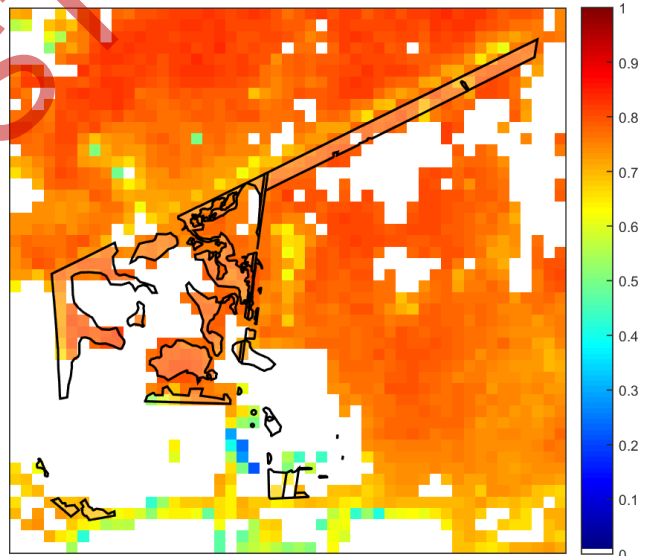
Sunshine Diuris  
*Diuris fragrantissima*  
504414



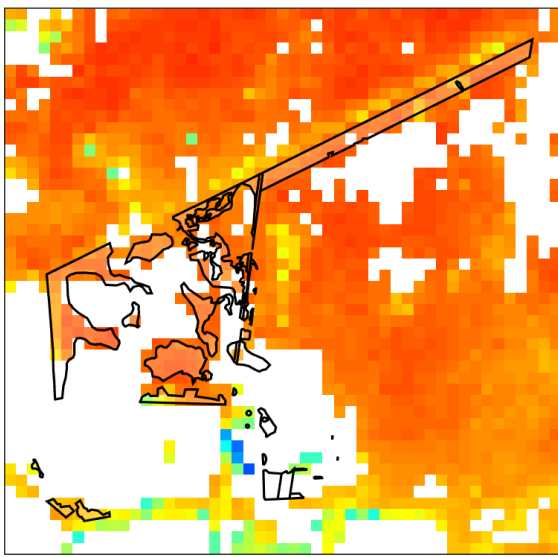
Melbourne Yellow-gum  
*Eucalyptus leucoxylon subsp. connata*  
504484



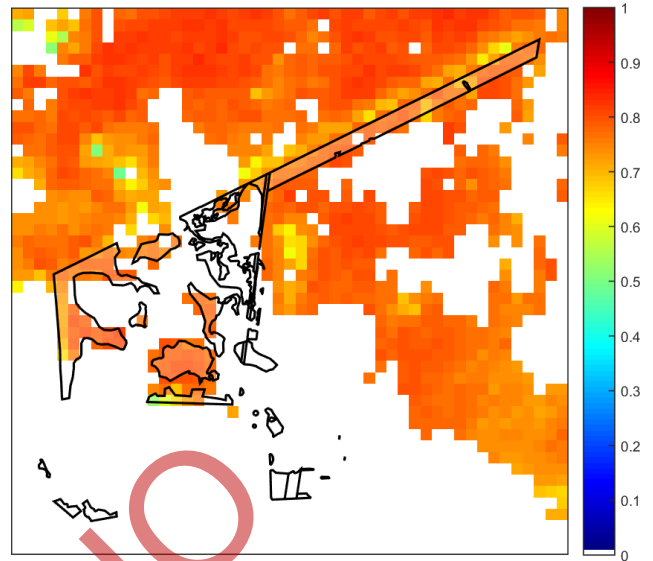
Basalt Podolepis  
*Podolepis linearifolia*  
504658



Spiny Rice-flower  
*Pimelea spinescens* subsp. *spinescens*  
504823



Clumping Golden Moths  
*Diuris gregaria*  
504887



Pale-flower Crane's-bill  
*Geranium* sp. 3  
505344

