

Final Report

Biodiversity Assessment: 39-45 and 40-46 Cyril Beechey Lane, Cranbourne, Victoria

Prepared for

Greenridge Properties Pty Ltd and Maclaw No. 10 Pty Ltd

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Ecology and Heritage Partners Pty Ltd

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SUMMARY

Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by Greenridge Properties Pty Ltd and Maclaw No. 10 Pty Ltd to conduct a Biodiversity Assessment at 39-45 and 40-46 Cyril Beechey Lane, Cranbourne, Victoria. This assessment was undertaken to identify and characterise the vegetation on-site, determine the presence (or likelihood thereof) of any significant flora and fauna species and/or ecological communities and address any implications under Commonwealth and State environmental legislation.

Methods

A field assessment was undertaken on 20 April 2017 to obtain information on terrestrial flora and fauna values within the study area, and according to the Guidelines (DELWP 2017a), a tree assessment was undertaken on 27 March 2018. A habitat hectare assessment was undertaken in conjunction with the flora survey. Vegetation within the study area was assessed according to the habitat hectare methodology, which is described in the Vegetation Quality Assessment Manual.

Results

Flora

Fifty-seven (57) flora species (25 indigenous and 32 non-indigenous or introduced) were recorded within the study area during the field assessment. Based on habitat present within the study area, landscape context and the proximity of previous records, significant flora species are considered unlikely to occur within the study area.

Fauna

Seventeen (17) fauna species (11 native and 6 introduced) were recorded within the study area. Fauna species of national (Southern Brown Bandicoot) conservation significance was recorded within 40-46 Cyril Beechey Lane.

Communities

Vegetation within the study area did not meet the condition thresholds that define any significant ecological communities.

Native Vegetation Removal (Guidelines)

Study area is within Location 1, with 3.358 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Detailed Assessment Pathway.

The offset requirement for native vegetation removal in the study area is 1.147 General Habitat Units (GHUs).

Legislative and Policy Implications

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

Southern Brown Bandicoot, listed as Endangered under the EPBC Act, was recorded within 40-46 Cyril Beechey Lane. A referral to the Commonwealth Environment Minister was lodged, with the outcome being a controlled action.

Flora and Fauna Guarantee Act 1988 (FFG Act - Victoria)

There is suitable habitat within the study area for species listed or protected under the FFG Act. However, the study area is privately owned, as such a permit under the FFG Act is not required.

Planning and Environment Act 1987

A Planning Permit from City of Casey is required to remove, destroy or lop any native vegetation. The application will be referred to DELWP as the application will be assessed under the Detailed Assessment pathway.

Other Legislation and Policy

Implications relating to other local and State policy (*Wildlife Act 1975, Catchment and Land Protection Act 1994*, local government authorities) as well as additional studies or reporting that may be required (targeted surveys, Conservation Management Plan, Construction Environment Managements Plan) are provided in Section 7.

Table S1. Application requirements for a permit to remove native vegetation under the Intermediate Assessment pathway (*Victoria Planning Provisions Clause 52.17 -2; DELWP 2017*)

No.	Application Requirement	Response
1	<p>Information about the native vegetation to be removed, including:</p> <ul style="list-style-type: none"> The assessment pathway and reason for the assessment pathway. This includes the location category of the native vegetation to be removed. A description of the native vegetation to be removed that includes: <ul style="list-style-type: none"> whether it is a patch or a scattered tree (or both) the extent (in hectares) the number and circumference (in centimetres measured at 1.3 metres above ground level) of any large trees within a patch the number and circumference (in centimetres measured at 1.3 metres above ground level) of any scattered trees, and whether each tree is small or large the strategic biodiversity value score the condition score if it includes endangered Ecological Vegetation Classes if it includes sensitive wetland or coastal areas. Maps showing the native vegetation and property in context and containing: <ul style="list-style-type: none"> scale, north point and property boundaries location of any patches of native vegetation and the number of large trees within the patch proposed to be removed location of scattered trees proposed to be removed, including their size The offset requirement, determined in accordance with Section 5 of the Guidelines, that will apply if the native vegetation is approved to be removed. 	<p>Site address: 39-45 and 40-46 Cyril Beechey Lane, Cranbourne, Victoria. City of Casey, Port Philip and Westernport CMA.</p> <p>Assessment Pathway: Detailed</p> <p>3.358 hectares of native vegetation are proposed to be impacted or removed.</p> <p>Further details provided in Section 4.</p> <p>Maps are provided in Figures 1-2.</p> <p>Offset Requirement:</p> <p>General: 1.147 (GHUs)</p> <p>Large Tree: 14</p> <p>Species: None required</p>
2	Topographic and land information relating to the native vegetation to be removed, showing ridges, crests and hilltops, wetlands and waterways, slopes of more than 20 percent, drainage lines, low lying areas, saline discharge areas, and areas of existing erosion, as appropriate. This may be represented in a map or plan.	Refer to Section 1.3 and NVR Report.
3	Recent, dated photographs of the native vegetation to be removed.	Refer to Figures (Appendix 3).
4	Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or on contiguous land in the same ownership as the applicant, in the five year period before the application for a permit is lodged.	Not applicable.
5	<p>An avoid and minimise statement. The statement describes any efforts to avoid the removal of, and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value. The statement should include a description of the following:</p> <ul style="list-style-type: none"> Strategic level planning – any regional or landscape scale strategic planning process that the site has been subject to that avoided and minimised impacts on native vegetation across a region or landscape Site level planning – how the proposed use or development has been sited or designed to avoid and minimise impacts on native vegetation. 	Refer to Section 6

No.	Application Requirement	Response
	<ul style="list-style-type: none"> That no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal. 	
6	A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the Conservation, Forests and Lands Act 1987 that applies to the native vegetation to be removed.	Not applicable.
7	Where the removal of native vegetation is to create defensible space, a written statement explaining why the removal of native vegetation is necessary. This statement must have regard to other available bushfire risk mitigation measures. This statement is not required when the creation of defensible space is in conjunction with an application under the Bushfire Management Overlay.	Not applicable.
8	If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations at decision guideline 8.	Not applicable.
9	<p>An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified, and can be secured in accordance with the Guidelines.</p> <p>A suitable statement includes evidence that the required offset:</p> <ul style="list-style-type: none"> is available to purchase from a third party, or will be established as a new offset and has the agreement of the proposed offset provider, or can be met by a first party offset. 	Refer to Section 6
Additional application requirements for applications in the Detailed Assessment Pathway		
10	<p>A site assessment report of the native vegetation to be removed, including:</p> <ul style="list-style-type: none"> A habitat hectare assessment of any patches of native vegetation, including the condition, extent (in hectares), Ecological Vegetation Class and bioregional conservation status. The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any large trees within patches. The location, number, circumference (in centimetres measured at 1.3 metres above ground level) and species of any scattered trees, and whether each tree is small or large. 	Refer to Appendix 2
11	<p>Information about impacts on rare or threatened species habitat, including:</p> <ul style="list-style-type: none"> The relevant section of the Habitat importance map for each rare or threatened species requiring a species offset. For each rare or threatened species that the native vegetation to be removed is habitat for, according to the Habitat importance maps: <ul style="list-style-type: none"> the species' conservation status the proportional impact of the removal of native vegetation on the total habitat for that species whether their habitats are highly localised habitats, dispersed habitats, or important areas of habitat within a dispersed species habitat. 	Refer to NVR Report

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1 Introduction

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by Greenridge Properties Pty Ltd and Maclaw No. 10 Pty Ltd to conduct a Biodiversity Assessment at 39-45 and 40-46 Cyril Beechey Lane, Cranbourne, Victoria.

We understand that the study area is being proposed for residential development. The study area is also proposed to be rezoned from Farming Zone (Schedule 2) to a residential zone to facilitate their future development for residential purposes. Several ecological studies have been undertaken of 40-46 Cyril Beechey Lane (Biosis 2009; Ecology and Heritage Partners 2015a, 2015b), including calculating offsets in accordance with the 'Guidelines for the removal, destruction or lopping of native vegetation' (Guidelines) (DELWP 2017a), and it is understood there is an enforcement order in place for 40-46 Cyril Beechey Lane (VCAT Reference No. P2393/2009).

The purpose of the assessment was to identify the extent and type of remnant native vegetation present within the study area and to determine the presence of significant flora and fauna species and/or ecological communities. This report presents the results of the assessment and discusses the potential ecological and legislative implications associated with the proposed action. The report also provides recommendations to address or reduce impacts and, where necessary, highlights components that require further investigation.

1.2 Objectives

The objectives of the flora and fauna assessment were to:

- Review the relevant flora and fauna databases and available literature;
- Conduct a field assessment to identify flora and fauna values within the study area;
- Provide maps showing any areas of remnant native vegetation and locations of any significant flora and fauna species, and/or fauna habitat (if present);
- Classify any flora and fauna species and vegetation communities identified or considered likely to occur within the study area in accordance with Commonwealth and State legislation;
- Document relevant environmental legislation and policy;
- Document any opportunities and constraints associated with the proposed works; and,
- Advise whether any additional flora and/or fauna surveys are required prior to works commencing (e.g. targeted surveys for significant flora and fauna species).

Where areas of remnant vegetation were present, the following tasks were completed to address requirements under the Guidelines (DELWP 2017a):

- A habitat hectare assessment of any areas of remnant native vegetation within the study area;
- Recommendations to address requirements under the Guidelines to minimise impacts to remnant vegetation; and,
- Provision of offset targets for any native vegetation, large trees, scattered trees and habitat for rare or threatened species proposed to be lost as a result of the proposed works.

1.3 Study Area

The study area is located at 39-45 and 40-46 Cyril Beechey Lane, Cranbourne, Victoria, approximately 65 kilometres south-east of Melbourne's CBD (Figure 1). Two sites constitute the study area, 39-45 Cyril Beechey Lane (henceforth referred to as 'study area west') covers approximately four hectares and is bound by residential properties along Sottile drive to the north, private property to the south, Cyril Beechey Lane to the east and residential properties along Cherry hills drive to the west. 40-46 Cyril Beechey Lane (henceforth referred to as 'study area east') covers approximately 3.8 hectares and is bound by residential properties along Grandeur Court to the north, Council property to the south, Cemetery Road to the east and Cyril Beechey Lane to the west.

The study area is generally flat, with no ridges, crests or waterways within or immediately adjacent to the site. Study area east consists almost entirely of native vegetation. Study area west is basically cleared of native vegetation, and was observed as being used for farming purposes, primarily maintaining stock and horse yards.

According to the Department of Environment, Land, Water and Planning (DELWP) Native Vegetation Information Management (NVIM) Tool (DELWP 2020a), the study area occurs within the Gippsland Plain bioregion. It is located within the jurisdiction of the Port Philip and Westernport Catchment Management Authority (CMA) and the City of Casey municipality. Section 4.3.1 discusses zoning and overlays relevant to the study area.

2 Methods

2.1 Desktop Assessment

Relevant literature, online-resources and databases were reviewed to provide an assessment of flora and fauna values associated with the study area. The following information sources were reviewed:

Relevant literature, online-resources and databases were reviewed to provide an assessment of flora and fauna values associated with the study area. The following information sources were reviewed:

- The DELWP NVIM Tool (DELWP 2020a) and NatureKit (DELWP 2020b) for:
 - Modelled data for location risk, remnant vegetation patches, scattered trees and habitat for rare or threatened species; and,
 - The extent of historic and current EVCs.
- EVC benchmarks (DELWP 2020c) for descriptions of EVCs within the relevant bioregion;
- The Victorian Biodiversity Atlas (VBA) for previously documented flora and fauna records within the project locality (DELWP 2020d);
- The Illustrated Flora Information System of Victoria (IFLISV) (Gullan 2017) for assistance with the distribution and identification of flora species;
- The Commonwealth Department of Agriculture, Water and the Environment, (DAWE 2020) Protected Matters Search Tool (PMST) for matters of National Environmental Significance (NES) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DAWE 2020);
- Relevant listings under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act), including the latest Threatened and Protected Lists (DELWP 2017c; DELWP 2016);
- The Planning Maps Online (DELWP 2020e) and Planning Schemes Online (DELWP 2020f) to ascertain current zoning and environmental overlays in the study area;
- Other relevant environmental legislation and policies as required;
- Aerial photography of the study area; and,
- Previous ecological or other relevant assessments of the study area, including Offset Requirements, 40-46 Cyril Beechey Lane, Cranbourne, Victoria (Ecology and Heritage Partners, 2015a) and Additional Biodiversity Assessment, 40-46 Cyril Beechey Lane, Cranbourne, Victoria (Ecology and Heritage Partners, 2015b).

2.2 Field Assessment

A field assessment was undertaken on 20 April 2017 to obtain information on flora and fauna values within the study area, and according to the Guidelines (DELWP 2017a), a tree assessment was undertaken on 27 March 2018. The study area was walked, with all observed vascular flora and fauna species recorded, any significant records mapped and the overall condition of vegetation and habitats noted. Ecological Vegetation Classes (EVCs) were determined with reference to DELWP pre-1750 and extant EVC mapping and their published descriptions (DELWP 2020c).

Where remnant vegetation was identified a habitat hectare assessment was undertaken following methodology described in the Vegetation Quality Assessment Manual (DSE 2004).

2.3 Permitted Clearing Assessment (the Guidelines)

Under the *Planning and Environment Act 1987*, Clause 52.17 of the Planning Schemes requires a planning permit from the relevant local Council to remove, destroy or lop native vegetation. The assessment process for the clearing of vegetation follows the Guidelines (DELWP 2017a). The 'Assessor's handbook – applications to remove, destroy or lop native vegetation' (Assessor's handbook) (DELWP 2017b) provides clarification regarding the application of the Guidelines.

2.3.1 Assessment Pathway

Guidelines manage the impacts on biodiversity from native vegetation removal (DELWP 2017a). The assessment pathway for an application to remove native vegetation reflects its potential impact on biodiversity and is determined from the location and extent of the native vegetation to be removed. The location risk (1, 2 or 3) has been determined for all areas in Victoria and is available on DELWP's Native Vegetation Information Management (NVIM) Tool (DELWP 2020a). Determination of assessment pathway is summarised in Table 1.

Table 1. Assessment pathways for applications to remove native vegetation (DELWP 2017a).

Extent		Location		
		1	2	3
Native Vegetation	Less than 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
	Less than 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
	0.5 hectares or more	Detailed	Detailed	Detailed

Notes: For the purpose of determining the risk-based pathway of an application to remove native vegetation the extent includes any other native vegetation that was permitted to be removed on the same contiguous parcel of land with the same ownership as the native vegetation to be removed, where the removal occurred in the five year period before an application to remove native vegetation is lodged.

2.3.2 Vegetation Assessment

Native vegetation (as defined in Table 2) is assessed using two key parameters: extent (in hectares) and condition. Extent is determined through a field assessment. The condition score for Detailed Assessment pathways must be assessed through a habitat hectare assessment conducted by a qualified ecologist. The condition score for Basic or Intermediate Assessment pathways may be based on either modelled data available on the NVIM Tool (DELWP 2020a), or through a habitat hectare assessment.

Table 2. Determination of remnant native vegetation (DELWP 2017a)

Category	Definition	Extent	Condition
Remnant patch of native vegetation	An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native. OR An 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.	Measured in hectares. Based on hectare area of the remnant patch.	Vegetation Quality Assessment Manual (DSE 2004).
Scattered tree	A native canopy tree that does not form part of a remnant patch.	Measured in hectares. A small tree is assigned an extent of 0.031 hectares (10m radius). A large tree is assigned an extent of 0.071 hectares (15m radius).	Scattered trees are assigned a default condition score of 0.2.

Notes: Native vegetation is defined in the Victoria Planning Provisions as ‘plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses’.

2.3.3 *Avoid, minimise and offset*

The three-step approach (avoid, minimise, offset) is the key policy in relation to the removal of native vegetation to achieve no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation (DELWP 2017a). Efforts to avoid the removal of, and minimise the impacts on, native vegetation should be commensurate with the biodiversity and other values of the native vegetation and focused on areas of native vegetation that have the most value. Areas of native vegetation to be retained must be able to maintain the same values in the future and should not be degraded over time by a proposed use or development associated with the removal (DELWP 2017a).

2.3.4 *Offsets*

Offsets are required to compensate for the permitted removal of native vegetation. Offsets are divided into two categories: General and Species. Offset obligations and offset site criteria are determined in accordance with the Guidelines (DELWP 2017a).

The offset requirements for native vegetation removal are calculated by DELWP, based on the vegetation condition scores determined during the biodiversity assessment. The resulting Native Vegetation Removal (NVR) report produced by DELWP is presented in Appendix 4.

2.4 **Assessment Qualifications and Limitations**

Data and information held within the ecological databases and mapping programs reviewed in the desktop assessment (e.g. VBA, PMST, Biodiversity Interactive Maps etc.) are unlikely to represent all flora and fauna observations within, and surrounding, the study area. It is therefore important to acknowledge that a lack of documented records does not necessarily indicate that a species or community is absent.

Ecological values identified on site are recorded using a hand-held tablet with an accuracy of +/-5 metres. This level of accuracy is considered adequate to provide an accurate assessment of the ecological values present

within the study area; however this data should not be used for detailed surveying purposes.

The field assessment was undertaken during a sub-optimal season for the identification of flora and fauna species (late-autumn). The 'snap shot' nature of a standard biodiversity assessment, along with sub-optimal timing of the survey, meant that migratory, transitory or uncommon fauna species may have been absent from typically occupied habitats at the time of the field assessment. In addition, annual or cryptic flora species such as those that persist via underground tubers may also be absent. Targeted flora or fauna surveys were not undertaken, as this was beyond the preliminary scope of the project. Nevertheless, the terrestrial flora and fauna data collected during the field assessment and information obtained from relevant desktop sources is considered adequate to provide an accurate assessment of the ecological values present within the study area.

3 Results

3.1 Vegetation Condition

The study area east consists almost entirely of native vegetation, in relatively good condition, with some recent vegetation clearance along the northern and eastern boundaries. Study area west is basically cleared of native vegetation, consisting of introduced flora species and scattered indigenous and planted trees and shrubs.

3.1.1 Remnant Patches

Remnant native vegetation within study area east is representative of four EVCs: Heathy Woodland (EVC 48), Swamp Scrub (EVC 53), Riparian Scrub (EVC 191) and Sedgy Swamp Woodland (EVC 707). Remnant vegetation in study area west consists of modified Heathy Woodland and several remnant scattered trees. The presence of the EVCs in the study area is generally consistent with the modelled pre-1750s native vegetation mapping (DELWP 2020b). Specific details relating to observed EVCs are provided below. Habitat hectare results are summarised in Appendix 2.3.

Heathy Woodland

Study area east.

Heathy Woodland is located throughout the majority of Study area east. Three habitat zones were delineated within the study area. HW1 was highly modified, with several Coast Manna Gums *Eucalyptus viminalis* subsp. *pryoriana* constituting the patch. The understory was highly modified, with few native understory species present. Organic litter was present as woodchips, evidence of recently cleared native vegetation (Plate 1). HW2 was of a higher quality, primarily consisting of several Coast Manna Gums and an understorey of Prickly Tea-tree and Austral Bracken. HW3 was the highest quality habitat zone, consisting of approximately 90% cover of native and indigenous species. HW3 is dominated by Coast Manna Gum, Heath Tea-tree *Leptospermum myrsinoides*, Prickly Tea-tree *Leptospermum continentale*, Austral Bracken *Pteridium esculentum*, with scattered occurrences of Cherry Ballart *Exocarpos cupressiformis*, Wedding Bush *Ricinocarpos pinifolius*, Scattered Broom Spurge *Amperea xiphoclada* var. *xiphoclada* and Tassel Rope-rush *Hypolaena fastigata* (Plate 2)



Plate 1. Modified Heathy Woodland (HW₁), with evidence of recent clearing within study area east (Ecology and Heritage Partners Pty Ltd 20/04/2017).



Plate 2. Heathy Woodland (HW₃) within study area east (Ecology and Heritage Partners Pty Ltd 20/04/2017).

Study area west

Two patches of Heathy Woodland were identified in the study area. HW₄ consisted of several Coast Manna Gums, one being a Large Tree (LT), with an understory of exotic/pasture grasses (Plate 3). The habitat zone was highly modified and maintained in a landscaped state (i.e. mown). HW₅ was similar to HW₄, with no LTs present.



Plate 3. Heathy Woodland (HW₄) within study area west (Ecology and Heritage Partners Pty Ltd 20/04/2017).

Sedgy Swamp Woodland

A few small patches of Sedgy Swamp Woodland occur within study area east, with sparsely scattered Eucalyptus trees present, and was characterised by a dense layer of Soft Twig-rush *Baumea rubiginosa* with scattered Water Ribbons *Triglochin procera*, Pithy Sword-sedge *Lepidosperma longitudinale* and Prickly Tea-tree *Leptospermum continentale* (Plate 4).

Riparian Scrub

A patch of Riparian Scrub was observed within Study area east, characterised by a shrubby layer of scattered Black Wattle *Acacia mearnsii*, Scented Paperbark *Melaleuca squarrosa* and Prickly Tea-tree, with patches of Red-fruit Saw-sedge *Gahnia sieberiana*, Zig-zag Bog-sedge *Schoenus brevifolius*, Broom Spurge and Slender Dodder-laurel *Cassytha glabella* (Plate 5).



Plate 4. Sedgy Swamp Woodland within the study area (Ecology and Heritage Partners Pty Ltd 20/04/2017).



Plate 5. Riparian Scrub within the study area (Ecology and Heritage Partners Pty Ltd 20/04/2017).

Swamp Scrub

The small patch of Swamp Scrub is highly modified, with a weedy understorey. It is characterised primarily by Swamp Paperbark *Melaleuca ericifolia* with scattered Prickly Tea-tree and Rushes *Juncus* spp.

3.1.2 Scattered Trees and Large Trees in patches

A total of 19 scattered trees, predominantly Coast Manna Gum, were recorded in the study area. Eight (8) were recorded within study area west (plate 6), while 11 scattered trees occur throughout study area east (plate 7) (Figure 2). These trees would once have been part of the Heathy Woodland EVC. An additional seven (7) large trees in patches were recorded within study area east. Individual tree details are provided in Appendix 2.4.



Plate 6. Scattered trees within the study area west (Ecology and Heritage Partners Pty Ltd 20/04/2017).



Plate 7. Scattered tree (background) within study area east (Ecology and Heritage Partners Pty Ltd 20/04/2017).

3.1.3 Introduced and Planted Vegetation

Introduced and Planted Vegetation

Areas not supporting remnant native vegetation generally occur within study area west and this area consists of a high cover (>80%) of exotic grass and herb species, planted vegetation and weeds. Study area west is a highly disturbed area, dominated by environmental weeds such as Rye-grass *Lolium* spp., Galenia *Galenia pubescens* var. *pubescens*, Ribwort *Plantago lanceolata*, Couch *Cynodon dactylon* var. *dactylon* and Cats ear *Hypochaeris radicata*. A similar suite of weedy species are present around the perimeter of study area east.

Noxious weeds are present throughout both study area east and study area west, with scattered occurrences of Soursob *Oxalis pes-caprae* and Spear Thistle *Cirsium vulgare*, along with the Weeds of National Significance (WONS) Blackberry *Rubus fruticosus* and Flax-leaf Broom *Genista linifolia*.

Planted vegetation in study area west consists of exotic tree species, including Southern Mahogany *Eucalyptus botryoides* (Plates 8 and 9), Sugar Gum *Eucalyptus cladocalyx* and Pine *Pinus* spp. in windrows around dwellings, ponds, paddocks, sheds and fence lines.



Plate 8. Planted Southern Mahogany within Study area west (Ecology and Heritage Partners Pty Ltd 20/04/2017).



Plate 9. Planted and introduced vegetation within Study area west (Ecology and Heritage Partners Pty Ltd 20/04/2017).

3.2 Fauna Habitat

Woodland and Scattered Trees

Woodland and scattered remnant trees occur throughout the study areas and provide an important resource for arboreal fauna. The majority of the eucalypts in study area west are mature, providing an array of small and medium and large hollows, bark fissures and crevices. These are likely to be used for shelter and nesting by a range of hollow-dependent fauna including parrots, microbats, possums, gliders and owls. Similarly, large trees within study area east are likely to provide similar habitat for hollow dependent fauna. Woodland habitat within study area east is likely to provide a foraging resource for arboreal fauna; however, the majority of the eucalypts in study area east are relatively young (<20 years old) and are unlikely to provide habitat for hollow dependent fauna.

Scattered trees provide habitat for more mobile fauna species, vantage points and nesting areas for diurnal and nocturnal raptors, as well as stepping stones for more mobile fauna moving through the study areas, enhancing landscape permeability for native fauna.

Species observed utilising woodland and scattered trees within the study areas included Red Wattlebird *Anthochaera carunculata*, Noisy Miner *Manorina melanocephala*, Rainbow Lorikeet *Trichoglossus haematodus*, Red-browed Finch *Neochmia temporalis*, Superb Fairy-wren *Malurus cyaneus*, Spotted Pardalote *Pardalotus punctatus* and New Holland Honeyeater *Phylidonyris novaehollandiae*.

3.3 Native Vegetation Removal (Guidelines)

We understand that the study area is being proposed for residential development, with the results and recommendations of this assessment to inform the development footprint. Therefore, vegetation losses and offsets are based upon the clearance of the entire site.

3.3.1 Vegetation proposed to be removed

Study area is within Location 1, with 3.358 hectares of native vegetation proposed to be removed. As such, the permit application falls under the Detailed Assessment Pathway.

As the application falls under the Detailed Assessment Pathway, a habitat hectare assessment was completed to determine condition scores of vegetation proposed to be removed, with condition scores provided in Appendix 2.3.

Table 3. Native Vegetation Removal (Guidelines)

Assessment pathway	Detailed
Extent including past and proposed (ha)	3.358
Extent of past removal (ha)	0
Extent of proposed removal (ha)	3.358
Large Trees (no.)	14
Location Category	1

3.3.2 Offset Targets

The offset requirement for native vegetation removal in the study area is 1.147 General Habitat Units (GHUs).

A summary of proposed vegetation losses and associated offset requirements is presented in Table 4 and the Native Vegetation Removal (NVR) Report is presented in Appendix 4.

Table 4. Offset targets – Study area east

General Offsets Required	1.147 GHUs
Species Offsets Required	N/A
Large Trees	14
Vicinity (catchment / LGA)	Port Philip and Westernport CMA / City of Casey
Minimum Strategic Biodiversity Value Score*	0.240

Note: GHU = General Habitat Units

3.4 Significance Assessment

3.4.1 Flora

Fifty-seven (57) flora species (25 indigenous and 32 non-indigenous or introduced) were recorded within the study area during the field assessment. Black Wattle *Acacia mearnsii* is protected under the FFG Act as a member of the *Acacia* (Wattle) family. A consolidated list of flora species recorded is provided in Appendix 2.1.

The VBA contains records of 7 nationally significant and 45 State significant flora species previously recorded within 10 kilometres of the study area (DELWP 2020d) (Appendix 2.2; Figure 3). The PMST nominated an additional 5 nationally significant species which have not been previously recorded but have the potential to

occur in the locality (DAWE 2020). Most records are confined to existing road and rail reserves or conservation reserves within the local area (Figure 3).

Based on the modified nature of the study area, landscape context and the proximity of previous records, significant flora species are considered unlikely to occur within the study area (Appendix 2.2).

3.4.2 Fauna

Seventeen (17) fauna species (11 native and 6 introduced) were recorded within the study area. Fauna species of national (Southern Brown Bandicoot) conservation significance was recorded within 40-46 Cyril Beechey Lane.

The VBA contains records of 13 nationally significant, 36 State significant and 15 regionally significant fauna species previously recorded within 10 kilometres of the study area (DELWP 2020d) (Appendix 3.1; Figure 4). The PMST nominated an additional 10 nationally significant species which have not been previously recorded but have the potential to occur in the locality (DAWE 2020).

Targeted surveys were conducted for Southern Brown Bandicoot *Isoodon obesulus obesulus* in study area east, with Southern Brown Bandicoots confirmed on site (Ecology and Heritage Partners 2018).

3.4.3 Communities

Three nationally listed ecological communities are predicted to occur within 10 kilometres of the study areas (DAWE 2020):

- Natural Damp Grassland of the Victorian Coastal Plains;
- Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains; and
- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland.

However, vegetation within the study area did not meet the condition thresholds that define any national or State-significant communities.

4 Legislative and Policy Implications

4.1 *Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) establishes a Commonwealth process for the assessment of proposed actions likely to have a significant impact on any matters of National Environment Significance (NES), described in Table 5.

Table 5. Potential impacts to matters of National Environmental Significance (NES)

Matter of NES	Potential Impacts
World Heritage properties	The proposed action will not impact any properties listed for World Heritage.
National heritage places	The proposed action will not impact any places listed for national heritage.
Ramsar wetlands of international significance	The study area occurs within the same catchment as two Ramsar sites (DoE 2016): Edithvale-seaford wetlands and Western Port (within 10km). Provided management practices and construction techniques are consistent with Construction Techniques for Sediment Pollution Control (EPA 1991) and Environmental Guidelines for Major Construction Sites (EPA 1996), the proposed action is unlikely to impact the ecological character of any Ramsar wetland.
Threatened species and ecological communities	Southern Brown Bandicoot was recorded within 40-46 Cyril Beechey Lane (Section 3.4.1 and 3.4.2).
Migratory and marine species	Migratory and/or Marine species have been recorded within 10 kilometres of the study area (DELWP 2016; Appendix 3.1). However, the study area would not be classed as an 'important habitat' as defined under the EPBC Act Policy Statement 1.1 Principal Significant Impact Guidelines (DoE 2013).
Commonwealth marine area	The proposed action will not impact any Commonwealth marine areas.
Nuclear actions (including uranium mining)	The proposed action is not a nuclear action.
Great Barrier Reef Marine Park	The proposed action will not impact the Great Barrier Reef Marine Park.
Water resources impacted by coal seam gas or mining development	The proposed action is not a coal seam gas or mining development.

4.1.1 *Implications*

Southern Brown Bandicoot, listed as Endangered under the EPBC Act, was recorded within 40-46 Cyril Beechey Lane. A referral to the Commonwealth Environment Minister was lodged, with the outcome being a controlled action. Discussion on offsets relevant to the EPBC Act is provided in Section 6.3.1.

4.2 *Flora and Fauna Guarantee Act 1988 (Victoria)*

The FFG Act is the primary legislation dealing with biodiversity conservation and sustainable use of native flora and fauna in Victoria. Proponents are required to apply for an FFG Act Permit to 'take' listed and/or protected flora species, listed vegetation communities and listed fish species in areas of public land (i.e. within road reserves, drainage lines and public reserves). An FFG Act permit is generally not required for removal of species or communities on private land, or for the removal of habitat for a listed terrestrial fauna species.

There is suitable habitat within the study area for one fauna species listed under the FFG Act (Southern Brown Bandicoot) (Appendix 2.1; Section 3.4), and listed protected flora species are located within the study area.

4.2.1 *Implications*

There is suitable habitat within the study area for species listed or protected under the FFG Act. However, the study area is privately owned, as such a permit under the FFG Act is not required.

4.3 ***Planning and Environment Act 1987 (Victoria)***

The *Planning and Environment Act 1987* outlines the legislative framework for planning in Victoria and for the development and administration of planning schemes. All planning schemes contain native vegetation provisions at Clause 52.17 which require a planning permit from the relevant local Council to remove, destroy or lop native vegetation on a site of more than 0.4 hectares, unless an exemption under clause 52.17-7 of the Victorian Planning Schemes applies (Appendix 1.5.3) or a subdivision is proposed with lots less than 0.4 hectares¹. Local planning schemes may contain other provisions in relation to the removal of native vegetation (Section 4.3.1).

4.3.1 *Local Planning Schemes*

The study areas are located within the City of Casey municipality. The following zoning and overlays apply to each study area (DELWP 2020e, 2020f):

- Farming Zone – Schedule 2 (FZ2)
- Development Plan Overlay – Schedule 1 (DPO1)

It should be noted that it is proposed to rezone the subject sites from Farming Zone (Schedule 2) to General Residential Zone (Schedule 1) to facilitate their future development for residential purposes.

4.3.2 *The Guidelines*

The State Planning Policy Framework and the decision guidelines at Clause 52.17 (Native Vegetation) and Clause 12.01 require Planning and Responsible Authorities to have regard to the Guidelines (DELWP 2017a). Where the clearing of native vegetation is permitted, the quantity and type of vegetation to be offset is determined using methodology specified in the Guidelines. The primary objective of the regulations is “no net loss in the contribution made by native vegetation to Victoria’s biodiversity”.

A permit will be referred to DELWP as a ‘recommending authority’ if vegetation removal meets one or more of the below thresholds (Table 6).

¹ In accordance with the Victorian Civil and Administrative Tribunal’s (VCAT) decision *Villawood v Greater Bendigo CC* (2005) VCAT 2703 (20 December 2005) all native vegetation is considered lost where proposed lots are less than 0.4 hectares in area and must be offset at the time of subdivision.

Table 6. Permit to remove native vegetation – application referral triggers (Clause 66, Referral and Notice Provisions)

Native Vegetation	<ul style="list-style-type: none"> Remove, destroy or lop native vegetation which is to be considered under the Detailed Assessment Pathway
Other Circumstances	<ul style="list-style-type: none"> Remove, destroy or lop native vegetation if a property vegetation plan applies to the site Remove, destroy or lop native vegetation on Crown land which is occupied or managed by the responsible authority

4.3.3 Implications

The offset requirement for native vegetation removal in the study area is 1.147 General Habitat Units (GHUs).

A Planning Permit from City of Casey is required to remove, destroy or lop any native vegetation. The application will be referred to DELWP as the application will be assessed under the Detailed Assessment pathway.

4.4 *Wildlife Act 1975* and *Wildlife Regulations 2013* (Victoria)

The *Wildlife Act 1975* (and associated *Wildlife Regulations 2013*) is the primary legislation in Victoria providing for protection and management of wildlife. Authorisation for habitat removal may be obtained under the *Wildlife Act 1975* through a licence granted under the *Forests Act 1958*, or under any other Act such as the *Planning and Environment Act 1987*. Any persons engaged to remove, salvage, hold or relocate native fauna during construction must hold a current Management Authorisation under the *Wildlife Act 1975*, issued by DELWP.

4.5 *Water Act 1989* (Victoria)

The purposes of the *Water Act 1989* are manifold but (in part) relate to the orderly, equitable, efficient and sustainable use of water resources within Victoria. This includes the provision of a formal means of protecting and enhancing environmental qualities of waterways and their in-stream uses as well as catchment conditions that may affect water quality and the ecological environments within them.

A ‘works on waterways’ permit from the Port Philip and Westernport CMA is likely to be required where any action impacts on waterways within the study area. Additionally, where structures are installed within or across waterways that potentially interfere with the passage of fish or the quality of aquatic habitat, these activities should be referred to DELWP with the Port Philip and Westernport CMA included for comment.

4.6 *Catchment and Land Protection Act 1994* (Victoria)

The *Catchment and Land Protection Act 1994* (CaLP Act) contains provisions relating to catchment planning, land management, noxious weeds and pest animals. Landowners are responsible for the control of any infestation of noxious weeds and pest fauna species to minimise their spread and impact on ecological values.

Weeds listed as noxious under the CaLP Act were recorded during the assessment (Blackberry and Flax-leaf Broom). A Weed Management Plan may be required.

5 Potential Impacts

The proposed action is likely to directly impact on several indigenous flora and fauna species within the study area (Table 7).

Table 7. Potential impacts to indigenous flora and fauna.

Potential impact	Study area	
	East	West
Loss of habitat for national (Southern Brown Bandicoot), State and regionally significant fauna species.	✓	✗
Loss of habitat and potential mortality for locally common fauna species dependent on tree hollows (e.g. Common Brush-tailed Possum <i>Trichosurus vulpecula</i> , Eastern Rosella <i>Platycercus eximius</i> , Rainbow Lorikeet <i>Trichoglossus haematodus</i> , Gould's Wattled Bat <i>Chalinolobus gouldii</i>), loose or shedding bark (e.g. Lesser Long-eared Bat <i>Nictophilus geoffroyi</i>) and leaf litter and other ground debris (e.g. lizards, snakes, frogs and invertebrates) for foraging, shelter, roosting or nesting.	✓	✓
Loss of scattered trees including Coastal Manna Gums and Dead Standing Trees.	✓	✓
Loss of remnant Heathy Woodland, Swamp Scrub, Riparian Scrub and Sedgy Swamp Woodland.	✓	✓
Land-locking of local populations of Southern Brown Bandicoot through development in and around the species' habitat. This can lead to a number of adverse impacts ranging from animal welfare issues to potential human safety concerns.	✓	✗
Potential for further habitat fragmentation in a fragmented landscape and the associated creation of barriers to the movement and migration of indigenous fauna.	✓	✗
Potential for an increase to levels of indigenous fauna roadkill along new road alignments.	✓	✓
Potential for the spread of weeds and soil pathogens due to on-site activities.	✓	✓
Disturbance to wildlife from increased human activity and noise during construction.	✓	✓
Indirect impacts on adjacent areas if construction activities and drainage are not appropriately managed.	✓	✓

6 Mitigation Measures

6.1 Minimise Impacts

Under the Guidelines (DELWP 2017a), the three-step approach (avoid, minimise, offset) is the key policy in relation to the removal of native vegetation to achieve no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation. Efforts to avoid the removal of, and minimise the impacts on, native vegetation should be commensurate with the biodiversity and other values of the native vegetation and focused on areas of native vegetation that have the most value. Areas of native vegetation to be retained must be able to maintain the same values in the future and should not be degraded over time by a proposed use or development associated with the removal.

All applications to remove native vegetation must provide an avoid and minimise statement. The statement describes any efforts to avoid the removal of and minimise the impacts on the biodiversity and other values of native vegetation, and how these efforts focussed on areas of native vegetation that have the most value. The statement should include a description of the following:

- Strategic level planning – any regional or landscape scale strategic planning process that the site has been subject to that avoided and minimised impacts on native vegetation across a region or landscape.
- Site level planning – how the proposed use or development has been sited or designed to avoid and minimise impacts on native vegetation.
- That no feasible opportunities exist to further avoid and minimise impacts on native vegetation without undermining the key objectives of the proposal.

6.1.1 *Avoid and Minimise Statement*

There is currently no development plan for the study area. Therefore, for the purposes of offset calculation, all native vegetation in the study area is considered lost. The results of this report will inform the avoidance minimisation statement and will require input from the client.

6.2 Best Practice Mitigation Measures

Recommended measures to mitigate impacts upon terrestrial and aquatic values present within the study areas may include:

- Consideration of Water Sensitive Urban Design techniques such as stormwater treatment wetlands, bio-retention systems, porous paving or swales;
- Minimise impacts to native vegetation and habitats through construction and micro-siting techniques, including fencing retained areas of native vegetation. If indeed necessary, trees should be lopped or trimmed rather than removed. Similarly, soil disturbance and sedimentation within wetlands should be avoided or kept to a minimum, to avoid, or minimise impacts to fauna habitats;
- All contractors should be aware of ecologically sensitive areas to minimise the likelihood of inadvertent disturbance to areas marked for retention. Habitat Zones (areas of sensitivity) should be included as a mapping overlay on any construction plans;

- Tree Retention Zones (TRZs) should be implemented to prevent indirect losses of native vegetation during construction activities (DSE 2011). A TRZ applies to a tree and is a specific area above and below the ground, with a radius 12 x the DBH. At a minimum standard a TRZ should consider the following:
 - A TRZ of trees should be a radius no less than two metres or greater than 15 metres;
 - Construction, related activities and encroachment (i.e. earthworks such as trenching that disturb the root zone) should be excluded from the TRZ;
 - Where encroachment exceeds 10% of the total area of the TRZ, the tree should be considered as lost and offset accordingly;
 - Directional drilling may be used for works within the TRZ without being considered encroachment. The directional bore should be at least 600 millimetres deep;
 - The above guidelines may be varied if a qualified arborist confirms the works will not significantly damage the tree (including stags / dead trees). In this case the tree would be retained and no offset would be required; and,
 - Where the minimum standard for a TRZ has not been met an offset may be required.
- If any habitat trees or shrubs are proposed to be removed, this should be undertaken under the supervision of an appropriately qualified zoologist to salvage and translocate any displaced fauna. A Fauna Management Plan may be required to guide the salvage and translocation process;
- Where possible, construction stockpiles, machinery, roads, and other infrastructure should be placed away from areas supporting native vegetation, LOTs and/or wetlands;
- Ensure that best practice sedimentation and pollution control measures are undertaken at all times, in accordance with Environment Protection Agency guidelines (EPA 1991; EPA 1996; Victorian Stormwater Committee 1999) to prevent offsite impacts to waterways and wetlands; and,
- As indigenous flora provides valuable habitat for indigenous fauna, it is recommended that any landscape plantings that are undertaken as part of the proposed works are conducted using indigenous species sourced from a local provenance, rather than exotic deciduous trees and shrubs.

In addition to these measures, the following documents should be prepared and implemented prior to any construction activities:

- Construction Environmental Management Plan (CEMP). The CEMP should include specific species/vegetation conservation strategies, daily monitoring, sedimentation management, site specific rehabilitation plans, weed and pathogen management measures, etc.;
- Significant Species Conservation Management Plan (CMP). A CMP will be required if significant species or their habitats are proposed to be impacted (Southern Brown Bandicoot), and may include a salvage and translocation plan; and,
- Fauna Management Plan. This may be required if habitat for common fauna species is likely to be impacted and salvage and translocation must be undertaken to minimise the risk of injury or death to those species.

6.3 Offset Impacts

6.3.1 Commonwealth (EPBC Act)

The Australian Government's EPBC Act Environmental Offsets Policy (SEWPaC 2012) outlines a framework for the use of environmental offsets under the EPBC Act including when they can be required, how they are determined and the framework under which they operate. Clear guidelines on what constitutes a suitable offset are provided and should be considered as part of any proposed offset strategy. Suitable offsets must include the following:

1. It delivers an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed development.
2. It is built around direct offsets but may include compensatory measures.
3. It is in proportion to the level of statutory protection that applies to the protected manner.
4. It is of a size and scale proportionate to the residual impacts on the protected manner.
5. It is additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs.
6. It effectively account for and manages the risks of the offset not succeeding.
7. It is efficient, effective, timely, transparent, scientifically robust and reasonable.
8. It has transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.

6.3.2 State (Guidelines)

The Guidelines (DELWP 2017a) require offsetting as the final step in considering the impacts of development on native vegetation. Emphasis is placed on avoiding and minimising impacts, and only after these steps have been taken should offsets be considered. Offset targets must be met, as specified in Section 3.2.

Potential offsets may be sourced using the following mechanisms:

- **BushBroker:** BushBroker maintains a register of landowners who are willing to sell offset credits. Offsets secured by Bushbroker are done so via a Section 69 Agreement under the *Conservation, Forest and Lands Act 1987*.
- **Trust for Nature:** Trust for Nature holds a list of landowners who are willing to sell vegetation offsets. Offsets secured by Trust for Nature are done so under the Victorian *Conservation Trust Act 1972*.
- **Local Councils:** The proponent may contact local councils to seek availability of offsets.
- **Over-the-Counter Offsets Scheme:** The Guidelines include the expansion of the "Over-the-Counter" (OTC) Offsets Scheme, allowing non-government agencies to establish themselves as OTC Facilities. OTC Facilities will broker native vegetation offsets (credits) between landholders (with offset sites) and permit holders (with offset requirements).

According to DELWPs Native Vegetation Credit Register, there are 13 offset sites within the City of Casey or Port Philip and Westernport CMA that can be used to satisfy the General Habitat Unit and Large Tree offset requirements.

A credit register search statement identifying the relevant offset sites is provided in Appendix 5.

7 Further Requirements

Further requirements associated with development of the study area, as well as additional studies or reporting that may be required, are provided below (Table 8).

Table 8. Further requirements associated with development of the study area.

Relevant Legislation	Implications	Further Action
<i>Environment Protection and Biodiversity Conservation Act 1999</i>	Southern Brown Bandicoot, listed as Endangered under the EPBC Act, was recorded within 40-46 Cyril Beechey Lane. A referral to the Commonwealth Environment Minister was lodged, with the outcome being a controlled action.	Prepare relevant reports for the Commonwealth Government in response to the controlled action outcome.
<i>Flora and Fauna Guarantee Act 1988</i>	There is suitable habitat within the study area for species listed or protected under the FFG Act. However, the study area is privately owned, as such a permit under the FFG Act is not required.	No further action required.
<i>Planning and Environment Act 1987</i>	The offset requirement for native vegetation removal in the study area is 1.147 General Habitat Units (GHUs). A Planning Permit from City of Casey is required to remove, destroy or lop any native vegetation. The application will be referred to DELWP as the application will be assessed under the Detailed Assessment pathway.	Prepare and submit a Planning Permit application. Planning Permit conditions are likely to include a requirement for: <ul style="list-style-type: none"> • Demonstration of impact minimisation. • Identification of a compliant offset, as detailed in Section 3.2. • A Construction Environment Management Plan (CEMP). • A Significant Species CMP (as required).
<i>Catchment and Land Protection Act 1994</i>	Several weed species listed under the CaLP Act were recorded within the study area. To meet requirements under the CaLP Act, listed noxious weeds should be appropriately controlled throughout the study area.	Planning Permit conditions are likely to include a requirement for a Weed Management Plan.
<i>Water Act 1989</i>	A 'works on waterways' permit is likely to be required from the Port Philip and Westernport CMA where any action impacts on waterways within the study area.	No further action required from Port Philip and Westernport CMA.
<i>Wildlife Act 1975</i>	Any persons engaged to conduct salvage and translocation or general handling of terrestrial fauna species must hold a current Management Authorisation.	Ensure wildlife specialists hold a current Management Authorisation.

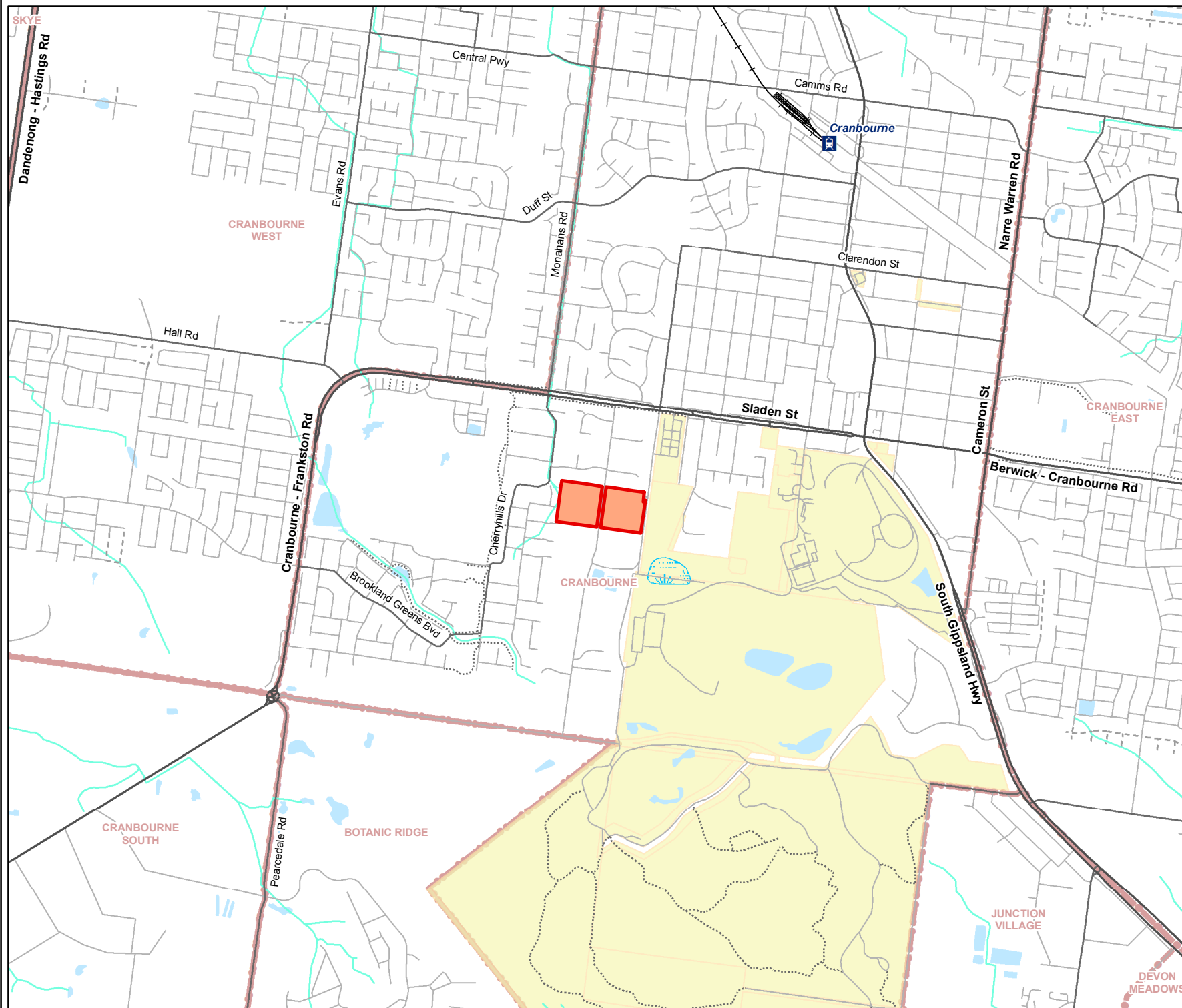
References

- Biosis Pty Ltd 2009. Final Report Re: 50 Stevensons Road, Cranbourne.
- Christidis, L. and Boles, W.E 2008. Systematics and Taxonomy of Australian Birds. CSIRO Publishing, Collingwood, Victoria.
- Cogger, H. G (Ed). 1996. Reptiles and Amphibians of Australia. 5th Edition. Reed Books Australia, Victoria.
- Cogger, H.G., Cameron, E.E., Sadler, R.A. and Eggler P., 1993. The Action Plan for Australian Reptiles. Australian Nature conservation Agency, Canberra, ACT.
- Cogger, H. G., Cameron, E. E. And Cogger, H. M. 1983. *Volume 1 of Zoological Catalogue of Australia: Amphibia and Reptilia*. Australian Government Publishing Service, Canberra, ACT.
- DELWP 2015. Biodiversity assessment handbook, Permitted clearing of native vegetation – Version 1.0. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2016. *Flora and Fauna Guarantee Act 1988* Protected Flora List – December 2016. Victorian Department of Environment, Land, Water and Planning. Melbourne, Victoria.
- DELWP 2017a. Guidelines for the removal, destruction or lopping of native vegetation (Guidelines). Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2017b. Assessor's handbook – applications to remove, destroy or lop native vegetation (Assessor's handbook). Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2017c. *Flora and Fauna Guarantee Act 1988* Threatened List – March 2017. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2020a. Native Vegetation Information Management Tool [www Document]. URL: <<https://nvm.delwp.vic.gov.au/>>. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2020b. NatureKit [www Document]. URL: <<http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/biodiversity-interactive-map>>. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2020c. Ecological Vegetation Class (EVC) Benchmarks for each Bioregion [www Document]. URL: <<http://www.depi.vic.gov.au/environment-and-wildlife/biodiversity/evc-benchmarks#bioregionname>>. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2020d. Victorian Biodiversity Atlas. Sourced from GIS layers: "VBA_FLORA25", "VBA_FLORA100", "VBA_FAUNA25", "VBA_FAUNA100", January 2018. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2020e. Planning Maps Online [www Document]. URL: <<http://services.land.vic.gov.au/maps/pmo.jsp>>. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.
- DELWP 2020f. Planning Schemes Online [www Document]. URL: <http://planningschemes.dpcd.vic.gov.au>. Victorian Department of Environment, Land, Water and Planning, Melbourne, Victoria.

- DEPI 2014. Advisory List of Rare or Threatened Plants in Victoria. Victorian Department of Environment and Primary Industries, Melbourne, Victoria.
- DoE 2013. Significant Impact Guidelines 1.1. Matters of National Environmental Significance. Commonwealth Department of the Environment, Canberra, ACT.
- DAWE 2020. Protected Matters Search Tool. [www Document] URL: <http://www.environment.gov.au/epbc/pmst/index.html>. Commonwealth Department of Agriculture, Water and the Environment, Canberra, ACT.
- DSE 2004. Vegetation quality assessment manual: Guidelines for applying the habitat hectares scoring method. Version 1.3. Victorian Department of Sustainability and Environment, Melbourne Victoria
- DSE 2009. Advisory list of Threatened Invertebrate Fauna in Victoria – 2009. Victorian Department of Sustainability and Environment, Melbourne, Victoria.
- DSE 2011. Native Vegetation Technical information sheet: Defining an acceptable distance for tree retention during construction works. Victorian Department of Sustainability and Environment, Melbourne, Victoria.
- DSE 2013. Advisory List of Threatened Vertebrate Fauna in Victoria. Victorian Department of Sustainability and Environment, Melbourne, Victoria.
- Duncan, A., Baker, G.B. and Montgomery, N. (Eds) 1999. The Action Plan for Australian Bats. Environment Australia. Canberra, ACT.
- Ecology and Heritage Partners 2015a. Offset Requirements, 40-46 Cyril Beechey Lane, Cranbourne, Victoria. Unpublished report on behalf of Brown Property Group.
- Ecology and Heritage Partners 2015b. Additional Biodiversity Assessment, 40-46 Cyril Beechey Lane, Cranbourne, Victoria. Draft.
- Ecology and Heritage Partners 2018. Targeted Southern Brown Bandicoot *Isoodon obesulus obesulus* Surveys, 40-46 Cyril Beechey Lane, Cranbourne, Victoria. Draft.
- EPA 1991. Construction Techniques for Sediment Pollution Control. Published document prepared by the Victorian Environment Protection Authority, Melbourne, Victoria.
- EPA 1996. Environmental Guidelines for Major Construction Sites. Published document prepared by the Victorian Environmental Protection Authority, Melbourne, Victoria.
- Garnett, S., J. Szabo and G. Dutson 2011. The Action Plan for Australian Birds 2010. CSIRO Publishing, Collingwood, Victoria.
- Gullan, P 2017f. Illustrated Flora Information System of Victoria (IFLISV). Viridans Pty Ltd, Victoria.
- Menkhorst, P. and Knight, F. 2004. A Field Guide to the Mammals of Australia. 2nd Edition. Oxford University Press, Victoria.
- Nelson, J. S. 1994. Fishes of the World, 3rd Edition. John Wiley & Sons, New York, USA.
- Sands, D.P.A. and New, T.R. 2002. The Action Plan for Australian Butterflies, Environment Australia, Canberra, ACT.

- SEWPaC 2012. *Environment Protection and Biodiversity Conservation Act 1999* Environmental Offsets Policy. Commonwealth Department of Environment, Water, Population and Communities, Canberra, ACT.
- Strahan, R. (Ed) 1995. *The Mammals of Australia*. Reed Books, Sydney, NSW.
- Tyler, M.J. 1997. *The Action Plan for Australian Frogs*. Wildlife Australia: Canberra, ACT.
- Victorian Urban Stormwater Committee 1999. *Urban Stormwater: Best Practice Environmental Management Guidelines*. CSIRO, Collingwood, Victoria.
- Woinarski J. C. Z., Burbidge A. A. and Harrison P. 2014. *The action plan for Australian mammals 2012*. CSIRO Publishing, Collingwood, Victoria.

Figures



Legend

- Study Area
- Railway
- Major Road
- Collector Road
- Minor Road
- Proposed Road
- Walking Track
- Minor Watercourse
- Permanent Waterbody
- Wetland/Swamp
- Crown Land
- Localities

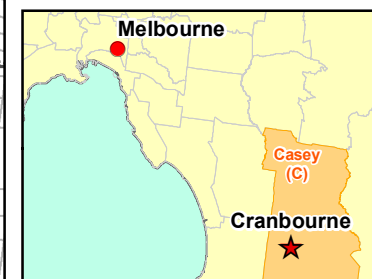
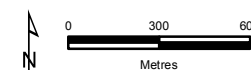


Figure 1

**Location of the Study Area
Biodiversity Assessment for
39-45 and 40-46 Cyril
Beechey Lane, Cranbourne**



VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.



Legend

- Study Area
- ★ Scattered Large Tree
- ★ Scattered Small Tree
- Large Tree in Patch

Previously Cleared Vegetation

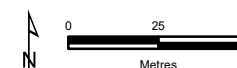
Ecological Vegetation Class

- Heathy Woodland (EVC 48)
- Riparian Scub (EVC 191)
- Sedgy Swamp Woodland (EVC 707)
- Swamp Scrub (EVC 53)



Figure 2

Ecological Features
Biodiversity Assessment for
39-45 and 40-46 Cyril Beechey Lane,
Cranbourne



VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

10492_Fig02_EcolFeats 3/07/2020 psorensen

Legend

Study Area

Significant flora

Basalt Tussock-grass

Clustered Lily

Dwarf Cypress-pine

Flame Grevillea

Floating Bur-reed

Giant Honey-myrtle

Grampians Thryptomene

Grey Billy-buttons

Maroon Leek-orchid

Mugga

Naked Sun-orchid

Orange-tip Finger-orchid

Pale Swamp Everlasting

Plains Yam-daisy

Powelltown Correa

Purple Blown-grass

River Swamp Wallaby-grass

Riverina Bitter-cress

Snowy River Wattle

Spotted Gum

Sticky Wattle

Studley Park Gum

Upright Panic

Velvet Apple-berry

Willow Needlewood

Yarra Gum

Figure 3
Previously documented significant flora within 5km of the study area
Biodiversity Assessment for 39-45 and 40-46 Cyril Beechey Lane, Cranbourne

N

0

1

2

Kilometres

ecology & heritage

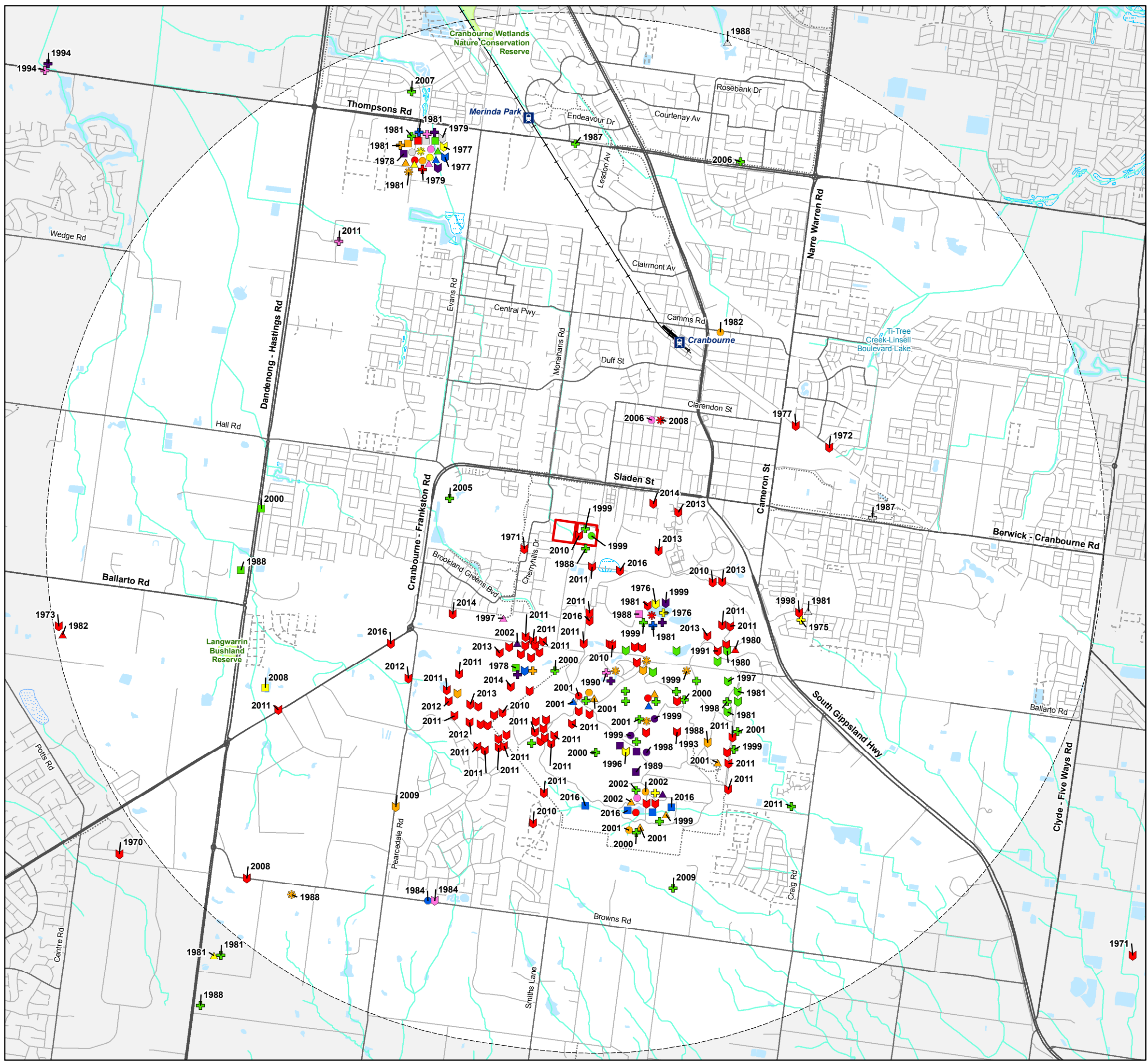
partners

VBA 2018. Victorian Biodiversity Atlas. // Sourced from: 'VBA_FLORA25' and 'VBA_FLORA100', January 2018 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

VicMap Data: The State of Victoria does not warrant the accuracy or completeness of information in this publication and any person using or relying upon such information does so on the basis that the State of Victoria shall bear no responsibility or liability whatsoever for any errors, faults, defects or omissions in the information.

A detailed map of the Cranbourne area in Victoria, Australia, showing the locations of previously documented significant flora within a 5km radius of the study area. The map includes major roads such as Thompsons Rd, Dandenong - Hastings Rd, Ballarto Rd, Cranbourne - Frankston Rd, Pearcedale Rd, Browns Rd, Sladen St, Clarendon St, Camms Rd, Courtenay Av, Rosebank Dr, Endeavour Dr, Lesdon Av, Nare Warren Rd, Berwick - Cranbourne Rd, Clyde - Five Ways Rd, and Centre Rd. A red rectangle highlights the study area at the intersection of Cranbourne - Frankston Rd and Browns Rd. Numerous flora locations are marked with symbols and years: Basalt Tussock-grass (grey circle), Clustered Lily (red circle), Dwarf Cypress-pine (orange circle), Flame Grevillea (yellow circle), Floating Bur-reed (green circle), Giant Honey-myrtle (blue circle), Grampians Thryptomene (pink circle), Grey Billy-buttons (purple circle), Maroon Leek-orchid (grey square), Mugga (red square), Naked Sun-orchid (orange square), Orange-tip Finger-orchid (yellow square), Pale Swamp Everlasting (green square), Plains Yam-daisy (blue square), Powelltown Correa (pink square), Purple Blown-grass (purple square), River Swamp Wallaby-grass (grey triangle), Riverina Bitter-cress (red triangle), Snowy River Wattle (orange triangle), Spotted Gum (yellow triangle), Sticky Wattle (green triangle), Studley Park Gum (blue triangle), Upright Panic (pink triangle), Velvet Apple-berry (purple triangle), Willow Needlewood (green cross), and Yarra Gum (red cross). Specific locations include Merinda Park, Cranbourne Wetlands Nature Conservation Reserve, and Langwarrin Bushland Reserve. The map also shows water bodies like Ti-Tree Creek-Linsell Boulevard Lake and various streets like Wedge Rd, Hall Rd, Evans Rd, Monahans Rd, Duff St, Clarendon St, Camms Rd, Courtenay Av, Rosebank Dr, Endeavour Dr, Lesdon Av, Nare Warren Rd, Berwick - Cranbourne Rd, Clyde - Five Ways Rd, Browns Rd, Smiths Lane, Pearcedale Rd, Ballarto Rd, Centre Rd, and Potis Rd.

10492_Fig03_SigFlora 22/05/2018 jryan



Legend

Study Area

Significant fauna

Australasian Bittern

Australasian Shoveler

Baillon's Crake

Bar-tailed Godwit

Black Falcon

Black-tailed Godwit

Blue-billed Duck

Chestnut-rumped Heathwren

Common Greenshank

Common Sandpiper

Curlew Sandpiper

Dwarf Galaxis

Eastern Great Egret

Eastern Snake-necked Turtle

Glossy Ibis

Grey Goshawk

Grey-crowned Babbler

Growling Grass Frog

Hardhead

Hooded Robin

Intermediate Egret

Latham's Snipe

Lewin's Rail

Little Bittern

Magpie Goose

Marsh Sandpiper

Musk Duck

New Holland Mouse

Pacific Gull

Painted Honeyeater

Pied Cormorant

Royal Spoonbill

Ruddy Turnstone

Southern Brown Bandicoot

Southern Toadlet

Spotted Harrier

Swamp Skink

Swift Parrot

Whimbrel

Whiskered Tern

White-bellied Sea-Eagle

White-throated Needletail

Wood Sandpiper

Figure 4
Previously documented significant fauna within 5km of the study area
Biodiversity Assessment for 39-45 and 40-46 Cyril Beechey Lane, Cranbourne

N

0

1

2

Kilometres

ecology & heritage

partners

VBA 2018. Victorian Biodiversity Atlas. // Sourced from: 'VBA_FLORA25' and 'VBA_FLORA100', January 2018 © The State of Victoria, Department of Environment, Land, Water and Planning. Records prior to 1949 not shown.

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10492_Fig04_SigFauna 22/05/2018 jyu

Appendix 1 Ecological and legislative definitions

Appendix 1.1 – Rare or Threatened Categories for Listed Victorian Taxa

Table A1.1. Rare or Threatened categories for listed Victorian taxa.

Rare or Threatened Categories
Conservation Status in Australia (Based on the EPBC Act 1999)
EX - Extinct: Extinct is when there is no reasonable doubt that the last individual of the species has died.
CR - Critically Endangered: A species is critically endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.
EN - Endangered: A species is endangered when it is not critically endangered but is facing a very high risk of extinction in the wild in the near future.
VU - Vulnerable: A species is vulnerable when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future.
R* - Rare: A species is rare but overall is not currently considered critically endangered, endangered or vulnerable.
K* - Poorly Known: A species is suspected, but not definitely known, to belong to any of the categories extinct, critically endangered, endangered, vulnerable or rare.
Conservation Status in Victoria (Based on DEPI 2014, DSE 2009 or 2013)
x - Presumed Extinct in Victoria: not recorded from Victoria during the past 50 years despite field searches specifically for the plant, or, alternatively, intensive field searches (since 1950) at all previously known sites have failed to record the plant.
e - Endangered in Victoria: at risk of disappearing from the wild state if present land use and other causal factors continue to operate.
v - Vulnerable in Victoria: not presently endangered but likely to become so soon due to continued depletion; occurring mainly on sites likely to experience changes in land-use which would threaten the survival of the plant in the wild; or, taxa whose total population is so small that the likelihood of recovery from disturbance, including localised natural events such as drought, fire or landslip, is doubtful.
r - Rare in Victoria: rare but not considered otherwise threatened - there are relatively few known populations or the taxon is restricted to a relatively small area.
k - Poorly Known in Victoria: poorly known and suspected, but not definitely known, to belong to one of the above categories (x, e, v or r) within Victoria. At present, accurate distribution information is inadequate.

Appendix 1.2 – Defining Ecological Significance

Table A1.2. Criteria for defining Ecological Significance ratings for significant flora, fauna and communities.

National Significance
<p>Flora: National conservation status is based on the EPBC Act list of taxa considered threatened in Australia (i.e. extinct, critically endangered, endangered, vulnerable).</p>
<p>Fauna: National conservation status is based on the EPBC Act list of taxa considered threatened in Australia (i.e. Extinct, Critically Endangered, Endangered, Vulnerable). Fauna listed as Extinct, Critically Endangered, Endangered, Vulnerable, or Rare under National Action Plans for terrestrial taxon prepared for DoE: mammals (Woinarski <i>et al.</i> 2014), bats (Duncan <i>et al.</i> 1999), birds (Garnett <i>et al.</i> 2011), reptiles (Cogger <i>et al.</i> 1993), amphibians (Tyler 1997) and butterflies (Sands and New 2002).</p>
<p>Communities: Vegetation communities considered critically endangered, endangered or vulnerable under the EPBC Act and considering vegetation condition.</p>
State Significance
<p>Flora: Threatened taxa listed under the provisions of the FFG Act. Flora listed in the State Government's Advisory List of Rare or Threatened Plants in Victoria (DEPI 2014).</p>
<p>Fauna: Threatened taxon listed under Schedule 2 of the FFG Act. Fauna listed as Extinct, Critically Endangered, Endangered and Vulnerable on the State Government's Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2013). Listed as Lower Risk (Near Threatened, Conservation Dependent or Least concern) or Data Deficient under National Action Plans for terrestrial species prepared for the DoE: mammals (Woinarski <i>et al.</i> 2014), bats (Duncan <i>et al.</i> 1999), birds (Garnett <i>et al.</i> 2011), reptiles (Cogger <i>et al.</i> 1993), amphibians (Tyler 1997) and butterflies (Sands and New 2002).</p>
<p>Communities: Ecological communities listed as threatened under the FFG Act (DELWP 2017h). EVC listed as threatened (i.e. endangered, vulnerable) or rare in a Native Vegetation Plan for a particular bioregion and considering vegetation condition.</p>
Regional Significance
<p>Fauna: Fauna with a disjunct distribution, or a small number of documented recorded or naturally rare in the particular Bioregion in which the study area is located. A particular taxon that is has an unusual ecological or biogeographical occurrence or listed as Lower Risk – Near Threatened, Data Deficient or Insufficiently Known on the State Government's Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2013).</p>
<p>Communities: EVC listed as depleted or least concern in a Native Vegetation Plan for a particular bioregion) and considering vegetation condition. EVC considered rare by the author for a particular bioregion.</p>
<p>Local Significance Local significance is defined as flora, fauna and ecological communities indigenous to a particular area, which are not considered rare or threatened on a national, state or regional level.</p>

Appendix 1.3 – Defining Site Significance

Table A1.3. Criteria for defining Site Significance ratings.

National Significance
<p>A site is of National significance if:</p> <ul style="list-style-type: none"> It regularly supports, or has a high probability of regularly supporting individuals of a taxon listed as ‘Critically Endangered’ or ‘Endangered’ under the EPBC Act and/or under National Action Plans for terrestrial taxon prepared for the DoE. It regularly supports, or has a high probability of supporting, an ‘important population’ as defined under the EPBC Act of one or more nationally ‘vulnerable’ flora and fauna taxon. It is known to support, or has a high probability of supporting taxon listed as ‘Vulnerable’ under National Action Plans. It is known to regularly support a large proportion (i.e. greater than 1%) of a population of a taxon listed as ‘Conservation Dependent’ under the EPBC Act and/or listed as Rare or Lower Risk (near threatened, conservation dependent or least concern) under National Action Plans. It contains an area, or part thereof designated as ‘critical habitat’ under the EPBC Act, or if the site is listed under the Register of National Estate compiled by the Australian Heritage Commission. It is a site which forms part of, or is connected to a larger area(s) of remnant native vegetation or habitat of national conservation significance such as most National Park, and/or a Ramsar Wetland(s).
State Significance
<p>A site is of State significance if:</p> <ul style="list-style-type: none"> It occasionally (i.e. every 1 to 5 years) supports, or has suitable habitat to support taxon listed as ‘Critically Endangered’ or ‘Endangered’ under the EPBC Act and/or under National Action Plans. It regularly supports, or has a high probability of regularly supporting (i.e. high habitat quality) taxon listed as ‘Vulnerable’, ‘Near threatened’, ‘Data Deficient’ or ‘Insufficiently Known’ in Victoria (DSE 2013; DEPI 2014), or species listed as ‘Data Deficient’ or ‘Insufficiently Known’ under National Action Plans. It contains an area, or part thereof designated as ‘critical habitat’ under the FFG Act. It supports, or likely to support a high proportion of any Victorian flora and fauna taxa. It contains high quality, intact vegetation/habitat supporting a high species richness and diversity in a particular bioregion. It is a site which forms part of, or connected to a larger area(s) of remnant native vegetation or habitat of state conservation significance such as most State Parks and/or Flora and Fauna Reserves.
Regional Significance
<p>A site is of Regional significance if:</p> <ul style="list-style-type: none"> It regularly supports, or has a high probability of regularly supporting regionally significant fauna as defined in Table 1.2. It contains a large population (i.e. greater than 1% or 5%) of flora considered rare in any regional Native Vegetation Plan for a particular bioregion. It supports a fauna population with a disjunct distribution, or a particular taxon that has an unusual ecological or biogeographical occurrence. It is a site which forms part of, or is connected to a larger area(s) of remnant native vegetation or habitat of regional conservation significance such as most Regional Parks and/or Flora and Fauna Reserves.
Local Significance
<p>Most sites are considered to be of at least local significant for conservation, and in general a site of local significance can be defined as:</p> <ul style="list-style-type: none"> An area which supports indigenous flora species and/or a remnant EVC, and habitats used by locally significant fauna species. An area which currently acts, or has the potential to act as a wildlife corridor linking other areas of higher conservation significance and facilitating fauna movement throughout the landscape.

Appendix 1.4 – Vegetation Condition and Habitat Quality

Table A1.4.1 Defining Vegetation Condition ratings.

Criteria for defining Vegetation Condition
High Quality: Vegetation dominated by a diversity of indigenous species, with defined structures (where appropriate), such as canopy layer, shrub layer, and ground cover, with little or few introduced species present.
Moderate Quality: Vegetation dominated by a diversity of indigenous species, but is lacking some structures, such as canopy layer, shrub layer or ground cover, and/or there is a greater level of introduced flora species present.
Low Quality: Vegetation dominated by introduced species, but supports low levels of indigenous species present, in the canopy, shrub layer or ground cover.

Table A1.4.2 Defining Habitat Quality.

Criteria for defining Habitat Quality
High Quality: <ul style="list-style-type: none"> • High degree of intactness (i.e. floristically and structurally diverse), containing several important habitat features such as ground debris (logs, rocks, vegetation), mature hollow-bearing trees, and a dense understorey component. • High species richness and diversity (i.e. represented by a large number of species from a range of fauna groups). • High level of foraging and breeding activity, with the site regularly used by native fauna for refuge and cover. • Habitat that has experienced, or is experiencing low levels of disturbance and/or threatening processes (i.e. weed invasion, introduced animals, soil erosion, salinity). • High contribution to a wildlife corridor, and/or connected to a larger area(s) of high quality habitat. • Provides known, or likely habitat for one or more rare or threatened species listed under the EPBC Act, FFG Act, or species considered rare or threatened according to DEPI 2014; DSE 2009 or 2013.
Moderate Quality: <ul style="list-style-type: none"> • Moderate degree of intactness, containing one or more important habitat features such as ground debris (logs, rocks, vegetation), mature hollow-bearing trees, and a dense understorey component. • Moderate species richness and diversity - represented by a moderate number of species from a range of fauna groups. • Moderate levels of foraging and breeding activity, with the site used by native fauna for refuge and cover. • Habitat that has experienced, or is experiencing moderate levels of disturbance and/or threatening processes. • Moderate contribution to a wildlife corridor, or is connected to area(s) of moderate quality habitat. • Provides potential habitat for a small number of threatened species listed under the EPBC Act, FFG Act, or species considered rare or threatened according to DEPI 2014; DSE 2009 or 2013.
Low Quality: <ul style="list-style-type: none"> • Low degree of intactness, containing few important habitat features such as ground debris (logs, rocks, vegetation), mature hollow-bearing trees, and a dense understorey component. • Low species richness and diversity (i.e. represented by a small number of species from a range of fauna groups). • Low levels of foraging and breeding activity, with the site used by native fauna for refuge and cover. • Habitat that has experienced, or is experiencing high levels of disturbance and/or threatening processes. • Unlikely to form part of a wildlife corridor, and is not connected to another area(s) of habitat. • Unlikely to provide habitat for rare or threatened species listed under the EPBC Act, FFG Act, or considered rare or threatened according to DEPI 2014; DSE 2009 or 2013.

Appendix 1.5 – Flora and Fauna Guarantee Act 1988 Protected Species

Protected flora and fauna under the *Flora and Fauna Guarantee Act 1988* (FFG Act) are defined as those that have legal protection under the Act. Protected taxa includes plants and animals from three sources:

- plant or animal taxa (species, subspecies or varieties) listed as threatened under the FFG Act;
- plant taxa belonging to communities listed as threatened under the FFG Act; and,
- plant taxa which are not threatened but require protection for other reasons.

Note that representative plants of a given community are protected as well as the community itself (for example scattered Wallaby-grasses *Rytidosperma* spp. are protected in degraded areas previously supporting the listed Western [Basalt] Plains Grassland Community).

Table A1.6 provides a list of plant groups protected under the FFG Act. For threatened plant species likely to occur within the study area refer to Appendix and for listed communities (or representative species) likely to occur within the study area refer to Sections 3.4.1 and 3.4.3.

Table A1.6. Plant groups (Families, Genera and Kingdom Divisions) protected under the FFG Act (DELWP 2016).

Family/Genera	Common Name	Exclusions
Pteridophyta	Clubmosses, ferns and fern allies	Austral Bracken <i>Pteridium esculentum</i>
Asteraceae	Daisies	N/A
Ericaceae (formerly Epacridaceae)	Heaths	N/A
Orchidaceae	Orchids	N/A
<i>Acacia</i>	Wattles	<i>Acacia dealbata</i> , <i>Acacia decurrens</i> , <i>Acacia implexa</i> , <i>Acacia melanoxylon</i> and <i>Acacia paradoxa</i>
<i>Baeckea</i>	Baeckneas	N/A
<i>Boronia</i>	Boronias	N/A
<i>Calytrix</i>	Fringe-myrtles	N/A
<i>Correa</i> -	Correas	N/A
<i>Darwinia</i>	Darwinias	N/A
<i>Eremophila</i>	Emu-bushes	N/A
<i>Eriostemon</i>	Wax-flowers	N/A
<i>Gompholobium</i>	Wedge-peas	N/A
<i>Grevillea</i>	Grevilleas	N/A
<i>Prostanthera</i>	Mint-bushes	N/A
<i>Sphagnum</i>	Sphagnum mosses	N/A
<i>Stylidium</i>	Trigger-plants	N/A
<i>Thryptomene</i>	Thryptomenes	N/A
<i>Thysanotus</i>	Fringe-lilies	N/A
<i>Xanthorrhoea</i>	Grass-trees	N/A

Appendix 2 Flora

Appendix 2.1 – Flora Results

Legend:

I Protected under the FFG Act (DELWP 2016);

* Listed as a noxious weed under the CaLP Act;

w Weed of National Significance;

Planted Victorian and non-Victorian species;

- Not applicable

Table A2.1. Flora recorded within the study area.

Scientific Name	Common Name	Conservation Status/Notes
INDIGENOUS SPECIES		
<i>Acacia mearnsii</i>	Black Wattle	I
<i>Amperea xiphoclada</i> var. <i>xiphoclada</i>	Broom Spurge	-
<i>Baumea rubiginosa</i> s.l.	Soft Twig-rush	-
<i>Cassinia</i> spp.	Cassinia	-
<i>Cassytha glabella</i>	Slender Dodder-laurel	-
<i>Centipeda</i> spp.	Sneezeweed	-
<i>Chloris</i> spp.	Windmill Grass	-
<i>Cyperus</i> spp.	Flat Sedge	-
<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna-gum	-
<i>Euchiton sphaericus</i>	Annual Cudweed	I
<i>Gahnia sieberiana</i>	Red-fruit Saw-sedge	-
<i>Hydrocotyle</i> spp.	Pennywort	-
<i>Hypolaena fastigiata</i>	Tassel Rope-rush	-
<i>Juncus</i> spp.	Rush	-
<i>Lepidosperma longitudinale</i>	Pithy Sword-sedge	-
<i>Leptospermum continentale</i>	Prickly Tea-tree	-
<i>Leptospermum myrsinoides</i>	Heath Tea-tree	-
<i>Melaleuca squarrosa</i>	Scented Paperbark	-
<i>Oxalis perennans</i>	Grassland Wood-sorrel	-
<i>Persicaria decipiens</i>	Slender Knotweed	-
<i>Pteridium esculentum</i>	Austral Bracken	-
<i>Ricinocarpos pinifolius</i>	Wedding Bush	-
<i>Rumex</i> sp.	Dock (Native)	-

Scientific Name	Common Name	Conservation Status/Notes
<i>Schoenus brevifolius</i>	Zig-zag Bog-sedge	-
<i>Triglochin procera</i> s.l.	Water Ribbons	-
NON-INDIGENOUS OR INTRODUCED SPECIES		
<i>Acacia longifolia</i> subsp. <i>sophorae</i>	Coast Wattle	-
<i>Agrostis</i> s.l. <i>spp.</i>	Bent/Blown Grass	-
<i>Brassica</i> <i>spp.</i>	Turnip	-
<i>Briza maxima</i>	Large Quaking-grass	-
<i>Bromus</i> <i>spp.</i>	Brome	-
<i>Carpobrotus aequilaterus</i>	Angled Pigface	-
<i>Cenchrus clandestinus</i>	Kikuyu	-
<i>Cirsium vulgare</i>	Spear Thistle	*
<i>Cynodon dactylon</i> var. <i>dactylon</i>	Couch	-
<i>Eucalyptus botryoides</i>	Southern Mahogany	#
<i>Eucalyptus cladocalyx</i>	Sugar Gum	#
<i>Galenia pubescens</i> var. <i>pubescens</i>	Galenia	-
<i>Genista linifolia</i>	Flax-leaf Broom	W *
<i>Helminthotheca echioides</i>	Ox-tongue	-
<i>Hypochaeris</i> <i>spp.</i>	Cat's Ear	-
<i>Lepidium</i> <i>spp.</i>	Peppercress	-
<i>Leptospermum laevigatum</i>	Coast Tea-tree	-
<i>Malva</i> <i>spp.</i>	Mallow	-
<i>Muehlenbeckia complexa</i>	Maidenhair Creeper	-
<i>Oxalis pes-caprae</i>	Soursob	*
<i>Panicum</i> <i>spp.</i>	Panic	-
<i>Paspalum</i> <i>spp.</i>	Paspalum	-
<i>Phalaris aquatica</i>	Toowoomba Canary-grass	-
<i>Phytolacca octandra</i>	Red-ink Weed	-
<i>Pinus</i> sp.	Pine	#
<i>Pittosporum undulatum</i>	Sweet Pittosporum	-
<i>Plantago</i> <i>spp.</i>	Plantain	-
<i>Rubus fruticosus</i> <i>spp. agg.</i>	Blackberry	W *
<i>Solanum</i> <i>spp.</i>	Nightshade	-
<i>Sonchus oleraceus</i>	Common Sow-thistle	-
<i>Trifolium</i> <i>spp.</i>	Clover	-
<i>Vicia sativa</i>	Common Vetch	-

Appendix 2.2 – Significant Flora Species

Table A2.2 Significant flora recorded within 10 kilometres of the study area

Likelihood: Habitat characteristics of significant flora species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area were assessed to determine their likelihood of occurrence. The likelihood of occurrence rankings are defined below.

1 - Known occurrence

- Recorded within the study area recently (i.e. within ten years)

2 - High Likelihood

- Previous records of the species in the local vicinity; and/or,
- The study area contains areas of high quality habitat.

3 - Moderate Likelihood

- Limited previous records of the species in the local vicinity; and/or,
- The study area contains poor or limited habitat.

4 - Low Likelihood

- Poor or limited habitat for the species however other evidence (such as a lack of records or environmental factors) indicates there is a very low likelihood of presence.

5 – Unlikely

- No suitable habitat and/or outside the species range.

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	DEPI	Likely occurrence in study area
NATIONAL SIGNIFICANCE							
<i>Amphibromus fluitans</i>	River Swamp Wallaby-grass	6	2007	VU	-	-	4
<i>Caladenia orientalis</i>	Cream Spider-orchid	-	#	EN	L	e	5
<i>Caladenia robinsonii</i>	Frankston Spider-orchid	1	1986	EN	L	e	5
<i>Dianella amoena</i>	Matted Flax-lily	5	1998	EN	L	e	4
<i>Euphrasia collina subsp. muelleri</i>	Purple Eyebright	2	1903	EN	L	e	5
<i>Glycine latrobeana</i>	Clover Glycine	-	#	VU	L	v	5
<i>Prasophyllum frenchii</i>	Maroon Leek-orchid	8	1998	EN	L	e	4
<i>Pterostylis chlorogramma</i>	Green-striped Greenhood	1	1991	VU	L	v	5
<i>Pterostylis cucullata</i>	Leafy Greenhood	-	#	VU	L	e	5
<i>Senecio psilocarpus</i>	Swamp Fireweed	-	#	VU	-	v	5
<i>Thelymitra epipactoides</i>	Metallic Sun-orchid	-	#	EN	L	e	5

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	DEPI	Likely occurrence in study area
<i>Xerochrysum palustre</i>	Swamp Everlasting	5	2010	VU	L	v	4
STATE SIGNIFICANCE							
<i>Acacia howittii</i>	Sticky Wattle	2	2009	-	-	r	4
<i>Caladenia aurantiaca</i>	Orange-tip Finger-orchid	2	1999	-	-	r	5
<i>Chiloglottis X pescottiana</i>	Bronze Bird-orchid	1	1997	-	-	r	5
<i>Chorizandra australis</i>	Southern Bristle-sedge	1	1995	-	-	k	5
<i>Coronidium gunnianum</i>	Pale Swamp Everlasting	4	1994	-	-	v	5
<i>Correa reflexa</i> var. <i>lobata</i>	Powelltown Correa	1	1981	-	-	r	5
<i>Corymbia maculata</i>	Spotted Gum	10	2012	-	-	v	5 (Planted)
<i>Craspedia canens</i>	Grey Billy-buttons	4	1993	-	L	e	5
<i>Diuris punctata</i>	Purple Diuris	1	1984	-	L	v	5
<i>Eleocharis macbarronii</i>	Grey Spike-sedge	3	2010	-	-	k	5
<i>Entolasia stricta</i>	Upright Panic	6	2010	-	-	k	5
<i>Eucalyptus fulgens</i>	Green Scentbark	2	2003	-	-	r	5
<i>Eucalyptus X studleyensis</i>	Studley Park Gum	4	2009	-	-	e	5
<i>Eucalyptus yarraensis</i>	Yarra Gum	2	2005	-	-	r	5
<i>Lachnagrostis punicea</i> subsp. <i>filifolia</i>	Purple Blown-grass	7	1998	-	L	r	5
<i>Marsilea mutica</i>	Smooth Nardoo	1	1998	-	-	k	5
<i>Melaleuca armillaris</i> subsp. <i>armillaris</i>	Giant Honey-myrtle	29	2015	-	-	r	5 (Planted)
<i>Microseris scapigera</i> s.s.	Plains Yam-daisy	3	1994	-	-	v	5
<i>Poa labillardierei</i> var. (Volcanic Plains)	Basalt Tussock-grass	6	2010	-	-	k	5
<i>Prasophyllum lindleyanum</i>	Green Leek-orchid	1	1919	-	-	v	5
<i>Pterostylis pedoglossa</i>	Prawn Greenhood	2	2000	-	-	v	5
<i>Sparganium subglobosum</i>	Floating Bur-reed	1	1954	-	-	k	5
<i>Thelionema umbellatum</i>	Clustered Lily	2	1988	-	-	r	5

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	DEPI	Likely occurrence in study area
<i>Thelymitra circumsepta</i>	Naked Sun-orchid	5	2007	-	-	v	4
<i>Thryptomene calycina</i>	Grampians Thryptomene	3	2010	-	-	r	5

Notes: EPBC = *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), FFG = *Flora and Fauna Guarantee Act 1988* (FFG Act), DEPI= Advisory List of Rare or Threatened Plants in Victoria (DEPI 2014), L = Listed, # = Records identified from EPBC Act Protected Matters Search Tool, Data source: Victorian Biodiversity Atlas (DELWP 2020d); Protected Matters Search Tool (DAWE 2020). Order: Alphabetical.

Appendix 2.3 – Habitat Hectares

Table A2.3. Habitat Hectares results for remnant vegetation recorded within the study area.

Vegetation Zone		HW ₁	HW ₂	HW ₃	SSW ₁	SSW ₂	SSW ₃	RS ₁	SS ₁	HW ₄	HW ₅
Bioregion		GipP	GipP	GipP	GipP	GipP	GipP	GipP	GipP	GipP	GipP
EVC / Tree		HW	HW	HW	SSW	SSW	SSW	RS	SS	HW	HW
EVC Number		48	48	48	707	707	707	191	53_61	48	48
EVC Conservation Status		LC	LC	LC	En	En	En	En	En	LC	LC
Patch Condition	Large Old Trees /10	5	5	0	0	0	0	0	0	3	0
	Canopy Cover /5	4	4	3	0	5	0	5	0	3	3
	Under storey /25	5	5	15	15	15	5	15	15	5	5
	Lack of Weeds /15	2	5	6	4	4	4	0	0	4	4
	Recruitment /10	5	4	5	5	5	3	3	3	5	5
	Organic Matter /5	3	3	3	3	3	3	3	3	5	5
	Logs /5	0	5	5	5	2	0	4	0	0	0
	Treeless EVC Multiplier	1.00	1.00	1.00	1.00	1.00	1.00	1.25	1.15	1.00	1.00
	Subtotal =	24.00	31.00	37.00	32.00	34.00	15.00	37.50	24.15	25.00	22.00
Landscape Value /25		4	5	6	1	1	1	1	1	4	4
Habitat Points /100		28	36	43	33	35	16	39	25	29	26
Habitat Score		0.28	0.36	0.43	0.33	0.35	0.16	0.39	0.25	0.29	0.26

Appendix 2.4 – Scattered Trees and Large Trees in Patches

Table A2.4. Remnant scattered trees recorded within the study area.

Tree ID	Species	Common Name	Size Class	Scattered/Patch
1	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
2	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Scattered
3	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
4	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
5	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
6	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
7	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Scattered
8	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Scattered
9	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
10	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
11	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
12	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Small	Scattered
13	<i>Eucalyptus</i> sp.	Dead stag	Small	Scattered
14	<i>Eucalyptus</i> sp.	Dead stag	Large	Scattered
15	<i>Eucalyptus</i> sp.	Dead stag	Large	Scattered
16	<i>Eucalyptus</i> sp.	Dead stag	Small	Scattered
17	<i>Eucalyptus</i> sp.	Dead stag	Small	Scattered
18	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Patch
19	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Patch
20	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Scattered
21	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Patch
22	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Scattered
23	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Patch
24	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Patch
25	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Patch
26	<i>Eucalyptus viminalis</i> subsp. <i>pryoriana</i>	Coast Manna Gum	Large	Patch

Appendix 3 Fauna

Appendix 3.1 – Significant Fauna Species

Table A3.1. Significant fauna within 10 kilometres of the study area.

Likelihood: Habitat characteristics of significant fauna species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area were assessed to determine their likelihood of occurrence. The likelihood of occurrence rankings are defined below.

1	High Likelihood	<ul style="list-style-type: none"> Known resident in the study area based on site observations, database records, or expert advice; and/or, Recent records (i.e. within five years) of the species in the local area (DELWP 2020d); and/or, The study area contains the species' preferred habitat.
2	Moderate Likelihood	<ul style="list-style-type: none"> The species is likely to visit the study area regularly (i.e. at least seasonally); and/or, Previous records of the species in the local area (DELWP 2020d); and/or, The study area contains some characteristics of the species' preferred habitat.
3	Low Likelihood	<ul style="list-style-type: none"> The species is likely to visit the study area occasionally or opportunistically whilst en route to more suitable sites; and/or, There are only limited or historical records of the species in the local area (i.e. more than 20 years old); and/or, The study area contains few or no characteristics of the species' preferred habitat.
4	Unlikely	<ul style="list-style-type: none"> No previous records of the species in the local area; and/or, The species may fly over the study area when moving between areas of more suitable habitat; and/or, Out of the species' range; and/or, No suitable habitat present.

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

FFG *Flora and Fauna Guarantee Act 1988* (FFG Act)

DSE Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2013); Advisory List of Threatened Invertebrate Fauna in Victoria (DSE 2009)

NAP National Action Plan (Cogger et al 1993; Duncan et al. 1999; Garnet et al 2011; Woinarski et al 2014; Sands and New 2002; Tyler 1997)

EX Extinct

RX Regionally extinct

CR Critically endangered

DD Data deficient (insufficiently or poorly known)

L Listed as threatened under FFG Act

EN Endangered

Listed on the Protected Matters Search Tool
 VU Vulnerable
 LC least concern

NT Near threatened
 CD Conservation dependent
 RA Rare

Common Name	Scientific Name	Last Documented Record (VBA)	# Records (VBA)	EPBC Act	FFG ACT	DSE (2013)	National Action Plan	Likelihood
NATIONAL SIGNIFICANCE								
Australasian Bittern	<i>Botaurus poiciloptilus</i>	2008	13	EN	L	EN	VU	4
Australian Grayling	<i>Prototroctes maraena</i>	#	-	VU	L	VU	VU	4
Australian Painted Snipe	<i>Rostratula australis</i>	1993	2	VU	L	CR	VU	4
Curlew Sandpiper	<i>Calidris ferruginea</i>	1998	10	CR	-	EN	-	4
Dwarf Galaxias	<i>Galaxiella pusilla</i>	2010	109	VU	L	EN	VU	4
Eastern Curlew	<i>Numenius madagascariensis</i>	1909	2	CR	-	VU	-	4
Fairy Prion	<i>Pachyptila turtur</i>	1908	1	VU	-	VU	-	4
Golden Sun Moth	<i>Synemon plana</i>	#	-	CR	L	CR	-	4
Greater Glider	<i>Petauroides volans</i>	#	-	VU	-	VU	VU	4
Grey-headed Flying-fox	<i>Pteropus poliocephalus</i>	#	-	VU	L	VU	VU	4
Growling Grass Frog	<i>Litoria raniformis</i>	1981	3	VU	L	EN	VU	4
Large Ant Blue	<i>Acrodipsas brisbanensis</i>	1941	1	-	L	EN	VU	4
New Holland Mouse	<i>Pseudomys novaehollandiae</i>	1984	9	-	L	VU	-	4
Northern Siberian Bar-tailed Godwit	<i>Limosa lapponica menzbieri</i>	#	-	EN	-	-	VU	4
Orange-bellied Parrot	<i>Neophema chrysogaster</i>	#	-	CR	L	CR	CR	4
Painted Honeyeater	<i>Grantiella picta</i>	1981	2	VU	L	VU	NT	4
Red Knot	<i>Calidris canutus</i>	#	-	EN	-	EN	-	4
Regent Honeyeater	<i>Anthochaera phrygia</i>	#	-	CR	L	CR	EN	4
Smoky Mouse	<i>Pseudomys fumeus</i>	#	-	EN	L	EN	RA	4

Common Name	Scientific Name	Last Documented Record (VBA)	# Records (VBA)	EPBC Act	FFG ACT	DSE (2013)	National Action Plan	Likelihood
Southern Brown Bandicoot	<i>Isoodon obesulus obesulus</i>	2016	200	EN	L	NT	NT	1 (recorded in study area)
Swamp Antechinus	<i>Antechinus minimus maritimus</i>	2007	1	VU	L	NT	VU	3
Swift Parrot	<i>Lathamus discolor</i>	1988	4	CR	L	EN	EN	4
Yarra Pygmy Perch	<i>Nannoperca obscura</i>	#	-	VU	L	VU	VU	4
STATE SIGNIFICANCE								
Australasian Shoveler	<i>Anas rhynchotis</i>	2008	44	-	-	VU	-	4
Baillon's Crake	<i>Porzana pusilla palustris</i>	2002	7	-	L	VU	-	4
Black Falcon	<i>Falco subniger</i>	2008	4	-	-	VU	-	4
Black-tailed Godwit	<i>Limosa limosa</i>	1985	5	-	-	VU	-	4
Blue-billed Duck	<i>Oxyura australis</i>	2006	28	-	L	EN	-	4
Caspian Tern	<i>Hydroprogne caspia</i>	2008	2	-	L	NT	-	4
Chestnut-rumped Heathwren	<i>Calamanthus pyrrhopygius</i>	2003	4	-	L	VU	-	4
Common Greenshank	<i>Tringa nebularia</i>	2008	5	-	-	VU	-	4
Common Sandpiper	<i>Actitis hypoleucos</i>	1999	8	-	-	VU	-	4
Eastern Great Egret	<i>Ardea modesta</i>	2005	37	-	L	VU	-	4
Foothill Burrowing Crayfish	<i>Engaeus victoriensis</i>	1962	1	-	-	EN	-	4
Freckled Duck	<i>Stictonetta naevosa</i>	2005	5	-	L	EN	-	4
Grey Goshawk	<i>Accipiter novaehollandiae novaehollandiae</i>	1990	5	-	L	VU	-	4
Grey-crowned Babbler	<i>Pomatostomus temporalis temporalis</i>	1988	2	-	L	EN	NT	4
Grey-tailed Tattler	<i>Tringa brevipes</i>	1987	1	-	L	CR	-	4

Common Name	Scientific Name	Last Documented Record (VBA)	# Records (VBA)	EPBC Act	FFG ACT	DSE (2013)	National Action Plan	Likelihood
Hardhead	<i>Aythya australis</i>	2012	61	-	-	VU	-	4
Hooded Robin	<i>Melanodryas cucullata cucullata</i>	2008	6	-	L	NT	NT	4
Intermediate Egret	<i>Ardea intermedia</i>	2012	2	-	L	EN	-	4
Lace Goanna	<i>Varanus varius</i>	1973	1	-	-	EN	-	4
Lewin's Rail	<i>Lewinia pectoralis pectoralis</i>	2012	7	-	L	VU	NT	4
Little Bittern	<i>Ixobrychus minutus dubius</i>	2002	2	-	L	EN	-	4
Little Egret	<i>Egretta garzetta nigripes</i>	2008	2	-	L	EN	-	4
Magpie Goose	<i>Anseranas semipalmata</i>	1987	1	-	L	NT	-	4
Marsh Sandpiper	<i>Tringa stagnatilis</i>	2005	8	-	-	VU	-	4
Musk Duck	<i>Biziura lobata</i>	2006	22	-	-	VU	-	4
New Zealand Fur Seal	<i>Arctocephalus forsteri</i>	1977	1	-	-	VU	-	4
Pacific Golden Plover	<i>Pluvialis fulva</i>	2005	3	-	-	VU	-	4
Powerful Owl	<i>Ninox strenua</i>	2004	1	-	L	VU	-	4
Ruddy Turnstone	<i>Arenaria interpres</i>	1982	2	-	-	VU	-	4
Southern Toadlet	<i>Pseudophryne semimarmorata</i>	2015	20	-	-	VU	-	4
Speckled Warbler	<i>Chthonicola sagittatus</i>	1908	1	-	L	VU	NT	4
Swamp Skink	<i>Lissolepis coventryi</i>	2010	14	-	L	VU	-	3
Whimbrel	<i>Numenius phaeopus</i>	1984	1	-	-	VU	-	4
White-bellied Sea-Eagle	<i>Haliaeetus leucogaster</i>	2008	6	-	L	VU	-	4
White-throated Needletail	<i>Hirundapus caudacutus</i>	2001	34	-	-	VU	-	4
Wood Sandpiper	<i>Tringa glareola</i>	2006	7	-	-	VU	-	4
REGIONAL SIGNIFICANCE								

Common Name	Scientific Name	Last Documented Record (VBA)	# Records (VBA)	EPBC Act	FFG ACT	DSE (2013)	National Action Plan	Likelihood
Azure Kingfisher	<i>Alcedo azurea</i>	1903	1	-	-	NT	-	4
Black-eared Cuckoo	<i>Chrysococcyx osculans</i>	1908	1	-	-	NT	-	4
Eastern Pygmy-possum	<i>Cercartetus nanus</i>	2012	1	-	-	NT	-	4
Glossy Ibis	<i>Plegadis falcinellus</i>	2006	9	-	-	NT	-	4
Latham's Snipe	<i>Gallinago hardwickii</i>	2010	42	-	-	NT	-	3
Long-toed Stint	<i>Calidris subminuta</i>	1985	1	-	-	NT	-	4
Nankeen Night Heron	<i>Nycticorax caledonicus hillii</i>	2005	3	-	-	NT	-	4
Pacific Gull	<i>Larus pacificus pacificus</i>	2011	122	-	-	NT	-	3
Pectoral Sandpiper	<i>Calidris melanotos</i>	2007	4	-	-	NT	-	4
Pied Cormorant	<i>Phalacrocorax varius</i>	2011	15	-	-	NT	-	4
Royal Spoonbill	<i>Platalea regia</i>	2005	29	-	-	NT	-	4
Spotted Harrier	<i>Circus assimilis</i>	2006	7	-	-	NT	-	4
Whiskered Tern	<i>Chlidonias hybridus javanicus</i>	2006	12	-	-	NT	-	4
White-fronted Tern	<i>Sterna striata</i>	1949	1	-	-	NT	-	4
White-winged Black Tern	<i>Chlidonias leucopterus</i>	2006	1	-	-	NT	-	4

Data source: Victorian Biodiversity Atlas (DELWP 2020d); Protected Matters Search Tool (DAWE 2020).

Taxonomic order: Mammals (Strahan 1995 in Menkhorst and Knight 2004); Birds (Christidis and Boles, 2008); Reptiles and Amphibians (Cogger et al. 1983 in Cogger 1996); Fish (Nelson 1994).

Appendix 4 Native Vegetation Removal (NVR) report (DELWP)

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

Date of issue: 26/06/2020

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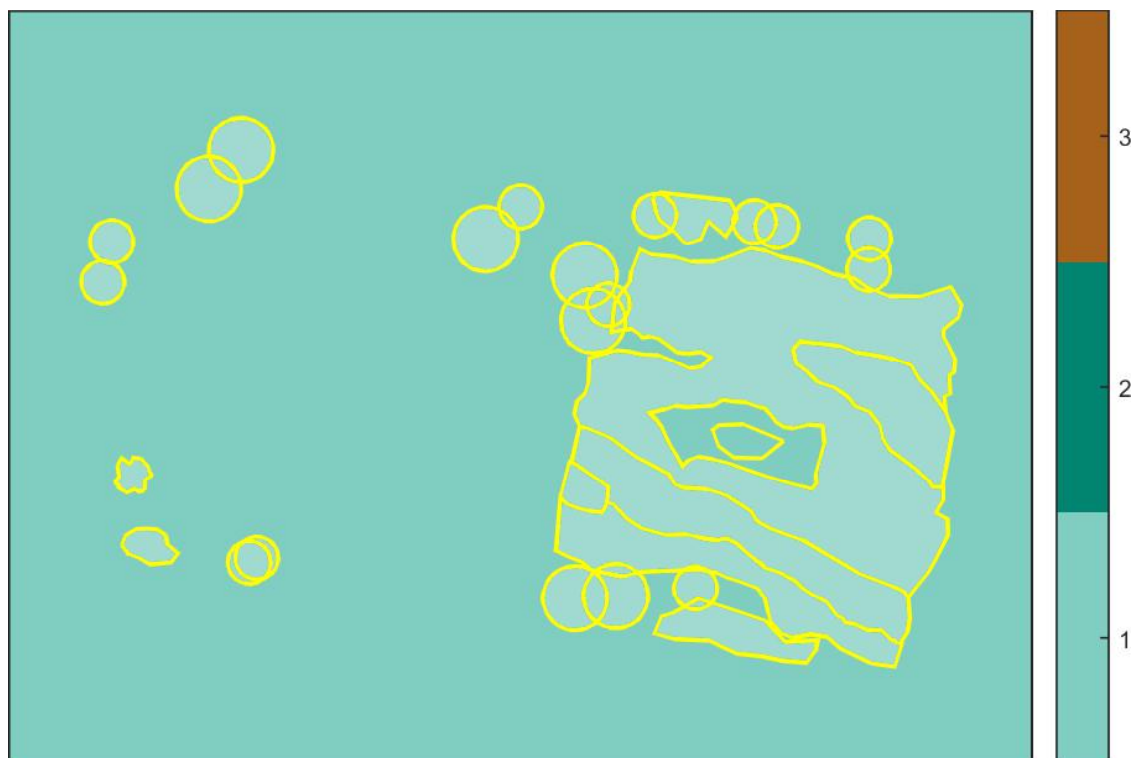
Time of issue: 11:56 am

Project ID EHP10492_Cranbourne

Assessment pathway

Assessment pathway	Detailed Assessment Pathway
Extent including past and proposed	3.358 ha
Extent of past removal	0.000 ha
Extent of proposed removal	3.358 ha
No. Large trees proposed to be removed	14
Location category of proposed removal	Location 1 The native vegetation is not in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map), sensitive wetland or coastal area. Removal of less than 0.5 hectares in this location will not have a significant impact on any habitat for a rare or threatened species

1. Location map



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	1.147 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Casey City Council
Minimum strategic biodiversity value score ²	0.240
Large trees	14 large trees

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

Appendix 1 includes information about the native vegetation to be removed

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

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

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

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

Next steps

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

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

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

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

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

Additional application requirements must be met including:

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

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

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

Appendix 1: Description of native vegetation to be removed

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

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

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

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-A	Patch	gipp0048	Least Concern	2	no	0.290	0.030	0.030	0.233		0.008	General
2-B	Patch	gipp0048	Least Concern	0	no	0.260	0.019	0.019	0.120		0.004	General
3-C	Patch	gipp0048	Least Concern	2	no	0.280	0.061	0.061	0.260		0.016	General
4-D	Patch	gipp0048	Least Concern	0	no	0.360	0.108	0.108	0.460		0.042	General
5-E	Patch	gipp0707	Endangered	0	no	0.160	0.036	0.036	0.260		0.005	General
6-F	Patch	gipp0048	Least Concern	1	no	0.430	1.456	1.456	0.281		0.602	General
7-G	Patch	gipp0707	Endangered	0	no	0.330	0.215	0.215	0.301		0.069	General
8-H	Patch	gipp0053_61	Endangered	0	no	0.250	0.034	0.034	0.260		0.008	General
9-I	Patch	gipp0707	Endangered	1	no	0.350	0.366	0.366	0.338		0.129	General
10-J	Patch	gipp0191	Vulnerable	1	no	0.390	0.309	0.309	0.397		0.126	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		
7-T	Scattered Tree	gipp0048	Least Concern	1	no	0.200	0.070	0.066	0.120		0.011	General		
8-T	Scattered Tree	gipp0048	Least Concern	1	no	0.200	0.070	0.066	0.120		0.011	General		
14-T	Scattered Tree	gipp0048	Least Concern	1	no	0.200	0.070	0.058	0.260		0.011	General		
15-T	Scattered Tree	gipp0048	Least Concern	1	no	0.200	0.070	0.061	0.460		0.013	General		
20-T	Scattered Tree	gipp0048	Least Concern	1	no	0.200	0.070	0.064	0.260		0.012	General		
22-T	Scattered Tree	gipp0048	Least Concern	1	no	0.200	0.070	0.055	0.460		0.012	General		
1-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.029	0.260		0.005	General		
3-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.020	0.299		0.004	General		
4-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.020	0.381		0.004	General		
5-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.031	0.120		0.005	General		
6-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.031	0.120		0.005	General		
9-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.025	0.260		0.005	General		
10-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.026	0.260		0.005	General		
11-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.029	0.260		0.005	General		
12-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.026	0.260		0.005	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
13-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.027	0.460		0.006	General
16-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.002	0.260		0.000	General
17-T	Scattered Tree	gipp0048	Least Concern	0	no	0.200	0.031	0.020	0.260		0.004	General
2-T	Scattered Tree	gipp0048	Least Concern	1	no	0.200	0.070	0.070	0.260		0.013	General

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

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

Species common name	Species scientific name	Species number	Conservation status	Group	Habitat impacted	% habitat value affected
Annual Fireweed	<i>Senecio glomeratus subsp. longifructus</i>	507144	Rare	Dispersed	Habitat importance map	0.0006
Veined Spear-grass	<i>Austrostipa rudis subsp. australis</i>	504940	Rare	Dispersed	Habitat importance map	0.0004
Green Scentbark	<i>Eucalyptus fulgens</i>	505175	Rare	Dispersed	Habitat importance map	0.0003
Naked Sun-orchid	<i>Thelymitra circumsepta</i>	503383	Vulnerable	Dispersed	Habitat importance map	0.0002
Green Leek-orchid	<i>Prasophyllum lindleyanum</i>	502702	Vulnerable	Dispersed	Habitat importance map	0.0001
Leafy Twig-sedge	<i>Cladium procerum</i>	500786	Rare	Dispersed	Habitat importance map	0.0001
Parsley Xanthosia	<i>Xanthosia leiophylla</i>	504562	Rare	Dispersed	Habitat importance map	0.0001
Sticky Wattle	<i>Acacia howittii</i>	500044	Rare	Dispersed	Habitat importance map	0.0001
Yarra Gum	<i>Eucalyptus yarraensis</i>	501326	Rare	Dispersed	Habitat importance map	0.0001
Purple Diuris	<i>Diuris punctata</i>	501084	Vulnerable	Dispersed	Habitat importance map	0.0001
Purple Blown-grass	<i>Lachnagrostis punicea subsp. punicea</i>	504206	Rare	Dispersed	Habitat importance map	0.0001
Green-striped Greenhood	<i>Pterostylis chlorogramma</i>	504728	Vulnerable	Dispersed	Habitat importance map	0.0001
Cobra Greenhood	<i>Pterostylis grandiflora</i>	502798	Rare	Dispersed	Habitat importance map	0.0000
Swamp Skink	<i>Lissolepis coventryi</i>	12407	Vulnerable	Dispersed	Habitat importance map	0.0000
Southern Toadlet	<i>Pseudophryne semimarmorata</i>	13125	Vulnerable	Dispersed	Habitat importance map	0.0000
Grey Goshawk	<i>Accipiter novae-hollandiae novae-hollandiae</i>	10220	Vulnerable	Dispersed	Habitat importance map	0.0000
Chestnut-rumped Heathwren	<i>Calamanthus pyrrhopygius</i>	10498	Vulnerable	Dispersed	Habitat importance map	0.0000
Black Falcon	<i>Falco subniger</i>	10238	Vulnerable	Dispersed	Habitat importance map	0.0000

White-throated Needletail	<i>Hirundapus caudacutus</i>	10334	Vulnerable	Dispersed	Habitat importance map	0.0000
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Habitat group

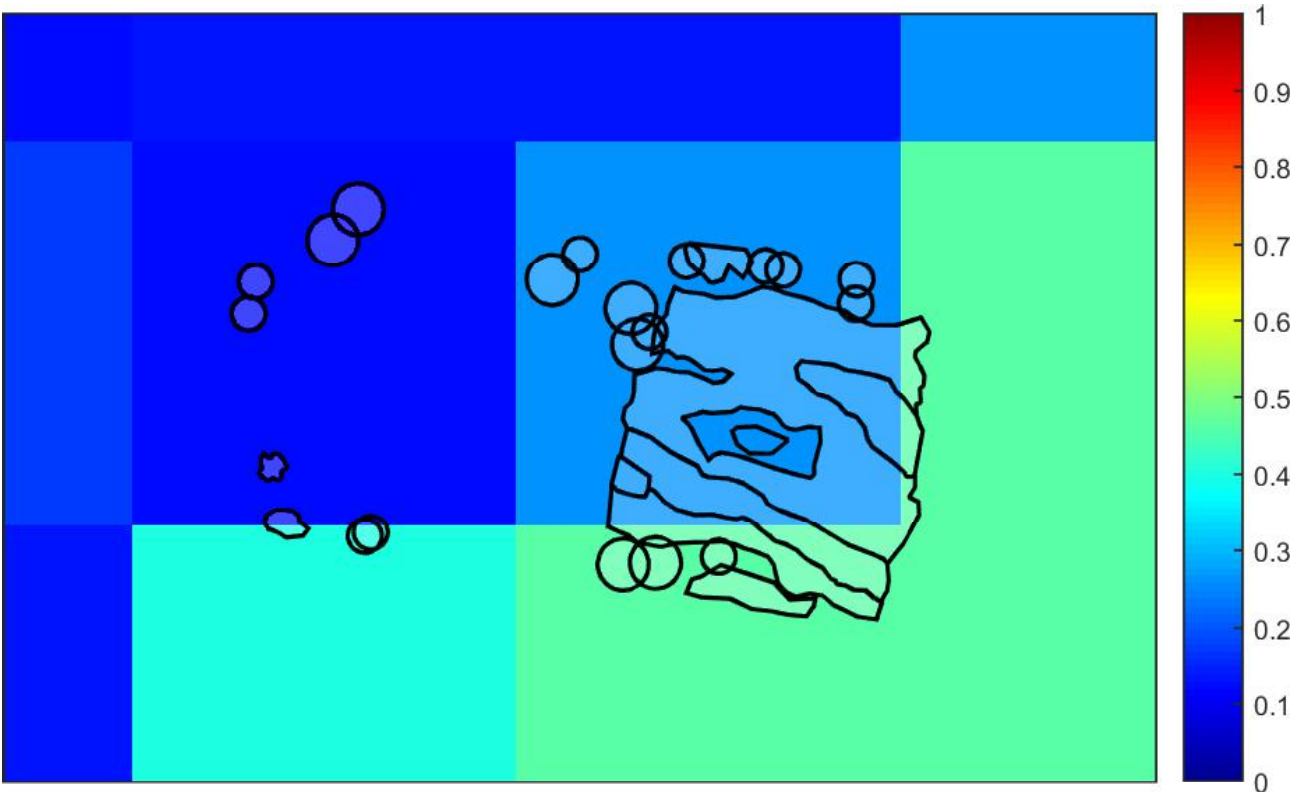
- Highly localised habitat means there is 2000 hectares or less mapped habitat for the species
- Dispersed habitat means there is more than 2000 hectares of mapped habitat for the species

Habitat impacted

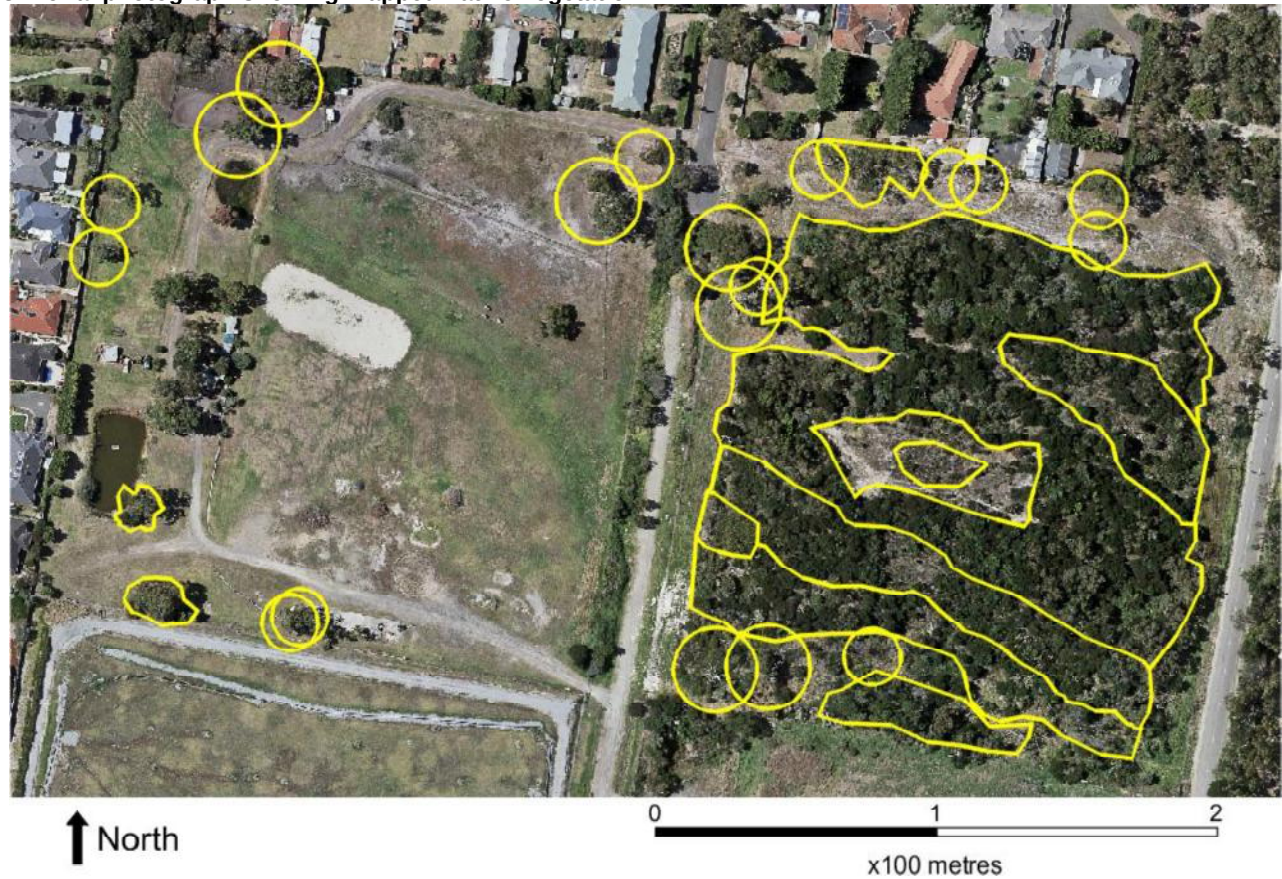
- Habitat importance maps are the maps defined in the Guidelines that include all the mapped habitat for a rare or threatened species
- Top ranking maps are the maps defined in the Guidelines that depict the important areas of a dispersed species habitat, developed from the highest habitat importance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

Appendix 3 – Images of mapped native vegetation

2. Strategic biodiversity values map



3. Aerial photograph showing mapped native vegetation



4. Map of the property in context



Yellow boundaries denote areas of proposed native vegetation removal.

Appendix 5 Native vegetation credit register (DELWP)

Report of available native vegetation credits

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

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

Date and time: 25/06/2020 12:50

Report ID: 4700

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
1.147	0.24	14	CMA	Port Phillip and Westernport
			or LGA	Casey City

Details of available native vegetation credits on 25 June 2020 12:50

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0277	9.693	482	Port Phillip and Westernport	Mornington Peninsula Shire	No	Yes	No	Abezco, Ethos, VegLink
BBA-0670	19.978	175	Port Phillip and Westernport	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	21.354	1530	Port Phillip and Westernport	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	50.015	2666	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	Contact NVOR
BBA-2789	1.317	14	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2790	2.911	116	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2870	2.544	431	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Contact NVOR
BBA-2871	16.335	1668	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Contact NVOR
TFN-C1636	1.946	159	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1650	2.219	79	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1664	3.623	96	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
VC_CFL-0838_01	5.227	829	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3016_01	2.291	36	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink

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

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
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There are no sites listed in the Native Vegetation Credit Register that meet your offset requirements when applying the alternative arrangements as listed in section 11.2 of the Guidelines for the removal, destruction or lopping of native vegetation.

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

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
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There are no potential sites listed in the Native Vegetation Credit Register that meet your offset requirements.

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

Next steps

If applying for approval to remove native vegetation

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

If you have approval to remove native vegetation

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

Broker contact details

Broker Abbreviation	Broker Name	Phone	Email	Website
Abezco	Abzeco Pty. Ltd.	(03) 9431 5444	offsets@abzeco.com.au	www.abzeco.com.au
Baw Baw SC	Baw Baw Shire Council	(03) 5624 2411	bawbaw@bawbawshire.vic.gov.au	www.bawbawshire.vic.gov.au
Bio Offsets	Biodiversity Offsets Victoria	0452 161 013	info@offsetsvictoria.com.au	www.offsetsvictoria.com.au
Contact NVOR	Native Vegetation Offset Register	136 186	nativevegetation.offsetregister@delwp.vic.gov.au	www.environment.vic.gov.au/native-vegetation
Ecocentric	Ecocentric Environmental Consulting	0410 564 139	ecocentric@me.com	Not available
Ethos	Ethos NRM Pty Ltd	(03) 5153 0037	offsets@ethosnrm.com.au	www.ethosnrm.com.au
Nillumbik SC	Nillumbik Shire Council	(03) 9433 3316	offsets@nillumbik.vic.gov.au	www.nillumbik.vic.gov.au
TFN	Trust for Nature	8631 5888	offsets@tfn.org.au	www.trustfornature.org.au
VegLink	Vegetation Link Pty Ltd	(03) 5470 5232	offsets@vegetationlink.com.au	www.vegetationlink.com.au
Yarra Ranges SC	Yarra Ranges Shire Council	1300 368 333	biodiversityoffsets@yarraranges.vic.gov.au	www.yarraranges.vic.gov.au

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

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

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