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Toorak Road Level Crossing Removal Project

Ecology Assessment



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Toorak Road Level Crossing Removal Project Ecology Assessment

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Terms and Definitions

Term/Acronym	Definition
As Built	Revised drawing to reflect the actual work completed on the Project during construction phase, including exact specifications, geometry and location of elements
Bentley ProjectWise	A server base document management system that provides access and application integration to project data. This is mainly used for the creation, production and management of native document types.
Common Data Environment (CDE)	The common data environment (CDE) is the single source of information used to collect, manage and disseminate project documentation, the graphical model and non-graphical data for the entire project team, interfacing parties and project owner.
Controlled Document	Any document that is subject to management procedures, including review, approval and revision control
Correspondence	The term 'correspondence' as used throughout this document refers to all project communications, both formal e.g. Letters, Request for Information, Site Instructions, Variation Price Requests, Payment Claims, Design Change Requests, etc. and informal e.g. General Correspondence.
DC	Document Control
DCN	Design Change Notice
DCR	Design Change Request
DDM	Document Distribution Matrix
Deliverable	Anything required to be supplied by the Alliance to the Project Owner as stated in the PAA
DEMP	Design & Engineering Management Plan
EDMS	Electronic Document Management System
IFC	Issue for Construction
IFI	Issue for Information

Term/Acronym	Definition
IFR	Issue for Review
IFU	Issue for Use
LCRP	Level Crossing Removal Project
Key Stakeholder	Parties belonging to companies which have an investment in or are affected by the Project
Native	File types used for the original production and editing of information
Network Drive	A Distributed File Server (DFS) shared network drive accessible to all internal Alliance team members
NCR	Non-Conformance Report
PAA	Project Alliance Agreement
Project Owner	The state of Victoria, through Rail Projects Victoria Authority
RFI	Request for Information
RMU	Redline Markup
SDDL	Supplier Data Deliverables List
SDRL	Supplier Data Requirements List
Supplier	Companies who provide subcontracting services to the Alliance during the course of the Project
Teambinder	An online project electronic document management and collaboration system.
Transmittal	The controlled distribution of formal documents, internally and externally, in the form of a cover page identifying the information included in the documents being delivered.
WIP	Work in progress

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1 Introduction

1.1 Project background

Jacobs Group (Australia) Pty Limited (Jacobs), as part of the North East Program Alliance (an alliance between the Level Crossing Removal Project, Metro Trains Melbourne, Laing O'Rourke and Jacobs), was engaged to undertake an ecology assessment of areas associated with the proposed works to remove the Toorak Road level crossing, in Kooyong, Victoria. This assessment builds upon previous findings for the study area (Biosis 2016).

1.2 Assessment purpose

This ecology assessment aimed to:

- Map native vegetation including scattered trees and remnant patches in accordance with the Guidelines for the removal, destruction and lopping of native vegetation (*the Guidelines*) (DELWP 2017)
- Undertake a Habitat Hectare Assessment of any patches of native vegetation in accordance with the Vegetation Quality Assessment Manual v1.3 (DSE 2004)
- Assess potential habitat for threatened flora and fauna that may occur in the study area
- Assess the presence of threatened communities in accordance with the listing advice for those communities
- Describe the vegetation present within the assessed area
- Undertake review of requirements under State and Commonwealth policies and legislation, including those under the Planning Scheme, in relation to ecological constraints observed in the desktop and field assessment
- Provide recommendations regarding opportunities to avoid or minimise impacts on identified ecological values, identify whether further assessments may need to be carried out, and identify potential permits and approvals likely to be required

1.3 Study area

The study area is located in Kooyong and Malvern in Melbourne's inner east. It includes the rail corridor between Kooyong and Tooronga stations, as well as a number of nearby streets and parklands. The full extent of the study area can be seen in Figure 1.1.

Prior to the clearing of native vegetation in the area for agricultural and subsequent urban development, the area is thought to have supported riparian woodland adjacent to Gardiners Creek, and grassy woodlands in the areas surrounding. The route of the Gardiners Creek has been almost completely altered to allow for industrial development, the creation of open space and the development of the Freeway.

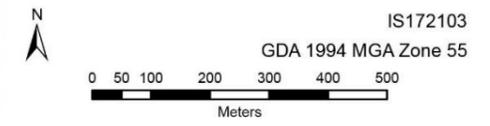
Gardiners Creek, which intersects the project area, forms the boundary between the two local government areas that the study area lies within. Areas of the study area east of Gardiners Creek lie within the Boroondara Local Government Area. Areas west of Gardiners Creek lie within the Stonnington Local Government Area.

Location of the project area

Toorak Road LXRA



- Legend**
- Activity Area (23/11/2018)
 - Rail Station
 - Railway
 - Major Road
 - Minor Road
 - Channel / Drain
 - Watercourse Stream
 - Waterbody
 - Wetland Swamp
 - LGA Boundary



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 Topo 250k Series 3; Vicmap Data © State of Victoria 2018;
 Jacobs 2018

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Date Published: 11 Dec 2018

Figure 1.1: The location of the study area

2 Method

2.1 Desktop assessment

A review of the following databases and documents was undertaken to provide information on native vegetation, threatened ecological communities, and threatened flora and fauna species and vegetation communities previously identified or modelled to occur within the study area:

- NatureKit (DELWP 2018): This database comprises large scale mapping and classification of native vegetation as Ecological Vegetation Classes (EVCs) across Victoria. It also classifies areas of mapped native vegetation according to importance to biodiversity.
- Victorian Biodiversity Atlas (VBA) (DELWP 2018): This database comprises historical records of flora and fauna species from across the state. Records are added opportunistically, as flora and fauna surveys are conducted within Victoria for a variety of purposes. Records from a five km radius of the site have been assessed for this report.
- Protected Matters Search Tool (DEE 2018): The Protected Matters Search Tool (PMST) highlights any Matters of National Environmental Significance MNES relevant to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) that are likely to occur within an area. A 5 km buffer of the study area was assessed to determine likely threatened flora, fauna and communities potentially present within the study area.

2.2 Field assessment

A field assessment of the study area was conducted by Jacobs ecologists in December 2018. Tasks undertaken during the assessment included:

- Mapping of native vegetation including scattered trees and remnant patches in accordance with the Guidelines (DELWP 2017)
- Undertaking a Habitat Hectare Assessment of any patches of native vegetation in accordance with the Vegetation Quality Assessment Manual v1.3 (DSE 2004)
- Assessing potential habitat for threatened flora and fauna that may occur in the study area
- Assessing the presence of threatened communities in accordance with the listing advice for those communities
- Describing the vegetation present within the assessed areas

2.2.1 Native vegetation

Native vegetation was mapped in accordance with The Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017) as either a patch, scattered tree or other native vegetation, as described below:

Patch:

- an area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native, or
- any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy, or
- any mapped wetland included in the Current wetlands map, available in DELWP systems and tools.

Scattered tree:

- a native canopy tree that does not form part of a remnant patch. A native canopy tree is a mature tree (i.e. it is able to flower) that is greater than 3m in height and is normally found in the upper layer of the relevant vegetation type

Other native vegetation:

- native vegetation that is not a remnant patch or scattered tree was incidentally identified such as scattered understorey trees

Patches were further categorised into Ecological Vegetation Classes (EVC) and then into Habitat Zones. These areas were GPS mapped and assessed using the habitat hectare method described by DSE (2004) in the Vegetation Quality Assessment Manual – Guidelines for applying the habitat hectare scoring method – Version 1.3. Any large trees contained within patches were identified, GPS mapped and their Diameter at Breast Height (DBH) recorded.

2.3 Legislation and policy

The implications of flora and fauna values within the study area are assessed against the relevant policy and legislation. Policy and legislation utilised in this assessment is detailed in Appendix A, and includes the following:

Commonwealth

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

State

- *Environment Effects Act 1978* (EE Act)
- *Flora and Fauna Guarantee Act 1988* (FFG Act)
- *Planning and Environment Act 1987* (P&E Act)
- the Guidelines
- *Catchment and Land Protection Act 1994* (CaLP Act)

2.4 Assumptions and limitations

- This report is intended only for the purpose of identifying and determining potential approval requirements associated with ecological values within the study area. Information presented in this report is based on conditions at the time of the assessment. Changes to the ecological conditions occur over time through natural and human influences and may alter the conclusions of this report.
- Information from the desktop assessment is based on existing data only and is, therefore, only as reliable as the data available. The sources include modelled data (e.g. EVC mapping and EPBC PMST results) and hence should be considered indicative only.
- With regards to VBA, data is variable depending on the number of previous surveys undertaken and the ability to readily observe species. For example, at the time of historical site visits some plant species may not have been flowering or visible above the ground and therefore not identified as being present within the area surveyed. In the case of fauna, species move around the landscape and can be in hidden or cryptic locations, so while they potentially utilise or reside within a site, they may often not be observed during surveys.
- Floral taxa observed during the field survey period were recorded. Effort was made to focus on recording indigenous taxa rather than aliens. The survey was undertaken during December, which is a good time for observing flora, however there are still some taxa that may not have been visible or were overlooked. Hence the flora recorded should be considered an indicative rather than comprehensive list.
- No targeted surveys were completed in the undertaking of this assessment.
- Spatial data layers assessed were the most current available at the time of assessment. Any changes to these layers may require this report to be updated.
- Calculations and figures are based on design details available at the time of writing. Where design details change the outcomes of this report may require updating.

3 Results

3.1 Vegetation

3.1.1 Overview of vegetation within the study area

Vegetation within the study area was found to be typical of inner-urban Melbourne, in that the vegetation was mostly planted and maintained. Vegetation present included plants that are site indigenous, locally indigenous, Victorian natives, Australian Natives, and Exotic species.

Parks and street nature strips were typically found to be characterised by maintained lawn areas with a variety of planted trees present. In the case of street nature strips, trees planted were typically not Victorian natives including, for example, Plane Trees (*Platanus x acerifolia*) and Brush Box (*Lophostemon confertus*). Similarly, parks were generally characterised by maintained lawns and planted trees albeit including some native tree species. Victorian native species (including some locally indigenous species) identified amongst the plantings included Southern Blue-gum (*Eucalyptus globulus*), Red Box (*Eucalyptus polyanthemos*), and River Red-gum (*Eucalyptus camaldulensis*). In addition to trees, parks often included planted garden beds that included a variety of native and non-native shrubs, graminoids and herbs including Wattles (*Acacia* spp.), Spiny-head Mat-rush (*Lomandra longifolia*), and Common Tussock grass (*Poa labillardieri*).

The rail corridor similarly featured planted trees, shrubs and ground layer vegetation including native (both indigenous and non-indigenous species) and non-native species including Sugar Gum (*Eucalyptus cladocalyx*) and River Red-gum, Southern Mahogany (*Eucalyptus botryoides*), Red Box, Yellow Box, Ironbark (*Eucalyptus tricarpa*), Sweet bursaria (*Bursaria spinosa*), Silver Wattle (*Acacia dealbata*), Spiny-head Mat-rush, and Common Tussock grass. Ground layer vegetation within the rail corridor was dominated by the exotic grasses Couch (*Cynodon dactylon*) and Kikuyu (*Pennisetum clandestinum*). The rail corridor was also found to contain a number of noxious weeds including Sour-sob (*Oxalis pes-caprae*), and Montpellier Broom (*Genista monspessulana*).

Freeway plantings present within the study area (associated with the M1 that intersects the study area) were found to be planted out with a number of Victorian natives (both indigenous and non-indigenous to the area). Species used in freeway plantings included Red Box, River Red-gum, Sweet Bursaria, Silver Wattle, Black Wattle (*Acacia mearnsii*) Spiny-head Mat-rush, and Common Tussock grass.

There is clear evidence that most of the plantings mentioned above (including the native vegetation they contain) are amenity plantings. Such evidence includes regular planting formations (e.g. linear with even spacing, and alternation of species used to create 'patterns') as well as the incorporation of exotic and non-indigenous species in the plantings. These amenity plantings are not considered assessable 'native vegetation' as defined under the Guidelines. Native vegetation was determined to occur within the study area however (see below).

3.1.1.1 Commemorative plantings

Four commemorative plantings were observed in Tooronga Park. These areas are planted vegetation intended to enhance the amenity of the park. These plantings are also of biodiversity value. This is evidenced by the installation of a number nest boxes in trees present within the plantings, and a plaque indicating that the vegetation was planted to 'commemorate World Environment Day'. Brush-tailed possums (*Trichosurus vulpecula*) were observed to have taken up residence within some of the nest boxes. However, the document *Exemptions from requiring a planning permit to remove, destroy or lop native vegetation Guidance* (DELWP, 2017) considers that plantings are exempt where the planting 'may have biodiversity benefits, but that the main purpose of the planting was amenity, such as along a road.' Hence these plantings have been excluded from offset calculations.

3.1.2 Native vegetation

Native vegetation assessable under the Guidelines is scarce across the study area although does occur as patches of native vegetation and scattered trees.

3.1.2.1 Patches of native vegetation

Although the area has been subject to extensive prior clearing, the study area was found to contain patches of native vegetation. A total of nine (9) patches of native vegetation occurred across the study area and were found to represent three different EVCs. Although there is a possibility that some of these patches of native vegetation are in fact amenity plantings, there is little evidence to suggest as much. Features that distinguish amenity plantings such

as regular planting formations and species selection that incorporates exotic species were not present in patches of native vegetation. Patches of native vegetation are described by EVC below and summarised in Table 3 1:

Table 3 1: Summary of Ecological Vegetation Classes within the study area.

Ecological Vegetation Class	No. Patches	Area (ha)	Bioregional conservation status (Gippsland Plain)
55: Plains Grassy Woodland	2	0.114	Endangered
56: Floodplain Riparian Woodland	6	0.179	Endangered
175: Grassy Woodland	1	0.003	Endangered

3.1.2.1.1 EVC 55: Plains Grassy Woodland

Patches of Plains Grassy Woodland occurred only in the far north-eastern extent of the project area. A total of two patches (HZ3a, and HZ3b) occurred both within the road reserve and the rail corridor. Patches were characterised by a canopy of River Red-gum over a sparse shrub layer that included Blackwood (*Acacia melanoxylon*), Lightwood (*Acacia implexa*), juvenile River Red-gums and Cherry Ballart (*Exocarpos cupressiformis*). Both patches had no native ground layer vegetation with the ground layer instead being dominated by bare ground and exotic lawn grasses.

Patches of Plains Grassy Woodland are delineated by the canopies of the River Red-gum trees that they contain (canopy trees). These patches contain three large canopy trees, as mapped in Figure 3.1, and detailed in Appendix B. Large, old, indigenous trees are a scarce resource in the urban environment, and as such, these trees are an important ecological feature in the landscape. Impacts to these trees should be avoided through designating the tree protection zone (TPZ) of each tree as a no-go zone where possible. Tree protection zone sizes have been calculated for all large canopy trees and are detailed in Appendix B.

It should be noted that HZ3b has been mapped as partially occurring over the rail and ballast. This is due to the canopy of the canopy tree overhanging the rail line. For this patch, works within the rail corridor will not necessarily result in a loss of HZ3b. Impacts to HZ3b will be determined by whether the trees overhanging the rail line will be impacted. To avoid impact to these trees, the tree protection zones of each of these trees should be designated as a no-go zone.

3.1.2.1.2 EVC 56: Floodplain Riparian Woodland

Patches of Floodplain Riparian Woodland occurred as shrubby regrowth along the margin of Gardiners Creek. The study identified six patches of Floodplain Riparian Woodland, including five patches of HZ1, and one patch of HZ2. HZ1 consisted of a number of Acacia shrubs including Silver Wattle (*Acacia dealbata*), Blackwood, Swamp Paperbark (*Melaleuca ericifolia*) and Black Wattle (*Acacia mearnsii*) over an understorey dominated by exotic grasses including Kikuyu (*Pennisetum clandestinum*). HZ2 similarly consisted primarily of Acacia shrub regrowth, however, the ground layer vegetation of HZ2 was higher quality due to some apparent indigenous revegetation efforts. Understorey species present included Spiny-head Mat-rush, Common Tussock-grass, and Weeping Grass (*Microlaena stipoides*). HZ2 occurred beneath an amenity planting of Yellow Box which were not included as part of the patch.

3.1.2.1.3 EVC 175: Grassy Woodland

One small patch of Grassy Woodland (HZ5a) occurred within the rail corridor between the Toorak Road and Toorong Road level crossings. The patch consisted of a number of Lightwood shrubs growing over exotic kikuyu grass.

3.1.2.2 Scattered Trees

A total of six large scattered trees (distinct from the three large canopy trees that occur within patches of vegetation) occurred within the study area including five River Red-gums and one Yellow Box. These scattered trees are mapped in Figure 3.1, and detailed in Appendix B. Large, old, indigenous trees are a scarce resource in the urban environment, and as such, these trees are an important ecological feature in the landscape. Impacts to these trees

should be avoided through designating the tree protection zone (TPZ) of each tree as a no-go zone where possible. Tree protection zone sizes have been calculated for all large scattered trees and are detailed in Appendix B.

3.1.2.3 Other native vegetation

Scattered native understorey vegetation including Wallaby grass (*Rytidosperma* spp.), and Weeping Grass (*Microlaena stipoides*) was found to occur in very low densities across the rail corridor. This vegetation was determined to not meet the requirements for a patch of native vegetation due to the cover being less than 25% (cover of these species was less than 1 %).

3.2 Threatened communities

The desktop assessment flagged four threatened communities listed under the EPBC Act with the potential to occur within the study area:

- Grassy Eucalypt Woodland of the Victorian Volcanic Plain
- Natural Damp Grassland of the Victorian Coastal Plains
- Natural Temperate Grassland of the Victorian Volcanic Plain
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland

These communities were confirmed to be absent during the field assessment. The study area is located on the Gippsland Plain, and thus cannot support Grassy Eucalypt Woodland of the Victorian Volcanic Plain, or Natural Temperate Grassland of the Victorian Volcanic Plain. Further, the study area was confirmed not to support areas of grassland, or Woodland dominated by White Box, Yellow Box, or Blakely's Red Gum. Therefore, the study area was confirmed to not support Natural Damp Grassland of the Victorian Coastal Plains, or White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

No FFG-listed threatened communities were flagged by the desktop assessment or observed during the field assessment.

3.3 Rare and threatened species

3.3.1 Flora listed under the EPBC Act and FFG Act

It is highly unlikely that any threatened flora species occur within the study area due to the highly modified nature of the study area. Threatened flora flagged by the desktop search as potentially occurring within the study area are detailed in Appendix C and Appendix D.

Although no threatened flora listed under the FFG Act were recorded within the study area, a number of FFG-protected (not threatened) species were recorded. Four Black Wattles occur along Gardiners Creek. These plants are mapped in Figure 3.1.

3.3.2 Fauna Listed under the EPBC Act and FFG Act

Three threatened fauna species have a moderate to high likelihood of occurring within the study area based the desktop search and a review of habitat available within the study area. These include:

- **Grey-headed Flying-fox (EPBC-Vulnerable, FFG-Listed):** Species known to overfly the study area. This species may occasionally forage from fruit-bearing trees within the study area.
- **Swift Parrot (EPBC-Critically Endangered, FFG-Listed):** This species may occasionally forage from flowering eucalypts within the study area
- **Powerful Owl (FFG-Listed):** This species has the potential to roost within large trees and hunt for prey within the study area

Although these species have a moderate to high likelihood of occurring occur within the study area, the habitat it provides is unlikely to constitute important habitat for each of these species. For example, while the study area may contain food resources for all three species, the surrounding urban environment also contains these resources. The same can be said of suitable roosting trees for the Powerful Owl. For this reason, the project is considered unlikely to impact these species. Although impacts to these species from removal of the proposed works is unlikely, vegetation is highly beneficial to fauna in the urban landscape (especially large old Eucalypt trees in the case of the Swift Parrot and the Powerful Owl). Every effort should be made to preserve habitat for these species to promote biodiversity in the urban landscape.

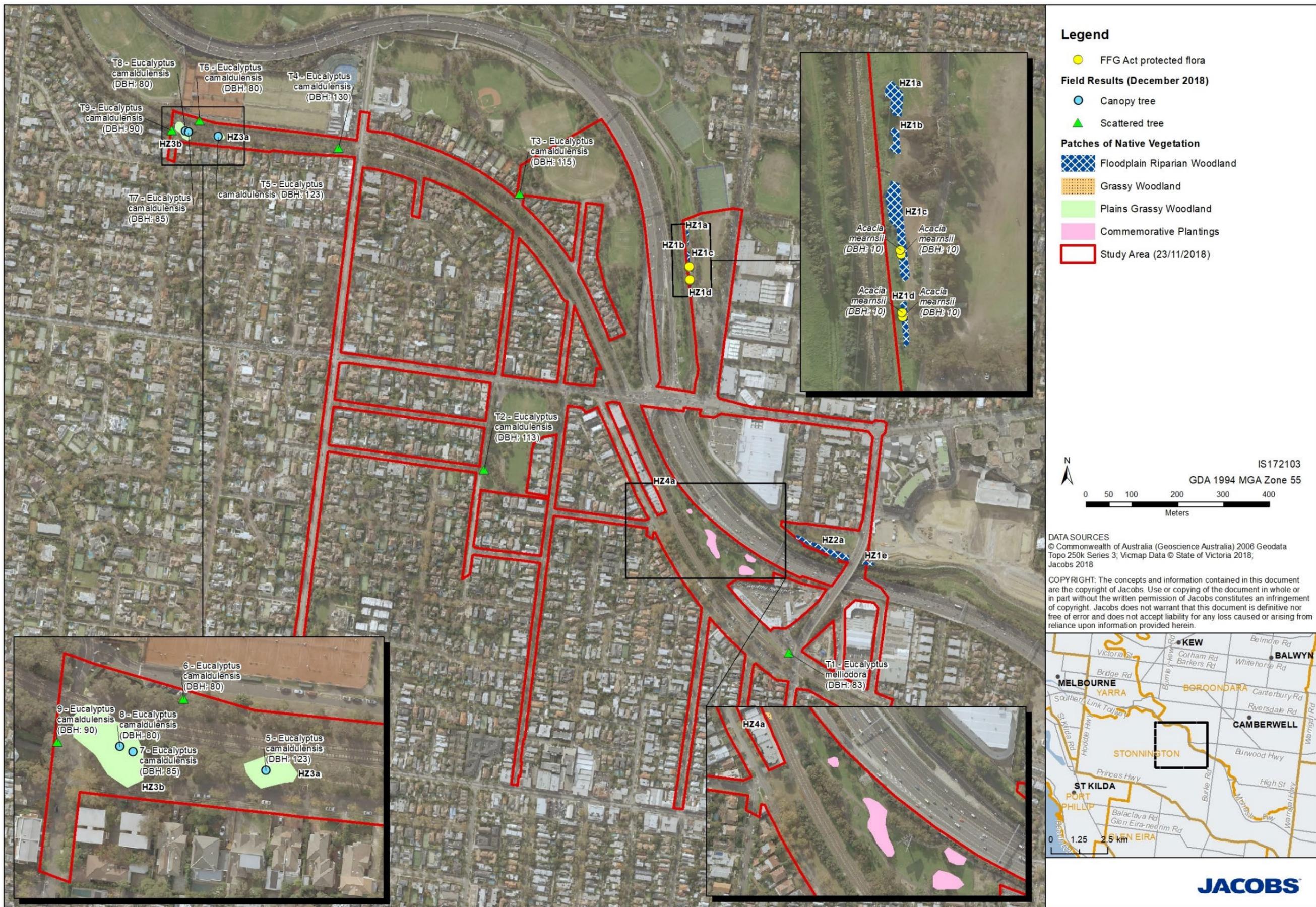
3.3.3 Species listed on the VicAdv

Impacts to species listed on the VicAdv are assessed using derived datasets (DELWP habitat models) rather than the presence or absence of these species determined through an ecological assessment. Although habitat for some VicAdv species may be modelled to occur within the project area, the limited extent of vegetation within the project area means that this modelling is unlikely to create an additional approval requirement for the project.

3.4 CALP Act listed species

Four noxious weed species were located within the study area:

- African Boxthorn (*Lycium ferocissicum*)
- Montpellier Broom (*Genista monspessulana*)
- Sour-sob (*Oxalis pes-caprae*)
- Sweet Briar (*Rosa rubiginosa*)



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Figure 3.1: The study area, and mapped native vegetation

4 Legislative and policy implications

Ecological values that were found to occur within (or have a moderate to high likelihood of occurring within) the study area considered against relevant Commonwealth and State legislation in this section. The key findings are summarised in Table 4 1.

Table 4 1: Summary of legislative and policy implications

Policy/legislation	Relevant ecological feature within study area	Implications
Commonwealth		
EPBC Act	<ul style="list-style-type: none"> No MNES likely to be impacted by the proposed works 	<ul style="list-style-type: none"> No further action required
State		
EE Act	<ul style="list-style-type: none"> Project unlikely to trigger a referral under the EE Act 	<ul style="list-style-type: none"> No further action required
FFG Act	<ul style="list-style-type: none"> Four FFG-protected Black Wattles 	<ul style="list-style-type: none"> Permit to take under the FFG Act required for the removal of the four protected Black Wattles
P&E Act	<ul style="list-style-type: none"> Patches of native vegetation Scattered trees Scattered native grasses within rail corridor (occur across corridor at densities of less than 1% and therefore do not constitute a patch of native vegetation) 	<ul style="list-style-type: none"> Permit to remove vegetation required from responsible authority for the removal of patches and scattered trees Appropriate offsets required to be purchased prior to construction for the Patches, and the Scattered trees. Species offsets for VicAdv species unlikely due to the limited extent of native vegetation clearing
CaLP Act	<ul style="list-style-type: none"> Four noxious weeds detected within the study area: African Boxthorn (<i>Lycium ferocissicum</i>), Montpellier Broom (<i>Genista monspessulana</i>), Sour-sob (<i>Oxalis pes-caprae</i>), and Sweet Briar (<i>Rosa rubiginosa</i>) 	<ul style="list-style-type: none"> All reasonable steps must be taken during the construction of this project to control and prevent the spread of these weeds.

4.1 Commonwealth

4.1.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The proposed works do not require a referral under the EPBC Act. Two threatened species listed under the EPBC Act, as discussed in Section 3.3, were determined to have a moderate to high likelihood of occurring in the study area. After considering the habitat provided for these species within the study area in the context of the surrounding landscape, it was determined as per *the Significant Impact Guidelines* (DoE 2013) that it is unlikely that these species would be significantly impacted by the proposed works, and that a referral under the EPBC Act is not required.

4.2 State

4.2.1 Environment Effects Act 1978 (EE Act)

The proposed works are unlikely to trigger the requirement for an Environment Effects Statement (EES) based solely on Flora and Fauna triggers. The proposed works were considered against the flora and fauna-related triggers listed within the *Ministerial guidelines for the assessment of environmental effects* that determine whether a referral under the EE Act is warranted. Due to the limited extent of native vegetation, and the limited extent of habitat for threatened species within the project area, it is considered unlikely that this project will trigger an EES requirement solely for Flora and Fauna triggers.

4.2.2 Flora and Fauna Guarantee Act 1998 (FFG Act)

A Permit to Take for protected flora under the FFG Act is required for four Black Wattles (*Acacia mearnsii*) that occur within the study area. These plants are mapped in Figure 3.1.

A Permit to Take for threatened species under the FFG Act is not required as it is unlikely that threatened flora listed under the FFG Act will occur within the study area. Further, although a number of threatened fauna have a moderate to high likelihood of occurring within the study area, the study area is not considered to be critical habitat for these species.

4.2.3 Planning and Environment Act 1987 (P&E Act)

4.2.3.1 Permit requirement for native vegetation removal under Clause 52.17 of Planning Schemes

A planning permit from the relevant responsible authority, City of Boroondara or City of Stonnington respectively, is currently required for native vegetation removal undertaken to facilitate the proposed works. This native vegetation includes scattered trees and patches of native vegetation, and scattered native understorey vegetation within the rail corridor. No overlays create an additional permit requirement for native vegetation removal within the study area.

An amendment to the Boroondara and Stonnington Planning Schemes is proposed for land required for the Project (Project Land). The proposed amendment will insert an Incorporated Document into the Planning Schemes to allow the use and development of the Project Land for the purposes of the Project in accordance with the controls in the Incorporated Document, without the need for permits to be obtained under the Planning Schemes. The proposed Incorporated Document requires that details of the removal, destruction or lopping of native vegetation necessary for the construction of the Project must be prepared in accordance with the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a), except as otherwise agreed by the Secretary to DELWP. The Incorporated Document also requires native vegetation offsets to be provided in accordance with the Guidelines, except as otherwise agreed by the Secretary to DELWP.

4.2.3.2 Assessment under the Guidelines

Assuming all native vegetation within the project area is to be cleared, the vegetation removal required to facilitate the project is considered likely to be assessed under the detailed assessment pathway. The assessment pathway of a project is determined by analysing the relevant native vegetation information (see below) against the matrix in Table 4.2 from the Guidelines. Relevant native vegetation information for this project is as follows:

- Location category: Location 1 and 2
- Extent of native vegetation: 0.712 ha¹, comprising:
 - 0.3 ha of patches of native vegetation
 - 0.42 ha of Scattered trees
- 9 Large trees

¹ Total extent of native vegetation is slightly less than the total of scattered trees and patches due to the overlap in mapped vegetation

Table 4 2: Matrix used for the determination of the assessment pathway of a project, reproduced from the Guidelines

Extent of native vegetation	Location category		
	Location 1	Location 2	Location 3
Less than 0.5 ha; no large trees	Basic	Intermediate	Detailed
Less than 0.5 ha; with one or more large trees	Intermediate	Intermediate	Detailed
0.5 ha or more	Detailed	Detailed	Detailed

Should this project require native vegetation removal assessed under the detailed assessment pathway, a detailed assessment report providing additional information on threatened species will be required. This report satisfies that requirement. Appendix E is a scenario test NVR report detailing the offset obligations of the project, should all vegetation within the study area be required to be cleared. Offset requirements for this scenario are summarised in Table 4 3.

Table 4 3: Summary of offset requirements assuming all vegetation is cleared

Pathway	General offset amount	Minimum Strategic biodiversity value score	Large trees
Detailed	0.132 general habitat units	0.169	9

It should be noted however that through the process of avoiding native vegetation through designing around native vegetation as mapped, the project may be assessed under either an intermediate or basic assessment pathway. Under the basic, intermediate or detailed assessment pathways, progression of the project will require the following:

- Finalise the project area to determine the final extent of native vegetation removal, avoiding the removal of vegetation where possible – particularly the large trees within the project area.
- Secure appropriate vegetation offsets prior to undertaking vegetation removal

4.2.3.3 Species offset requirement for species listed on the VicAdv

Assuming the project works within the existing study area, species offsets will not be required for impacts to species listed on the VicAdv (Appendix E).

4.2.4 The Catchment and Land Protection Act

Four noxious weed species were located within the study area:

- African Boxthorn (*Lycium ferocissicum*)
- Montpellier Broom (*Genista monspessulana*)
- Sour-sob (*Oxalis pes-caprae*)
- Sweet Briar (*Rosa rubiginosa*)

All reasonable steps must be taken during the construction of this project to control and prevent the spread of these weeds.

5 Conclusions and next steps

An ecology assessment was undertaken of the study area. The following ecological values associated with permit/approval requirement were determined to be present within the study area:

- Approximately 0.712 ha of native vegetation across 3 EVCs, 6 large Scattered Trees. Three large canopy trees occur within the patches of native vegetation.
- Four FFG-protected Black Wattle (*Acacia mearnsii*) plants
- 4 noxious weeds including African Boxthorn, Montpellier Broom, Sour-sob and Sweet Briar

The following approval requirements are expected to be associated with the proposed works:

- Planning approval for native vegetation removal from the responsible authority
- Offsets must be obtained prior to undertaking any vegetation clearing
- A permit to take under the FFG Act must be obtained prior to the removal of the four Black Wattles

Next steps and recommendations

- Finalise the area of disturbance to determine the extent of vegetation clearing required to facilitate the proposed works
- It is recommended that native vegetation be avoided where possible, particularly the indigenous large old trees within the study area which are important for promoting urban biodiversity values.

6 References

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7 Appendices

Appendix A: Legislation and policy used in assessment

Legislation/policy	Description	Project relevance
Commonwealth		
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	<p>The EPBC Act has significant implications for natural resource and environmental management in Australia. This Act provides for the listing of threatened species, threatened ecological communities and key threatening processes. It also relates to actions likely to have a significant impact on Matters of National Environmental Significance (MNES). There are nine MNES:</p> <ul style="list-style-type: none"> • World Heritage Sites • National Heritage Places • Ramsar Wetlands • Nationally threatened species and ecological communities • Migratory species • Commonwealth marine areas • Nuclear actions • the Great Barrier Reef Marine Park • Water resources from coal seam gas development or large coal mining development 	<ul style="list-style-type: none"> • Determine whether any MNES are likely to be ‘significantly’ impacted by the proposed works. • Undertake further assessment where required, such as targeted surveys. Where MNES may be impacted recommended mitigation measures to avoid and reduce impact. If impact cannot be avoided the project will need to be referred to the Commonwealth Department of the Environment and Energy (DEE).
State		
Environment Effects Act 1978 (EE Act)	<p>The Environment Effects Act 1978 provides for the assessment of actions that are capable of having a significant environmental effect.</p> <p>Actions which might have a significant environmental effect should be referred to the Victorian Minister for Planning, who decides if an Environmental Effects Statement (EES) is required. An EES might be required where:</p> <ul style="list-style-type: none"> • 10 ha or more native vegetation is being cleared • There is a likelihood of regionally or state significant adverse environmental effects • There is a need for an integrated assessment of social and economic effects of a project or relevant alternatives • Normal statutory processes would not provide a sufficiently comprehensive, integrated and transparent assessment 	<ul style="list-style-type: none"> • Determine whether the extent of removal of native vegetation and habitat for threatened species of state significance will trigger the need for a referral under the Environmental Effects Act. • Recommended further assessment where required, such as targeted surveys. If a trigger for EES is met, recommend mitigation measures to avoid and reduce impact. If impact cannot be avoided an EES referral will need to be submitted.

Legislation/policy	Description	Project relevance
	<p>This Act also allows an applicant to write to the Secretary of the Victorian Department of Environment Land Water and Planning (DELWP) to confirm no EES is required.</p>	
<p>Flora and Fauna Guarantee Act 1988 (FFG Act)</p>	<p>The FFG Act provides a framework for biodiversity conservation in Victoria. Threatened species and communities of flora and fauna, as well as threatening processes, are listed under this Act.</p> <p>A number of non-threatened flora species are also listed as protected under the FFG Act. A Permit to Take is required to remove these species from public land.</p> <p>N.B. The FFG Act is currently under review with changes expected in 2018. This report has been prepared based on the current requirements of the report and these may change prior to the construction of the project</p>	<ul style="list-style-type: none"> • Determine if any FFG-listed flora or fauna species are likely to be affected or threatening processes occur by the proposed works. • Undertake further assessment where required. Where listed flora and fauna species are identified or threatening processes likely, recommend mitigation measures to avoid and reduce impact. If protected flora are to be removed a Permit to Take may need to be obtained.
<p>DELWP Victorian Advisory Lists (VicAdv)</p>	<p>The DELWP Victorian Advisory Lists (VicAdv) are not a statutory list of threatened species, but rather list species for which conservation management is recommended by DELWP. The VicAdv lists are comprised of the Advisory List of Rare or Threatened Plants in Victoria – 2014 (DEPI 2014), the Advisory List of Threatened Vertebrate Fauna in Victoria – 2013 (DEPI 2013), and the Advisory List of Threatened Invertebrate Fauna in Victoria – 2009 (DSE 2009).</p> <p>The presence, or likely presence, of a species listed on the VicAdv lists is used to determine whether species specific habitat is required to be offset and for other project sustainability measures.</p>	<ul style="list-style-type: none"> • Determine if any species present are listed on the VicAdv lists and likely to be affected by the proposed works – as determined through the use of DELWP habitat models. • Undertake further assessment where required. Where listed flora and fauna species are identified, recommend mitigation measures to avoid and reduce impacts. If listed flora and fauna species are to be impacted an offset will be prescribed for the project area that may incorporate habitat for the affected species.
<p>Planning and Environment Act 1987</p>	<p>Applications to remove, destroy, or lop native vegetation in Victoria invoke Clause 52.17 of the Victorian Planning Provisions which is given authority through the Planning and Environment Act.</p> <p>Certain overlays within the planning scheme (e.g. Environmental Significance Overlays) may modify the permit requirements for the removal of native vegetation. A range of exemptions apply. Note the proposed Planning Scheme Amendment for the project intends to exempt the project from Overlays.</p>	<ul style="list-style-type: none"> • Determine whether native vegetation is present and will require removal. Consider whether any exemptions apply. • Where native vegetation is present within the project area, recommend mitigation measures to avoid and minimise the removal of native vegetation. If native vegetation is to be removed, obtain approval from the relevant planning authority and identify and obtain the relevant native vegetation offsets.
<p>Guidelines for the removal, destruction or</p>	<p>The assessment of native vegetation under the planning scheme is undertaken in accordance with the <i>Guidelines for the removal,</i></p>	

Legislation/policy	Description	Project relevance
<p>lopping of native vegetation (Guidelines)</p>	<p><i>destruction or lopping of native vegetation</i> (DELWP 2017). The Guidelines guide how impacts on biodiversity should be considered, including whether a permission should be granted and how offsets are calculated.</p> <p>Depending on the scale and location of the native vegetation clearance, statutory referral to the DELWP may be required.</p>	
<p>Catchment and Land Protection Act 1994 (CaLP Act)</p>	<p>The CaLP Act defines requirements to:</p> <ul style="list-style-type: none"> • Avoid land degradation; • Conserve soil; • Protect water resources; and • Eradicate and prevent the spread and establishment of noxious weed and pest animal species. • The Act defines four categories of noxious weeds: State Prohibited Weeds, Regionally Prohibited Weeds, Regionally Controlled Weeds and Restricted Weeds. Noxious weeds species and the category they are placed in is specific to individual CMA regions. 	<ul style="list-style-type: none"> • Determine whether any pest plant or animal species are present within the study area. • Recommend mitigation measures to control pest plant and animal species and to prevent any increase in the population of the species as a result of the proposed works .

Appendix B: Native vegetation register

Scattered trees and large canopy trees have been recorded within the study area in accordance with *the Guidelines*. These trees are detailed in Table 7 1. Trees with an asterisk (*) are in private property, thus DBH values (and the resulting TPZ values) provided are estimated.

Table 7 1: Scattered trees and Large canopy trees recorded within the study area

Tree number	Tree type	Species	DBH (cm)	TPZ (m)
T1	Scattered tree	<i>Eucalyptus melliodora</i>	83	9.96
T2	Scattered tree	<i>Eucalyptus camaldulensis</i>	113	13.56
T3	Scattered tree	<i>Eucalyptus camaldulensis</i>	115	13.80
T4	Scattered tree	<i>Eucalyptus camaldulensis</i>	130	15.60
T5*	Large canopy tree	<i>Eucalyptus camaldulensis</i>	123	14.76
T6	Scattered tree	<i>Eucalyptus camaldulensis</i>	80	9.60
T7	Large canopy tree	<i>Eucalyptus camaldulensis</i>	85	10.20
T8*	Large canopy tree	<i>Eucalyptus camaldulensis</i>	80	9.60
T9	Scattered tree	<i>Eucalyptus camaldulensis</i>	90	10.80

Patches have been recorded within the study area in accordance with *the Guidelines*. These patches are detailed in

Table 7 2: Patches recorded within the study area

Patch	EVC	Area (ha)	Habitat Score (%)
HZ1a	Floodplain Riparian Woodland	0.0074	9
HZ1b	Floodplain Riparian Woodland	0.0035	9
HZ1c	Floodplain Riparian Woodland	0.0188	9

Patch	EVC	Area (ha)	Habitat Score (%)
HZ1d	Floodplain Riparian Woodland	0.0048	9
HZ1e	Floodplain Riparian Woodland	0.0192	9
HZ2a	Floodplain Riparian Woodland	0.1258	13
HZ3a	Plains Grassy Woodland	0.0307	36
HZ3b	Plains Grassy Woodland	0.0844	36
HZ4a	Grassy Woodland	0.0031	14

Appendix C: Threatened species

The threatened species tables within this appendix (Table 7 5 and Table 7 6) detail all threatened species recorded within 5 km of the project area within the last 30 years and their conservation status as per Table 7 3. The threatened species tables also detail the likelihood of presence of each species based on the findings of the field assessment as determined using the criteria in Table 7 5.

Table 7 3: Key to listing status of threatened species

Key to Species Listing Status			
Status under the EPBC Act		Status on the VicAdv	
CR	Critically Endangered	cr	Critically Endangered
EN	Endangered	e	Endangered
VU	Vulnerable	v	Vulnerable
Status under the FFG Act		nt	Near Threatened
L	Listed	r	Rare

Table 7 4: Key to likelihood of presence of threatened species

Key to Species Likelihood of Presence	
<p>C – Confirmed presence</p> <ul style="list-style-type: none"> Species recorded within the project area by the present study. 	<p>H – High likelihood</p> <ul style="list-style-type: none"> Recent records of the species in the vicinity, and/or The project area contains areas of high quality habitat for the species
<p>M – Moderate likelihood</p> <ul style="list-style-type: none"> Limited or historic records of the species in the vicinity, and/or The study area contains habitat. 	<p>L – Low likelihood</p> <ul style="list-style-type: none"> No previous records of the species in the vicinity, and/or The project area contains limited or no suitable habitat for the species, and/or The species was not observed during targeted surveys for the species, and/or The project area lies outside the geographic range of the species.
<p>Nil</p> <ul style="list-style-type: none"> Conditions within the project area are incongruous with requirements of the species (e.g. marine pelagic species could not occur in a terrestrial project area), and/or The species has been deemed absent after sufficient survey effort (criterion generally reserved for particularly conspicuous species). 	<p>N/A</p> <ul style="list-style-type: none"> Legislation protecting threatened species does not apply to the species within the project area, as: <ul style="list-style-type: none"> The project area is outside the natural range of the species, and The species is present for non-conservation purposes (e.g., planted for amenity, or has become naturalised in the area).

Table 7 5: Threatened flora previously recorded within 5 km of the project area

Species	Listing status			Habitat	Last record	Likelihood of presence
	EPBC	FFG	VicAdv			
<i>Acacia boormanii</i> Snowy River Wattle	-	-	r	Restricted mostly to open-forest on rocky slopes and along banks of the Snowy River and its tributaries, with outlying populations at Mt Typo and Gapsted in the Myrtleford area. Flowers Aug-Oct.2 (Walsh and Entwisle 1996)	1996	L
<i>Adiantum capillus-veneris</i> Venus-hair Fern	-	L	e	Often growing on calcareous soils. (Gray and Knight 2001)	1999	L
<i>Androcalva rossii</i> Native Hemp	-	-	v	In Victoria a rare species of warm-temperate rainforest margins, wet eucalypt forest and riparian scrub in the far east (RBGV 2017)	1998	L
<i>Banksia saxicola</i> Rock Banksia	-	-	r	Apparently restricted to higher peaks and sheltered gullies and slopes in the Grampians and on Wilsons Promontory (e.g. Sealers Cove), usually in rocky sites (RBGV 2017)	2015	L
<i>Billardiera scandens</i> s.s. Velvet Apple-berry	-	-	r	Little known about this sub-species. Other variants are found in heathlands, woodlands and dry-sclerophyll forests. From Sea-level to sub-alpine areas. (Walsh and Entwisle 1996)	2012	L
<i>Caladenia xanthochila</i> Yellow-lip Spider-orchid	EN	L	e	Extremely rare in Victoria, known only from 4 localities between Bendigo and Dimboola where it grows on sandy soil in Eucalyptus leucoxylon woodland (RBGV 2017)	2012	L
<i>Corymbia maculata</i> Spotted Gum	-	-	v	Only known in Victoria from the Tara Range, south of Buchan (RBGV 2017)	2009	N/A
<i>Diuris basaltica</i> Small Golden Moths	EN	L	e	Plains Grassland on Victorian Basalt Plains. Known from records in Laverton and Altona. Flowers Sep.-Oct. (Gray and Knight 2001)	2012	L
<i>Epilobium brunnescens</i> subsp. <i>Beagleholei</i> Bog Willow-herb	VU	L	e	Endemic to Victoria and extremely rare. Apparently confined to moist, moss-covered rocks receiving splash from a subalpine waterfall on the Snowy Range, north of Licola.	2017	L
<i>Eucalyptus leucoxylon</i> subsp. <i>Connata</i>	-	-	v	Often on deep soil but also on stony hills. Often found in relatively well-watered country. (Gray and Knight 2001)	2007	M

Species	Listing status			Habitat	Last record	Likelihood of presence
	EPBC	FFG	VicAdv			
Melbourne Yellow-gum						
<i>Eucalyptus walshii</i> Little Desert Mallee-box	-	-	e	Known from a single population in the Little Desert, growing in mallee woodland in sandy soils (RBGV 2017)	2015	L
<i>Goodia medicaginea</i> Western Golden-tip	-	-	r	In Victoria occurs sporadically in the south-west (e.g. north of Portland, Mt Arapiles), at Long Forest west of Melbourne, in central Victoria near Eaglehawk and at Killawarra Forest, and near Suggan Buggan in the east (RBGV 2017)	2010	L
<i>Grevillea dimorpha</i> Flame Grevillea	-	-	r	Growing in moister areas of dry sclerophyll forest or heath, sandy soils on sandstone. (Walsh and Entwisle 1996)	2015	L
<i>Grevillea floripendula</i> Ben Major Grevillea	VU	L	v	Restricted to a small area north of Beaufort, from Waterloo to Ben Major Forest. Grows in dry open-forest, on shallow quartzitic soils (RBGV 2017)	2013	L
<i>Melaleuca armillaris</i> subsp. <i>Armillaris</i> Giant Honey-myrtle	-	-	r	Mainly confined to near-coastal sandy heaths, scrubs slightly raised above saltmarsh, riparian scrubs, rocky coastlines and foothill outcrops. (Walsh and Entwisle 1996)	2007	N/A
<i>Myoporum brevipes</i> Pale Myoporum	-	L	e	Currently known in Victoria from a few plants growing in mallee scrub on red sand over limestone near Boinka, about 70 km west of Ouyen (RBGV 2017)	2011	L
<i>Nicotiana suaveolens</i> Austral Tobacco	-	-	r	Recorded from several sites in Victoria (RBGV 2017).	1997	L
<i>Senecio campylocarpus</i> Floodplain Fireweed	-	-	r	In Victoria mostly throughout central Victoria and in the north-east in loam to clay soils in forest and woodland, usually in seasonally inundated areas (RBGV 2018).	2015	L
<i>Senecio macrocarpus</i> Large-headed Fireweed	VU	L	e	Confined to remnant Themeda grasslands on loamy clay soils west of Melbourne. (Walsh and Entwisle 1999)	2012	L

Table 7 6: Threatened fauna previously recorded within 5 km of the project area

Species	Listing status			Habitat	Last record	Likelihood of presence
	EPBC	FFG	VicAdv			
<i>Alcedo azurea</i> Azure Kingfisher	-	-	nt	Root-festooned banks of fresh or tidal creeks, rivers and streams in rainforest, lakes, swamps, estuaries, mangroves. (Pizzey and Knight 2012)	2006	L
<i>Anseranas semipalmata</i> Magpie Goose	-	L	nt	Large seasonal wetlands and well-vegetated dams with rushes and sedges, wet grasslands, floodplains. (Pizzey and Knight 2012)	1999	L
<i>Ardea alba</i> Great Egret	-	L	vu	Shallows of rivers, estuaries, tidal mudflats, freshwater wetlands; sewage ponds, irrigation areas, larger dams etc. (Pizzey and Knight 2012)	2008	L
<i>Ardea plumifera</i> Plumed Egret	-	L	en	Shallows of rivers, estuaries, tidal mudflats, freshwater wetlands; sewage ponds, irrigation areas, larger dams etc. (Pizzey and Knight 2012)	2010	L
<i>Aythya australis</i> Hardhead	-	-	v	Deep, permanent wetlands, large open waters, brackish coastal swamps, farm dams, ornamental lakes , sewage ponds. (Pizzey and Knight 2012)	2009	L
<i>Biziura lobate</i> Musk Duck	-	-	v	Well-vegetated swamps, wetlands, both brackish and fresh, lakes, reservoirs, shallow bays, inlets; occasionally at sea. (Pizzey and Knight 2012)	2005	L
<i>Egretta garzetta</i> Little Egret	-	L	en	Shallows of rivers, estuaries, tidal mudflats, freshwater wetlands; sewage ponds, irrigation areas, larger dams etc. (Pizzey and Knight 2012)	2005	L
<i>Hirundapus caudacutus</i> White-throated Needletail	-	-	v	Airspace over forests, woodlands, farmlands, plains, lakes, coasts, towns, feeding companies frequency patrol back and forward along favoured hilltops and timbered ranges. (Pizzey and Knight 2012)	2014	L
<i>Larus pacificus</i> Pacific Gull	-	-	nt	Coasts, bays, offshore islands, coastal farmland, swamps, garbage tips; some follow rivers inland. (Pizzey and Knight 2012)	2000	L

Species	Listing status			Habitat	Last record	Likelihood of presence
	EPBC	FFG	VicAdv			
<i>Lathamus discolor</i> Swift Parrot	CR	L	e	Open grassy woodland, with dead trees, near permanent water and forested hills, coastal heaths, pastures with exotic grasses, weeds, roadsides, orchards. (Pizzey and Knight 2012)	1989	M
<i>Macquaria ambigua</i> Golden Perch	-	-	nt	Occurs in a variety of riverine habitats but prefers warm, slow moving turbid sections of streams. (Allen, Midgley et al. 2002)	2007	L
<i>Ninox strenua</i> Powerful Owl	-	L	v	Pairs occupy a large, probably permanent, home range in mountain forests, gullies and forest margins, sparser hilly woodlands, coastal forests, woodlands, scrubs, exotic pine plantations, large trees in private/public gardens, some in cities. (Pizzey and Knight 2012)	2016	M
<i>Nycticorax caledonicus</i> Nankeen Night Heron	-	-	nt	Shallows of rivers, estuaries, tidal mudflats, freshwater wetlands; sewage ponds, irrigation areas, larger dams etc. (Pizzey and Knight 2012)	2009	L
<i>Oxyura australis</i> Blue-billed Duck	-	L	e	Found on temperate, fresh to saline, terrestrial wetlands including sewerage ponds, rivers, salt lakes and salt pans. Preferring deep, permanent open water within or near dense vegetation. (Pizzey and Knight 2012)	2010	L
<i>Phalacrocorax varius</i> Pied Cormorant	-	-	nt	Coastal waters with sloping shorelines; estuaries, bays, tidal inlets, large inland lakes and rivers, irrigation ponds, coastal mangroves and offshore islands. (Pizzey and Knight 2012)	2007	L
<i>Prototroctes maraena</i> Australian Grayling	VU	L	v	Clear, moderate to fast-flowing water in the upper reaches of rivers. Typically found in gravel-bottom pools. Often form aggregations below barriers to upstream movement. (Allen, Midgley et al. 2002)	2014	L
<i>Pseudophryne semimarmorata</i> Southern Toadlet	-	-	v	Found in a variety of damp situations in sclerophyll forests under logs, leaf-litter etc. where it lives in small tunnels during the breeding season (March-May). (Cogger 2014)	1991	L

Species	Listing status			Habitat	Last record	Likelihood of presence
	EPBC	FFG	VicAdv			
<i>Pteropus poliocephalus</i> Grey-headed Flying-fox	VU	L	v	Camps of this species are found in gullies, typically not far from water and usually in vegetation with a dense canopy. (Van Dyck and Strahan 2008)	2015	H

Appendix D: PMST report



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 10/12/18 14:22:14

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

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Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	2
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	4
Listed Threatened Species:	33
Listed Migratory Species:	16

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

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

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

Commonwealth Land:	4
Commonwealth Heritage Places:	1
Listed Marine Species:	23
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	52
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

National Heritage Properties		[Resource Information]
Name	State	Status
Historic		
Abbotsford Convent	VIC	Listed place
Melbourne's Domain Parkland and Memorial Precinct	VIC	Listed place

Listed Threatened Ecological Communities

 [Resource Information]

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

Name	Status	Type of Presence
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	Critically Endangered	Community known to occur within area
Natural Damp Grassland of the Victorian Coastal Plains	Critically Endangered	Community may occur within area
Natural Temperate Grassland of the Victorian Volcanic Plain	Critically Endangered	Community may occur within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area

Listed Threatened Species

 [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Breeding known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat likely to occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Fish		
Galaxiella pusilla Eastern Dwarf Galaxias, Dwarf Galaxias [56790]	Vulnerable	Species or species habitat likely to occur within area
Maccullochella peelii Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area
Nannoperca obscura Yarra Pygmy Perch [26177]	Vulnerable	Species or species habitat likely to occur within area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat known to occur within area
Frogs		
Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog [1828]	Vulnerable	Species or species habitat known to occur within area
Insects		
Synemon plana Golden Sun Moth [25234]	Critically Endangered	Species or species habitat likely to occur within area
Mammals		
Antechinus minimus maritimus Swamp Antechinus (mainland) [83086]	Vulnerable	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat may occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys fumeus Smoky Mouse, Konoom [88]	Endangered	Species or species habitat may occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Roosting known to occur within area
Plants		
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat likely to occur within area
Dianella amoena Matted Flax-lily [64886]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat likely to occur within area
Lachnagrostis adamsonii Adamson's Blown-grass, Adamson's Blowngrass [76211]	Endangered	Species or species habitat likely to occur within area
Pimelea spinescens subsp. spinescens Plains Rice-flower, Spiny Rice-flower, Prickly Pimelea [21980]	Critically Endangered	Species or species habitat may occur within area
Prasophyllum frenchii Maroon Leek-orchid, Slaty Leek-orchid, Stout Leek-orchid, French's Leek-orchid, Swamp Leek-orchid [9704]	Endangered	Species or species habitat likely to occur within area
Pterostylis chlorogramma Green-striped Greenhood [56510]	Vulnerable	Species or species habitat likely to occur within area
Pterostylis cucullata Leafy Greenhood [15459]	Vulnerable	Species or species habitat may occur within area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat likely to occur within area

Reptiles

Delma impar Striped Legless Lizard [1649]	Vulnerable	Species or species habitat likely to occur within area
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Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area

Migratory Wetlands Species

Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

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

Name
Defence - CAULFIELD TRAINING DEPOT
Defence - Defence Depot
Defence - HAWTHORN TRAINING DEPOT
Defence - ST KILDA TRAINING DEPOT

Commonwealth Heritage Places [\[Resource Information \]](#)

Name	State	Status
Historic		
Artillery Orderly Room / Drill Hall	VIC	Listed place

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Invasive Species [\[Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Carduelis chloris European Greenfinch [404]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Pycnonotus jocosus Red-whiskered Bulbul [631]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Turdus philomelos Song Thrush [597]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Capra hircus Goat [2]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Asparagus scandens Asparagus Fern, Climbing Asparagus Fern [23255]		Species or species habitat likely to occur within area
Carrichtera annua Ward's Weed [9511]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Dolichandra unguis-cati Cat's Claw Vine, Yellow Trumpet Vine, Cat's Claw Creeper, Funnel Creeper [85119]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Nassella neesiana Chilean Needle grass [67699]		Species or species habitat likely to occur within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Senecio madagascariensis Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area
Ulex europaeus Gorse, Furze [7693]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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

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

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Coordinates

-37.83912 145.028473,-37.840137 145.035854,-37.850202 145.04242,-37.853286 145.052463,-37.853286 145.052463

Acknowledgements

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

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

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

Please feel free to provide feedback via the [Contact Us](#) page.

Appendix E: 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: 11/02/2019

Time of issue: 3:00 pm

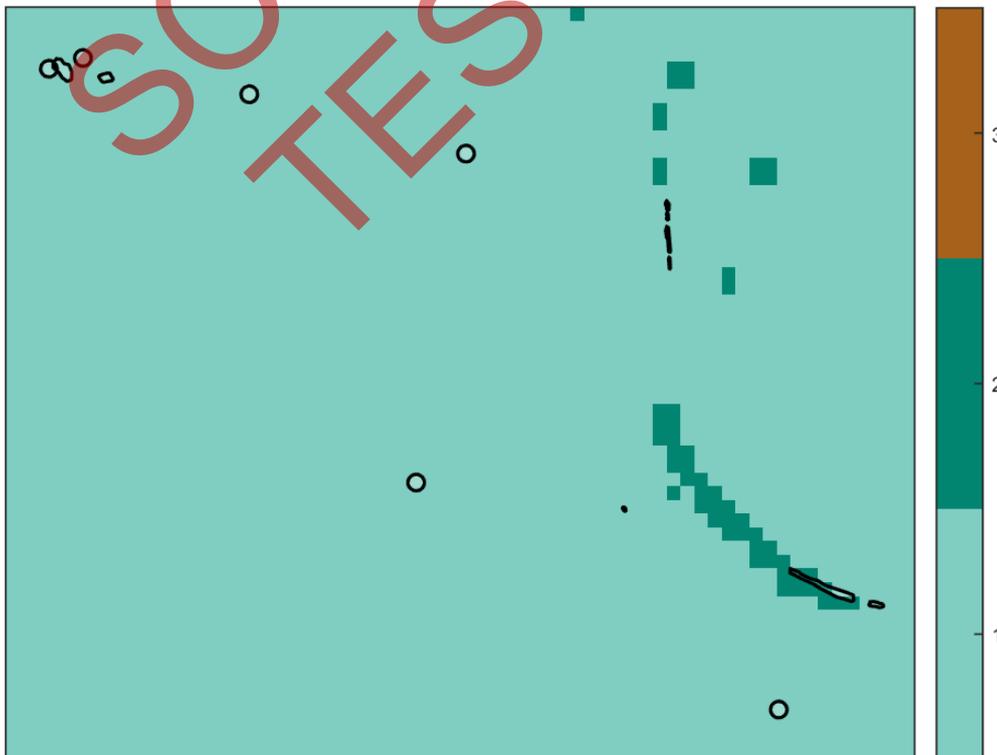
Report ID: Scenario Testing

Project ID	NVR shapefile without conservation plantings
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Assessment pathway

Assessment pathway	Detailed Assessment Pathway
Extent including past and proposed	0.712 ha
Extent of past removal	0.000 ha
Extent of proposed removal	0.712 ha
No. Large trees proposed to be removed	9
Location category of proposed removal	Location 2 The native vegetation is in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map). Removal of less than 0.5 hectares of native vegetation in this location will not have a significant impact on any habitat for a rare or threatened species.

1. Location map



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:

General offset amount¹	0.132 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Boroondara City, Stonnington City Council
Minimum strategic biodiversity value score ²	0.169
Large trees	9 large trees

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

Appendix 1 includes information about the native vegetation to be removed

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

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

SCENARIO TESTING

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

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

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. 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-E	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.070	0.070	0.120		0.012	General
1-F	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.070	0.070	0.258		0.013	General
1-G	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.070	0.070	0.120		0.012	General
1-H	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.070	0.070	0.260		0.013	General
1-A	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.070	0.070	0.100		0.012	General
1-B	Patch	gipp0056	Endangered	0	no	0.090	0.005	0.005	0.270		0.000	General
1-C	Patch	gipp0056	Endangered	0	no	0.090	0.019	0.019	0.260		0.002	General
1-D	Patch	gipp0056	Endangered	0	no	0.130	0.125	0.125	0.260		0.015	General
1-M	Patch	gipp0055	Endangered	1	no	0.360	0.031	0.031	0.166		0.010	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
1-9	Scattered Tree	gipp0055	Endangered	1	no	0.200	0.070	0.063	0.250		0.012	General
1-O	Patch	gipp0056	Endangered	0	no	0.090	0.007	0.007	0.270		0.001	General
1-P	Patch	gipp0056	Endangered	0	no	0.090	0.003	0.003	0.270		0.000	General
1-I	Patch	gipp0056	Endangered	0	no	0.090	0.019	0.019	0.270		0.002	General
1-K	Patch	gipp0175	Endangered	0	no	0.140	0.003	0.003	0.260		0.000	General
1-L	Patch	gipp0055	Endangered	2	no	0.360	0.084	0.084	0.251		0.028	General

SCENARIO TESTING

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
Australian Mudfish	<i>Neochanna cleaveri</i>	4703	Critically endangered	Dispersed	Habitat importance map	0.0001
Yarra Pygmy Perch	<i>Nannoperca obscura</i>	4882	Vulnerable	Dispersed	Habitat importance map	0.0001
Australian Grayling	<i>Prototroctes maraena</i>	4686	Vulnerable	Dispersed	Habitat importance map	0.0000
Lacey River Buttercup	<i>Ranunculus amplus</i>	505019	Rare	Dispersed	Habitat importance map	0.0000
Melbourne Yellow-gum	<i>Eucalyptus leucoxylon subsp. connata</i>	504484	Vulnerable	Dispersed	Habitat importance map	0.0000
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	11280	Vulnerable	Dispersed	Habitat importance map	0.0000
Grey Billy-buttons	<i>Craspedia canens</i>	504643	Endangered	Dispersed	Habitat importance map	0.0000
Veined Spear-grass	<i>Austrostipa rudis subsp. australis</i>	504940	Rare	Dispersed	Habitat importance map	0.0000
Salt Lawrenzia	<i>Lawrenzia spicata</i>	501888	Rare	Dispersed	Habitat importance map	0.0000
Veiled Fringe-sedge	<i>Fimbristylis velata</i>	501369	Rare	Dispersed	Habitat importance map	0.0000
Green Scentbark	<i>Eucalyptus fulgens</i>	505175	Rare	Dispersed	Habitat importance map	0.0000
Spurred Helmet-orchid	<i>Corybas aconitiflorus</i>	500835	Rare	Dispersed	Habitat importance map	0.0000
Swamp Everlasting	<i>Xerochrysum palustre</i>	503763	Vulnerable	Dispersed	Habitat importance map	0.0000
Fringed Helmet-orchid	<i>Corybas fimbriatus</i>	500839	Rare	Dispersed	Habitat importance map	0.0000
Matted Flax-lily	<i>Dianella amoena</i>	505084	Endangered	Dispersed	Habitat importance map	0.0000
Floodplain Fireweed	<i>Senecio campylocarpus</i>	507136	Rare	Dispersed	Habitat importance map	0.0000
Sticky Wattle	<i>Acacia howittii</i>	500044	Rare	Dispersed	Habitat importance map	0.0000
Yarra Gum	<i>Eucalyptus yarraensis</i>	501326	Rare	Dispersed	Habitat importance map	0.0000
Arching Flax-lily	<i>Dianella sp. aff. longifolia (Benambra)</i>	505560	Vulnerable	Dispersed	Habitat importance map	0.0000

Pale Swamp Everlasting	<i>Coronidium gunnianum</i>	504655	Vulnerable	Dispersed	Habitat importance map	0.0000
Purple Blown-grass	<i>Lachnagrostis punicea subsp. filifolia</i>	504222	Rare	Dispersed	Habitat importance map	0.0000
Purple Diuris	<i>Diuris punctata</i>	501084	Vulnerable	Dispersed	Habitat importance map	0.0000
Glossy Grass Skink	<i>Pseudemoia rawlinsoni</i>	12683	Vulnerable	Dispersed	Habitat importance map	0.0000
Growling Grass Frog	<i>Litoria raniformis</i>	13207	Endangered	Dispersed	Habitat importance map	0.0000
Benambra Club-sedge	<i>Isolepis gaudichaudiana</i>	504676	Vulnerable	Dispersed	Habitat importance map	0.0000
Common Bent-wing Bat (eastern ssp.)	<i>Miniopterus schreibersii oceanensis</i>	61342	Vulnerable	Dispersed	Habitat importance map	0.0000
Lewin's Rail	<i>Lewinia pectoralis pectoralis</i>	10045	Vulnerable	Dispersed	Habitat importance map	0.0000
Grey Goshawk	<i>Accipiter novaehollandiae novaehollandiae</i>	10220	Vulnerable	Dispersed	Habitat importance map	0.0000
Elegant Parrot	<i>Neophema elegans</i>	10307	Vulnerable	Dispersed	Habitat importance map	0.0000
Black Falcon	<i>Falco subniger</i>	10238	Vulnerable	Dispersed	Habitat importance map	0.0000
Powerful Owl	<i>Ninox strenua</i>	10248	Vulnerable	Dispersed	Habitat importance map	0.0000
White-throated Needletail	<i>Hirundapus caudacutus</i>	10334	Vulnerable	Dispersed	Habitat importance map	0.0000

Habitat group

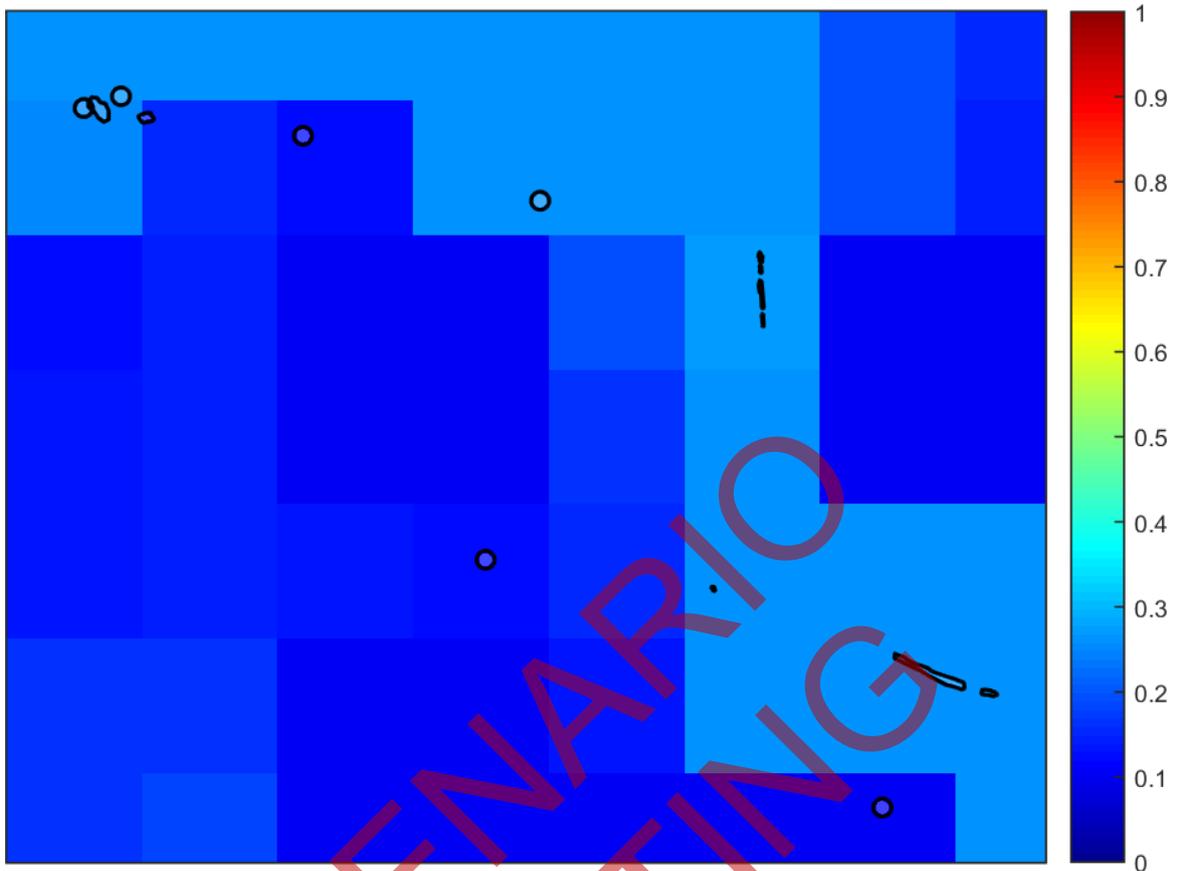
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

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



SCENARIO TESTING