VEGETATION ASSESSMENT

BACCHUS MARSH RECREATION RESERVE UPGRADE PROJECT

STAGES 2 & 3

BACCHUS MARSH-BALLIANG ROAD, MADDINGLEY

PREPARED FOR: MOORABOOL SHIRE COUNCIL

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Vegetation Assessment for the Bacchus Marsh Racecourse Recreation Reserve Upgrade Project, Stages 2 and 3

Report prepared by Okologie Consulting Pty Ltd for Moorabool Shire Council

Okologie Consulting Pty Ltd
32 Nicholson Crescent
Jan Juc, Victoria, 3228

ACN: 618 785 336
Web: www.okologie.com.au
Email: mark@okologie.com.au
Phone: 0419 786 533

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- Corrine Jacobson (Moorabool Shire Council) for project information

Summary

Okologie Consulting Pty Ltd was engaged by Moorabool Shire Council to undertake a vegetation assessment for Stages 2 and 3 of the Bacchus Marsh Racecourse Recreation Reserve - Active Sports Precinct Project.

The vegetation assessment was required to determine the extent of native vegetation and ascertain the presence of any listed threatened flora or fauna species and associated habitats within the project area.

The project area was highly modified and characterised by an extensive cover of exotic dominated grassland, interspersed with a modified cover of *Heavier-soils* Plains Grassland and planted vegetation. The majority of the project area has been extensively modified from previous land use activities and contain a modified landform and substrate from previous infrastructure works.

No listed threatened ecological communities, flora or fauna species were recorded the field assessment, and none are considered likely to occur due to the highly modified condition of habitat. An *Environment Protection Biodiversity Conservation Act 1999* referral to the Commonwealth Environment Minister is not required as no Matters of National Environmental Significance are likely to be significantly impacted by future works in the project area.

The active sports precinct works will remove 1.6 hectares of *Heavier-soils* Plains Grassland that meets the criteria for *Western (Basalt) Plains Grasslands Floristic Community 140*. Therefore, a *Flora and Fauna Guarantee Act 1988* permit will be required from Department of Environment, Land, Water and Planning for removal of a floristic community on public land.

The proposed removal of 1.6 hectares of *Heavier-soils* Plains Grassland is considered exempt under Clause 52.17-7 *Regrowth* in this instance, as this vegetation has colonised a modified landform and substrate and is less than 10 years old. A native vegetation removal application is not required under the *Guidelines for the removal, destruction or lopping of native vegetation.*

The removal of planted native trees and shrubs is considered exempt under Clause 52.17-7, as this vegetation was not planted for conservation purposes and meets the exemption for removal under Clause 52.17-7 *Planted Vegetation*.

1 Introduction

1.1 Project Background

Okologie Consulting Pty Ltd was engaged by Moorabool Shire Council to undertake a vegetation assessment for Stages 2 and 3 of the Bacchus Marsh Racecourse Recreation Reserve - Active Sports Precinct Project.

Moorabool Shire Council proposes to construct Stages 2 and 3 of the active sports precinct. The vegetation assessment was undertaken to determine the extent of native vegetation and ascertain the presence of any listed threatened flora or fauna species and associated habitats in the project area. Okologie Consulting (2018) previously prepared a 'Vegetation Assessment for Bacchus Marsh Racecourse Recreation Reserve Active Sports Precinct, Stage 1'.

The proposed removal of vegetation assessment will require a permit under Clause 52.17 (unless exempt), and a biodiversity application under the *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines) (DELWP 2017).

Review of the Native Vegetation Information Management system tool shows the site is mapped as Location 1 and 2, which requires either a basic, intermediate or detailed pathway biodiversity application, depending on the location and extent of native vegetation proposed for removal.

This report details the findings of the assessment and discusses environmental legislation and policy implications associated with future proposed development works.

1.2 Objectives

The objectives of the assessment were to:

- Identify and assess terrestrial ecological values (i.e. vegetation communities, flora and fauna species and associated habitats) within the project area.
- Ensure ecological values are identified in the early planning phase.
- Identify environmental legislation and policy requirements.

1.3 Site Description

The project area comprises the Bacchus Marsh Racecourse Recreation Reserve, Maddingley (Figure 1). It is bound by Bacchus Marsh West Golf Course to the north, Bacchus Marsh-Balliang Road to the east and private property to the south and west.

The project area comprises a disused racecourse facility and associated infrastructure (sheds), surrounded by open grassland. The majority of the project area has been extensively modified from previous land use activities (pony club and camp-drafting

club) and contain a modified landform and substrate from previous infrastructure works. Planted native and exotic trees and shrubs are present throughout the project area. The project area also contains two dams. The topography varies from flat land to the north with moderate undulating slopes to the west. The surrounding land use comprises residential development and agriculture.

The project area occurs within the Victorian Volcanic Plain bioregion, the Port Phillip and Westernport Catchment Management Authority boundary and the Moorabool Shire municipality (DELWP 2021a). The Native Vegetation Location mapping shows the project area occurs within Location 1 and 2 (DELWP 2021b). The project area is zoned Public Park and Recreation Zone (PPRZ) and is not subject to any environmental overlays under the Moorabool Planning Scheme (DELWP 2021c).

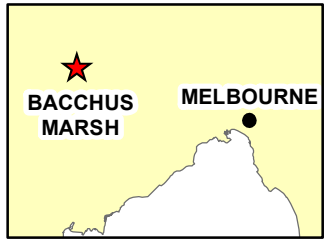
Figure 1

Site Location

Bacchus Marsh
Recreation Reserve

Legend

Subject Site



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2 Methodology

2.1 Species Information

Scientific and common names of flora species and terrestrial vertebrate fauna follow the Victorian Biodiversity Atlas (VBA) (DELWP 2021d). Vegetation communities follow the Ecological Vegetation Class (EVC) bioregion benchmarks (DELWP 2021a).

Native flora and fauna referred to as 'threatened' include species:

- Listed as critically endangered, endangered or vulnerable under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act) (DAWE 2021).
- Listed as threatened under the *Flora and Fauna Guarantee Act 1988* (FFG Act) (DELWP 2021e).
- Listed as critically endangered, endangered, vulnerable or rare on Victoria's rare or threatened flora and fauna advisory lists (DEPI 2014; DSE 2013).

2.2 Desktop Assessment

A desktop assessment was undertaken of relevant databases and other resources, including:

- NatureKit for modelled biodiversity data (DELWP 2021a).
- Native Vegetation Information Management system tool for native vegetation information (DELWP 2021b).
- Planning Schemes Online for planning information (DELWP 2021c).
- The VBA for threatened flora and fauna species records (DELWP 2021d).
- The Protected Matters Search Tool (PMST) for information relating to Matters of National Environmental Significance (MNES) (listed species and communities) under the EPBC Act (DAWE 2021).
- Relevant environmental legislation, policies and strategies.

2.3 Field Assessment

The field assessment was undertaken on 10 February 2021. The entire project area was traversed on foot to determine the extent of native vegetation and ascertain the presence of any listed threatened flora and fauna species or associated habitats within the project area. The extent of native vegetation was mapped using a Trimble Catalyst DA1 differential GPS (sub-metre accuracy post-processing), with coordinates recorded to GDA 94 (WGS 84). EVCs were determined by reference to the relevant bioregion pre-1750 and extant EVC mapping and benchmarks descriptions (DELWP 2021a), and review of remnant vegetation in the local area.

2.4 Assessment Guidelines

The Guidelines (DELWP 2017) has been incorporated into the Victoria Planning Provisions and all planning schemes in Victoria. The purpose of the Guidelines is to set out and describe the application of Victoria's statewide policy in relation to assessing and compensating for the removal of native vegetation in response to permit applications under Clause 52.17.

Native vegetation is defined in Clause 72 of the Victoria Planning Provisions as *plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses*. Plants from other states or overseas are not native and the permitted clearing regulations do not apply if they are being removed (DELWP 2017).

The Guidelines considers the biodiversity value of native vegetation by measuring the following two components:

- Site-based information that can be measured or observed at a site.
- Landscape scale information that cannot be measured or observed at the site and is included in maps and models (DELWP 2017).

Under the Guidelines native vegetation is classified as a *patch* or *scattered tree*.
A patch of native vegetation is:

- An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native[1]; or
- Any area with three or more native canopy trees[2] where the drip line[3] of each tree touches the drip line of at least one other tree, forming a continuous canopy; or
- Any mapped wetland included in the Current wetlands map.

A scattered tree is:

- A native canopy tree that does not form part of a patch (DELWP 2017b).

The assessment pathway for an application to remove native vegetation reflects its potential impact on biodiversity and is determined from the location and extent of the native vegetation to be removed.

[1] Plant cover is the proportion of the ground that is shaded by vegetation foliage when lit from directly above. Areas that include non-vascular vegetation (such as mosses and lichens) but otherwise support no native vascular vegetation are not considered to be a patch for the purposes of the Guidelines. However, when non-vascular vegetation is present with vascular vegetation, it does contribute to cover when determining the percentage of perennial understorey plant cover.

[2] A native canopy tree is a mature tree (i.e. it is able to flower) that is greater than 3 metres in height and is normally found in the upper layer of the relevant vegetation type.

[3] The drip line is the outermost boundary of a tree canopy (leaves and/or branches) where the water drips on to the ground (DELWP 2017).

The three assessment pathways are:

- Basic – limited impacts on biodiversity.
- Intermediate – could impact on large trees, endangered EVCs, and sensitive wetlands and coastal areas.
- Detailed – could impact on large trees, endangered EVCs, sensitive wetlands and coastal areas, and could significantly impact on habitat for rare or threatened species.

The assessment pathway of an application is determined in accordance with the requirements in Table 2.

Table 2: Assessment pathways

Extent of native vegetation	Location Category		
	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

Source: DELWP (2017).

2.5 Limitations

The preferred survey period for undertaking vegetation assessments in Victoria is spring, which maximises the likelihood of detecting all flora species within a site. Flora surveys provide a valuable 'snapshot' of vegetation at a point in time; however, the limitations of seasonal influence (summer) on the presence/absence of flora species (particularly annuals or cryptic species) must be considered. The short duration of the assessment limited the opportunity to observe migratory, transitory or uncommon fauna species.

The information outlined in this report relies on the accuracy of ecological database information, GIS layers and spatial imagery. To minimise potential errors, the most current available data was obtained from relevant sources.

The Department of Environment, Land, Water and Planning (DELWP) bioregion and EVC mapping are subject to inherently broad environmental and ecological parameters used in the mapping process. Where the observed EVC was not reflective of what would be expected from EVC mapping and classification, it was attributed to the most appropriate EVC based on combination of its floristic, life form and ecological characteristics, and particular environmental conditions.

3 Results

3.1 Previous Assessments

Biosis Research (2012) previously completed a preliminary flora and fauna assessment of the project area. No listed threatened flora or fauna species were recorded during the assessment (with the exception of planted Fragrant Saltbush *Rhagodia parabolica*). Potential suitable habitat was identified for Golden Sun Moth *Synemon plana*.

The assessment identified areas of modified grassland that was attributed to Plains Grassy Woodland. The cover of native grasses and herbs were considered sufficient to be referred to the *Natural Temperate Grassland of the Victorian Volcanic Plain* (NTGVVP) ecological community, listed as critically endangered under the EPBC Act (Biosis Research 2012).

However, the extent and cover/abundance of native grasses within sections of the site was found to vary considerably from the previous field assessment by Biosis Research (2012). For example the native grass cover/abundance did not meet the condition thresholds for the NTGVVP ecological community. The difference in native grass cover may be attributed to seasonality, and disturbance from previous site activities (pony club) regular slashing and weed invasion.

3.2 Ecological Vegetation Classes

NatureKit modelling identifies the pre-1750 EVC mapping for the project area would have predominantly comprised of Plains Grassy Woodland (EVC 55), with Plains Grassland (EVC 132) in the surrounding area. Extant (2005) EVC mapping shows a modified cover of Plains Grassy Woodland and Plains Grassland (DELWP 2021a).

Native vegetation within the project area was attributed to *Heavier-soils* Plains Grassland (EVC 132_61), based on floristic, life form and ecological characteristics, and soil type (Figure 2).

3.3 Vegetation Condition

The project area was highly modified and characterised by an extensive cover of exotic dominated grassland, interspersed with a modified cover of *Heavier-soils* Plains Grassland and planted vegetation. The majority of the project area has been extensively modified from previous land use activities and contain a modified landform and substrate from previous infrastructure works. The majority of the project area is subject to regular slashing (Figure 2).

Heavier-soils Plains Grassland

Heavier-soils Plains Grassland is described as *treeless vegetation mostly less than one metre tall, dominated by largely graminoid and herb life forms. Occupies fertile*

cracking basalt soils prone to seasonal waterlogging in areas receiving at least 500 mm annual rainfall (DELWP 2021a).

A highly modified cover of *Heavier-soils* Plains Grassland was present across the northern and western section of the project area that is considered to have colonised areas with a modified landform and substrate. The vegetation comprised a simplified cover (~30%) of indigenous Common Wallaby-grass *Rytidosperma caespitosum*, Bristly Wallaby-grass *Rytidosperma setaceum*, Striped Wallaby-grass *Rytidosperma racemosum,* Kneed Spear-grass *Austrostipa bigeniculata* and Windmill Grass *Chloris truncata*. Exotic species present included Chilean Needle-grass *Nassella neesiana*, Perennial Ryegrass *Lolium perenne*, Perennial Veldt-grass *Ehrharta calycina*, Onion Grass *Romulea rosea*, Serrated Tussock *Nassella trichotoma*, Ribwort *Plantago lanceolata*, Cape Weed *Arctotheca calendula*, Flat Weed *Hypochoeris radicata*, Galenia *Galenia pubescens* and Ox-tongue *Helminthotheca echioides* (Plates 1 and 2).

Planted Vegetation

The revegetation area comprised a diverse range of native trees and shrubs, including Tuart *Eucalyptus gomphocephala*, Yellow Gum *Eucalyptus leucoxylon*, River Red-gum *Eucalyptus camaldulensis*, Sugar Gum *Eucalyptus cladocalyx*, Golden Wattle *Acacia pycnantha* and Black Wattle *Acacia mearnsii*. Exotic Monterey *Cypress Cupressus macrocarpa* trees were also present. The ground layer was dominated by exotic Perennial Veldt-grass, Onion Grass, Cocksfoot, Perennial Ryegrass, Soursob and Galenia, with native Ruby Saltbush *Enchylaena tomentosa* var*. tomentosa* and Berry Saltbush *Atriplex semibaccata* occasionally present (Plates 3 to 6).

Predominantly Introduced Vegetation

Areas of exotic dominated vegetation consisted of Cocksfoot *Dactylis glomerata,* Squirrel-tail Fescue *Vulpia bromoides*, Perennial Veldt-grass, Chilean Needle-grass, Perennial Ryegrass, Yorkshire Fog-grass*,* Onion Grass, Serrated Tussock, Artichoke Thistle, Galenia, Ribwort, Flat Weed, Cape Weed, Ox-tongue, Wild Radish *Raphanus raphanistrum*, Buck's-horn Plantain *Plantago coronopus* and Soursob *Oxalis pes-caprae.* A sparse cover (<5%) of indigenous grasses such as Common Wallaby-grass and Bristly Wallaby-grass occasionally present (Plate 7). These areas have been mapped as predominantly introduced vegetation (Figure 2). The dam within the southern section of the project area comprised dense cover of Bulrush *Typha latifolia*, with exotic vegetation along the banks (Plate 8).

3.4 Threatened Flora Species

No listed threatened flora species were recorded within the project area during the field assessment. The VBA (DELWP 2021d) contains records of 19 listed threatened flora species in local area (within a five-kilometre radius of the project area). The PMST (DAWE 2021) identified eight EPBC Act listed flora species or species habitats as likely to occur within the local area. There is a low likelihood of occurrence for any listed threatened flora species within the project area due to the highly modified condition of habitat (Appendix 3).

3.5 Threatened Fauna Species

No listed threatened fauna species were recorded during the field assessment. The VBA (DELWP 2021d) contains records of nine listed threatened fauna species in the local area. The PMST (DAWE 2021) identified 21 EPBC Act listed fauna species or species habitats as likely to occur within the local area (Appendix 4; Figure 4).

Areas of *Heavier-soils* Plains Grassland supports potential suitable habitat for the EPBC Act listed Golden Sun Moth. The VBA (2021d) contains three Golden Sun Moth records in the local area, with the most recent record in 2012. However, there is a low likelihood of occurrence for Golden Sun Moth within the project area, as grassland habitat is highly modified from regular slashing and weed invasion, and soil disturbance from previous activities. The immediate surrounds comprise agricultural land and residential development, which further reduces the likely occurrence for this species. A targeted survey is not recommended.

There is a low likelihood of occurrence for any additional listed threatened fauna species due to the absence of suitable habitat.

3.6 Fauna Habitat

The project area supports three main habitat types: planted vegetation, native/exotic grassland and artificial wetlands (dams).

Planted trees (i.e. Sugar Gum) provide habitat for common birds associated with modified habitats, including Australian Raven *Corvus coronoides*, Brown Falcon *Falco berigora*, Magpie-lark *Grallina cyanoleuca*, Sulphur-crested Cockatoo *Cacatua galerita* and Grey Shrike-thrush *Colluricincla harmonica*. Planted shrubs provide habitat for smaller passerine birds such as Grey Fantail *Rhipidura albiscapa*, New Holland Honeyeater *Phylidonyris novaehollandiae*, Welcome Swallow *Hirundo neoxena*, Willie Wagtail *Rhipidura leucophrys* and Brown Thornbill *Acanthiza pusilla*.

Areas of native/exotic grassland provides habitat for birds adapted to modified habitats such as European Skylark *Alauda arvensis*, Australian Magpie *Cracticus tibicen*, Galah *Eolophus roseicapilla* and Australasian Pipit *Anthus novaeseelandiae*.

Dams within the project area provide suitable habitat for waterbirds such as Chestnut Teal *Anas castanea*, Australian Wood Duck *Chenonetta jubata* and Pacific Black Duck *Anas superciliosa*, and common frogs such as Common Froglet *Crinia signifera* and Spotted Marsh Frog *Limnodynastes tasmaniensis*.

3.7 Threatened Ecological Communities

Commonwealth Listed Ecological Communities

Review of the PMST (DAWE 2021) identified five EPBC Act listed ecological communities may or are known to occur within the local area:

- *Grassy Eucalypt Woodland of the Victorian Volcanic Plain* (Critically Endangered).
- *Natural Temperate Grassland of the Victorian Volcanic Plain* (Critically Endangered).
- *Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains* (Critically Endangered).
- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Critically Endangered).
- *Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia* (Endangered).

The project area supports 1.6 hectares of *Heavier-soils* Plains Grassland (Figure 2); however, this vegetation does not meet the condition thresholds for the NTGVVP ecological community (Threatened Species Scientific Committee 2008) (Tables 2 and 3). The other EPBC Act ecological communities listed above do not occur within the project area.

Table 2: Key Diagnostic Characteristics for NTGVVP

Key Diagnostic Characteristics	Response	Criteria
The grassland is mainly associated with Quaternary basalt soils within the Victorian Volcanic Plain IBRA bioregion	The project area occurs within the Victorian Volcanic Plain bioregion over basalt soils.	Criteria met
At least one of the following grass genera is the dominant native species in the ground layer: *Themeda* (Kangaroo-grass), *Austrodanthonia* (Wallaby-grass), *Austrostipa* (Spear-grass) and/or *Poa* (Tussock-grass)	The dominant grass species is Wallaby-grass and Spear-grass	Criteria met
For a native vegetation remnant ≤1 hectare in size, the minimum contiguous size of the grassland patch is 0.05 hectare and the crown cover of shrubs and trees over one metre tall within the grassland patch should not exceed 5%	The minimum patch size within the project area is <1 hectare, with a total of 1.6 hectares of *Heavier-soils* Plains Grassland (Figure 2)	Criteria met

Table 3: Condition Thresholds for NTGVVP

Condition Thresholds	Response	Criteria
The total perennial tussock cover represented by the native grass genera *Themeda, Austrodanthonia, Austrostipa* or *Poa* is at least 50%	Areas of *Heavier-soils* Plains Grassland generally comprises 20-30% cover of Wallaby-grass and Spear-grass	Criteria not met

Source: Threatened Species Scientific Committee (2008)

State Listed Ecological Communities

Areas of *Heavier-soils* Plains Grassland within the project area (1.6 hectares) (Figure 2), meet the criteria for *Western (Basalt) Plains Grasslands Floristic Community 140*, listed as threatened under the FFG Act (DEPI 2013b).

Plate 1: Modified *Heavier-soils* Plains Grassland

Plate 2: Modified *Heavier-soils* Plains Grassland

Plate 3: Planted native vegetation

Plate 4: Planted native vegetation

Plate 5: Planted native vegetation

Plate 6: Planted non-native trees

Plate 7: Exotic dominated vegetation

Plate 8: Exotic vegetation (Bulrush) in the northern dam

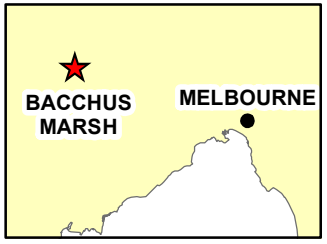
Figure 2

Ecological Features

Bacchus Marsh Recreation Reserve

Legend

- Subject Site
- Plains Grassland
- Planted Vegetation
- Predominantly Introduced Vegetation
- Dam
- Native Vegetation for Removal



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Coordinate System: GDA 1994 MGA Zone 55

Map Scale when printed @ A4 1:3,800

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4 Environmental Legislation and Policy Implications

4.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act provides a process for assessment of proposed actions that may have a significant impact on a MNES, which includes EPBC Act listed flora, fauna and ecological communities (DoE 2013).

The EPBC Act affects any group or individual (including companies) whose actions (proposal or project) are assessed for environmental impacts under the EPBC Act. An action requires approval from the Commonwealth Environment Minister if it is considered likely to have a significant impact on a MNES (DoE 2013).

No EPBC Act listed threatened flora or fauna species were recorded within the project area during the field survey, and none are considered likely to occur due to the highly modified condition of habitat resulting from previous disturbance (i.e. infrastructure works, cultivation, slashing and weed invasion). *Heavier-soils* Plains Grassland in the project area does not meet the condition thresholds for the NTGVVP ecological community.

An EPBC Act referral to the Commonwealth Environment Minister will not be required as no MNES are likely to be significantly impacted by future works in the project area.

4.2 Flora and Fauna Guarantee Act 1988

The FFG Act is the key Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes.

A permit is required from DELWP to 'take' (kill, injure, disturb or collect) listed flora species, flora species that are members of listed threatened communities or protected flora from public land. Protected flora species includes all members of the following plant families Asteraceae (Daisies), Epacridaceae (Heaths) and Orchidaceae (Orchids), all clubmosses, ferns and fern allies (excluding *Pteridium esculentum*). All species of the following genera are also protected: *Acacia* (excluding *Acacia dealbata, Acacia decurrens, Acacia implexa, Acacia melanoxylon* and *Acacia paradoxa*), *Baeckea*, *Calytrix*, *Correa*, *Darwinia*, *Eremophila*, *Eriostemon, Gompholobium, Grevillea, Prostanthera, Sphagnum, Thryptomene, Thysanotus* and *Xanthorrhoea* (DELWP 2021e).

The works associated with the active sports precinct will remove 1.6 hectares of *Heavier-soils* Plains Grassland that meets the criteria for *Western (Basalt) Plains Grasslands Floristic Community 140* (Figure 2). Therefore, an FFG Act permit will be required from DELWP for removal of a floristic community on public land.

4.3 Planning and Environment Act 1987

The purpose of the *Planning and Environment Act 1987* is to establish a framework for planning the use, development and protection of land in Victoria. Native vegetation clearance is managed under the Act and through municipal planning schemes (DELWP 2021c).

A permit is required under Clause 52.17 (Native Vegetation) to remove, destroy or lop native vegetation, including dead vegetation, unless the action is exempt. To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation, the following three step approach is applied in accordance with the Guidelines:

1. Avoid the removal, destruction or lopping of native vegetation.
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Provide an offset to compensate for the biodiversity impact if a permit is granted to remove, destroy or lop native vegetation.

If native vegetation removal is required, a permit application must be categorised as a basic, intermediate or detailed assessment pathway as specified in the Guidelines (DELWP 2017). Each assessment pathway has specific application requirements and decision guidelines that must be considered by the responsible authority.

Clause 66 (Referral and Notice Provisions) requires that the following applications to remove native vegetation be referred to the Secretary to DELWP:

- To remove, destroy or lop native vegetation in the Detailed Assessment Pathway
- To remove, destroy or lop native vegetation if a Property Vegetation Plan applies to the site.
- To remove, destroy or lop native vegetation on Crown land, which is occupied or managed by the responsible authority (DELWP 2021c).

Clause 52.17 – Native Vegetation

The project area supports several modified patches of *Heavier-soils* Plains Grassland and a scattered cover (<5%) of indigenous grasses within areas of exotic dominated vegetation. The development plan indicates the active sports precinct works will remove 1.6 hectares of *Heavier-soils* Plains Grassland (Figure 2).

Council has provided background information on previous land use activities (pony club and camp-drafting club) and previous infrastructure works (C. Jacobson pers. comm.). This native vegetation has colonised a modified landform and substrate and is less than 10 years old, which meets the permit exemption under Clause 52.17-7 *Regrowth*: *Native vegetation that is to be removed, destroyed or lopped that has naturally established or regenerated on land lawfully cleared of naturally established native vegetation and is less than 10 years old* (DELWP 2021c). A native vegetation removal application is not required under the Guidelines (DELWP 2017).

The active sports precinct works will remove planted native trees and shrubs. The permit exemption under Clause 52.17-7 *Planted Vegetation* states: *Native vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding. This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity unless the removal, destruction or lopping of the native vegetation is in accordance with written permission of the agency (or its successor) that provided the funding* (DELWP 2021c).

This vegetation was not planted for conservation purposes and meets the exemption for removal under Clause 52.17-7 *Planted Vegetation*.

5 Conclusion

The project area was highly modified and characterised by an extensive cover of exotic dominated grassland, interspersed with a modified cover of *Heavier-soils* Plains Grassland and planted vegetation. The majority of the project area has been extensively modified from previous land use activities and contain a modified landform and substrate from previous infrastructure works. The majority of the project area is subject to regular slashing.

No listed threatened flora or fauna species were recorded within the project area during the field assessment, and none are considered likely to occur due to the highly modified condition of habitat. *Heavier-soils* Plains Grassland in the project area does not meet the condition thresholds for the NTGVVP ecological community. An EPBC Act referral to the Commonwealth Environment Minister is not required as no MNES are likely to be significantly impacted by future works.

The works associated with the active sports precinct will remove 1.6 hectares of *Heavier-soils* Plains Grassland that meets the criteria for *Western (Basalt) Plains Grasslands Floristic Community 140*. Therefore, an FFG Act permit will be required from DELWP for removal of a floristic community on public land.

The proposed removal of 1.6 hectares of *Heavier-soils* Plains Grassland is considered exempt under Clause 52.17-7 *Regrowth* in this instance, as this vegetation has colonised a modified landform and substrate and is less than 10 years old. A native vegetation removal application is not required under the Guidelines.

The removal of planted native trees and shrubs is considered exempt under Clause 52.17-7, as this vegetation was not planted for conservation purposes and meets the exemption for removal under Clause 52.17-7 *Planted Vegetation*.

6 References

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Appendices

Appendix 1 – Likelihood of Occurrence

One or more of the following criteria was used to establish the likelihood of occurrence for threatened flora and fauna species within the project area.

Present: Recorded during the field survey.

High likelihood:

- Previously recorded within the site.
- Likely to visit the site during seasonal movements.
- Frequently recorded within the local area.
- Known or likely to maintain resident populations in the local area.
- Presence of preferred habitat within the site.

Moderate likelihood:

- May regularly move through or visit the site as a seasonal visitor.
- Previous records within the local area.
- Some characteristics of a species preferred habitat is present although in a modified condition.
- Unlikely to maintain a population within the site.

Low Likelihood:

- Species likely to occur as a rare or opportunistic visitor.
- Few previous records within the local area.
- Habitat within the site is highly modified and does represent the species preferred habitat.

Unlikely:

- No suitable habitat present on the site or in the surrounding area.
- No species records in the local area.
- Beyond the species natural distribution or considered locally extinct.

The outcome of the assessment of likelihood of occurrence for threatened flora is Appendix 3 and Appendix 4 for threatened fauna.

Appendix 2 – Flora Species Recorded

Table 2: Flora species recorded during the field assessment

Scientific Name	Common Name
Acacia melanoxylon	Blackwood#
Acacia mearnsii	Black Wattle#
Acacia paradoxa	Hedge Wattle#
Acacia pycnantha	Golden Wattle#
Acaena echinata	Sheep's Burr
Aira caryophyllea subsp. *caryophyllea*	Silvery Hair-grass*
Aira elegantissima	Delicate Hair-grass*
Allocasuarina verticillata	Drooping Sheoak#
Anthosachne scabra	Common Wheat-grass
Arctotheca calendula	Cape Weed*
Asperula conferta	Common Woodruff
Aster subulatus	Aster-weed*
Atriplex semibaccata	Berry Saltbush
Austrostipa bigeniculata	Kneed Spear-grass
Austrostipa gibbosa	Spurred Spear-grass
Austrostipa oligostachya	Fine-head Spear-grass
Austrostipa scabra subsp. *falcata*	Rough Spear-grass
Austrostipa spp.	Spear Grass
Avena barbata	Bearded Oat*
Brassica fruticulosa	Twiggy Turnip*
Briza maxima	Large Quaking-grass*
Briza minor	Lesser Quaking-grass*
Bromus catharticus	Prairie Grass*
Bromus hordeaceus subsp. *hordeaceus*	Soft Brome*
Cenchrus clandestinus	Kikuyu*
Centaurium tenuiflorum	Slender Centaury*
Chenopodium murale	Sowbane*
Chloris truncata	Windmill Grass
Cirsium vulgare	Spear Thistle**
Conyza bonariensis	Flaxleaf Fleabane*
Cynodon dactylon var. *dactylon*	Couch*
Dactylis glomerata	Cocksfoot*
Dichondra repens	Kidney Weed
Dianella admixta	Black-anther Flax-lily
Ehrharta calycina	Perennial Veldt-grass*
Ehrharta erecta var. *erecta*	Panic Veldt-grass*
Ehrharta longiflora	Annual Veldt-grass*
Einadia nutans	Nodding Saltbush

Scientific Name	Common Name
Eleocharis acuta	Common Spike-sedge
Enchylaena tomentosa var. *tomentosa*	Ruby Saltbush
Erodium cicutarium	Common Heron's-bill*
Erodium moschatum	Musky Heron's-bill*
Eucalyptus camaldulensis	River Red-gum#
Eucalyptus cladocalyx	Sugar Gum#
Eucalyptus gomphocephala	Tuart#
Eucalyptus melliodora	Yellow Box#
Eucalyptus ovata	Swamp Gum#
Eucalyptus viminalis	Manna Gum#
Eucalyptus spp.	Eucalyptus#
Galenia pubescens var. *pubescens*	Galenia*
Galium aparine	Cleavers*
Helminthotheca echioides	Ox-tongue*
Holcus lanatus	Yorkshire Fog*
Hordeum murinum	Barley-grass*
Hypochaeris glabra	Smooth Cat's-ear*
Hypochaeris radicata	Flatweed*
Juncus subsecundus	Finger Rush
Lachnagrostis filiformis	Common Blown-grass
Lepidium africanum	Common Peppercress*
Lolium perenne	Perennial Rye-grass*
Lolium rigidum	Wimmera Rye-grass*
Lomandra filiformis	Wattle Mat-rush
Lycium ferocissimum	African Box-thorn**
Lysimachia arvensis	Pimpernel*
Lythrum hyssopifolia	Small Loosestrife
Malva parviflora	Small-flower Mallow*
Medicago polymorpha	Burr Medic*
Medicago spp.	Medic*
Melaleuca armillaris	Rough-barked Honey-myrtle#
Microlaena stipoides var. *stipoides*	Weeping Grass
Nassella neesiana	Chilean Needle-grass**
Nassella trichotoma	Serrated Tussock**
Oxalis perennans	Grassland Wood-sorrel
Oxalis pes-caprae	Soursob**
Paspalum dilatatum	Paspalum*
Paspalum distichum	Water Couch*
Phalaris aquatica	Toowoomba Canary-grass*
Plantago coronopus	Buck's-horn Plantain*
Plantago lanceolata	Ribwort*

Scientific Name	Common Name
Polygonum aviculare	Prostrate Knotweed*
Rhagodia parabolica	Fragrant Saltbush#
Romulea rosea	Onion Grass*
Rumex conglomeratus	Clustered Dock*
Rumex crispus	Curled Dock*
Rytidosperma caespitosum	Common Wallaby-grass
Rytidosperma duttonianum	Brown-back Wallaby-grass
Rytidosperma laeve	Smooth Wallaby-grass
Rytidosperma racemosum var. *racemosum*	Slender Wallaby-grass
Rytidosperma setaceum	Bristly Wallaby-grass
Rytidosperma spp.	Wallaby Grass
Sonchus asper	Rough Sow-thistle*
Sonchus oleraceus	Common Sow-thistle*
Sporobolus africanus	Rat-tail Grass*
Taraxacum officinale spp. agg.	Garden Dandelion*
Trifolium angustifolium var. *angustifolium*	Narrow-leaf Clover*
Trifolium arvense var. *arvense*	Hare's-foot Clover*
Trifolium repens var. *repens*	White Clover*
Trifolium striatum	Knotted Clover*
Vicia sativa	Common Vetch*
Vulpia bromoides	Squirrel-tail Fescue*
Vulpia myuros	Rat's-tail Fescue*

Notes: *Exotic species; #Planted species; **Listed noxious weed;

Appendix 3 – Threatened Flora Records

Table 3. Threatened flora records

Scientific Name	Common Name	Status	Records#	Likely Occurrence	Comments
Calotis lappulacea	Yellow Burr-daisy	r	6	U	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Allocasuarina luehmannii	Buloke	en L	2	L	Not recorded and modified habitat
Grevillea steiglitziana	Brisbane Range Grevillea	r	1	U	Unlikely due the absence of suitable habitat
Myoporum montanum	Waterbush	r	1	U	Unlikely due the absence of suitable habitat
Nicotiana suaveolens	Austral Tobacco	r	5	U	Unlikely to occur due to the modified condition of habitat
Pimelea hewardiana	Forked Rice-flower	r	1	L	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Cullen tenax	Tough Scurf-pea	en L	1	U	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Ptilotus erubescens	Hairy Tails	vu L	1	U	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Westringia glabra	Violet Westringia	r	1	U	Unlikely due the absence of suitable habitat
Austrostipa exilis	Heath Spear-grass	r	3	U	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Olearia minor	Satin Daisy-bush	r	1	U	Unlikely due the absence of suitable habitat
Diuris fragrantissima	Sunshine Diuris	EN en L	1	U	Unlikely due the absence of suitable habitat
Eucalyptus leucoxylon subsp. *connata*	Melbourne Yellow-gum	vu X	6	L	Not recorded and modified habitat
Podolepis linearifolia	Basalt Podolepis	en	3	U	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Pimelea spinescens subsp. *spinescens*	Spiny Rice-flower	CR en L	3	L	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Acacia rostriformis	Bacchus Marsh Wattle	vu L	25	L	Not recorded and modified habitat
Dianella sp. aff. *longifolia* (Benambra)	Arching Flax-lily	vu	2	U	Unlikely to occur due to the modified condition of habitat (slashing, cultivation)
Acacia aspera subsp. *parviceps*	Rough Wattle	r	1	U	Unlikely due the absence of suitable habitat
Paspalidium flavidum	Yellow Watercrown Grass	en	1	U	Unlikely due the absence of suitable habitat

Notes: Threatened species records were sourced from the VBA (DELWP 2021d), within a 5 km radius of the project area. Likelihood of occurrence: P = Present; H = High likelihood; M = Moderate likelihood; L = Low likelihood; U = Unlikely to occur (Appendix 1).

EPBC Act listed species (DAWE 2021)
Cr Critically Endangered
En Endangered
V Vulnerable

FFG Act listed species (DELWP 2015)
L Listed as Threatened

DEPI listed species (DEPI 1014):
cr Critically endangered
e Endangered
v Vulnerable
r Rare

Appendix 4 – Threatened Fauna Records

Table 4. Threatened fauna records

Scientific Name	Common Name	Status in Victoria	Records#	Likely Occurrence	Comments
Aythya australis	Hardhead	vu	1	L	May fly over on an occasional basis
Accipiter novaehollandiae novaehollandiae	Grey Goshawk	vu L	1	L	Marginal habitat present
Falco subniger	Black Falcon	vu	1	L	May fly over on an occasional basis
Lathamus discolor	Swift Parrot	CR en L	4	L	Marginal habitat present
Chthonicola sagittatus	Speckled Warbler	vu L	4	U	No suitable habitat present
Pseudophryne bibronii	Brown Toadlet	vu L	1	U	No suitable habitat present
Pteropus poliocephalus	Grey-headed Flying-fox	VU vu L	1	U	No suitable habitat present
Litoria raniformis	Growling Grass Frog	VU en L	5	L	Marginal habitat present
Synemon plana	Golden Sun Moth	CR cr L	3	L	Potential suitable habitat exists in Plains Grassland. However, there is a low likelihood of occurrence for this species due to the highly modified condition of habitat (slashing, cultivation)

Notes: Threatened species records were sourced from the VBA (DELWP 2021d), within a 5 km radius of the project area. Likelihood of occurrence: H = High likelihood; M = Moderate likelihood; L = Low likelihood; U = Unlikely to occur (Appendix 1).

EPBC Act listed species (DAWE 2021)
Cr Critically Endangered
En Endangered
V Vulnerable

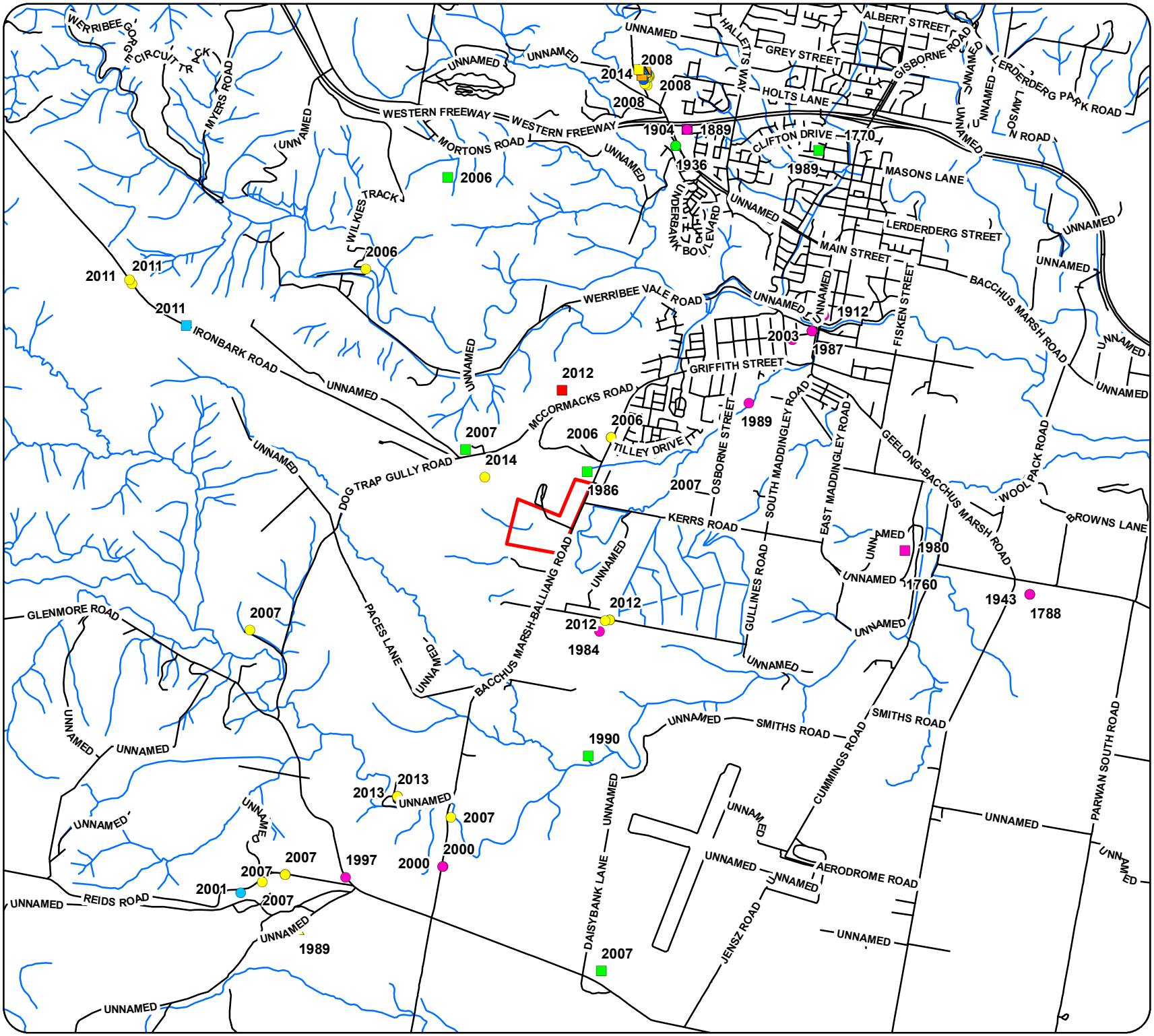
FFG Act listed species (DELWP 2015)
L Listed as Threatened

DEPI listed species (DSE 2013):
cr Critically endangered
e Endangered
v Vulnerable
r Rare

Figure 3

Threatened Flora within 5km of the Subject Site

Bacchus Marsh Recreation Reserve



Legend

- Subject Site
- Arching Flax-lily
- Austral Tobacco
- Bacchus Marsh Wattle
- Basalt Podolepis
- Brisbane Range Grevillea
- Buloke
- Forked Rice-flower
- Fragrant Saltbush
- Hairy Tails
- Heath Spear-grass
- Late-flower Flax-lily
- Melbourne Yellow-gum
- Rough Wattle
- Satin Daisy-bush
- Spiny Rice-flower
- Sunshine Diuris
- Tough Scurf-pea
- Two-spined Copperburr
- Violet Westringia
- Waterbush
- Yellow Burr-daisy
- Yellow Watercrown Grass

N

0 425 850 1,700

Metres

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Figure 4

Threatened Fauna within 5km of the Subject Site

Bacchus Marsh Recreation Reserve

Legend

- Subject Site
- Black Falcon
- Brown Toadlet
- Golden Sun Moth
- Grey Goshawk
- Grey-headed Flying-fox
- Growling Grass Frog
- Hardhead
- Speckled Warbler
- Swift Parrot

N

0 425 850 1,700

Metres

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