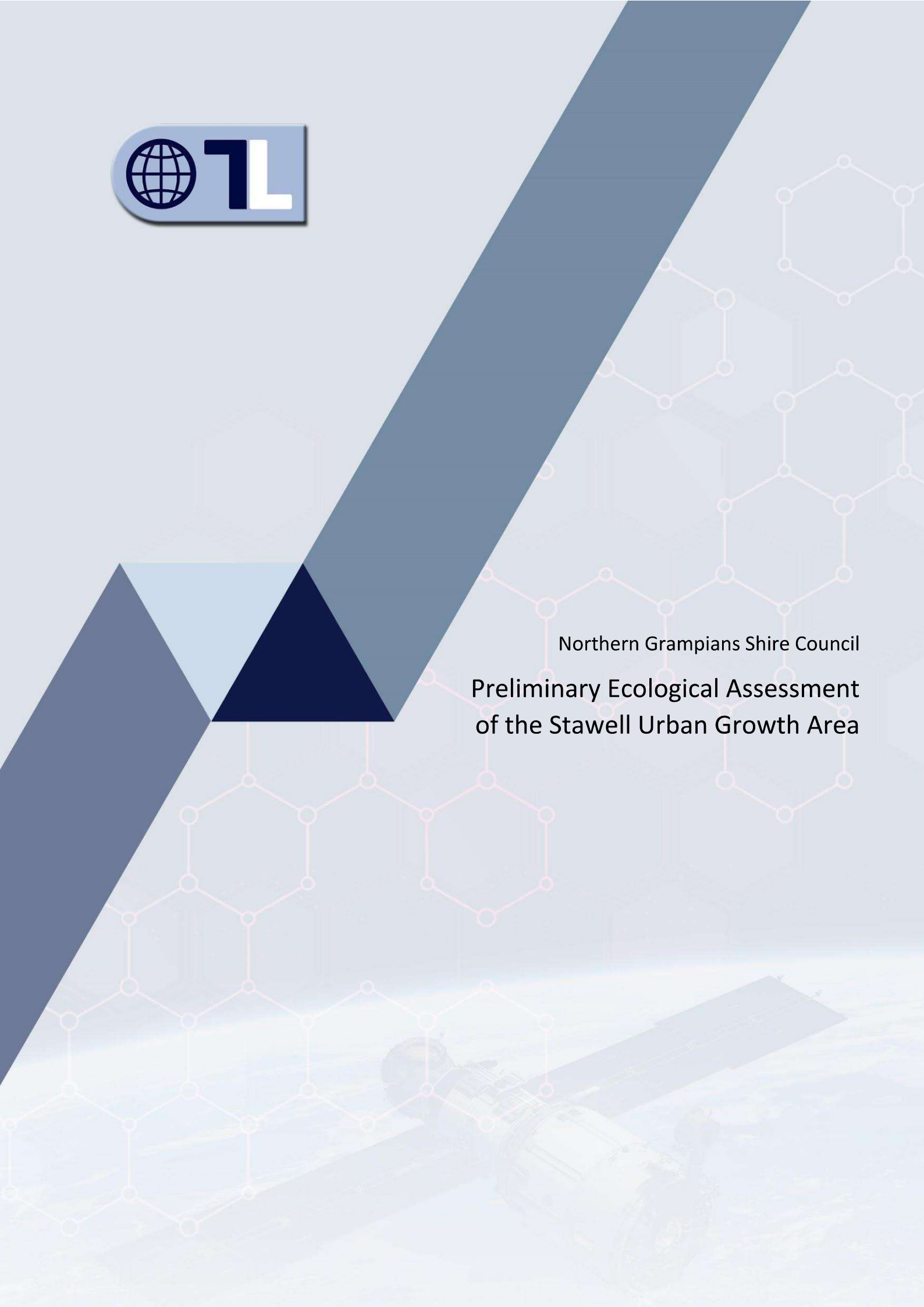




Northern Grampians Shire Council
Preliminary Ecological Assessment
of the Stawell Urban Growth Area





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Executive Summary

In early 2023, NGSC appointed Hansen Partnership (Hansen) to prepare a Masterplan for an Urban Growth Area southeast of the main township of Stawell. In their May 2023 background report, Hansen identified environmental influences on the layout of the future growth area. The report recommends that expert advice is solicited to offer guidance on environmental and cultural heritage constraints which will feed into the final version of the Masterplan.

TerraLab has been commissioned by the Northern Grampians Shire Council to undertake a preliminary ecological assessment of the Stawell Urban Growth Area.

The site is the Stawell Urban Growth Area which is centred on Ararat Road, Stawell, two kilometres south of the township of Stawell. It is 134.2 hectares in size and is situated approximately 200 kilometres west northwest of Melbourne, Victoria. It is located within the Northern Grampians Shire Council and is within the Wimmera Catchment Management Authority region.

A site survey was conducted by TerraLab ecologists across three days, commencing on the 16th of January and concluding on the 18th of January, 2024. The site survey determined that 26.8 hectares native vegetation that meets the definition of a remnant patch was identified on site. These were classified into three of Ecological Vegetation Classes.

A total of 59 vascular plants were identified on site during the site survey. Of these, 39 are considered to be native to Victoria. One species identified on site, *Melaleuca armillaris* subsp. *armillaris* (Giant Honey-myrtle) is considered endangered in Victoria. The individual identified was in a garden setting and is not considered natural. A total of 11 fauna species were incidentally identified on site during the site survey.

Following the site survey, the likelihood of occurrence of rare or threatened flora was evaluated based on the desktop assessment and site observations. 48 flora species, 23 fauna species and 2 ecological communities have the possibility of occurring on site. Of these, 21 flora species, 11 fauna species and two ecological communities are considered Matters of National Environmental Significance (MNES) which listed by the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Detailed, targeted assessments at the appropriate time of year, following appropriate methods are required to determine if these ecological values are in fact present, and if they will be impacted by any proposed development. Many of the ecological values the require further investigation are similar lifeforms, and therefore many can be evaluated using a small number of assessment methods (e.g. an orchid survey can provide further information on 23 orchid species considered possible to occur on site). If they are deemed to be present and likely to be impacted, they will need to be evaluated according to the Significant Impact Guidelines (Department of Environment, 2013). All other ecological values identified in database searches were unlikely to occur on site.

If native vegetation will be impacted and/or require removal under the proposal, an application of the 'Guidelines' to obtain a planning permit for the works is necessary. The Native Vegetation Regulation tool can be used to determine the assessment pathway, and thus the type of assessment required (DEECA, 2024b).



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Glossary

Term/Acronym	Definition
Bioregion	Biogeographic areas that capture the patterns of ecological characteristics in the landscape or seascape, providing a natural framework for recognising and responding to biodiversity values.
Bioregional Conservation Status (BCS of an EVC)	A state-wide classification of the degree of depletion in the extent and/or quality of an Ecological Conservation Class (EVC) within a bioregion in comparison to the State's estimation of its pre-1750 extent and condition.
CMA	Catchment Management Authority
DEECA	Department of Energy, Environment and Climate Action
Ecological value	Threatened flora, fauna, ecological community or their associated habitat.
Ecological Vegetation Class (EVC)	A type of native vegetation classification that is described through a combination of its floristic, life form and ecological characteristics, and through an inferred fidelity to particular environmental attributes. Each EVC includes a collection of floristic communities (i.e. lower level in the classification that is based solely on groups of the same species) that occur across a biogeographic range, and although differing in species, have similar habitat and ecological processes operating.
EVC Benchmark	A standard vegetation-quality reference point relevant to the vegetation type that is applied in habitat hectare assessments. Represents the average characteristics of a mature and apparently long-undisturbed state of the same vegetation type.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act (1999) Cth</i>
FFG Act	<i>Flora and Fauna Guarantee Act (1988) Vic</i> or the <i>Flora and Fauna Guarantee Amendment Act (2019) Vic</i>
Habitat Hectares	Combined measure of condition and extent of native vegetation. This measure is obtained by multiplying the site's condition score (measured between 0 and 1) with the area of the site (in hectares).
Habitat Zone	A discrete area of native vegetation consisting of a single vegetation type (EVC) with an assumed similar quality. This is the base spatial unit for conducting a habitat hectare assessment.
Location risk	The risk that removing native vegetation in a particular location will have an impact on the persistence of rare or threatened species.
Native vegetation	Native vegetation is defined in the Victoria Planning Provisions as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'.
Rare or threatened species or communities	A species of flora, fauna or ecological community listed by the FFG Act, or EPBC Act as vulnerable, or greater.
Remnant patch	<ul style="list-style-type: none"> - An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; or - Any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy; or - Any mapped wetland included in the Current wetlands map, available in DELWP systems and tools.
Strategic biodiversity score	A score that quantifies the relative value of a location in the landscape with regard to its condition, extent, connectivity and the support function it plays for species.
VBA	Victorian Biodiversity Atlas
Vegetation Quality Assessment (VQA)	The Vegetation Quality Assessment (VQA) otherwise known as the habitat hectare assessment method is the standard approach of assessing vegetation quality in Victoria. Consistency in the application of the method by assessors is essential to support the delivery of Victoria's native vegetation removal regulations.



1 Introduction

TerraLab has been commissioned by the Northern Grampians Shire Council to undertake a preliminary ecological assessment of the Stawell Urban Growth Area.

1.1 Background

The Northern Grampians Shire Council (NGSC) is located in the Wimmera region of Victoria, Australia. The Local Government Area (LGA) encompasses a region whose traditional owners are Djab Wurrung, Jardwadjali and Dja Dja Wurrung.

Within the shire is the township of Stawell, which has an estimated population of over 6,000 people (Australian Bureau of Statistics, 2024). In 2021, the NGSC adopted the Stawell Structure Plan (Hansen Partnership, Tim Nott & Martyn Group, 2021). Action A2.2 of the Structure Plan is to “Further investigate land marked as ‘Urban Growth Area’ to understand the likely opportunities and constraints of this land to accommodate long term housing supply.”

In early 2023, NGSC appointed Hansen Partnership (Hansen) to prepare a Masterplan for an Urban Growth Area southeast of the main township of Stawell (Hansen Partnership, 2023). In their May 2023 background report, Hansen identified environmental influences on the layout of the future growth area (Figure 1). The report recommends that expert advice is solicited to offer guidance on environmental and cultural heritage constraints which will feed into the final version of the Masterplan.

Council intends that the Masterplan will be included into the NGSC Planning Scheme and will be the basis for future rezoning for more intensive housing and other urban uses (NGSC, 2023).

A preliminary ecological assessment (or sometimes referred to as a ‘flora and fauna assessment’) is the first stage of an investigation into the biodiversity values of a site. It includes background investigations into threatened flora, fauna and ecological communities (collectively referred to as ‘ecological values’) as well as a basic site assessment focusing on threatened species habitat and mapping areas of native vegetation. It aims to provide guidance on future investigations that may be required to comply with policy and to identify opportunities for protecting ecological values. It does not aim to qualitatively assess or otherwise address relevant policy.

A rare or threatened species (ROTS) or community is flora, fauna or vegetation community that is protected under either of the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and *Flora and Fauna Guarantee Act 1988* (FFG Act).

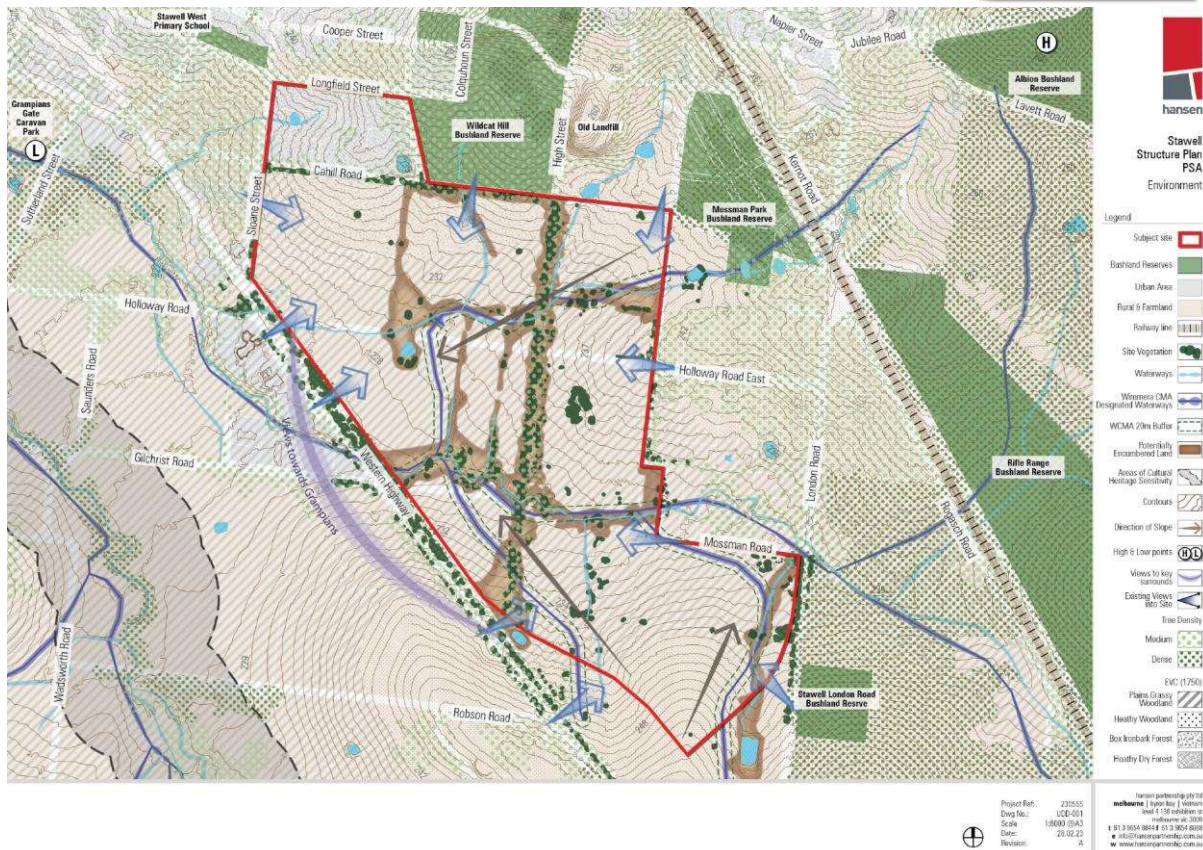


Figure 1 – A map of the environmental values of the site published in the Stawell Masterplan Concept (Hansen Partnership, 2023)

1.2 Objectives

The objective of the study is to identify areas which have potential ecological value so that they can be considered for incorporation into the Stawell Growth Area Masterplan. This is achieved by:

- Identifying ecological values which should be protected in the Masterplan,
- Recommending strategies for incorporating protected ecological values into the Masterplan,
- Recommending strategies that could both protect ecological values and help create the future identity and amenity of the Stawell Growth Area,
- Identifying parts of the site where Masterplanning can proceed on the basis that there are not significant ecological constraints,
- Recommending further investigations or management strategies that should be incorporated into further stages of planning, beyond the masterplanning (E.g. into subdivisions based on the Masterplan)

1.3 Site and Study Area

The site is the Stawell Urban Growth Area which is centred on Ararat Road, Stawell, two kilometres south of the township of Stawell. It is 134.2 hectares in size and is situated approximately 200 kilometres west northwest of Melbourne, Victoria. It is located within the Northern Grampians Shire



Council and is within the Wimmera Catchment Management Authority region. Although the township of Stawell is wholly within the Goldfields bioregion, the site itself straddles the boundary of three bioregions, Goldfields, Central Victorian Uplands and the Wimmera. By area, the Wimmera bioregion dominates occupying 55% of the site.

The Study Area is the five-kilometre region surrounding the perimeter of the site. The extent of the site is shown in Figure 2.

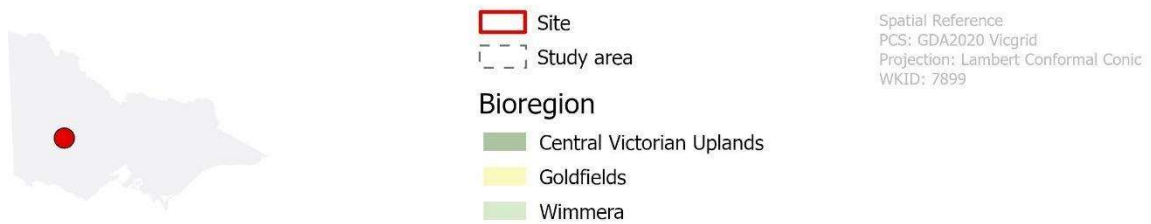
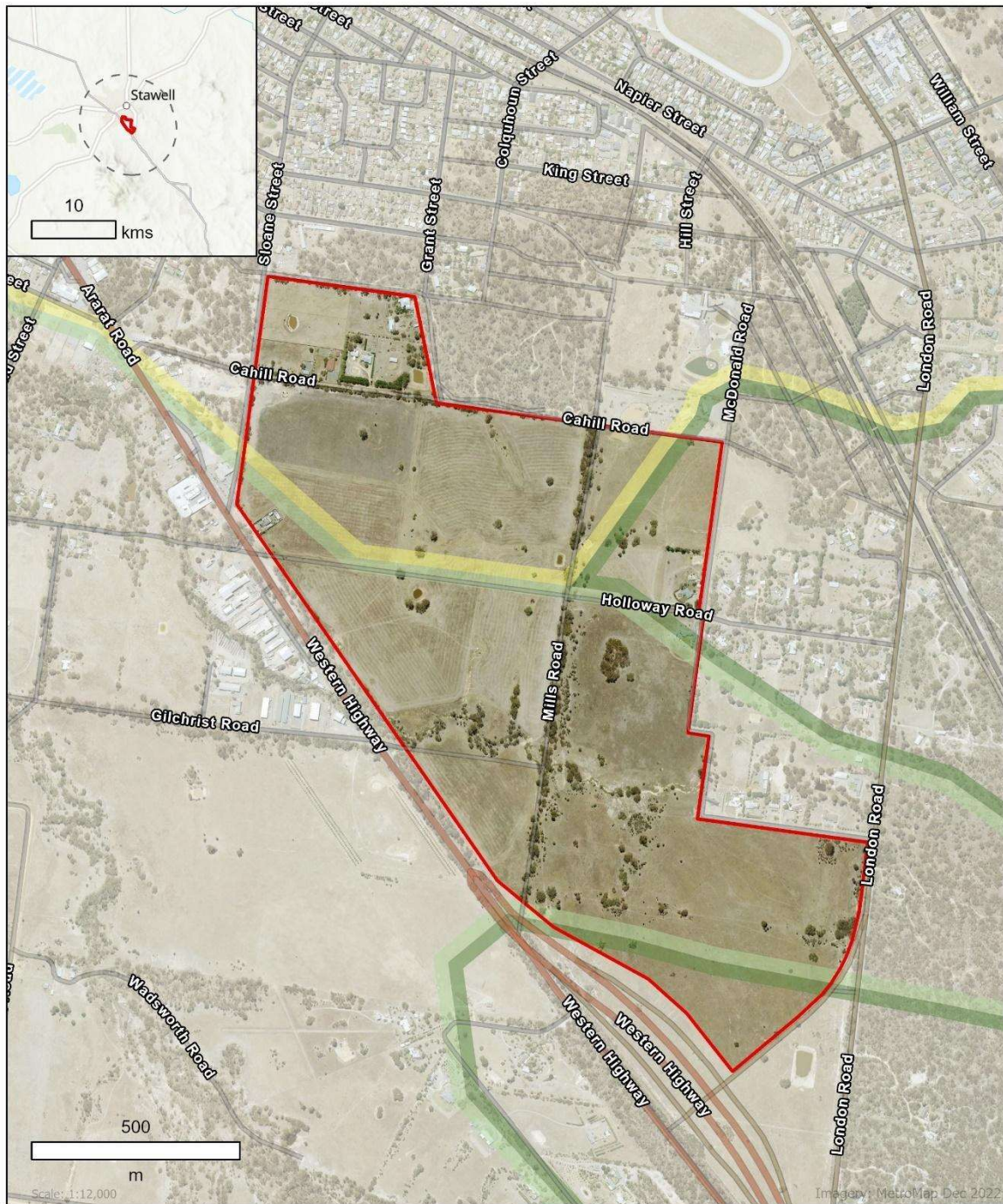


Figure 2 – The Stawell Growth Area site and study area



1.3.1 Planning

The site is subject to the following planning zones and overlays:

PLANNING ZONES

General Residential Zone (GRZ)

Rural Living Zone (RLZ)

Neighbourhood Residential Zone (NRZ)

PLANNING OVERLAYS

Bushfire Management Overlay (BMO);

Design and Development (DDO)



2 Methods

2.1 Key Definitions

The definitions below are essential for the interpretation of this report. For additional definitions, refer to the Glossary.

2.1.1 Native Vegetation

Native vegetation is defined in the Victoria Planning Provisions (Definitions – Clause 72) as “plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses”.

DEECA’s *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP, 2017) (the Guidelines) further defines native vegetation into two categories: 'remnant patches' and 'scattered trees' outlined below.

A 'remnant patch' of native vegetation is either:

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

A 'scattered tree' is:

- A native canopy tree that does not form part of a remnant patch.

Definitions are from the Guidelines (DELWP, 2017).

2.1.2 Rare or threatened species or ecological communities

A rare or threatened species or ecological community is a species of flora, fauna or ecological community listed by the *Flora and Fauna Guarantee Act 1988* (FFG Act), or *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as vulnerable, or greater.

The significance of a species or ecological community follows its listing status under Commonwealth or State legislation.

- National significance includes all species and communities listed as critically endangered, endangered or vulnerable under the EPBC Act.
- State significance includes all species and communities listed as critically endangered, endangered or vulnerable under the FFG Act.

2.2 Database searches and literature review

Background information on the potential distribution of native vegetation at the site was obtained from NatureKit (DECCA, 2023a). The details investigated included the Ecological Vegetation Class (EVC) of native vegetation prior to clearing (pre-1750), as well as the potential location of any extant native



vegetation on site. Furthermore, MapShare (DEECA, 2024a) was used to identify the presence of current, important and Ramsar wetlands within the study area.

In order to identify which rare or threatened species or communities that may exist in the study area, the following database sources were queried:

- Victorian Biodiversity Atlas (VBA) (DEECA, 2023b),
- Native Vegetation - Flora and Fauna Guarantee Act Listed Communities (NV2005_FFG_COMM) (DELWP, 2023),
- Protected Matters Search Tool (PMST) (DCCEEW, 2023).

2.3 Site survey

A site survey was conducted across three days, commencing on the 16th of January and concluding on the 18th of January, 2024. The assessors were:

- Harley Schinagl, BSc. (Env. Mgt.) PG. Dip. NRM (Policy and Planning), 20 years' experience, vegetation quality assessment accredited, and
- Sarah Wingard, BSc. (Ecosystem Science and Sustainability), PG Cert. (GIS), two years' experience.

The survey included:

- An incidental botanical survey by means of meandering through the site, focusing on areas of remnant native vegetation. All vascular flora species identified during the botanical survey were recorded in a manner consistent with the nomenclature of the VBA. Unknown species were photographed for later analysis and comparison to reference material. If unable to be identified to species level, they were identified to genus level only.
- An incidental zoological survey by means of meandering through the site. This included direct observations, as well as noting indirect evidence of a species by identifying scats, footprints, diggings, burrows, tracks or calls. Fauna species identified during the zoological survey were recorded in a manner consistent with the nomenclature of the VBA.
- Mapping* the location and extent of patches of native vegetation and assigning it to an EVC.
- Mapping* the locations and identifying the species of any scattered trees.
- Mapping* any identified ecological values, or their habitat.
- Recording any additional incidental observations such as pest plant and animal infestations, erosion, fire scarring, recent flooding, signs of drought, etc.

*Mapping involved the use of the integrated GNSS in a Google Pixel 7 running Field Maps version 24.0.1.

2.4 Habitat analysis

Spatial data collected during the site survey was analysed and grouped into habitat types. Habitat types were based on mutual landscape (e.g. marine, alpine, plain, etc.), community (e.g. river, dune, mangrove, etc.) and habitat characteristics (e.g. hollows, reeds, ephemeral water, etc.). The extent of the grouped habitat types was plotted as a polygon for further interpretation during the assessment of likelihood.



2.5 Likelihood of occurrence

The likelihood for an ecological value to occur on the site was assessed using the definitions in Table 1.

Table 1 – Definitions for the likelihood of occurrence for rare or threatened species or communities.

Likelihood of occurrence	Definition
Present	Recorded on site during current or recent surveys within past 5 years
Likely	Suitable habitat present on site Site within species' natural distribution range Recorded on site more than 5 years ago but less than 25 Recorded within the study area within the past 5 years
Possible	Aspects of habitat present and / or habitat modified Site within species' natural distribution range Numerous records within the local area between 5 to 25 years Recorded on site more than 25 years ago
Unlikely	Limited aspects of habitat present within study area and / or habitat highly modified Historical records within study area greater than 25 years Site on fringe or outside species' natural distribution range No historical records on site
Very Unlikely	Habitat not present on site Site is located outside of species' natural range Considered locally extinct No records of the species within the study area in the last 25 years
Unable to determine	Insufficient data to make a determination

2.6 Legislation and Policy

The outcomes of the database searches, literature review, site survey and likelihood of occurrence were reviewed against the following potentially relevant legislation:

- Environment Protection and Biodiversity Conservation Act 1999,
- Flora and Fauna Guarantee Act 1988,
- Catchment and Land Protection Act 1994,
- Water Act 1989,
- Planning and Environment Act 1987,
- Wildlife Act 1975, and

Advice and recommendations relating to the results of the site survey, and how they pertain to the above-mentioned legislation were documented in this report.

Note, that only aspects of each policy related to biodiversity are considered.

2.7 Limitations

The site survey did not involve any species/community specific, targeted surveys. This means it is generally not possible to unequivocally confirm whether a species is present on site or not.

The timing of the site survey means it is possible that some annual, deciduous or dormant taxa may not have been visible. Further, due to the cryptic nature, site conditions, climate and seasonal growth cycles of certain taxa, it is possible that important diagnostic features were not visible, not present, or

indistinguishable from other, non-target species. It is plausible that false positives or negatives may have occurred which can potentially influence results.

Assumptions, interpretations and recommendations may be based on information from historical datasets. While every care has been made to account for uncertainty in historical datasets, it is possible that the limitations of that data may influence the outcomes from this report.

Some areas of the site were unable to be accessed due to one of the following reasons:

- Landowners were unable to be contacted to provide permission to access the property.
- Landowners declined access to their property.
- The area had restricted access due to ongoing construction activities.

These areas of the site are displayed in Figure 3.

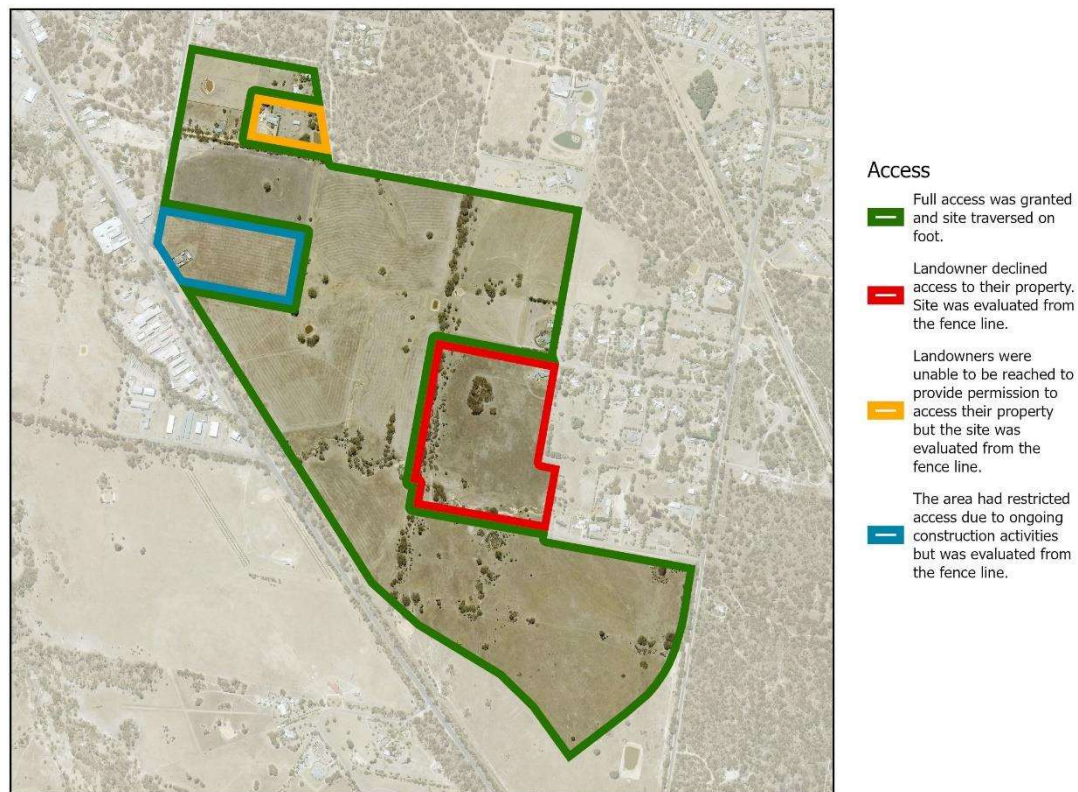


Figure 3 – Areas of the site that had restricted access.

In situations where access was restricted, the site was assessed visually from the boundary of the property. This means that some areas of the property may have been occluded, or specific ecological values may not have been observed.



3 Results

3.1 Database searches and literature review

3.1.1 Native Vegetation

Query of NatureKit identified three pre-1750's modelled EVCs as occurring on the site. These are:

- EVC 48: *Heathy Woodland*
- EVC 55: *Plains Grassy Woodland*
- EVC 61: *Box Ironbark Forest*

Extant mapping suggests that these EVCs are still present on site, albeit in a fragmented state.

3.1.2 Flora

Query of the VBA identified 45 rare or threatened vascular plant species with historic records within the study area. Query of the PMST identified 26 nationally significant species as potentially occurring within the study area.

3.1.3 Fauna

Query of the VBA identified 28 rare or threatened fauna species with historic records within the study area. Query of the PMST identified 24 nationally significant species as potentially occurring within the study area.

3.1.4 Ecological communities

Query of the FFG Act communities spatial layer indicated that there may be one threatened ecological community on site, Grey Box - Buloke Grassy Woodland and two others, Creekline Grassy Woodland (Goldfields) and Red Gum Swamp no. 1 within the study area.

Query of the PMST identified five threatened ecological communities as potentially occurring within the study area. These are:

- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* which is listed as Critically Endangered under the EPBC Act,
- *Mallee Bird Community of the Murray Darling Depression Bioregion* which is listed as Endangered under the EPBC Act,
- *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia* which is listed as Endangered under the EPBC Act,
- *Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions* which is listed as Endangered under the EPBC Act,
- *Grassy Eucalypt Woodland of the Victorian Volcanic Plain* which is listed as Critically Endangered under the EPBC Act.

Native patches identified on site were assessed against the flow charts contained within the following documents that are used to determine if either listed ecological community was present on site. These assessments are outlined in Section 3.2.4.



3.1.5 Wetlands

Query of MapShare (DEECA, 2024a) failed to identify any current, important or Ramsar wetlands on site, though, current wetlands were mapped within the study area (Appendix 5).

Query of the PMST identified one Ramsar wetland, Lake Albacutya, as occurring within 150-200 km of the site.

3.2 Site survey

The site occurs on mildly undulating hills which dip toward an unnamed creek line that runs east-west through the approximate centre of the site at approximately 230 m above mean sea level. The northern and southern extremities are the highest points at over 240 m and 250 m elevation, respectively. The soils are variably fertile, with the highest fertility areas occurring nearest to the creek, and also variably stony and gravelly with most stony areas to the south.

The site is surrounded by a relatively equal mixture of urbanisation, rural development, agricultural land (presumably grazing), mining and bushland conservation.

The north is the township of Stawell. London Bushland Reserve sits immediately to the east of the site and is accompanied by the towns railway line which runs roughly north south. Rotating around to the south, the bushland begins to give way to cleared agricultural land and Pleasant Creek occurs, which runs northward. The western side is largely agricultural with scattered assemblages of native vegetation. The Western Highway also runs along the site's western boundary.

Within the site there are seven broad habitat types which can be seen in Map 1 and are described below. Habitat types may not necessarily meet the definition of remnant native vegetation, but may be habitat for ecological values and require further investigation.

OPEN PASTURE

This habitat type is the most extensive on site covering most areas not associated with a fence or creek line. While it covers most of the site, it is mostly associated with areas of higher fertility supporting an array of exotic grasses that are most less than 30 cm, but occasionally up to 100 cm high. Herbs such as *Acetosella vulgaris* (Sheep Sorrel), *Oxalis perennans* (Grassland Wood-sorrel) and *Cirsium vulgare* (Spear Thistle) are common, whereas *Gazania* spp. (*Gazania*) occurs sporadically. Bare soil is sometimes present towards the north and rocks occur at the surface in the south.

Dense stands of *Acacia paradoxa* (Hedge Wattle) appear to have regenerated or persisted, particularly in the southern paddocks and are sometimes accompanied by other native species. These areas act as important refuges for both flora and fauna, as their prickly nature tends to deter humans and predatory animals. Eucalypt regeneration is also occasionally present, though, when dominant is then classified as the Eucalypt Grass Woodland. As a result, large trees and logs are effectively absent.



Figure 4 – An example photo of the Open Pasture habitat

EUCALYPT GRASSY WOODLAND

The Eucalypt Grassy Woodlands tend to be restricted to the fence lines, adjacent to the Open Pasture, though they do also occasionally occur as single, large, scattered trees within the paddocks. This habitat type is usually subject to grazing and is dominated by mature *Eucalyptus melliodora* (Yellow Box), but also less frequently *Eucalyptus leucoxylon* (Yellow Gum) and *Eucalyptus goniacalyx s.l.* (Bundy) to 20 m. Some individuals are very large and surrounded by small logs. Large logs, though present, are much rarer (likely being subject to firewood collection). These very large individuals also host an array of hollows.

Nearer to the edges of the zone, the mature trees are replaced by a number of cohorts of recruits that appear to be recolonising the Open Pasture due to a lack of intense grazing.

The middle storey is usually sparse, except when the recruiting eucalypts are present (which at the time of survey were usually around a middle storey height of around five metres). If present, middle storey species consisted of *Acacia genistifolia* (Spreading Wattle), *Acacia paradoxa* (Hedge Wattle) and *Acacia pycnantha* (Golden Wattle).

The native ground storey was often mosaiced with approximately 30%-50% cover of exotic species. Areas dominated by native species were dominated by either *Rytidosperma* spp. (Wallaby Grasses), *Austrostipa* spp. (Spear Grass) or both and were accompanied by rushes like *Lomandra filiformis* subsp. *coriacea* (Wattle Mat-rush) and *Lomandra nana* (Dwarf Mat-rush), *Lepidosperma filiforme* (Common Rapier-sedge) and herbs such as *Acaena ovina* (Australian Sheep's Burr), *Gonocarpus tetragynus* (Common Raspwort), *Hypericum gramineum* (Small St John's Wort) and *Pelargonium rodneyanum* (Magenta Stork's-bill). Litter was often dominant, particularly nearer to the trees.



Figure 5 – An example photo of the Eucalypt Grassy Woodland habitat

DERIVED NATIVE GRASSLAND

The Derived Native Grassland is best described as mimicking the Eucalypt Grassy Woodland and usually occurs immediately adjacent to it. It's major differing factor is that it lacks the dominant eucalypt cover and therefore the associated woody habitat components such as coarse woody debris, logs and hollows. Its species composition is much the same as the ground storey of the aforementioned habitat type and in general, it has a lower cover of exotic species.

In the south of the site, bryophytes and lichens are established over soil in most of the inter-tussock space and rocks are occasionally present.



Figure 6 – An example photo of the Derived Native Grassland habitat

ROADSIDE REMNANT WOODLAND

Confined to the roadside of Cahill Road, this habitat is structurally similar to the Eucalypt Grassy Woodland. Its key differentiating characteristics are that it is not subject to grazing and is therefore of higher quality, it has a lower (but still present) weed cover, has a sandier surface soil profile and is a different EVC.

It includes a canopy of Yellow Gum and Bundy to 20 m tall (though often less) that averages 15% cover. Intermediate sized eucalypts that do not reach canopy height are common. Its middle storey is mostly dominated by wattles such as Spreading Wattle, Hedge Wattle and Golden Wattle, though their distribution is variable with some dense stands in some locations, and their absence in others.

The ground storey was dominated by *Dianella* spp. (Flax-lilies) and grasses. Though at the time of survey, many of the grasses were desiccated suggesting they may have been annuals. Litter, particularly coarser woody litter and bark, was also dominant which may have acted to suppress the ground storey further.



Figure 7 – An example photo of the Roadside Remnant Woodland habitat

WOODED CREEK LINE

The Wooded Creek Line occurs on fertile soils on and adjacent to the creeks that meander the site. The creeks themselves varied from a damp depression to a small one- to two-metre-wide flowing creek that sat in a heavily eroded channel. The water was often turbid, sitting above a substrate of mobile silt.

The Wooded Creek Line was dominated by a sparse cover of Yellow Gum to 25 m tall. Yellow Box and Bundy were occasionally present further away from the waterway. *Allocasuarina verticillata* (Drooping Sheoak) was also present in some locations.

The middle storey was largely absent, though thickets of Hedge Wattle were occasionally encountered. The ground storey was the key feature of this habitat type. Adjacent to the creeks, the ground storey was typically densely grassed with exotic species, occasionally with a small field of

Wallaby Grasses, particularly nearer to established trees. The channel itself was usually dominated by extremely dense thickets of *Juncus acutus* subsp. *acutus* (Spiny Rush) which rarely gave way to open water at some of the wider sections.

Logs were present, but uncommon and often not particularly large.



Figure 8 – An example photo of the Wooded Creek Line habitat

DEGRADED CREEK LINE

The landform of the Degraded Creek Line habitat was somewhat similar to the Wooded Creek Line with the following key differences: The channels were often smaller meaning flowing water was reduced to a damp depression in the channel, trees and shrubs were absent, and sedges were less common, usually replaced by a dense grass cover.

In some locations the creeks were so shallow and non-descript that they merged into the Open Pasture which they shared a lot of other characteristics (such as flora) with.



Figure 9 – An example photo of the Degraded Creek Line habitat

OPEN WATER

Areas of Open Water were exclusively artificial dams. These areas typically lacked any sort of woody cover (with some exceptions where some Hedge Wattle established on a bank), and very little littoral vegetation. The edges of the water were largely bare, likely owing to water evaporation throughout the summer.

The depth of water was not possible to determine but is not estimated to be greater than two metres at the centre of any of the dams. Aquatic vegetation was entirely absent. Woody debris was also entirely absent.



Figure 10 – An example photo of the Open Water habitat



3.2.1 Vegetation

The site survey determined that 26.8 hectares of native vegetation that meets the definition of a remnant patch was identified on site. These were classified into three EVCs across three bioregions. These are summarised in Table 2 and displayed in Map 2.

Table 2 – The EVCs identified on site and their bioregional conservation significance.

Bioregion	EVC	Bioregional Conservation Significance	EVC Description
Goldfields	EVC 55: <i>Plains Grassy Woodland</i>	Endangered	An open, eucalypt woodland to 15 m tall occurring on a number of geologies and soil types. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer.
Goldfields	EVC 61: <i>Box Ironbark Forest</i>	Depleted	Occurs in low rainfall areas on gently undulating rises, low hills and penepains on infertile, often stony soils derived from a range of geologies. The open overstorey to 20 m tall consists of a variety of eucalypts, often including one of the Ironbark species. The mid storey often forms a dense to open small tree or shrub layer over an open ground layer ranging from a sparse to well-developed suite of herbs and grasses.
Wimmera	EVC 55: <i>Plains Grassy Woodland</i>	Endangered	An open, eucalypt woodland to 15 m tall occurring on a number of geologies and soil types. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations usually in areas with >600 mm annual rainfall. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer.
Central Victorian Uplands	EVC 55: <i>Plains Grassy Woodland</i>	Endangered	An open, eucalypt woodland to 15m tall occurring on a number of geologies and soil types. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer.
Central Victorian Uplands	EVC 48: <i>Heathy Woodland</i>	Depleted	Spans a variety of geologies but is generally associated with nutrient-poor soils including deep uniform sands (aeolian or outwash) and Tertiary sand/clay which has been altered to form quartzite gravel. Eucalypt-dominated low woodland to 10 m tall lacking a secondary tree layer and generally supporting a diverse array of narrow or ericoid-leaved shrubs except where frequent fire has reduced this to a dense cover of bracken. Geophytes and annuals can be quite common but the ground cover is normally fairly sparse.

The remnant patches identified were not classified into habitat zones, as Vegetation Quality Assessments (VQA) were not within the scope of the project.

Map 2 displays the distribution of remnant native vegetation and EVCs across the site. Scattered trees were identified on site but were not measured and have therefore been represented as patches for the purposes of display in Map 2.



3.2.2 Flora

A total of 59 vascular plants were identified on site during the site survey. Of these, 39 are considered to be native to Victoria. These are listed in Appendix 3.

One species identified on site, *Melaleuca armillaris* subsp. *armillaris* (Giant Honey-myrtle) is considered endangered in Victoria. The individual identified was in a garden setting and is not considered natural.

Appendix 4 lists all database search records and assesses their likelihood of occurrence based on the definitions given in Section 2.5. Following the site survey, the likelihood of occurrence of rare or threatened flora was reviewed and amended based on site observations. It concludes that the following 48 species have a likelihood of occurrence of 'Possible' or higher:

- Known to occur on site:
 - *Melaleuca armillaris* subsp. *armillaris* (Giant Honey-myrtle)
- Likely to occur on site:
 - *Allocasuarina luehmannii* (Buloke) which was identified immediately adjacent (<50 m) from the site boundary
 - *Austrostipa hemipogon* (Half-bearded Spear-grass)
 - *Austrostipa trichophylla* (Spear-grass)
 - *Corymbia maculate* (Spotted Gum); although this species is likely to occur, it is believed to be beyond its natural range
- Possible to occur on site:
 - *Caladenia audasii* (McIvor Spider-orchid)
 - *Caladenia fulva* (Tawny Spider-orchid)
 - *Caladenia ornate* (Ornate Pink Fingers)
 - *Caladenia reticulata* s.s. (Veined Spider-orchid)
 - *Caladenia tensa* (Greencomb Spider-orchid, Rigid Spider-orchid)
 - *Caladenia versicolor* (Candy Spider-orchid)
 - *Comesperma polygaloides* (Small Milkwort)
 - *Dianella amoena* (Matted Flax-lily)
 - *Diuris behrii* (Golden Cowslips)
 - *Dodonaea boroniifolia* (Hairy Hop-bush)
 - *Dodonaea procumbens* (Trailing Hop-bush)
 - *Eucalyptus crenulate* (Buxton Gum)
 - *Eucalyptus froggattii* (Kamarooka Mallee)
 - *Eucalyptus leucoxydon* subsp. *megalocarpa* (Large-fruit Yellow-gum)
 - *Eucalyptus sideroxylon* subsp. *sideroxylon* (Mugga)
 - *Euphrasia collina* subsp. *muelleri* (Purple Eyebright, Mueller's Eyebright)
 - *Glycine latrobeana* (Clover Glycine, Purple Clover)
 - *Goodenia benthamiana* (Small-leaf Goodenia)
 - *Grevillea dryophylla* (Goldfields Grevillea)
 - *Hibbertia humifusa* subsp. *humifusa* (Rising Star Guinea-flower)
 - *Lachnagrostis adamsonii* (Adamson's Blown-grass, Adamson's Blowngrass)
 - *Leucochrysum albicans* subsp. *tricolor* (Hoary Sunray, Grassland Paper-daisy)



- *Pimelea spinescens* subsp. *spinescens* (Plains Rice-flower, Spiny Rice-flower, Prickly Pimelea)
- *Prasophyllum lindleyanum* (Green Leek-orchid)
- *Prasophyllum maccannii* (Inland Leek-orchid)
- *Prasophyllum pallidum* s.l. (Pale Leek-orchid)
- *Prasophyllum roseum* (Pink-lip Leek-orchid)
- *Prasophyllum stygium* (Elfin Leek-orchid)
- *Prasophyllum subbisectum* (Pomonal Leek-orchid)
- *Prasophyllum validum* (Sturdy Leek-orchid, Mount Remarkable Leek-orchid)
- *Pterostylis chlorogramma* (Green-striped Greenhood)
- *Pterostylis diminuta* (Crowded Greenhood)
- *Pterostylis smaragdina* (Emerald-lip Greenhood)
- *Pultenaea juniperina* s.s. (Prickly Beauty)
- *Rutidosis leptorhynchoides* (Button Wrinklewort)
- *Stylidium soboliferum* (Grampians Triggerplant)
- *Thelymitra luteocilium* (Fringed Sun-orchid)
- *Thelymitra mackibbinii* (Brilliant Sun-orchid)
- *Thelymitra matthewsii* (Spiral Sun-orchid)
- *Thelymitra orientalis* (Hoary Sun-orchid)
- *Thelymitra X chasmogama* (Globe-hood Sun-orchid)
- *Thelymitra X macmillanii* (Crimson Sun-orchid)
- *Tripogonella loliiformis* (Rye Beetle-grass)

All other rare or threatened flora species identified in database searches and the literature review were unlikely to occur on site.

It should be noted that this survey was preliminary in nature. Greater certainty can be achieved through targeted surveys at the appropriate time of year. Therefore, it is likely that as studies progress, further information will become available and result in a reclassification of the threatened flora.

3.2.3 Fauna

A total of 11 fauna species were identified on site during the site survey. This includes seven birds, two mammals, and one amphibian. These are listed in Appendix 3.

None of the fauna species identified are considered rare or threatened species.

Appendix 4 lists all database search records and assesses their likelihood of occurrence based on the definitions given in Section 2.5. Following the site survey, the likelihood of occurrence of rare or threatened fauna was reviewed and amended based on site observations. It concludes that the following 23 of species have a likelihood of occurrence of 'Possible' or higher:

- Likely to occur on site:
 - *Lathamus discolor* (Swift Parrot)
 - *Oxyura australis* (Blue-billed Duck)
 - *Pseudophryne semimarmorata* (Southern Toadlet)
- Possible to occur on site:



- *Aphelocephala leucopsis* (Southern Whiteface)
- *Aprasia parapulchella* (Pink-tailed Worm-lizard, Pink-tailed Legless Lizard)
- *Aythya australis* (Musk Duck)
- *Callocephalon fimbriatum* (Gang-gang Cockatoo)
- *Climacteris picumnus* (Brown Treecreeper)
- *Hieraaetus morphnoides* (Little Eagle)
- *Isoodon obesulus obesulus* (Southern Brown Bandicoot)
- *Litoria raniformis* (Growling Grass Frog)
- *Melanodryas cucullate* (Hooded Robin)
- *Neophema chrysostoma* (Blue-winged Parrot)
- *Ninox connivens* (Barking Owl)
- *Ninox strenua* (Powerful Owl)
- *Pogona barbata* (Bearded Dragon)
- *Pomatostomus temporalis* (Grey-crowned Babbler)
- *Pseudophryne bibronii* (Brown Toadlet)
- *Spatula rhynchotis* (Australasian Shoveler)
- *Stagonopleura guttata* (Diamond Firetail)
- *Stictonetta naevosa* (Freckled Duck)
- *Synemon plana* (Golden Sun Moth)
- *Varanus varius* (Lace Monitor)

All other rare or threatened flora species identified in database searches and the literature review were unlikely to occur on site.

It should be noted that this survey was preliminary in nature. Greater certainty can be achieved through targeted surveys at the appropriate time of year. Therefore, it is likely that as studies progress, further information will become available and result in a reclassification of the threatened fauna.

3.2.4 Significant ecological communities

Two significant ecological communities are considered likely to be on site. These communities require targeted assessment at an appropriate time of year to determine if they meet the characteristic requirements for these communities. The following ecological communities are likely to occur on site:

- *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland*, and
- *Grassy Eucalypt Woodland of the Victorian Volcanic Plain*

All other threatened ecological communities are considered unlikely to occur on site. The following sections detail the rationale for these decisions.

Map 3 shows the locations of where these communities may occur.

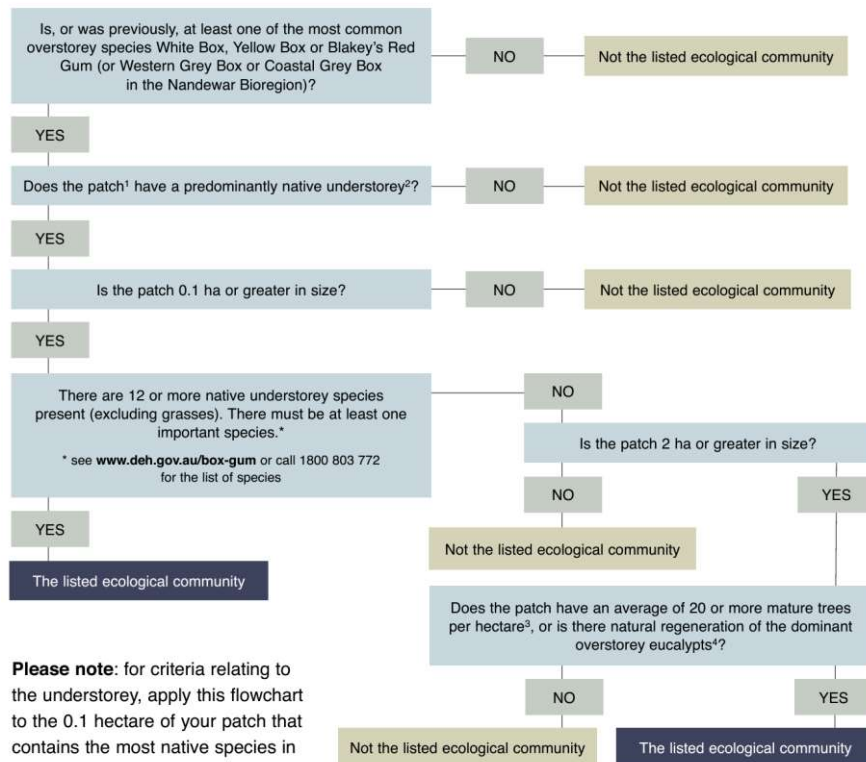
WHITE BOX - YELLOW BOX - BLAKELY'S RED GUM GRASSY WOODLAND AND DERIVED NATIVE GRASSLAND (EPBC)

This community was assessed against the flow chart in the community's information sheet (DEH, 2006a) and the community species list (DEH, 2006b). Yellow Box is a dominant species of the community and was recorded as being dominant on site.



Several areas of the site are likely to meet the criteria of the community. The preliminary nature of the survey means the method of recording flora was incidental, and a dedicated flora taxa list for the area in question was not undertaken. Therefore, although it is likely that the community is present, a targeted survey should be undertaken to determine if the understorey species threshold is met. If so, the extent of the community should be accurately mapped.

Determining if your land has an area of the listed ecological community



- ¹ Patch – a patch is a continuous area containing the ecological community (areas of other ecological communities such as woodlands dominated by other species are not included in a patch). In determining patch size it is important to know what is, and is not, included within any individual patch. The patch is the larger of:
 - an area that contains five or more trees in which no tree is greater than 75 m from another tree, or
 - the area over which the understorey is predominantly native.
 Patches must be assessed at a scale of 0.1 ha (1000m²) or greater.
- ² A predominantly native ground layer is one where at least 50 per cent of the perennial vegetation cover in the ground layer is made up of native species. The best time of the year to determine this is late autumn when the annual species have died back and have not yet started to regrow. (At other times of the year, you can determine whether something is perennial or not is if it is difficult to pull out of the soil. Annual species pull out very easily.)
- ³ Mature trees are trees with a circumference of at least 125 cm at 130 cm above the ground.
- ⁴ Natural regeneration of the dominant overstorey eucalypts when there are mature trees plus regenerating trees of at least 15 cm circumference at 130 cm above the ground.

Figure 11 – The flow chart for determining if White Box - Yellow Box - Blakey's Red Gum Grassy Woodland and Derived Native Grassland is present (DEH, 2006a)



MALLEE BIRD COMMUNITY OF THE MURRAY DARLING DEPRESSION (EPBC)

This community was assessed against the flow chart in the community’s Conservation Advice (DAWE, 2021).

Table 3 – Diagnostic key for determining if Mallee Bird Community of the Murray Darling Depression Bioregion is present (DAWE, 2021)

Diagnostic question	Outcome
Is the area of interest within, or partially within any of the following IBRA bioregions or subregions?	Yes
Is a patch of native vegetation of at least 10 hectares present (either wholly or partially within the site)?	Yes
Does the patch of native vegetation contain an area or areas of at least 5 hectares dominated by mallee?	No
Diagnostic key stopped.	

Although the survey was preliminary in nature, the lack of any mallee habitats means this community is unlikely to be present on site.

GREY BOX (EUCALYPTUS MICROCARPA) GRASSY WOODLANDS AND DERIVED NATIVE GRASSLANDS OF SOUTH-EASTERN AUSTRALIA

This community was assessed against the flow chart in the community’s information sheet (DSEWPC, 2012). Grey Box is the dominant species of the community, and while Grey Box was recorded in the desktop assessment of the study area, it was not identified on site. Although this survey was preliminary in nature, it was determined that Yellow Box and Yellow Gum were far more dominant in the landscape. The information sheet states (page 20) that if either of these contra-indicative species are dominant, then the community is not present.

This is reflected in the flow chart on page 23. This community is considered unlikely to be present on site.



Flowchart 1: Could a nationally threatened grassland or grassy woodland community be present?

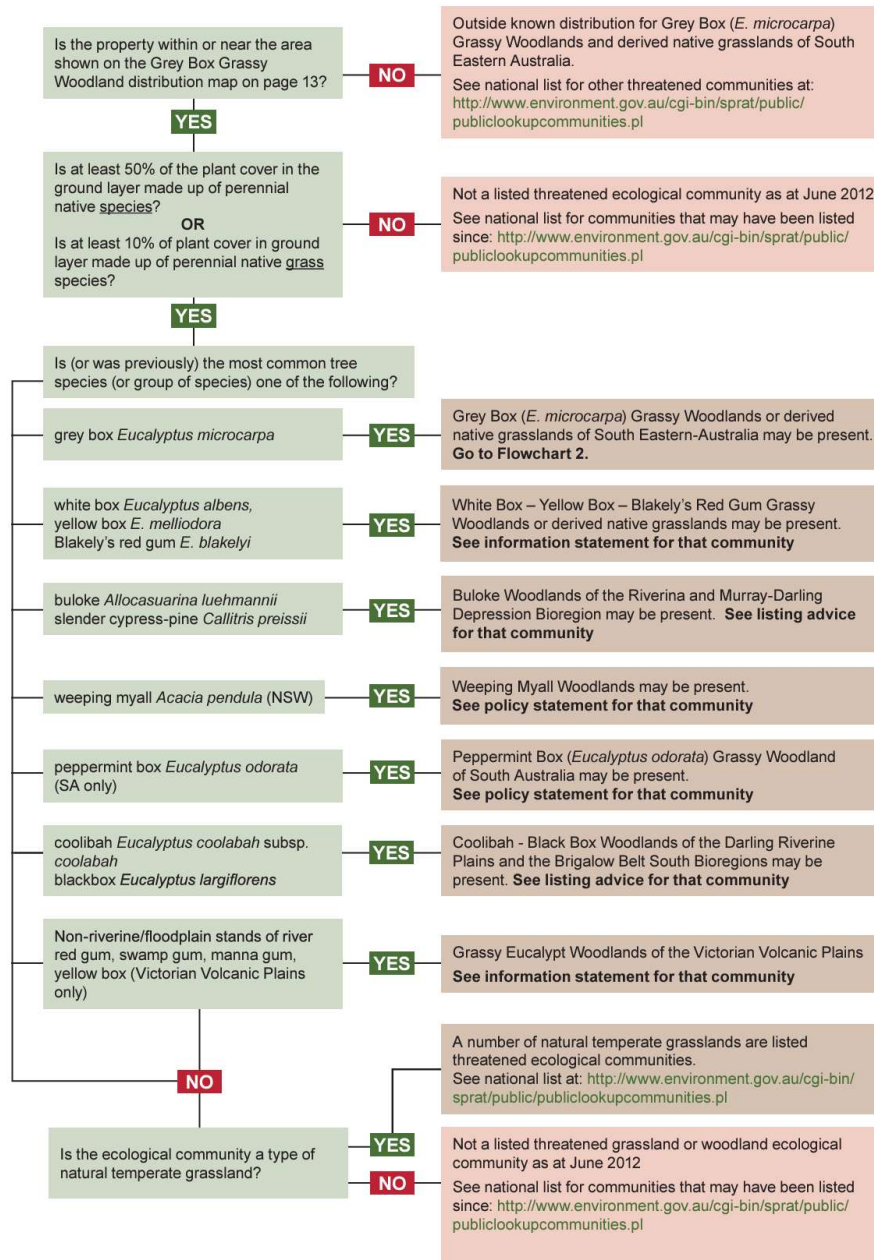


Figure 12 – The flow chart for determining if Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia is present (DSEWPC, 2012)



BULOKE WOODLANDS OF THE RIVERINA AND MURRAY-DARLING DEPRESSION BIOREGIONS (EPBC)

This community was assessed against the diagnostic information in the community's Conservation Advice (DCCEEW, 2023).

Table 4 – Diagnostic key for determining if Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions is present (DCCEEW, 2023)

Diagnostic question	Outcome
Distribution limited to the Riverina and Murray Darling Depression IBRA bioregions.	Borderline
Structure is typically open woodland to woodland, but can be a forest (including high stem density), particularly temporarily following disturbance.	Yes
Typically has a canopy of trees dominated by <i>Allocasuarina luehmannii</i> (buloke or bull oak), and sometimes other tree species are prominent such as <i>Callitris gracilis</i> (slender cypress pine), <i>Callitris glaucophylla</i> (white/Murray pine), <i>Eucalyptus largiflorens</i> (black box), <i>E. leucoxylon</i> subsp. <i>pruinosa</i> (yellow/blue gum) and <i>E. microcarpa</i> (grey box)	No
Native grasses often include <i>Rytidosperma</i> spp. (wallaby grasses) (such as <i>R. caespitosum</i> and <i>R. setaceum</i>), <i>Austrostipa</i> spp. (spear grasses) (such as <i>A. blackii</i> and <i>A. elegantissima</i>) and other grasses including <i>Anthosachne scabra</i> (syn. <i>Elymus scaber</i>) and <i>Chloris truncata</i> .	Yes
Native subshrubs and herbs may include <i>Brachyscome lineariloba</i> (hard-headed daisy), <i>Calandrinia eremaea</i> (small purslane), <i>Calocephalus citreus</i> (lemon beauty-heads), <i>Calotis hispidula</i> (bogan flea, bindy eye), <i>Convolvulus remotus</i> (grassy bindweed), <i>Crassula colorata</i> (dense crassula), <i>Crassula sieberiana</i> (Australian stonecrop), <i>Daucus glochidiatus</i> (wild carrot), <i>Einadia nutans</i> (nodding saltbush), <i>Enchylaena tomentosa</i> (ruby saltbush), <i>Eutaxia microphylla</i> (common eutaxia), <i>Senecio pinnatifolius</i> (variable groundsel), <i>Sida corrugata</i> (variable sida), <i>Maireana enchylaenoides</i> (wingless bluebush), <i>Oxalis perennans</i> , <i>Ptilotus nobilis</i> subsp. <i>semilanatus</i> (syn. <i>Ptilotus exaltatus</i> var. <i>semilanatus</i>), <i>Sida corrugata</i> (corrugated sida), <i>Sclerolaena diacantha</i> (grey copperburr), <i>Swainsona procumbens</i> (Darling pea), <i>Vittadinia</i> spp. (New Holland daisies) and <i>Wahlenbergia luteola</i> .	No

Although the survey was preliminary in nature, some key features precluding the presence of this community were noted.

- Buloke was not present on site (but was adjacent to the site). There was no evidence of Buloke ever being present on site.
- While prior management can reduce Buloke to a minor component, or even be absent (Sluiter, Minchin, & Jaensch, 1997), the co-dominant species were absent (Yellow Gum was present, but it was not recorded as the specific subspecies required. Adding to this, Yellow Gum was far more restricted on site and only dominant in very localised locations).
- The native grasses loosely matched those described as being required, but many are very common grasses of that part of Victoria, so this component was not considered significant.
- The native sub-shrubs were not represented.

This community is considered unlikely to be present on site.

GREY BOX - BULOKE GRASSY WOODLAND (FFG)

This community is described as being mostly found in northern Victoria, with some locations in central Victoria (DEECA, 2023c). The site is not considered in either of those regions. Furthermore, Grey Box is listed as the structurally dominant tree, over a lower stratum of Buloke, both of which were not identified. Although it is possible that these species have diminished due to historic management, the



dominant of a contra-indicative species, Yellow Box, suggests that Grey Box was never dominant on site. This community is considered unlikely to be present on site.

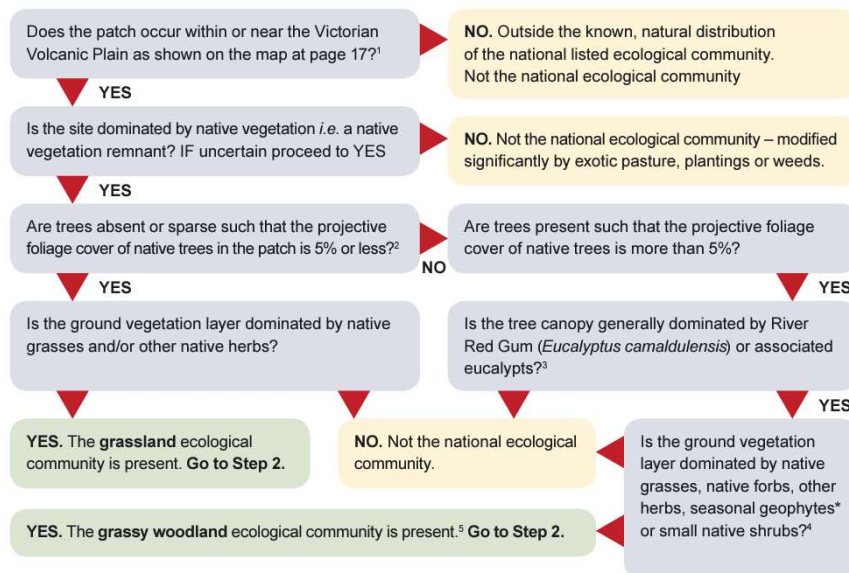
GRASSY EUCALYPT WOODLAND OF THE VICTORIAN VOLCANIC PLAIN (EPBC)

This community was assessed against the diagnostic information in the community's Information Sheet (DSEWPC, 2011).

Flow chart to identify the Grassy Eucalypt Woodland and/or Natural Temperate Grassland ecological communities of the Victorian Volcanic Plain.

The considerations on pages 21 and 24 need to be taken into account when doing an on-site inspection.

STEP 1: Is the Natural Temperate Grassland or Grassy Eucalypt Woodland ecological community present at my site?



STEP 2: Is the patch of sufficient quality for national listing?

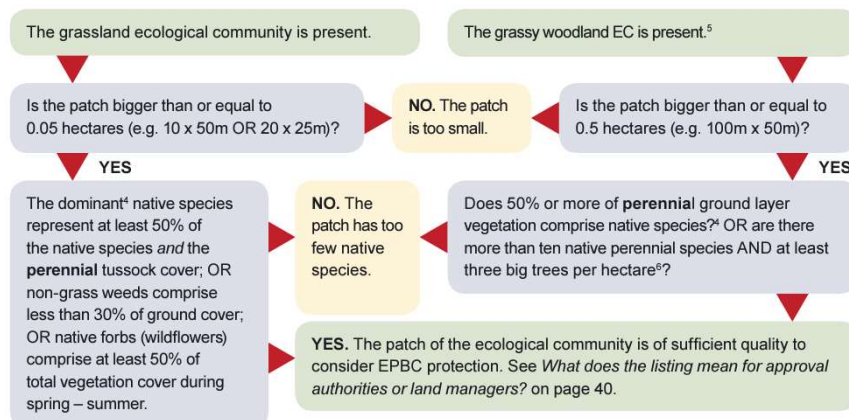


Figure 13 – The flow chart for determining if Grassy Eucalypt Woodland of the Victorian Volcanic Plain is present (DSEWPC, 2011)

The site is on the border of the Victorian Volcanic Plain bioregion. Nevertheless, the bioregion mapping units are coarse and therefore the site can be considered within that bioregion, particularly



as the southern tip displays exposed rocks which are a key feature of the bioregion. One location of the site is likely to meet the criteria of the community. The preliminary nature of the survey means the method of recording flora was incidental, and a dedicated flora taxa list for the area in question was not undertaken. Therefore, although it is likely that the community is present, a targeted survey would be required to determine if the site meets the ecological character of this community. If so, the extent of the community should be accurately mapped.

CREEKLINE GRASSY WOODLAND (GOLDFIELDS) (FFG)

This community is associated with box-ironbark ecosystems of Victoria, which were found on site. However, the sub-communities are described as having an overstorey of *Eucalyptus camaldulensis* (River Red Gum) (DEECA, 2023c), which was not present. This community is considered unlikely to be present on site.

RED GUM SWAMP NO. 1 (FFG)

This community is described as having an overstorey of River Red Gum and the presence of seasonal or intermittent surface water up to a depth of 40 cm, that can inundate the site for up to four months of the year (DEECA, 2023c). These characteristics were not observed on site. This community is considered unlikely to be present on site.

3.2.5 Wetlands of National Important (Ramsar)

No Wetlands of National Importance are present within the site or study area.



4 Policy and Legislative Implications

The outcomes of the database searches, literature review, site survey and likelihood of occurrence were reviewed against the following potentially relevant legislation:

- Environment Protection and Biodiversity Conservation Act 1999,
- Flora and Fauna Guarantee Act 1988,
- Catchment and Land Protection Act 1994,
- Water Act 1989,
- Planning and Environment Act 1987,
- Wildlife Act 1975, and

Advice and recommendations relating to the results of the site survey, and how they pertain to the above-mentioned legislation are discussed in the following sections.

4.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act establishes a Commonwealth process for assessment of proposed actions that are likely to have a significant impact on Matters of National Environmental Significance (MNES) or on Commonwealth land. An action (i.e. project, development, undertaking, activity, or series of activities), unless otherwise exempt, requires approval from the Commonwealth Environment Minister if they are considered likely to have an impact on any MNES. A referral under the EPBC Act is required if a proposed action is likely to have a 'significant impact' on any of the following MNES:

- World Heritage properties
- National heritage places
- Ramsar wetlands of international significance
- Threatened species and ecological communities
- Migratory and marine species
- Commonwealth marine area
- Nuclear actions (including uranium mining)
- Great Barrier Reef Marine Park; and
- A water resource, in relation to coal seam gas development and large coal mining development.

4.1.1 Implications (Significant Impact Criteria)

WORLD AND NATIONAL HERITAGE PROPERTIES

The PMST did not identify any world heritage or national heritage properties within the study area.

RAMSAR WETLANDS OF INTERNATIONAL SIGNIFICANCE

One Ramsar wetland, Lake Albacutya, was identified by the PMST. The wetland is over one hundred kilometres away and will not be impacted by the project.



THREATENED SPECIES AND ECOLOGICAL COMMUNITIES

There are several MNES that warrant further consideration under the proposal.

- Two threatened ecological communities are considered likely to occur on site. These require targeted surveys to determine if their ecological character matches that of the threatened communities and if so, their extent accurately mapped.
- Twenty-one flora species are considered either possible or likely to occur on site. These require targeted surveys at an appropriate time of year to determine if they are present.
- Eleven fauna species are considered either possible or likely to occur on site. These require targeted surveys at an appropriate time of year to determine if they are present.

Refer to Appendix 4 and Map 3 for details.

Detailed, targeted assessments are required to determine if these ecological values are present, and if they will be impacted by any proposed development. If they are deemed to be present and likely to be impacted, they will need to be evaluated according to the Significant Impact Guidelines (Department of Environment, 2013).

LISTED MIGRATORY AND MARINE SPECIES

Habitat for migratory species is present on site. However, due to the heavily fragmented state of the habitat remaining on site, and the area of high value habitat outside of the site, the habitat present is considered to be of marginal, transient value to migratory species. The full impact of the project on these habitats is yet to be determined, nevertheless, it is unlikely to significantly impact migratory species.

COMMONWEALTH MARINE AREA

The site is not within a Commonwealth marine area.

NUCLEAR ACTIONS

Nuclear actions are not proposed for the site.

4.2 Flora and Fauna Guarantee Act 1988

The *Flora and Fauna Guarantee Act 1988* (FFG Act) is the primary State legislation for the protection of native plants, native animals and ecological communities on public land and waters in Victoria. Species and ecological communities can be listed as threatened under the Act based on assessments by an independent Scientific Advisory Committee. Threatening processes may also be listed.

Previously, Victoria had multiple lists of threatened species - those listed under the FFG Act, and non-statutory lists called the Victorian Threatened Species Advisory Lists.

Recent amendments to the FFG Act have removed duplication by establishing a single comprehensive list of threatened flora and fauna species. This will continue to be known as the FFG Act Threatened List. With the new comprehensive list now in effect, the Advisory lists have been revoked.

Under the FFG Act a permit is required from the DELWP to 'take' 'protected' flora species, 'listed communities' or 'threatened species' from public land. Removal of any protected flora taxa, listed



flora species or listed communities may not be undertaken until this permit has been issued (DELWP, 2023).

The FFG Act also provides specific protection of fish passage by noting that the ‘*prevention of passage of aquatic biota as a result of the presence of instream structures*’ is a potentially threatening process and that ‘*there should be no further preventable decline in the viability of any rare species*’.

The FFG Act defines a potentially threatening process as ‘a process which may have the capability to threaten the survival, abundance or evolutionary development of any taxon or community of flora or fauna’ (DELWP, 2022). Threatening processes must be mitigated.

4.2.1 Implications

Under the FFG Act a permit is required from the DEECA to ‘take’ ‘protected’ flora species, ‘listed communities’ or ‘threatened species’ from public land. Removal of any protected flora taxa, listed flora species or listed communities may not be undertaken until this permit has been issued.

Six flora species were identified on site that are listed as protected under the FFG Act. One Acacia species found on site; *Acacia paradoxa* (Hedge Wattle) is exempt from the requirement to obtain a permit for their removal under the FFG Act (DEECA, 2023d; DELWP, 2019). Additional protected flora are likely to be identified after more detailed assessment.

An application for a ‘Permit to Take Protected Flora’ must be lodged with the DELWP for the removal of these protected flora species where they occur on public land. Removal of any protected flora taxa may not be undertaken until this permit has been issued.

Table 5 - Details of flora taxa identified on site that are protected under Flora and Fauna Guarantee Act 1988

Scientific Name	Common Name
<i>Acacia baileyana</i>	Cootamundra Wattle
<i>Acacia genistifolia</i>	Spreading Wattle
<i>Acacia mearnsii</i>	Black Wattle
<i>Acacia pycnantha</i>	Golden Wattle
<i>Cassinia sifton</i>	Drooping Cassinia
<i>Laphangium lutealbum</i>	Jersey Cudweed

Threatened communities protected by the FFG Act are unlikely to occur on site (Section 3.2.4).

The following threatened processes are applicable to the project:

- Alteration to the natural flow regimes of rivers and streams.
- Increase in sediment input into Victorian rivers and streams due to human activities.
- Infection of amphibians with Chytrid Fungus, resulting in chytridiomycosis.
- Invasion of native vegetation by ‘environmental weeds’.
- Invasion of native vegetation communities by Tall Wheat-grass *Lophopyrum ponticum*.
- Predation of native wildlife by the cat, *Felis catus*.
- Predation of native wildlife by the introduced Red Fox *Vulpes vulpes*.
- Reduction in biomass and biodiversity of native vegetation through grazing by the Rabbit *Oryctolagus cuniculus*.
- The spread of *Phytophthora cinnamomi* from infected sites into parks and reserves, including roadsides, under the control of a state or local government authority.
- Use of *Phytophthora*-infected gravel in construction of roads, bridges and reservoirs.



These should be considered in planning for the project and form the basis of a construction environmental management plan.

4.3 Catchment and Land Protection Act 1994

In accordance with Section 20 of the CaLP Act, landholders and managers have a responsibility to take all reasonable steps to:

- Avoid causing or contributing to land degradation which causes or may cause damage to land of another landowner,
- Eradicate regionally prohibited weeds,
- Prevent the growth and spread of regionally controlled weeds on their land, and
- Prevent the spread of, and as far as possible, eradicate established pest animals.

4.3.1 Implications

Five weeds declared noxious under the CaLP Act were identified on site during assessments (Table 5). Four of these weeds are categorised within the Wimmera Catchment Management Authority region as ‘Regionally Controlled’ and one is categorised as ‘Restricted’ (Agriculture Victoria, 2024).

Table 6 - Declared noxious weeds identified on site that are proclaimed under the Catchment and Land Protection Act 1994

Scientific Name	Common Name	Classification
<i>Cirsium vulgare</i>	Spear Thistle	Restricted
<i>Genista linifolia</i>	Flax-leaf Broom	Regionally controlled
<i>Genista monspessulana</i>	Montpellier Broom	Regionally controlled
<i>Juncus acutus subsp. acutus</i>	Spiny Rush	Regionally controlled
<i>Lycium ferocissimum</i>	African Box-thorn	Regionally controlled

A significant Spiny Rush infestation occurs along the creek line.



Figure 14 – Spiny Rush infestation spanning along the creek line.



It may be necessary to mitigate the spread of these weeds during development activities, such as addressing them in a construction and environment management plan.

4.4 Water Act 1987

Catchment Management Authorities have statutory responsibilities under Section 67 of the Water Act to monitor, manage, enforce, and administer control over all works which may impact upon designated waterways to ensure works undertaken do not adversely affect the health of those waterways.

A permit is required to undertake works on a designated waterway and can include activities such as:

- Crossings – bridges, fords, culverts;
- Deviations – waterway realignments;
- Extractions – sand, silt or gravel;
- Stabilisation – bank protection, retaining structures;
- Vegetation – fallen timber and vegetation removal, revegetation projects;
- Works – stormwater outlets, service crossings; and
- Other – jetty, river mouth opening, boardwalks.

4.4.1 Implications

The Wimmera CMA designated waterways map was enquired (Works on waterways, 2024). It was determined that the creek lines present on site are designated waterways and will require a permit if the abovementioned works are carried out. Refer to Appendix 6 for the location of the designated waterways.

4.5 Wildlife Act 1979

The Wildlife Act 1975 provides the primary legislation for the protection and management of wildlife, the purposes of this Act are:

- To establish procedures in order to promote the protection and conservation of wildlife, the prevention of taxa of wildlife from becoming extinct and the sustainable use of and access to wildlife; and
- To prohibit and regulate the conduct of persons engaged in activities concerning or related to wildlife.

4.5.1 Implications

Persons engaged to remove, salvage, hold or relocate any native fauna species during proposed construction works must have a permit under this Act to undertake such actions and ensure any actions to manage wildlife must be undertaken in accordance with the requirements of the Act or at the direction of DEECA.



4.6 Fisheries Act 1995

One of the objectives of the Fisheries Act is to protect and conserve fisheries resources, habitats and ecosystems including the maintenance of aquatic ecological processes and genetic diversity. One of the provisions of this Act is that a person must not, except as permitted by or under the Fisheries Act or any other Act, create an obstruction across or within a bay, inlet, river or creek or across or around an inter-tidal flat that:

- “(a) fish will or could be blocked and left stranded; or*
- (b) immature fish will or could be destroyed; or*
- (c) the free passage of fish will or could be obstructed.”*

This act is relevant if there is a likelihood that a development will impact on fish habitat and aquatic ecological processes. Similar to the FFG Act, action statements must outline the process that will be implemented to ensure the long-term protection of fish habitat and/or specific species.

If fish handling, capture or translocation is required (i.e. capture and release of entrapped fish in any instream construction structures such as coffer dams for pier construction, or in a dewatered lake such as the HCP) a ‘FORM 06 – Application for a General Permit for the purpose of research (this includes capture and release or translocation) may be required from DEECA. DEECA generally prefer that a proponent err on the side of caution and apply for the permit if there is the ‘possibility’ of encountering fish.

In addition, Victoria has listed a number of species and genera as noxious under Section 75 of the Fisheries Act. By declaring a particular species noxious, the Victorian Government applies regulations to control the use and potential spread of such animals.

4.6.1 Implications

If fish handling, capture or translocation is required (i.e. capture and release of fish in coffer dams) a ‘FORM 06 – Application for a General Permit for the purpose of research (this includes capture and release or translocation) may be required from DEECA.

Noxious listed fish species, that may occur in the works area, should not be released / transported to other receiving waterways.

Dewatering of any instream structure (i.e. coffer dams) may require the salvage and translocation / disposal of native, introduced and noxious fish.

4.7 Planning and Environment Act 1987

NATIVE VEGETATION

Under Clause 52.17 of the Northern Grampians Shire Council Planning Scheme, a planning permit is required to clear or disturb native vegetation. If native vegetation will be impacted and/or require removal under the proposal, an application of the 'Guidelines' to obtain a planning permit for the works is necessary. The Native Vegetation Regulation tool can be used to determine the assessment pathway, and thus the type of assessment required (DEECA, 2024b).



Table 7 - Determining the assessment pathway based on location and extent of native vegetation to be impacted (DEECA, 2024b)

EXTENT OF NATIVE VEGETATION	LOCATION 1	LOCATION 2	LOCATION 3
Less than 0.5 hectares and not including any Large Trees	Basic	Intermediate	Detailed
Less than 0.5 hectares and including one or more Large Trees	Intermediate	Intermediate	Detailed
0.5 hectares or more	Detailed	Detailed	Detailed



5 Conclusion and Recommendations

A site survey was conducted by TerraLab ecologists across three days, commencing on the 16th of January and concluding on the 18th of January, 2024. The site survey determined that 26.8 hectares of remnant native vegetation was identified on site. These were classified into three EVCs which consisted of EVC 48: *Heathy Woodland*, EVC 55: *Plains Grassy Woodland*, and EVC 61: *Box Ironbark Forest*. Any proposal to impact on these patches will require the application of the Guidelines to obtain a planning permit.

A total of 59 vascular plants were identified on site during the site survey. Of these, 39 are considered to be native to Victoria. One species identified on site, *Melaleuca armillaris* subsp. *armillaris* (Giant Honey-myrtle) is considered endangered in Victoria. The individual identified was in a garden setting and is not considered natural. A total of 11 fauna species were incidentally identified on site during the site survey.

Following the site survey, the likelihood of occurrence of rare or threatened flora was evaluated based on the desktop assessment and site observations. 48 flora species, 23 fauna species and 2 ecological communities have the possibility of occurring on site. Of these, 21 flora species, 11 fauna species and two ecological communities are considered Matters of National Environmental Significance (MNES) which listed by the EPBC Act. Detailed, targeted assessments at the appropriate time of year, following appropriate methods are required to determine if these ecological values are in fact present, and if they will be impacted by any proposed development. Many of the ecological values the require further investigation are similar lifeforms, and therefore many can be evaluated using a small number of assessment methods (e.g. an orchid survey can provide further information on 23 orchid species considered possible to occur on site).

If MNES are deemed to be present and likely to be impacted, they will need to be evaluated according to the Significant Impact Guidelines (Department of Environment, 2013). All other rare or threatened flora species identified in database searches and the literature review were unlikely to occur on site.



6 References

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1. Appendices

Appendices commence on the next page



Appendix 1 – Rare and threatened species recorded in the study area by the VBA

Search date: 06/12/2023

Taxon ID	Scientific Name	Common Name	FFG Status	Conservation Status	Taxon Origin	Count of Sightings	Last Record
500016	<i>Acacia boormanii</i>	Snowy River Wattle	Endangered	en #		1	11/09/2014
500678	<i>Allocasuarina luehmannii</i>	Buloke	Critically Endangered	cr		8	11/09/2014
10603	<i>Anthochaera phrygia</i>	Regent Honeyeater	Critically Endangered	CR cr		2	01/08/1965
10466	<i>Aphelocephala leucopsis</i>	Southern Whiteface		VU		6	01/03/2000
503985	<i>Austrostipa hemipogon</i>	Half-bearded Spear-grass	Vulnerable	vu		2	15/10/1998
504512	<i>Austrostipa trichophylla</i>	Spear-grass	Endangered	en		2	15/10/1998
10215	<i>Aythya australis</i>	Hardhead	Vulnerable	vu		16	30/08/2018
504290	<i>Billardiera scandens s.s.</i>	Velvet Apple-berry	Endangered	en		1	01/01/1893
10217	<i>Biziura lobata</i>	Musk Duck	Vulnerable	vu		13	30/09/2006
10174	<i>Burhinus grallarius</i>	Bush Stone-curlew	Critically Endangered	cr		1	13/11/1981
503664	<i>Caladenia audasii</i>	Mclvor Spider-orchid	Critically Endangered	EN cr		4	13/09/2010
504498	<i>Caladenia fulva</i>	Tawny Spider-orchid	Endangered	EN en		29	01/01/2011
504494	<i>Caladenia reticulata s.s.</i>	Veined Spider-orchid	Endangered	en		6	13/09/2010
60555	<i>Climacteris picumnus</i>	Brown Treecreeper		VU		50	02/04/2021
500798	<i>Comesperma polygaloides</i>	Small Milkwort	Critically Endangered	cr		4	01/06/2009
500828	<i>Correa aemula</i>	Hairy Correa	Endangered	en		1	01/01/1893
500833	<i>Correa reflexa var. angustifolia</i>	Grampians Correa	Endangered	en		1	01/01/1911
501295	<i>Corymbia maculata</i>	Spotted Gum	Vulnerable	vu #		1	11/09/2014
504423	<i>Daviesia laevis</i>	Grampians Bitter-pea	Critically Endangered	VU cr		1	01/01/1893
501045	<i>Digitaria divaricatissima var. divaricatissima</i>	Umbrella Grass	Endangered	en		1	18/11/1998
501061	<i>Diuris behrii</i>	Golden Cowslips	Endangered	en		3	26/05/2009
501082	<i>Diuris palustris</i>	Swamp Diuris	Endangered	en		7	15/09/1998
501087	<i>Dodonaea boroniifolia</i>	Hairy Hop-bush	Endangered	en		3	19/01/2010
503685	<i>Dodonaea heteromorpha</i>	Maple-fruited Hop-bush	Extinct	ex		1	01/01/1894
501090	<i>Dodonaea procumbens</i>	Trailing Hop-bush		VU #		17	18/10/2010
501265	<i>Eucalyptus crenulata</i>	Buxton Gum	Endangered	EN en #		1	11/09/2014
501279	<i>Eucalyptus froggattii</i>	Kamarooka Mallee	Critically Endangered	cr		1	18/11/1998
504455	<i>Eucalyptus leucoxylon subsp. megalocarpa</i>	Large-fruit Yellow-gum	Critically Endangered	cr #		1	11/09/2014
504493	<i>Eucalyptus sideroxylon subsp. sideroxylon</i>	Mugga	Endangered	en		1	11/09/2014
505344	<i>Geranium sp. 3</i>	Pale-flower Crane's-bill	Endangered	en		1	17/11/1998
501493	<i>Goodenia benthamiana</i>	Small-leaf Goodenia	Endangered	en		1	11/01/2013
10598	<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable	VU vu		1	01/10/2000
501532	<i>Grevillea dimorpha</i>	Flame Grevillea	Endangered	en		1	01/01/1893
501533	<i>Grevillea dryophylla</i>	Goldfields Grevillea	Endangered	en		3	04/10/1995
505082	<i>Hibbertia humifusa subsp. humifusa</i>	Rising Star Guinea-flower	Endangered	en		22	15/11/2010
10225	<i>Hieraetus morphnoides</i>	Little Eagle	Vulnerable	vu		5	30/10/2002



Taxon ID	Scientific Name	Common Name	FFG Status	Conservation Status	Taxon Origin	Count of Sightings	Last Record
10334	<i>Hirundapus caudacutus</i>	White-throated Needletail	Vulnerable	VU vu		1	30/03/1978
61092	<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot	Endangered	EN en		8	20/11/2001
10309	<i>Lathamus discolor</i>	Swift Parrot	Critically Endangered	CR cr		3	13/07/2019
501941	<i>Leptorhynchus elongatus</i>	Lanky Buttons	Endangered	en		1	01/01/1770
501944	<i>Leptorhynchus orientalis</i>	Annual Buttons	Endangered	en		1	01/01/1893
13207	<i>Litoria raniformis</i>	Growling Grass Frog	Vulnerable	VU vu		4	14/09/1963
502145	<i>Melaleuca armillaris subsp. armillaris</i>	Giant Honey-myrtle	Endangered	en #		1	11/09/2014
10385	<i>Melanodryas cucullata</i>	Hooded Robin	Vulnerable	EN vu		7	01/06/2001
12525	<i>Morethia adelaidensis</i>	Samphire Skink	Endangered	en		1	20/05/1963
10246	<i>Ninox connivens</i>	Barking Owl	Critically Endangered	cr		2	01/01/1973
10248	<i>Ninox strenua</i>	Powerful Owl	Vulnerable	vu		3	02/09/1999
11246	<i>Notamacropus eugenii</i>	Tammar Wallaby		dbt		1	10/07/1992
10216	<i>Oxyura australis</i>	Blue-billed Duck	Vulnerable	vu		21	28/06/2018
10020	<i>Pedionomus torquatus</i>	Plains-wanderer	Critically Endangered	CR cr		2	17/03/1975
11137	<i>Petaurus norfolcensis</i>	Squirrel Glider	Vulnerable	vu		5	12/07/2004
12177	<i>Pogona barbata</i>	Bearded Dragon	Vulnerable	vu		3	20/11/2001
10443	<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	Vulnerable	vu		2	18/01/2007
502702	<i>Prasophyllum lindleyanum</i>	Green Leek-orchid	Endangered	en		2	07/10/1981
507284	<i>Prasophyllum maccannii</i>	Inland Leek-orchid	Endangered	en		2	20/11/2009
502718	<i>Prasophyllum pallidum s.l.</i>	Pale Leek-orchid		VU		1	02/11/1992
504565	<i>Prasophyllum roseum</i>	Pink-lip Leek-orchid	Critically Endangered	cr		5	08/08/1998
507293	<i>Prasophyllum stygium</i>	Elfin Leek-orchid	Critically Endangered	cr		3	05/10/1995
502724	<i>Prasophyllum subbisectum</i>	Pomonal Leek-orchid	Critically Endangered	EN cr		9	01/10/2007
13117	<i>Pseudophryne bibronii</i>	Brown Toadlet	Endangered	en		6	25/10/2011
13125	<i>Pseudophryne semimarmorata</i>	Southern Toadlet	Endangered	en		2	08/05/2019
503914	<i>Pterostylis diminuta</i>	Crowded Greenhood	Endangered	en		2	04/09/1992
503915	<i>Pterostylis smaragdina</i>	Emerald-lip Greenhood	Endangered	en		14	02/09/2010
504856	<i>Pultenaea juniperina s.s.</i>	Prickly Beauty	Vulnerable	vu		1	01/01/1893
10504	<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	Endangered	en		1	13/11/1981
503050	<i>Schoenus nanus</i>	Tiny Bog-sedge	Endangered	en		1	07/10/1981
10212	<i>Spatula rhynchotis</i>	Australasian Shoveler	Vulnerable	vu		20	14/04/2008
10652	<i>Stagonopleura guttata</i>	Diamond Firetail	Vulnerable	VU vu		23	26/09/2017
10214	<i>Stictonetta naevosa</i>	Freckled Duck	Endangered	en		2	30/09/2006
503307	<i>Stylidium soboliferum</i>	Grampians Triggerplant	Endangered	en		1	09/03/2008
503328	<i>Swainsona swainsonioides</i>	Downy Swainson-pea	Endangered	en		2	01/01/1893
503375	<i>Thelymitra luteociliium</i>	Fringed Sun-orchid	Vulnerable	vu		9	26/05/2009
503376	<i>Thelymitra mackibbinii</i>	Brilliant Sun-orchid	Critically Endangered	VU cr		10	29/09/2010
503365	<i>Thelymitra X chasmogama</i>	Globe-hood Sun-orchid	Endangered	en		3	26/05/2009



Taxon ID	Scientific Name	Common Name	FFG Status	Conservation Status	Taxon Origin	Count of Sightings	Last Record
503377	<i>Thelymitra X macmillanii</i>	Crimson Sun-orchid	Vulnerable	vu		5	26/05/2009
503455	<i>Tripogonella loliiformis</i>	Rye Beetle-grass	Endangered	en		1	26/05/2009
12283	<i>Varanus varius</i>	Lace Monitor	Endangered	en		2	09/03/2008



Appendix 2 – PMST search report for the study area



Australian Government

Department of Climate Change, Energy,
the Environment and Water

EPBC Act Protected Matters Report

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

Report created: 10-Jan-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	5
Listed Threatened Species:	52
Listed Migratory Species:	10

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	2
Commonwealth Heritage Places:	1
Listed Marine Species:	17
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	25
Regional Forest Agreements:	1
Nationally Important Wetlands:	None
EPBC Act Referrals:	6
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None



Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Lake albacutya	150 - 200km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities		[Resource Information]
For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.		
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.		

Community Name	Threatened Category	Presence Text	Buffer Status
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions	Endangered	Community may occur	In feature area within area
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	Critically Endangered	Community likely to occur	In feature area within area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur	In feature area within area
Mallee Bird Community of the Murray Darling Depression Bioregion	Endangered	Community likely to occur	In feature area within area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community likely to occur	In feature area within area

Listed Threatened Species		[Resource Information]	
Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.			
Number is the current name ID.			
Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia			
Regent Honeyeater [82338]	Critically Endangered	Species or species habitat likely to occur	In feature area within area



Scientific Name	Threatened Category	Presence Text	Buffer Status
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Callocephalon fimbriatum Gang-gang Cockatoo [768]	Endangered	Species or species habitat may occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat known to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat known to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat may occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
FISH			
Nannoperca australis Murray-Darling Basin lineage Southern Pygmy Perch (Murray-Darling Basin lineage) [91711]	Vulnerable	Species or species habitat may occur within area	In feature area
FROG			
Litoria raniformis Southern Bell Frog, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat likely to occur within area	In feature area
INSECT			
Synemon plana Golden Sun Moth [25234]	Vulnerable	Species or species habitat known to occur within area	In feature area
MAMMAL			
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat may occur within area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
Isodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south- eastern) [68050]	Endangered	Species or species habitat known to occur within area	In feature area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour may occur within area	In feature area
PLANT			
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat may occur within area	In feature area
Caladenia audasii McIvor Spider-orchid, Audas' Spider- orchid [11727]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Caladenia fulva Tawny Spider-orchid [24371]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Caladenia ornata Ornate Pink Fingers [76213]	Vulnerable	Species or species habitat may occur within area	In feature area
Caladenia tensa Greencomb Spider-orchid, Rigid Spider- orchid [24390]	Endangered	Species or species habitat likely to occur within area	In feature area
Caladenia versicolor Candy Spider-orchid [24392]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Dianella amoena Matted Flax-lily [64886]	Endangered	Species or species habitat may occur within area	In buffer area only
Dodonaea procumbens Trailing Hop-bush [12149]	Vulnerable	Species or species habitat known to occur within area	In feature area
Euphrasia collina subsp. muelleri Purple Eyebright, Mueller's Eyebright [16151]	Endangered	Species or species habitat known to occur within area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Lachnagrostis adamsonii Adamson's Blown-grass, Adamson's Blowngrass [76211]	Endangered	Species or species habitat may occur within area	In feature area
Lepidium aschersonii Spiny Peppercross [10976]	Vulnerable	Species or species habitat may occur within area	In feature area
Lepidium monoplocoides Winged Pepper-cross [9190]	Endangered	Species or species habitat may occur within area	In buffer area only
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat may occur within area	In buffer area only
Myriophyllum porcatum Ridged Water-milfoil [19919]	Vulnerable	Species or species habitat may occur within area	In feature area
Pimelea spinescens subsp. spinescens Plains Rice-flower, Spiny Rice-flower, Prickly Pimelea [21980]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Prasophyllum subbisectum Pomonal Leek-orchid [20411]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Prasophyllum validum Sturdy Leek-orchid, Mount Remarkable Leek-orchid [10268]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pterostylis chlorogramma Green-striped Greenhood [56510]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rutidosis leptorhynchoides Button Wrinklewort [67251]	Endangered	Species or species habitat known to occur within area	In buffer area only



Scientific Name	Threatened Category	Presence Text	Buffer Status
Senecio macrocarpus Large-fruit Fireweed, Large-fruit Groundsel [16333]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Swainsona murrayana Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat may occur within area	In feature area
Thelymitra mackibbinii Brilliant Sun-orchid [26941]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thelymitra matthewsii Spiral Sun-orchid [4168]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Thelymitra orientalis Hoary Sun-orchid [88011]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat may occur within area	In buffer area only
REPTILE			
Aprasia parapulchella Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Delma impar Striped Legless Lizard, Striped Snake-lizard [1649]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

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

Commonwealth Land Name	State	Buffer Status
Defence		
Defence - STAWELL TRAINING DEPOT (Drill Hall) [21106]	VIC	In buffer area only
Defence - STAWELL TRAINING DEPOT (Drill Hall) [21107]	VIC	In buffer area only



Commonwealth Heritage Places [Resource Information]

Name	State	Status	Buffer Status
Historic Stawell Post Office	VIC	Listed place	In buffer area only

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
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Bird

Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat may occur within area overfly marine area	In feature area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area



Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Albion B.R.	Natural Features Reserve	VIC	In buffer area only
Black Range S.R.	Natural Features Reserve	VIC	In buffer area only
Churchill Crossing B.R.	Natural Features Reserve	VIC	In buffer area only
Deep Lead Nature Conservation Reserve (No. 1)	National Parks Act Schedule 4 park or reserve	VIC	In buffer area only
Deep Lead Nature Conservation Reserve (No. 2)	Natural Features Reserve	VIC	In buffer area only
Fraynes Creek B.R.	Natural Features Reserve	VIC	In buffer area only
Illawarra H15 B.R.	Natural Features Reserve	VIC	In buffer area only
Illawarra N.C.R.	Natural Features Reserve	VIC	In buffer area only
J.J. Kingston Wildflower Sanctuary F.R.	Nature Conservation Reserve	VIC	In buffer area only
McCanns B.R.	Natural Features Reserve	VIC	In buffer area only
Mokepilly H14 B.R.	Natural Features Reserve	VIC	In buffer area only
Mokepilly I66 B.R.	Natural Features Reserve	VIC	In buffer area only
Mokepilly I67 B.R.	Natural Features Reserve	VIC	In buffer area only
Monaghans B.R.	Natural Features Reserve	VIC	In buffer area only
Mossman Park B.R.	Natural Features Reserve	VIC	In feature area
Nuggety Hill B.R.	Natural Features Reserve	VIC	In buffer area only
Pipetrack B.R.	Natural Features Reserve	VIC	In buffer area only
Reeves Hill B.R.	Natural Features Reserve	VIC	In buffer area only



Protected Area Name	Reserve Type	State	Buffer Status
Rifle Range B.R.	Natural Features Reserve	VIC	In feature area
Sisters Rocks B.R.	Natural Features Reserve	VIC	In buffer area only
Stawell (Abattoirs Rd) N.F.R	Natural Features Reserve	VIC	In buffer area only
Stawell I13 B.R	Natural Features Reserve	VIC	In buffer area only
Stawell London Rd B.R.	Natural Features Reserve	VIC	In feature area
Stawell West B.R.	Natural Features Reserve	VIC	In feature area
Wildcat Hill B.R.	Natural Features Reserve	VIC	In feature area

Regional Forest Agreements [\[Resource Information \]](#)

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State	Buffer Status
West Victoria RFA	Victoria	In feature area

EPBC Act Referrals [\[Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Duplication of the Western Highway	2010/5744	Controlled Action	Proposed Decision	In feature area

Not controlled action

Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
The Big Hill enhanced open cut mining development, adjacent Stawell, Victoria	2013/6856	Not Controlled Action	Completed	In buffer area only

Not controlled action (particular manner)

Grampians Road Safety Improvement Project	2011/6180	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
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Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveats and Acknowledgements removed.



Appendix 3 – Flora and fauna identified on site during the site survey

Taxon ID	Scientific Name	Common Name	Conservation Status	Discipline	Fauna Observation	General	Eucalypt Grassy Woodland	Derived Native Grassland	Open Pasture	Open Water	Roadside Remnant Woodland	Degraded Creekline	Wooded Creekline
500014	<i>Acacia baileyana</i>	Cootamundra Wattle	*	Flora							✓		
500038	<i>Acacia genistifolia</i>	Spreading Wattle		Flora			✓	✓	✓		✓		
500056	<i>Acacia mearnsii</i>	Black Wattle		Flora			✓						
500072	<i>Acacia paradoxa</i>	Hedge Wattle		Flora					✓		✓		
500078	<i>Acacia pycnantha</i>	Golden Wattle		Flora			✓	✓	✓		✓		✓
500107	<i>Acaena X ovina</i>	Australian Sheep's Burr		Flora			✓	✓					
502966	<i>Acetosella vulgaris</i>	Sheep Sorrel	*	Flora			✓	✓	✓			✓	
500123	<i>Acrotriche serrulata</i>	Honey-pots		Flora							✓		
500685	<i>Allocasuarina verticillata</i>	Drooping Sheoak		Flora			✓						✓
509099	<i>Austrostipa spp.</i>	Spear Grass		Flora					✓		✓	✓	
500341	<i>Avena fatua</i>	Wild Oat	*	Flora					✓			✓	✓
500512	<i>Burchardia umbellata</i>	Milkmaids		Flora							✓		
500514	<i>Bursaria spinosa</i>	Sweet Bursaria		Flora							✓		
10269	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo		Fauna	Seen	✓							
500642	<i>Carex inversa</i>	Knob Sedge	#	Flora			✓		✓				
500667	<i>Cassinia sifton</i>	Drooping Cassinia	#	Flora			✓						
50389	<i>Charadriidae spp.</i>	Plover		Fauna	Seen	✓							
10202	<i>Chenonetta jubata</i>	Australian Wood Ducks		Fauna	Seen	✓							
500756	<i>Chloris truncata</i>	Windmill Grass		Flora								✓	
500782	<i>Cirsium vulgare</i>	Spear Thistle	*	Flora			✓		✓				
505555	<i>Dianella admixta</i>	Black-anther Flax-lily		Flora							✓		
501029	<i>Dianella revoluta s.l.</i>	Black-anther Flax-lily		Flora			✓	✓					
501139	<i>Eleocharis acuta</i>	Common Spike-sedge		Flora								✓	✓
10273	<i>Eolophus roseicapilla</i>	Galah		Fauna	Seen	✓							
504445	<i>Epilobium billardiereanum subsp. cinereum</i>	Grey Willow-herb		Flora									✓
501286	<i>Eucalyptus goniocalyx s.l.</i>	Bundy		Flora			✓				✓		✓
501293	<i>Eucalyptus leucoxylon</i>	Yellow Gum	#	Flora			✓				✓		✓
501297	<i>Eucalyptus melliodora</i>	Yellow Box		Flora			✓						✓
35663	<i>fam. Cactuidae gen. Calyptrorhynchus</i>	Black-Cockatoos		Fauna	Seen	✓							



Taxon ID	Scientific Name	Common Name	Conservation Status	Discipline	Fauna Observation	General	Eucalypt Grassy Woodland	Derived Native Grassland	Open Pasture	Open Water	Roadside Remnant Woodland	Degraded Creekline	Wooded Creekline
508503	<i>Gazania spp.</i>	Gazania	*	Flora		✓	✓		✓			✓	
501421	<i>Genista linifolia</i>	Flax-leaf Broom	*	Flora			✓						
501422	<i>Genista monspessulana</i>	Montpellier Broom	*	Flora						✓			
501489	<i>Gonocarpus tetragynus</i>	Common Raspwort		Flora			✓	✓	✓				
10705	<i>Gymnorhina tibicen</i>	Australian Magpie		Fauna	Seen	✓							
501692	<i>Holcus lanatus</i>	Yorkshire Fog	*	Flora				✓					
501701	<i>Hordeum leporinum</i>	Barley Grass	*	Flora				✓					
501741	<i>Hypericum gramineum</i>	Small St John's Wort		Flora			✓	✓	✓				
501748	<i>Hypochoeris radicata</i>	Flatweed	*	Flora			✓	✓	✓		✓		✓
501802	<i>Juncus acutus subsp. acutus</i>	Spiny Rush	*	Flora		✓	✓	✓				✓	✓
501830	<i>Juncus pallidus</i>	Pale Rush		Flora			✓	✓	✓				✓
508601	<i>Juncus spp.</i>	Rush		Flora			✓	✓	✓			✓	✓
501860	<i>Lactuca serriola</i>	Prickly Lettuce	*	Flora			✓						
502762	<i>Lophangium luteoalbum</i>	Jersey Cudweed		Flora					✓				✓
501920	<i>Lepidosperma filiforme</i>	Common Rapiër-sedge		Flora			✓	✓					
11511	<i>Lepus europaeus</i>	European Brown Hare		Fauna	Seen	✓							
13058	<i>Limnodynastes dumerilii</i>	Pobblebonk Frog		Fauna	Heard	✓							
502021	<i>Lissanthe strigosa subsp. subulata</i>	Peach Heath		Flora			✓						
502042	<i>Lomandra filiformis</i>	Wattle Mat-rush		Flora					✓				
504709	<i>Lomandra filiformis subsp. coriacea</i>	Wattle Mat-rush		Flora			✓	✓					✓
503843	<i>Lomandra nana</i>	Dwarf Mat-rush		Flora			✓	✓					
502078	<i>Lycium ferocissimum</i>	African Box-thorn	*	Flora			✓	✓					
502092	<i>Lythrum hyssopifolia</i>	Small Loosestrife		Flora			✓	✓	✓				
11265	<i>Macropus giganteus</i>	Eastern Grey Kangaroo		Fauna	Seen	✓							
10634	<i>Manarina melanocephala</i>	Noisy Miner		Fauna	Seen	✓							
502145	<i>Melaleuca armillaris subsp. armillaris</i>	Giant Honey-myrtle	en #	Flora		✓							
501731	<i>Meliccytus dentatus</i>	Tree Violet		Flora			✓						
502386	<i>Oxalis perennans</i>	Grassland Wood-sorrel		Flora			✓	✓	✓				
502431	<i>Paspalum distichum</i>	Water Couch	*	Flora						✓			
502448	<i>Pelargonium rodnevanum</i>	Magenta Stork's-bill		Flora			✓	✓	✓				
502476	<i>Phalaris aquatica</i>	Toowoomba Canary-grass	*	Flora			✓	✓					
11162	<i>Phascolarctos cinereus</i>	Koala		Fauna	Print	✓							
502561	<i>Plantago lanceolata</i>	Ribwort	*	Flora				✓	✓				✓



Taxon ID	Scientific Name	Common Name	Conservation Status	Discipline	Fauna Observation	General	Eucalypt Grassy Woodland	Derived Native Grassland	Open Pasture	Open Water	Roadside Remnant Woodland	Degraded Creekline	Wooded Creekline
508936	<i>Prunus spp.</i>	Prunus	*	Flora			✓						
502942	<i>Rumex rosea</i>	Onion Grass	*	Flora					✓				
509000	<i>Rumex spp.</i>	Dock		Flora					✓			✓	
508313	<i>Rytidosperma spp.</i>	Wallaby Grass		Flora			✓	✓	✓			✓	✓
503183	<i>Solanum nigrum</i>	Black Nightshade	*	Flora			✓						
503203	<i>Sonchus asper s.l.</i>	Rough Sow-thistle	*	Flora			✓		✓				
16021	<i>Stenanthra conostephioides</i>	Flame Heath		Flora			✓	✓					
503387	<i>Themeda triandra</i>	Kangaroo Grass		Flora					✓				



Appendix 4 – Likelihood of Occurrence of the flora and fauna identified during the desktop assessment

Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Acacia boormannii</i>	Snowy River Wattle	en #	Flora	1	11/09/2014	VBA	Record in study area	Very Unlikely	Site is located outside of species natural range
<i>Allocasuarina luehmannii</i>	Buloke	cr	Flora	8	11/09/2014	VBA	Record in study area	Likely	Suitable habitat present on site Site within species' natural distribution range Numerous records within the local area between 5 to 25 years ago
<i>Amphibromus fluitans</i>	River Swamp Wallaby-grass, Floating Swamp Wallaby-grass	VU	Flora			PMST	Species or species habitat may occur in feature area	Unlikely	No historical records on site Limited aspects of habitat present within study area and/or habitat highly modified
<i>Anthochaera phrygia</i>	Regent Honeyeater	CR cr	Terrestrial fauna	2	01/08/1965	VBA, PMST	Record in study area, Species or species habitat likely to occur in study area	Unlikely	Historical records within the study area are greater than 25 years old
<i>Aphelocephala leucopsis</i>	Southern Whiteface	VU	Terrestrial fauna	6	01/03/2000	VBA, PMST	Record in study area, Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Aprasia parapulchella</i>	Pink-tailed Worm-lizard, Pink-tailed Legless Lizard	VU	Terrestrial fauna			PMST	Species or species habitat likely to occur in feature area	Possible	Site within species' natural distribution range Aspects of habitat present on site and/or habitat modified
<i>Austrostipa hemipogon</i>	Half-bearded Spear-grass	vu	Flora	2	15/10/1998	VBA	Record in study area	Likely	Suitable habitat present on site
<i>Austrostipa trichophylla</i>	Spear-grass	en	Flora	2	15/10/1998	VBA	Record in study area	Likely	Suitable habitat present on site
<i>Aythya australis</i>	Hardhead	vu	Terrestrial fauna	16	30/08/2018	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Billardiera scandens</i> s.s.	Velvet Apple-berry	en	Flora	1	01/01/1893	VBA	Record in study area	Unlikely	Historical records within the study area are greater than 25 years old
<i>Biziura lobata</i>	Musk Duck	vu	Terrestrial fauna	13	30/09/2006	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago



Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Botaurus poiciloptilus</i>	Australasian Bittern	EN	Terrestrial fauna			PMST	Species or species habitat likely to occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Burhinus grallarius</i>	Bush Stone-curlew	cr	Terrestrial fauna	1	13/11/1981	VBA	Record in study area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified Historical records within the study area are greater than 25 years old
<i>Caladenia audasii</i>	Mclvor Spider-orchid	EN cr	Flora	4	13/09/2010	VBA, PMST	Record in study area, Species or species habitat likely to occur in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Caladenia fulva</i>	Tawny Spider-orchid	EN en	Flora	29	01/01/2011	VBA, PMST	Record in study area, Species or species habitat likely to occur in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Caladenia ornata</i>	Ornate Pink Fingers	VU	Flora			PMST	Species or species habitat may occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Caladenia reticulata</i> s.s.	Veined Spider-orchid	en	Flora	6	13/09/2010	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Caladenia tensa</i>	Greencomb Spider-orchid, Rigid Spider-orchid	EN	Flora			PMST	Species or species habitat likely to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Caladenia versicolor</i>	Candy Spider-orchid	VU	Flora			PMST	Species or species habitat likely to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Calidris ferruginea</i>	Curlew Sandpiper	CR	Terrestrial fauna			PMST	Species or species habitat may occur in feature area	Very Unlikely	Habitat not present on site
<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo	EN	Terrestrial fauna			PMST	Species or species habitat may occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Climacteris picumnus</i>	Brown Treecreeper	VU	Terrestrial fauna	50	02/04/2021	VBA, PMST	Record in study area, Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Comesperma polygaloides</i>	Small Milkwort	cr	Flora	4	01/06/2009	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago



Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Correa aemula</i>	Hairy Correa	en	Flora	1	01/01/1893	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Correa reflexa</i> var. <i>angustifolia</i>	Grampians Correa	en	Flora	1	01/01/1911	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Corymbia maculata</i>	Spotted Gum	vu #	Flora	1	11/09/2014	VBA	Record in study area	Likely	Site is located outside of species' natural range
<i>Dasyurus maculatus</i> (SE mainland population)	Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population)	EN	Terrestrial fauna			PMST	Species or species habitat may occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Daviesia laevis</i>	Grampians Bitter-pea	VU or	Flora	1	01/01/1893	VBA	Record in study area	Unlikely	No records of the species within the study area in the last 25 years Limited aspects of habitat present within study area and/or habitat highly modified
<i>Delma impar</i>	Striped Legless Lizard, Striped Snake-lizard	VU	Terrestrial fauna			PMST	Species or species habitat likely to occur in feature area	Unlikely	Aspects of habitat present on site and/or habitat modified
<i>Dianella amoena</i>	Matted Flax-lily	EN	Flora			PMST	Species or species habitat may occur in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Digitaria divaricatissima</i> var. <i>divaricatissima</i>	Umbrella Grass	en	Flora	1	18/11/1998	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Diuris behrii</i>	Golden Cowslips	en	Flora	3	26/05/2009	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Diuris palustris</i>	Swamp Diuris	en	Flora	7	15/09/1998	VBA	Record in study area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified Historical records within the study area are greater than 25 years old
<i>Dodonaea boranifolia</i>	Hairy Hop-bush	en	Flora	3	19/01/2010	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Dodonaea heteromorpha</i>	Maple-fruited Hop-bush	ex	Flora	1	01/01/1894	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Dodonaea procumbens</i>	Trailing Hop-bush	VU #	Flora	17	18/10/2010	VBA, PMST	Record in study area, Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago



Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Eucalyptus crenulata</i>	Buxton Gum	EN en #	Flora	1	11/09/2014	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Eucalyptus froggattii</i>	Kamarooka Mallee	cr	Flora	1	18/11/1998	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Eucalyptus leucoxylon subsp. megalocarpa</i>	Large-fruit Yellow-gum	cr #	Flora	1	11/09/2014	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Eucalyptus sideroxylon subsp. sideroxylon</i>	Mugga	en	Flora	1	11/09/2014	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Euphrasia collina subsp. muelleri</i>	Purple Eyebright, Mueller's Eyebright	EN	Flora			PMST	Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Falco hypoleucos</i>	Grey Falcon	VU	Terrestrial fauna			PMST	Species or species habitat likely to occur in feature area	Unlikely	No historical records on site Limited aspects of habitat present within study area and/or habitat highly modified
<i>Geranium sp. 3</i>	Pale-flower Crane's-bill	en	Flora	1	17/11/1998	VBA	Record in study area	Unlikely	Historical records within the study area are greater than 25 years old Limited aspects of habitat present within study area and/or habitat highly modified
<i>Glycine latrobeana</i>	Clover Glycine, Purple Clover	VU	Flora			PMST	Species or species habitat likely to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Goodenia benthamiana</i>	Small-leaf Goodenia	en	Flora	1	11/01/2013	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago Aspects of habitat present on site and/or habitat modified
<i>Grantiella picta</i>	Painted Honeyeater	VU vu	Terrestrial fauna	1	01/10/2000	VBA, PMST	Record in study area, Species or species habitat known to occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Grevillea dimorpha</i>	Flame Grevillea	en	Flora	1	01/01/1893	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Grevillea dryophylla</i>	Goldfields Grevillea	en	Flora	3	04/10/1995	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Hibbertia humifusa subsp. humifusa</i>	Rising Star Guinea-flower	en	Flora	22	15/11/2010	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Records within the local area between 5 to 25 years ago
<i>Hieraacetus morphnoides</i>	Little Eagle	vu	Terrestrial fauna	5	30/10/2002	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Records within the local area between 5 to 25 years ago
<i>Hirundapus caudacutus</i>	White-throated Needle-tail	VU vu	Terrestrial fauna	1	30/03/1978	VBA, PMST	Record in study area, Species or species	Very Unlikely	No records of the species within the study area in the last 25 years.



Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Isoodon obesulus obesulus</i>	Southern Brown Bandicoot	EN en	Terrestrial fauna	8	20/11/2001	VBA, PMST	habitat likely to occur in feature area Record in study area, Species or species habitat known to occur in feature area	Possible	Records within the local area between 5 to 25 years ago
<i>Lachnagrostis adamsonii</i>	Adamson's Blown-grass, Adamson's Blowngrass	EN	Flora			PMST	Species or species habitat may occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Lathamus discolor</i>	Swift Parrot	CR or	Terrestrial fauna	3	13/07/2019	VBA, PMST	Record in study area, Species or species habitat known to occur in feature area	Likely	Recorded within the study area within the past 5 years
<i>Leipoa ocellata</i>	Malleefowl	VU	Terrestrial fauna			PMST	Species or species habitat likely to occur in feature area	Very Unlikely	Habitat not present on site
<i>Lepidium aschersonii</i>	Spiny Peppergrass	VU	Flora			PMST	Species or species habitat may occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Lepidium monoplocoides</i>	Winged Pepper-grass	EN	Flora			PMST	Species or species habitat may occur in study area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Leptorhynchus elongatus</i>	Lanky Buttons	en	Flora	1	01/01/1770	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Leptorhynchus orientalis</i>	Annual Buttons	en	Flora	1	01/01/1893	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Leucochrysum albicans subsp. tricolor</i>	Hoary Sunray, Grassland Paper-daisy	EN	Flora			PMST	Species or species habitat may occur in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Litoria raniformis</i>	Growing Grass Frog	VU vu	Terrestrial fauna, Aquatic fauna, Aquatic invertebrates	4	14/09/1963	VBA, PMST	Record on site, Species or species habitat likely to occur in feature area	Possible	Recorded on site more than 25 years ago Aspects of habitat present on site and/or habitat modified
<i>Melaleuca armillaris subsp. armillaris</i>	Giant Honey-myrtle	en #	Flora	1	11/09/2014	VBA	Record in study area	Known	Records within the local area between 5 to 25 years ago
<i>Melanodryas cucullata</i>	Hooded Robin	EN vu	Terrestrial fauna	7	01/06/2001	VBA, PMST	Record in study area, Species or species	Possible	Aspects of habitat present on site and/or habitat modified Records within the local area between 5 to 25 years ago



Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Morethia adelaidensis</i>	Samphire Skink	en	Terrestrial fauna	1	20/05/1963	VBA	habitat known to occur in feature area Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Myriophyllum porcatum</i>	Ridged Water-milfoil	VU	Flora			PMST	Species or species habitat may occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Nannoperca australis Murray-Darling Basin lineage</i>	Southern Pygmy Perch (Murray-Darling Basin lineage)	VU	Terrestrial fauna			PMST	Species or species habitat may occur in feature area	Unlikely	Habitat not present on site No records of the species within the study area in the last 25 years.
<i>Neophema chrysostoma</i>	Blue-winged Parrot	VU	Terrestrial fauna			PMST	Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Ninox connivens</i>	Barking Owl	cr	Terrestrial fauna	2	01/01/1973	VBA	Record in study area	Possible	Historical records within the study area are greater than 25 years old
<i>Ninox strenua</i>	Powerful Owl	vu	Terrestrial fauna	3	02/09/1999	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Notamacropus eugenii</i>	Tammar Wallaby	dbt	Terrestrial fauna	1	10/07/1992	VBA	Record in study area	Unlikely	Aspects of habitat present on site and/or habitat modified
<i>Oxyura australis</i>	Blue-billed Duck	vu	Terrestrial fauna	21	28/06/2018	VBA	Record in study area	Likely	Suitable habitat present on site Recorded within the study area within the past 5 years
<i>Pedionomus torquatus</i>	Plains-wanderer	CR cr	Terrestrial fauna	2	17/03/1975	VBA, PMST	Record in study area, Species or species habitat may occur in feature area	Unlikely	Historical records within the study area are greater than 25 years old
<i>Petaurus norfolcensis</i>	Squirrel Glider	vu	Terrestrial fauna	5	12/07/2004	VBA	Record in study area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Pimelea spinescens subsp. spinescens</i>	Plains Rice-flower, Spiny Rice-flower, Prickly Pimelea	CR	Flora			PMST	Species or species habitat likely to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Pogona barbata</i>	Bearded Dragon	vu	Terrestrial fauna	3	20/11/2001	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago
<i>Pomatostomus temporalis</i>	Grey-crowned Babbler	vu	Terrestrial fauna	2	18/01/2007	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago



Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Prasophyllum lindleyanum</i>	Green Leek-orchid	en	Flora	2	07/10/1981	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Historical records within the study area are greater than 25 years old
<i>Prasophyllum maccannii</i>	Inland Leek-orchid	en	Flora	2	20/11/2009	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago Aspects of habitat present on site and/or habitat modified
<i>Prasophyllum pallidum</i> s.l.	Pale Leek-orchid	VU	Flora	1	02/11/1992	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Historical records within the study area are greater than 25 years old
<i>Prasophyllum roseum</i>	Pink-lip Leek-orchid	cr	Flora	5	08/08/1998	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Historical records within the study area are greater than 25 years old
<i>Prasophyllum stygium</i>	Elfin Leek-orchid	cr	Flora	3	05/10/1995	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Historical records within the study area are greater than 25 years old
<i>Prasophyllum subsectum</i>	Pomonal Leek-orchid	EN cr	Flora	9	01/10/2007	VBA, PMST	Record in study area, Species or species habitat likely to occur in study area	Possible	Records within the local area between 5 to 25 years ago Aspects of habitat present on site and/or habitat modified
<i>Prasophyllum validum</i>	Sturdy Leek-orchid, Mount Remarkable Leek-orchid	VU	Flora			PMST	Species or species habitat likely to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Pseudophryne bibronii</i>	Brown Toadlet	en	Terrestrial fauna, Aquatic fauna, Aquatic invertebrates	6	25/10/2011	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Records within the local area between 5 to 25 years ago
<i>Pseudophryne semimarmorata</i>	Southern Toadlet	en	Terrestrial fauna, Aquatic fauna, Aquatic invertebrates	2	08/05/2019	VBA	Record in study area	Likely	Recorded within the study area within the past 5 years
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU	Terrestrial fauna			PMST	Species or species habitat may occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Pterostylis chlorogramma</i>	Green-striped Greenhood	VU	Flora			PMST	Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified



Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Pterostylis diminuta</i>	Crowded Greenhood	en	Flora	2	04/09/1992	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Historical records within the study area are greater than 25 years old
<i>Pterostylis smaragdina</i>	Emerald-lip Greenhood	en	Flora	14	02/09/2010	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Records within the local area between 5 to 25 years ago
<i>Pultenaea juniperina</i> s.s.	Prickly Beauty	vu	Flora	1	01/01/1893	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified No records of the species within the study area in the last 25 years.
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	en	Terrestrial fauna	1	13/11/1981	VBA	Record in study area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified Historical records within the study area are greater than 25 years old
<i>Rostratula australis</i>	Australian Painted Snipe	EN	Terrestrial fauna			PMST	Species or species habitat likely to occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Rutidosis leptorhynchoides</i>	Button Wrinklewort	EN	Flora			PMST	Species or species habitat known to occur in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Schoenus nanus</i>	Tiny Bog-sedge	en	Flora	1	07/10/1981	VBA	Record in study area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified Historical records within the study area are greater than 25 years old
<i>Senecio macrocarpus</i>	Large-fruit Fireweed, Large-fruit Groundsel	VU	Flora			PMST	Species or species habitat likely to occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified
<i>Spatula rhynchotis</i>	Australasian Shoveler	vu	Terrestrial fauna, Coastal	20	14/04/2008	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Stagonopleura guttata</i>	Diamond Firetail	VU vu	Terrestrial fauna	23	26/09/2017	VBA, PMST	Record in study area, Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Stictonetta naevosa</i>	Freckled Duck	en	Terrestrial fauna	2	30/09/2006	VBA	Record in study area	Possible	Aspects of habitat present on site and/or habitat modified Numerous records within the local area between 5 to 25 years ago
<i>Styliidium soboliferum</i>	Grampians Triggerplant	en	Flora	1	09/03/2008	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago
<i>Swainsona murrayana</i>	Slender Darling-pea, Slender Swainson, Murray Swainson-pea	VU	Flora			PMST	Species or species habitat may occur in feature area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified

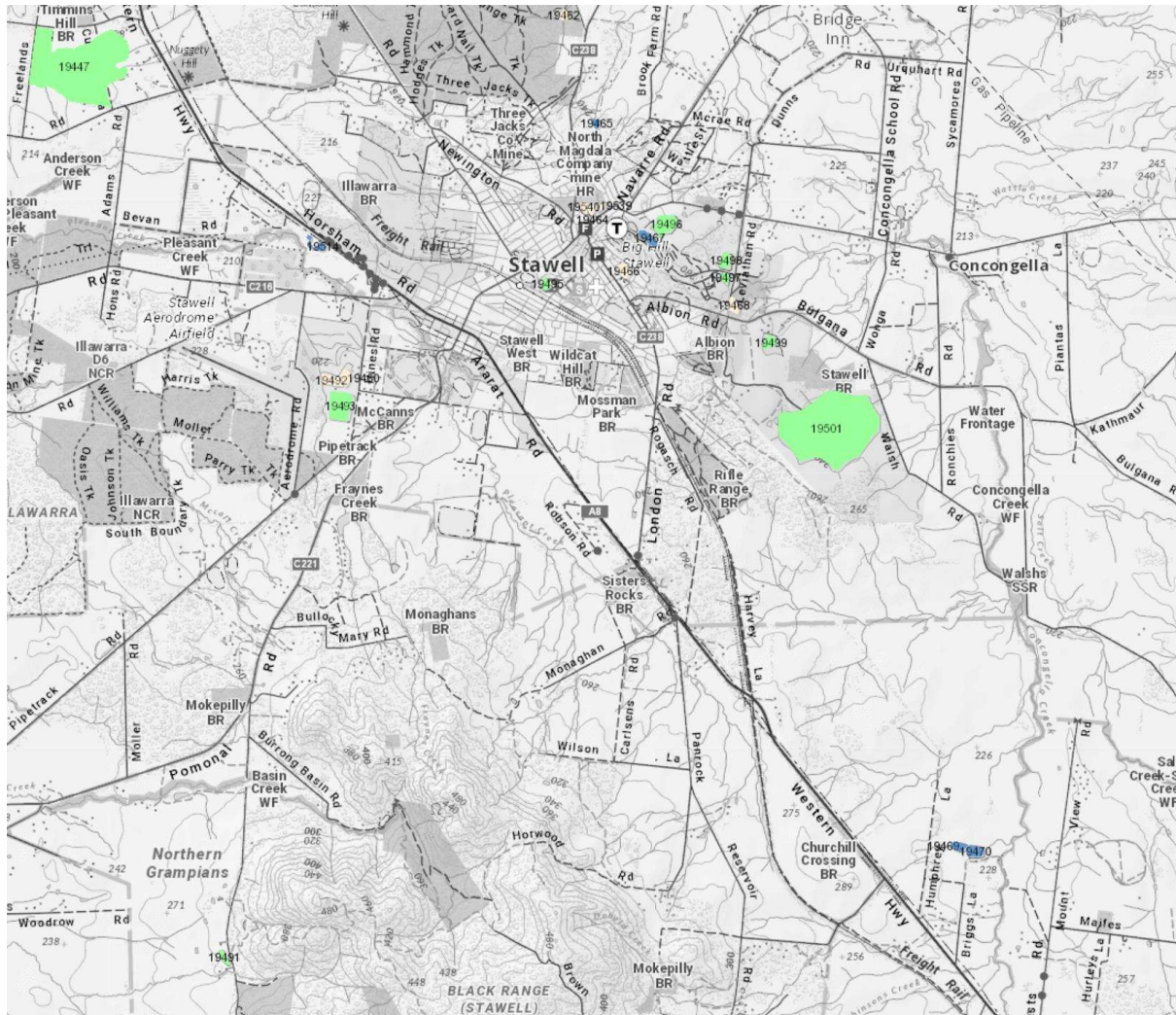


Scientific Name	Common Name	Conservation Status	Discipline	Count of Sightings	Last Record	Source	Presence Type	Likelihood	Justification
<i>Swainsona swainsonioides</i>	Downy Swainson-pea	en	Flora	2	01/01/1893	VBA	Record in study area	Very Unlikely	No records of the species within the study area in the last 25 years.
<i>Synemon plana</i>	Golden Sun Moth	VU	Terrestrial fauna			PMST	Species or species habitat known to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Thelymitra luteociliium</i>	Fringed Sun-orchid	vu	Flora	9	26/05/2009	VBA	Record in site	Possible	Recorded on site more than 25 years ago Records within the local area between 5 to 25 years ago
<i>Thelymitra mackibbinii</i>	Brilliant Sun-orchid	VU or	Flora	10	29/09/2010	VBA, PMST	Species or species habitat known to occur in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Thelymitra matthewsii</i>	Spiral Sun-orchid	VU	Flora			PMST	Species or species habitat likely to occur in feature area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Thelymitra orientalis</i>	Hoary Sun-orchid	CR	Flora			PMST	Species or species habitat may occur in study area	Possible	Aspects of habitat present on site and/or habitat modified
<i>Thelymitra X chasmogama</i>	Globe-hood Sun-orchid	en	Flora	3	26/05/2009	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago
<i>Thelymitra X macmillanii</i>	Crimson Sun-orchid	vu	Flora	5	26/05/2009	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago
<i>Tripogonella loliformis</i>	Rye Beetle-grass	en	Flora	1	26/05/2009	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago
<i>Varanus varius</i>	Lace Monitor	en	Terrestrial fauna, Coastal	2	09/03/2008	VBA	Record in study area	Possible	Records within the local area between 5 to 25 years ago
<i>Xerorchysum palustre</i>	Swamp Everlasting, Swamp Paper Daisy	VU	Flora			PMST	Species or species habitat may occur in study area	Unlikely	Limited aspects of habitat present within study area and/or habitat highly modified

vu = Vulnerable, en = Endangered, cr = Critically Endangered. Lower case represents the FFG Act status, upper case represents the EPBC Act status.

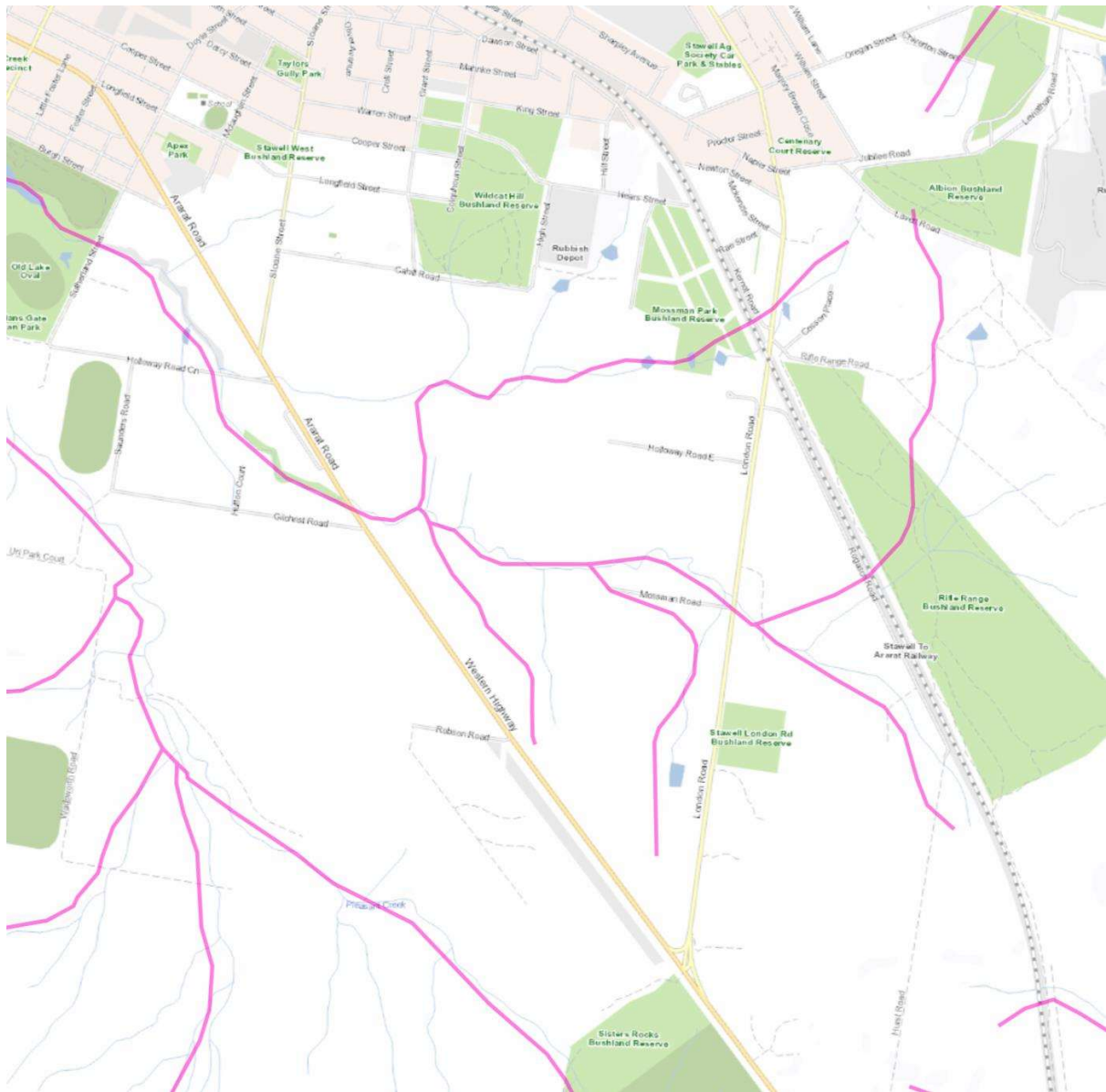


6.1 Appendix 5 – MapShare showing current, important and Ramsar wetlands within the study area





6.2 Appendix 6 – Wimmera CMA designated waterways map



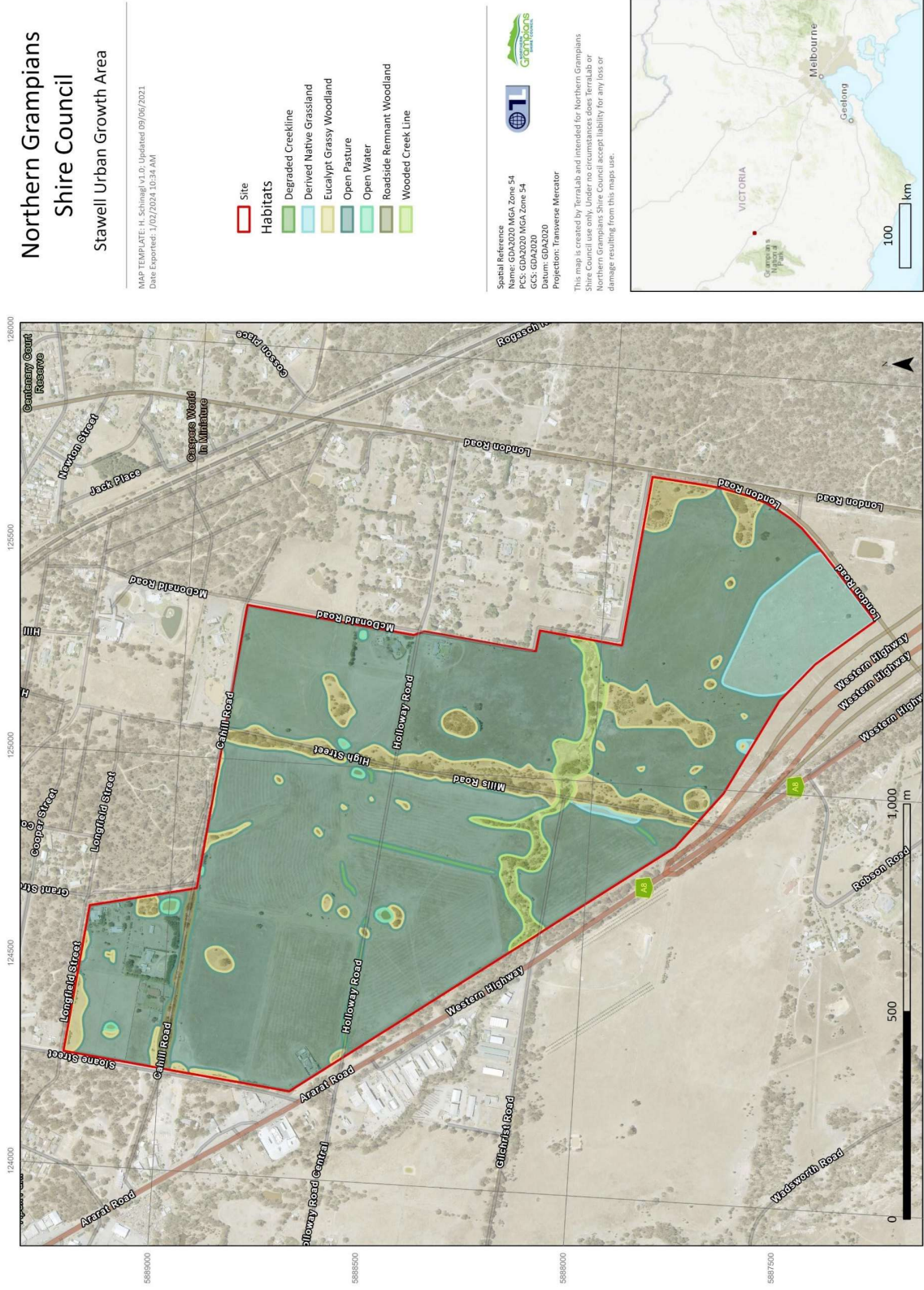


Maps

Maps commence on next page.



Map 1 – Habitat Types across the site





Map 2 – Ecological Vegetation Classes across the site





Map 3 – Location of potentially threatened ecological communities

