Curletts Road Lara
Lara

Vegetation Assessment

A Report to
TGM Group P/L

Prepared by

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Contents

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1 INTRODUCTION

1.1 Project Background

An area of land centred on the northern section of Curletts Road, Lara, is proposed to be rezoned for future low density residential use. This report was commissioned by TGM Group P/L to assess the quantity and significance of any indigenous flora and fauna habitat that might be present in the subject site and to discuss any implications for the relevant legislation and policy.

The State has recently gazetted new Native Vegetation Permitted Clearing Regulations (to replace the Framework). The reforms 'introduce a risk based approach to assessing applications to remove native vegetation' (DEPI Website i).

Figure 1. Study area.

1.2 Objectives

The objectives of this investigation are to:

- Describe the flora and fauna values of the land.
- Evaluate the conservation significance of the land.
- Assess any potential impacts of the proposed development.
- Discuss the implications of relevant government policy and legislation.

1.3 Study Area

The study area is comprised of part of Curletts Road, Forest Road North, Windermere Road and Osterlund Court, Lara, and area of approximately 20 ha, located within the City of Greater Geelong. The site is within the Victorian Volcanic Plains bioregion (NRE 2002) and is located within the Corangamite Catchment Management Authority region.

The geology (soil type) of the study area is freshwater limestone. Basalt geology (newer volcanic soils) is located to the west of the study area (Geological Survey of Victoria 1:63,000 Geelong survey map 1963) (Figure 8). The only surface rock observed by this author was limestone (although negligible rock was observed).

The site appears to have a history of disturbance. Historically the site has been used for limestone collection for local buildings (Rocklea). The site has been extensively cropped (Peas and Lucerne). The site is currently rural residential (since the early 1980s) and is partially grazed by horses. Rabbit grazing is prolific across most of the study area.

Hovells Creek reserve occurs adjacent to the western boundary of the study area. A tributary of Hovells Creek (drainage reserve) occurs to the east of the study area. Serendip Sanctuary (Parks Victoria) is located to the north of the study area.

The adjacent roadside reserves are also assessed.

The location of the study area is shown on Figure 1.

1.4 Proposed Use

The proposed use is to rezone the land to be low density residential zone to allow for future sub-division of individual lots. It is anticipated that the proposed rezoning and future subdivision will impact upon the entire study area.

2 METHODS

2.1 Taxonomy

Scientific names for plants follow the Census of Vascular Plants of Victoria (Walsh and Stasjic 2007). Common names for plants follow the Flora of Victoria Vols 2-4 (Walsh and Entwisle 1994-1999).

2.2 Literature and Database Review

Relevant literature and databases, including data from the Department of Sustainability and Environment (DSE website i), Victorian Biodiversity Atlas (DEPI Website iii), the Biodiversity Interactive Map (DSE Website ii) and the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool were reviewed.

2.3 Field Survey

A site inspection was undertaken on April 10 2014. The site was inspected on foot. The entire site was traversed. Records were made of all indigenous vascular plant species. Native vegetation was mapped (Figure 8). Records were made of the existing habitat values and dominant exotic vascular plant species.

2.4 Limitations

The assessment was conducted during early autumn, a time of year that is suitable for the detection of most but not all flora species likely to occur on site. Due to the degraded nature of the study area, the site inspection is considered to be sufficient to assess the ecological values of the site. As a result there are not considered to be any significant limitations to the study.

The survey includes only vascular flora. As Habitat Hectare assessments were not required (*refer to* 4.2) non-vascular flora (mosses, lichens, fungi, etc) were not recorded. Fauna was not surveyed.

2.5 Defining Significance

A number of criteria are applied in order to assess the significance of flora species and vegetation communities. The definition of the criteria is detailed in Appendix 1.

2.6 Defining and Assessing Native Vegetation

Native vegetation in Victoria has been defined by DEPI as belonging to three categories. These are:

Remnant Patch
Remnant patches of remnant native vegetation are composed of indigenous plant species considered part of a clearly definable EVC. Such vegetation includes perennial understorey species of greater than 25% total understorey cover (excluding bare ground), and/or indigenous canopy trees with at least 20% projected foliage canopy cover.

Scattered Trees
Scattered trees comprise mature indigenous canopy trees that occur outside a remnant patch.

Degraded Treeless Vegetation
Degraded treeless vegetation comprises all other vegetation.

Habitat Hectares
Habitat Hectares is an accounting method for measuring habitat quality and quantity that has been developed by DSE for Vegetation Quality Assessment. The habitat hectares approach is site based. Each site, or patch, consists of one EVC and one vegetation condition class. It is therefore uniform within limits.

Each site has a *habitat score* of between 0 and 100, with extensive intact vegetation having a theoretical score of 100. The habitat score has ten components: large trees, tree canopy cover, understorey, weediness, recruitment, organic litter, logs, patch size, neighborhood context and distance to core area.

Each site has a *habitat hectare value,* where the habitat score is multiplied by the area in hectares. For example, 6 ha of vegetation with a habitat score of 50 equals 3 habitat hectares.

3 RESULTS

3.1 Ecological Vegetation Class

Ecological Vegetation Classes (EVCs) are the primary level of classification of vegetation communities within Victoria. An EVC contains one or more plant (floristic) community, and represents a grouping of vegetation communities with broadly similar ecological attributes. Classification of EVCs in this report follows Oates and Taranto (2002).

The pre-1750 EVC mapping of the study area undertaken by DSE (DSE website i) indicates that the study area was comprised of EVC 132 Plains Grassland and ECV 55 Plains Grassy Woodland. EVC 132 Plains Grassland and ECV 55 Plains Grassy Woodland are both currently listed as 'Endangered' in the Victorian Volcanic Plain bioregion (DSE website ii- EVC Benchmarks -Victorian Volcanic Plains Bioregion).

The study area contains scattered indigenous vegetation that potentially accords with both EVC 132 Plains Grassland and ECV 55 Plains Grassy Woodland.

Refer to Figure 2 for the pre-1750 distribution of ECVs.

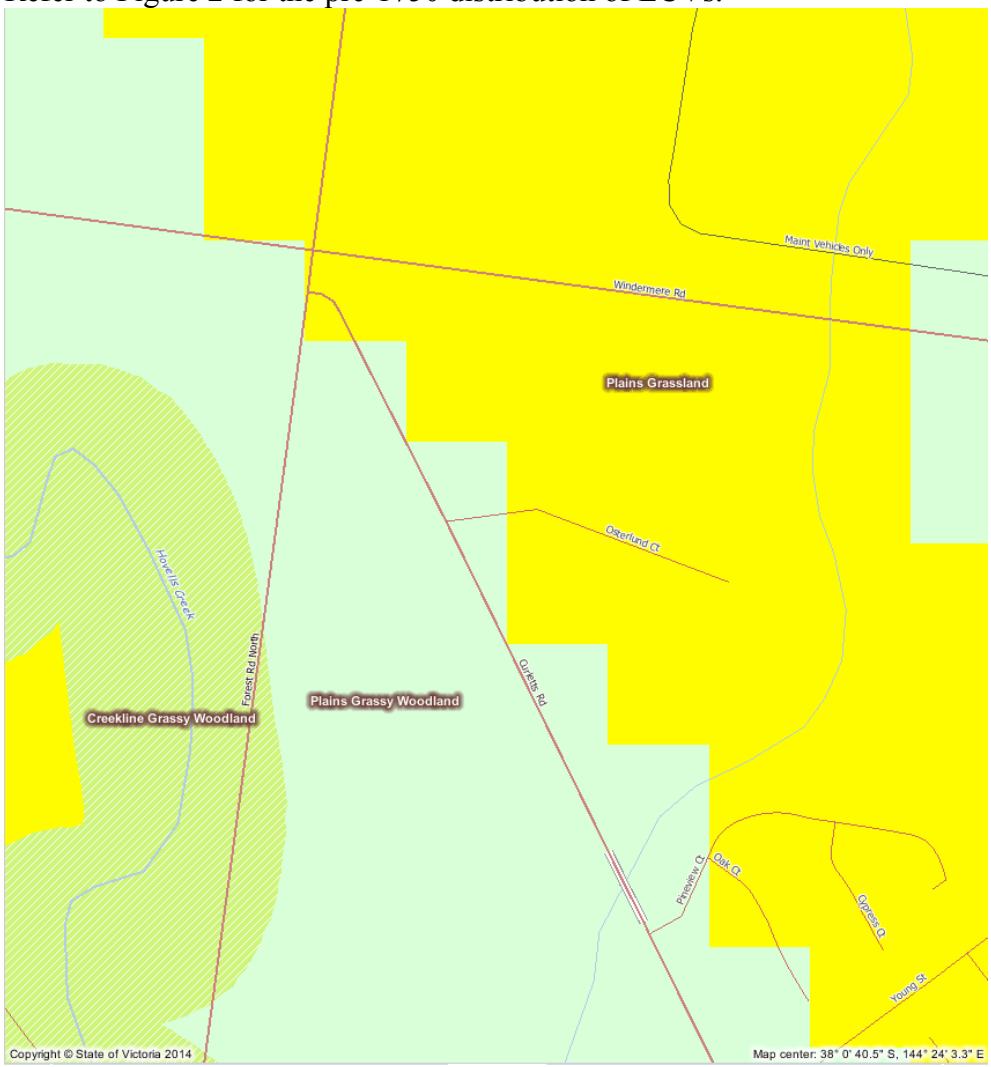


Figure 2. Pre-1750 EVC mapping (DSE data).

3.2 Flora

3.2.1 Indigenous Species

A total of eight indigenous vascular plant species were recorded from the study area. Refer to Table 1 for a list of indigenous vascular plant species recorded for this study. Refer to Table 2 for a list of exotic vascular plant species recorded this study.

Table 1 Indigenous Vascular Plant Species Recorded April 10 2014, Curletts Rd Lara

Botanical Name	Common Name	Significance
Acacia paradoxa	Hedge Wattle	Local
Atriplex semibaccata	Berry Saltbush	Local
Dianella brevicaulis	Coast Flax-lily	Local
Einadia nutans	Nodding Saltbush	Local
Enchyleana tomentosa	Ruby Saltbush	Local
Rhagodia candolleana	Seaberry Saltbush	Local
Rhagodia parabolica	Fragrant Saltbush	State
Rytidosperma racemosum	Slender Wallaby-grass	Local

Table 2 Exotic vascular Plant Species Recorded April 10 2014, Curletts Rd Lara

Botanical Name	Common Name
Cynodon dactylon	Couch Grass
Dactylis glomeartus	Cock's-foot
Diplotaxis tenuifola	Sand Rocket
Eucalyptus cladocalyx	Sugar Gum
Foeniculum vulgare	Fennel
Galenia pubescens	Blanket Weed
Lycium ferrocisimum	Boxthorn
Marrubium vulgare	Horehound
Medicago sativa spp	Lucerne
Nassella neesiana	Chilean Needle-grass
Phalaris aquatica	Canary-grass
Plantago lanceolata	Ribwort
Salvia vebenacea	Wild Sage
Schinus molle	Pepper Tree
Sporobolus indicus	Rat's-tail Grass

3.3 Significant Plant Species

One plant species, Fragrant Saltbush, was recorded that is of State conservation significance. Fragrant Saltbush is currently listed as 'rare' in Victoria (DEPI website ii). Refer to Figure 8 for the location of this species.

The remaining plant species are assessed to be of Local conservation significance.

3.3 Vegetation Condition

The vegetated areas of the study area consists of predominately exotic species. The entire study area appears to have been de-rocked, cropped and grazed at some time in the past and is currently either grazed by horses, slashed or fallow, a reflection of the variety of land owners.

Several areas of predominately exotic vegetation that include scattered Wallaby-grass occur. The location of these areas of Wallaby grass vegetation is shown on Figure 8. Wallaby-grass was recorded within these areas at less than 25% cover value.

One property, 145 Forest Road North contains areas of Saltbush vegetation (i.e. all six Saltbush species identified in Table 1). Personal communication from the owners of that property indicate that, over a period of time, these species have been introduced and spread by birds (Finches and Bronze-wing Pigeons) and that the planting of trees and the absence of grazing on the property has assisted this process. The location of this area of Saltbush vegetation is shown on Figure 8. Saltbush vegetation was recorded within this area at less than 25% cover value.

Several specimens of Hedge Wattle were recorded for the Curletts Road roadside reserve (west site). The location of this vegetation is shown on Figure 8.

The study area also contains exotic gardens, exotic and non-indigenous native plantations and rough pasture.

3.4 Listed Significant Species

The DSE database (DSE Website i, ii) lists 2 significant plant species and 4 significant fauna species as occurring within the immediate vicinity of the study area (i.e. within 5 kilometres) (not considering migratory and wetland bird species).

Golden Sun Moth is recorded as occurring approximately 4 kms to the west on basalt geology. As the study area is degraded, fragmented (including being flanked by housing sub-divisions) and not on basalt geology (grasslands) the study area is not considered to be viable habitat for the Golden Sun Moth.

Due to the highly degraded and fragmented nature of the study area (two species) and due to the highly degraded and fragmented nature of the study area and likely incorrect habitat (i.e. not basalt clays) (six species) none of these species are considered likely to occur within the study area (i.e. remaining 50% quality habitat). Fauna surveys were not undertaken.

Refer to Table 3 for the listed significant species including a discussion of preferred habitat, likelihood of occurrence and response to the Framework requirements.

Table 3 Listed Significant Flora and Fauna Species and the Likelihood of Occurrence

Scientific Name	Common Name	Record this survey	Status	Steps	Best 50%	Preferred Habitat	Likelihood of occurrence
Tripogon lolliformis	Rye Beetle-grass	No	r	A-D-No	Remaining	grasslands	Highly modified habitat/likely incorrect habitat – Unlikely to occur
Senecio macrocarpus	Large-fruit Groundsel	No	e	A-D-No	Remaining	grasslands	Highly modified habitat/likely incorrect habitat – Unlikely to occur
Perameles gunnii	Eastern Barred Bandicoot	No	e,E, ffga	A-D-No	Remaining	grasslands	Highly modified habitat – Unlikely to occur
Sminthopsis crassicaudata	Fat-tailed Dunnart	No	n	A-D-No	Remaining	grasslands	Highly modified habitat – Unlikely to occur
Synemon palnna	Golden Sun Moth	No	e,E, ffga	A-D-No	Remaining	basalt grasslands	Highly modified habitat/incorrect habitat – Unlikely to occur
Delma impar	Striped Legless Lizard	No	e,E, ffga	A-D-No	Remaining	basalt grasslands	Highly modified habitat/likely incorrect habitat – Unlikely to occur

r – rare (Victoria)
n – near threatened (Victoria)
e – endangered (Victoria)
E – endangered (Australia)
ffga – Flora and Fauna Guarantee Act listed (DSE website iii)

4 LEGISLATION AND GOVERNMENT POLICY

4.1 Commonwealth

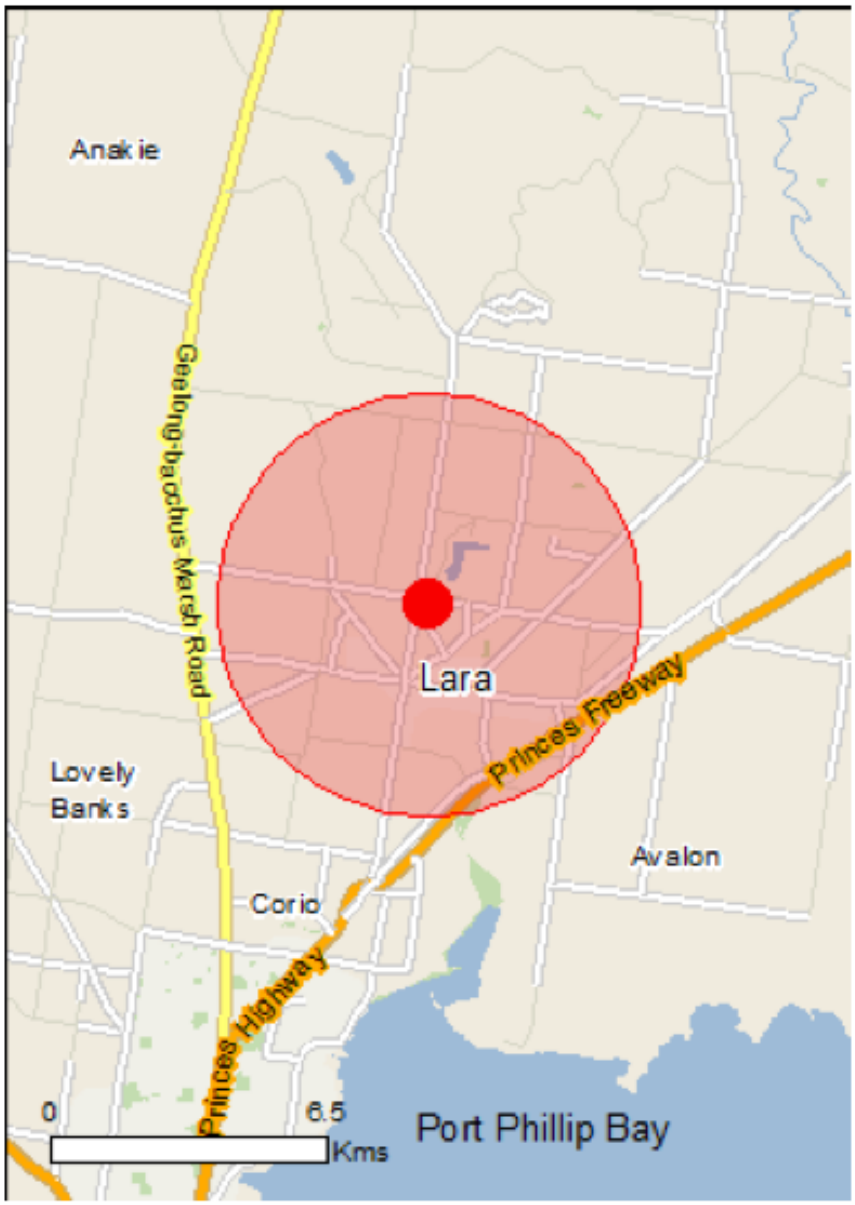
4.1.1 Environment Protection and Biodiversity Conservation Act (1999)

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Australian Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places defined in the Act as matters of national environmental significance.
Specifically, the EPBC Act aims to:

- conserve Australias biodiversity
- protect biodiversity internationally by controlling the international movement of wildlife
- provide a streamlined environmental assessment and approvals process where matters of national environmental significance are involved
- protect our world and national heritage
- promote ecologically sustainable development.

Protected Matters Search Tool

The Protected Matters Search Tool (EPBC website iii) provides a tool to generate reports to determine the presence of matters of national environmental significance within a given area. A protected matters search conducted for this assessment identified the following matters of potential concern. Refer to Figure 3 for the location of the Protected Matters search area.



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates

Buffer: 5.0Km

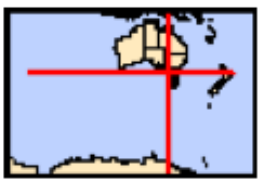


Figure 3. Location of Protected Matters search area.

The following matters are identified as being of potential relevance for the current proposal.

- Listed threatened species and ecological communities.
- Wetlands of International Importance (Ramsar sites)

These are summarized below.

Listed threatened species and/or ecological communities

Natural Temperate Grassland of the Victorian Volcanic Plain
Natural Temperate Grassland of the Victorian Volcanic Plain is an ecological community that is listed as 'Critically Endangered' under the EPBC Act (EPBC Website i). The study area once carried vegetation that would have been considered part of this community. The DSE mapping indicates this community is likely to occur.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain
Grassy Eucalypt Woodland of the Victorian Volcanic Plain is an ecological community that is listed as 'Critically Endangered' under the EPBC Act (EPBC Website i). The study area once carried vegetation that would have been considered part of this community. The DSE mapping indicates this community is likely to occur.

Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
Grey Box Grassy Woodlands and Derived Native Grasslands of South-eastern Australia is an ecological community that is listed as 'Endangered' under the EPBC Act (EPBC Website i). It is considered unlikely that the study area once carried vegetation that would have been considered part of this community. The DSE mapping indicates this community is unlikely to occur. No vegetation that is considered to be part of this community was located during this survey.

Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains is an ecological community that is listed as 'Critically Endangered' under the EPBC Act (EPBC Website i). The DSE mapping indicates this community is unlikely to occur. No vegetation that is considered to be part of this community was located during this survey.

White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and derived Native Grassland
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and derived Native Grassland is an ecological community that is listed as 'Critically Endangered' under the EPBC Act (EPBC Website i). The DSE mapping indicates this community is unlikely to occur.
No vegetation that is considered to be part of this community was located during this survey.

Listed Flora Species
7 flora species are listed as having the potential to occur within the study area. None of the 7 species were identified during the current study. Of the 7 none are considered to be a possibility to occur in the study area.

Refer to Table 4 below.

Table 4 Flora species listed as potentially occurring (Protected Matters report)

Botanical Name	Common Name	Recorded this study	Potential to occur
Carex tasmanica	Curly Sedge	No	Considered unlikely.
Dianella amoena	Matted Flax-lily	No	Considered unlikely.
Glycine latrobeana	Clover Glycine	No	Considered unlikely.
Pimelea spinescens ssp. spinescens	Plains Rice-flower	No.	Considered unlikely.
Prasophyllum frenchii	Maroon Leek-orchid	No.	Considered unlikely.
Rutidosis leptorrhynchoides	Button Wrinklewort	No.	Considered unlikely.
Senecio macrocarpus	Large-fruit Groundsel	No	Considered unlikely.

Listed Fauna Species

9 fauna species are listed as having the potential to occur within the study area (excluding marine species). Of the 9 species, none are considered to be a possibility to occur in the study area.

Refer to Table 5 below.

Table 5 Fauna species listed as potentially occurring (Protected Matters report)

Scientific Name	Common Name	Recorded this study	Potential to occur
Ardea ibis	Cattle Egret	No.*	Considered unlikely.
Delmar impar	Striped Legless Lizard	No.*	Considered unlikely.
Tympanocryptis pinguicolla	Grassland Earless Dragon	No.*	Considered unlikely.
Litoria raniformis	Growling Grass Frog	No.*	Considered unlikely.
Petrogale penicillata	Brush-tailed Rock-wallaby	No.*	Considered unlikely.
Potorous tridactylus	Long-nosed Potoroo	No.*	Considered unlikely.
Prototroctes maraena	Australian Grayling	No.*	Considered unlikely.
Pteropus poliocephalus	Grey-headed Flying-fox	No.*	Considered unlikely.
Synemon plana	Golden Sun Moth	No.*	Considered unlikely.

Listed Migratory Species

The list of migratory species under the EPBC Act is a compilation of species listed under three international conventions: China-Australia Migratory Bird Agreement (CAMBA), Japan-Australia Migratory Bird Agreement (JAMBA), Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention).

11 migratory fauna species are listed as having the potential to occur within the study area (excluding marine species). Of the 11 species, none are considered to be a possibility to occur in the study area.

Refer to Table 6 below.

Table 6 Migratory fauna species listed as potentially occurring (Protected Matters report)

Scientific Name	Common Name	Recorded this study	Potential to occur
Apus pacificus	Fork-tailed Swift	No*	Considered unlikely.
Ardea alba	Great Egret	No.*	Considered unlikely.
Gallingo hardwickii	Latham's Snipe	No.*	Considered unlikely.

Haliateetus leucogaster	White-bellied Sea-eagle	No.*	Considered unlikely.
Hirundapus caudacutus	White-throat Needletail	No.*	Considered unlikely.
Leipoa ocellata	Malleefowl	No.*	Considered unlikely.
Merops ornatus	Rainbow Bee-eater	No.*	Considered unlikely.
Monacha melanosis	Black-faced Monach	No.*	Considered unlikely.
Myiagra cyanoleuca	Satin Flycatcher	No.*	Considered unlikely.
Rhipidura rufifrons	Rufus Fantail	No.*	Considered unlikely.
Rostratula benghalensis	Painted Snipe	No.*	Considered unlikely.

Wetlands of International Importance (Ramsar sites)
The study area is identified as being adjacent to but not within the catchment of Western Port Phillip Bellarine Wetlands of International Significance (Ramsar sites) (Parks Victoria Website I, DSE Website i).

Implications

Natural Temperate Grassland of the Victorian Volcanic Plain
The study area does not carry any significant vegetation that is considered part of this community. Referral to the Federal Environment Department is not required.

Grassy Eucalypt Woodland of the Victorian Volcanic Plain
The study area does not carry any significant vegetation that is considered part of this community. Referral to the Federal Environment Department is not required.

Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains
The study area does not carry any significant vegetation that is considered part of this community. Referral to the Federal Environment Department is not required.

Listed Flora Species
The study area does not carry any of the 7 listed flora species. Referral to the Federal Environment Department is not required.

Listed Fauna Species
The study area does not carry any of the 9 listed fauna species. Referral to the Federal Environment Department is not required.

Listed Migratory Species
The study area does not carry any of the 11 listed flora species. Referral to the Federal Environment Department is not required.

Wetlands of International Importance (Ramsar sites)
The study area is identified as not being within the catchment of Western Port Phillip Bellarine Wetlands of International Significance. It is considered unlikely that any works within the study area have the potential to impact upon these values.

4.2 Native Vegetation Permitted Clearing Regulations

The State has recently gazetted new Native Vegetation Permitted Clearing Regulations 'the Regulations' (to replace the Native Vegetation Management Framework). The reforms 'introduce a risk based approach to assessing applications to remove native vegetation' (DEPI Website i).

DEPI have produced a range of biodiversity information tools to assess site significance and to assess the potential impacts of any permitted vegetation clearing. The biodiversity information tools are as follows:

- Native Vegetation Extent; the 'area of land covered by native vegetation'.
- Native Vegetation Site Condition; 'comprised of three components, species diversity, structure and function'.
- Native Vegetation Location Risk' 'location risk is calculated on the basis of a set of spatial models describing the importance of suitable habitat within the current extent of native vegetation for many rare or threatened species and native vegetation modelled condition data'.
- Strategic Biodiversity Score; a ' spatially explicit view of strategic biodiversity values', it 'identifies the value of a site relative to the value of all other Victorian locations' (DSE data).

Refer to Figure 4 for Native Vegetation Extent, Refer to Figure 5 for Native Vegetation Site Condition. Refer to Figure 6 for Native Vegetation Location Risk. Refer to Figure 7 for Strategic Biodiversity Score, including descriptions of implications for the study area.

Implications for the current proposal are discussed as follows and at 4.2.1.

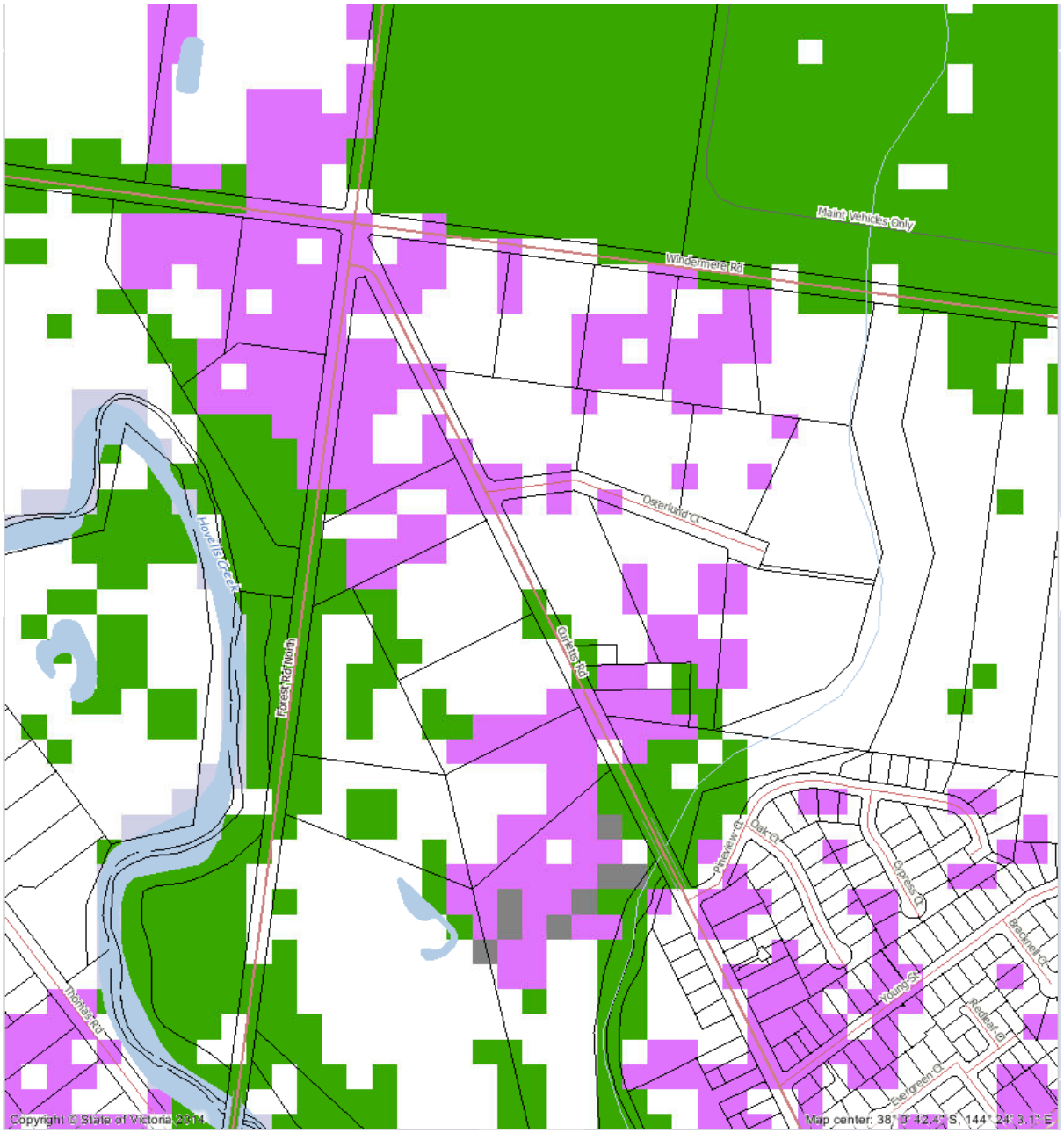


Figure 4. Native Vegetation Extent. Native vegetation (shown in green) is recorded by DSE as occurring within the study area (DSE data). The area of native vegetation recorded during this survey does not accord with the DSE mapping. On ground mapping indicates that the areas mapped by DSE as native vegetation are predominately planted native species.

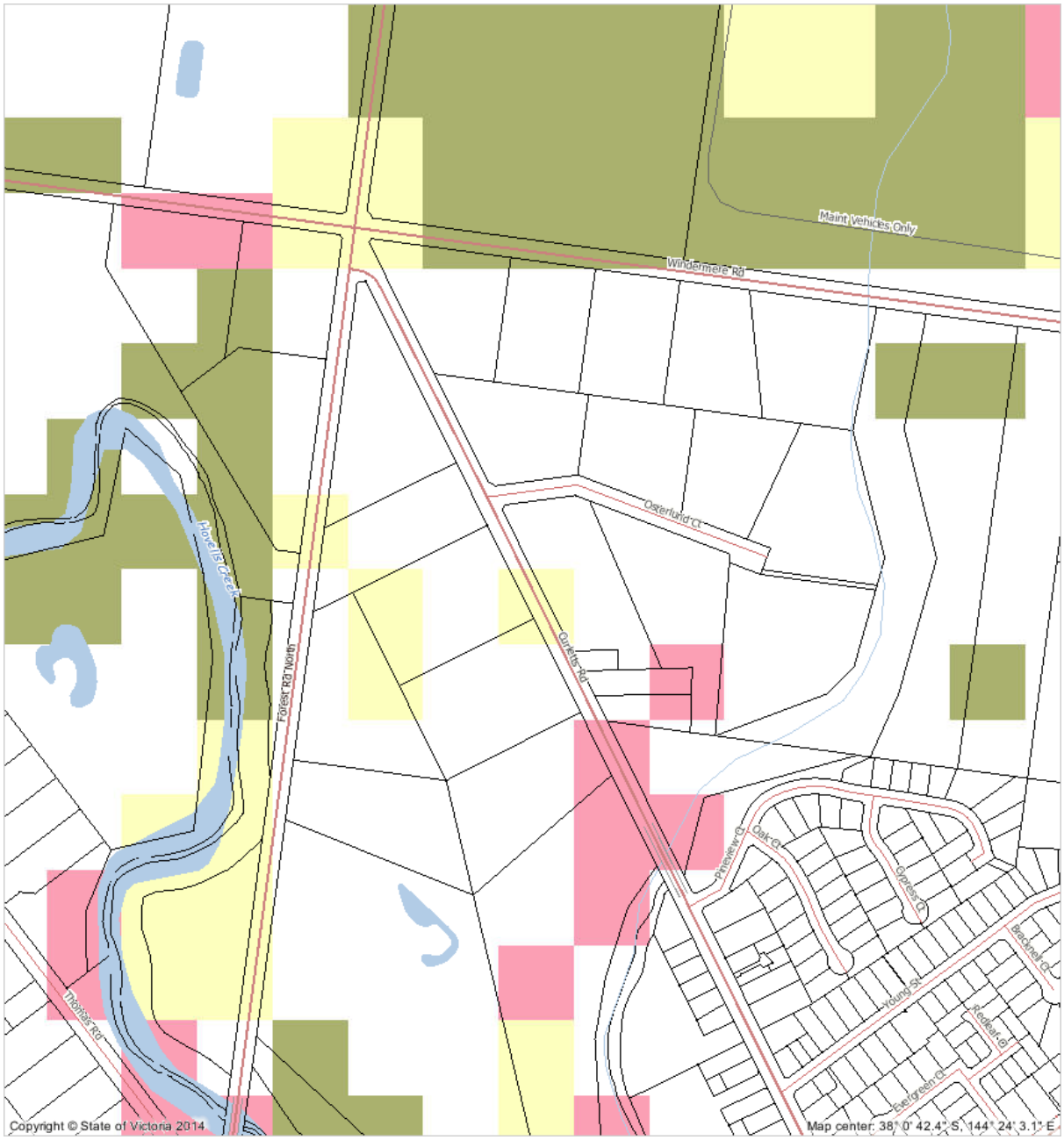


Figure 5. Native Vegetation Site Condition. Sections of the study area are mapped to have a site condition of between 0.61 and 0.8., i.e. the area of khaki green (DSE data). This mapping bears no correlation to the on ground vegetation mapping undertaken this survey but is consistent with the vegetation of the adjacent Hovells Creek.

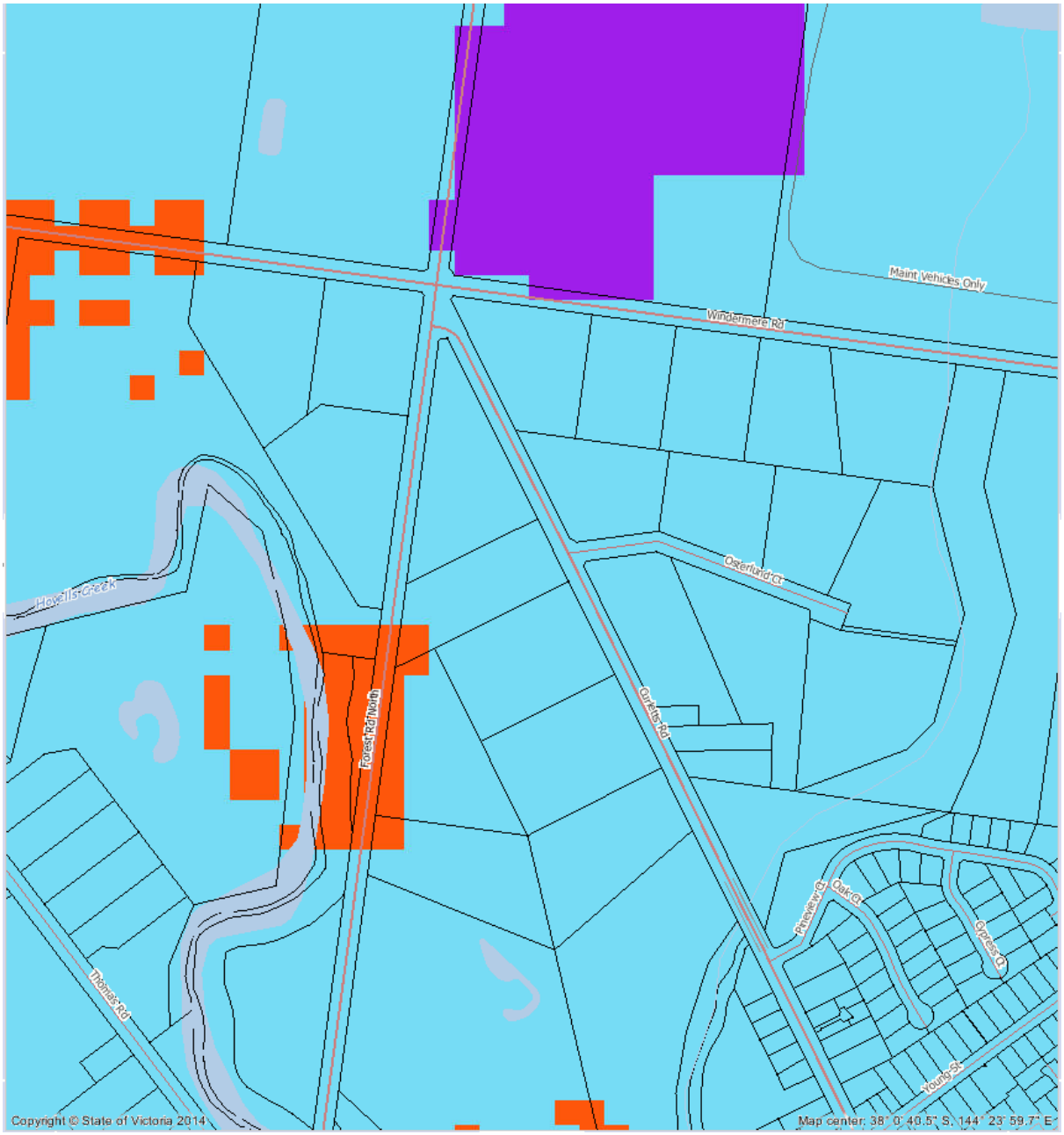


Figure 6. Distribution of vegetation according to 'Location Risk'. Blue equates to 'Location Risk A' (i.e. least risk pathway), Orange equates to 'Location Risk B' (i.e. Medium Risk pathway) (DSE data).

No impacts are foreseen for the area of Location Risk B.

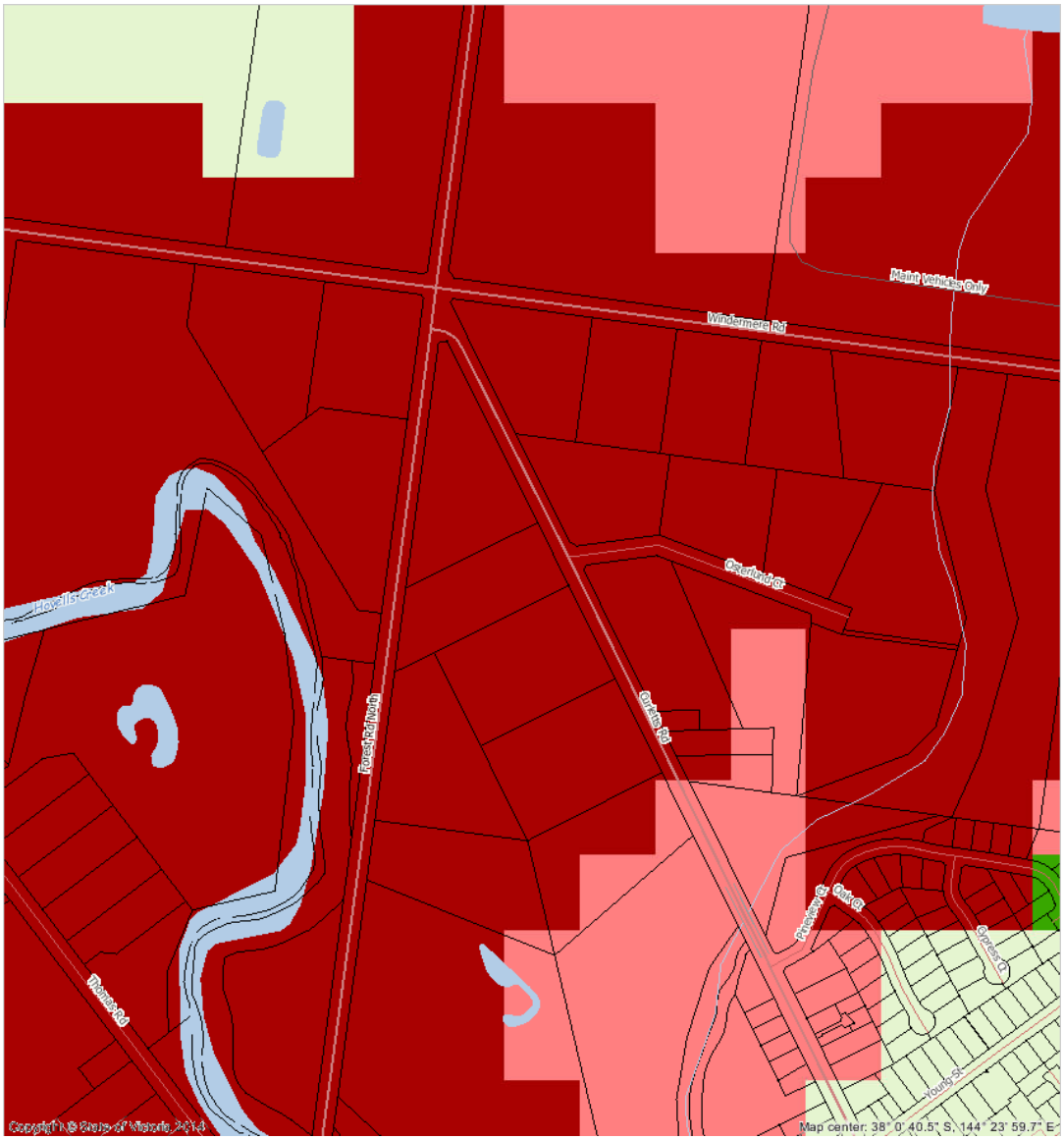


Figure 7. Strategic Biodiversity Score. The study area has a strategic biodiversity score of between 0.61 and 1.0 with the majority of the study area being 0.81-1.0 (the highest possible score). This is assumed to be due to proximity to the Hovells Creek system and Serendip sanctuary.

4.2.1 Implications

The entire site is assessed to be 'degraded treeless' vegetation, i.e. scattered native vegetation with less than 25% cover value of perennial native understorey plant species. The sections of the study area that are proposed to be impacted upon are within 'Location Risk A' (i.e. least risk pathway).

Therefore there are no implications under State Native Vegetation Permitted Clearing Regulations legislation.

Due to the proximity to the Hovells Creek system an appropriate design response to ensure impacts upon Hovells Creek are minimized is recommended.

4.3 State Flora and Fauna Guarantee Act

The *Flora and Fauna Guarantee Act 1988* (FFG Act) is the key piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes.

The flora and fauna conservation and management objectives, as outlined under the *Flora and Fauna Guarantee Act 1988*, are:
(a) to guarantee that all taxa of Victoria's flora and fauna can survive, flourish and retain their potential for evolutionary development in the wild
(b) to conserve Victoria's communities of flora and fauna
(c) to manage potentially threatening processes
(d) to ensure that any use of flora or fauna by humans is sustainable
(e) to ensure that the genetic diversity of flora and fauna is maintained
(f) to provide programs:
(i) of community education in the conservation of flora and fauna
(ii) to encourage co-operative management of flora and fauna through, amongst other things, the entering into of land management co-operative agreements under the *Conservation, Forests and Lands Act 1987*
(iii) of assisting and giving incentives to people, including landholders, to enable flora and fauna to be conserved
(g) to encourage the conserving of flora and fauna through co-operative community endeavors.

the following items that have potential implications for the study area are:

Delma impar.....Striped Legless Lizard

Synemon plana..... Golden Sun Moth

Senecio macrocarpus ..... Large-fruit Groundsel

Western (Basalt) Plains Grasslands Community

No FFG Act listed taxon or communities were recorded for the study area

Implications

No FFG Act listed taxon or communities were recorded for the study area or are considered likely to occur within the study area. Consequently a permit will be not required under the FFG Act.

4.4 Planning Scheme ESO4

The purpose of the Victorian Planning Scheme is:

- To provide a clear and consistent framework within which decisions about the use and development of land can be made.
- To express state, regional, local and community expectations for areas and land uses.
- To provide for the implementation of State, regional and local policies affecting land use and development.

ESO4 has been established to protect environmentally significant values, specifically being native grassland values, within the area that it covers (DTPLI website i).

The study area is not covered by ESO4.

5 CONCLUSIONS

The proposed rezoning of land at Curletts Road, Lara, that is the subject of this report, contains areas of relatively degraded native vegetation (Wallaby-grass and Saltbush) that are assessed as 'degraded treeless' vegetation as well as areas of vegetation that are entirely exotic.

Consequently the site is rated as having negligible to local significance for biodiversity conservation.

The site does not to represent the best 50% remaining habitat for any of the six threatened species listed as occurring within the vicinity of the study area.

Although EVC 132: Plains Grassland and ECV 55 Plains Grassy Woodland are both classed as 'Endangered' in Victoria and, the study area is located on degraded limestone soils (not basalt) and the vegetation of the study area is of sufficient quality to create any implications for the relevant State (i.e. Native Vegetation Permitted Clearing Regulations) legislation.

Although Natural Temperate Grassland of the Victorian Volcanic Plain is classed as "Critically Endangered' in Australia the study area is located on degraded limestone soils (not basalt) and the vegetation of the study area is of sufficient quality to create any implications for the relevant Commonwealth (i.e. EPBC Act) legislation.

A EPBC Act Protected Matters search was conducted for the study are and a 5 km radius. It is considered unlikely that any works within the study area have the potential to impact upon the identified values.

No FFG Act listed taxon or communities were recorded for the study area or are considered likely to occur within the study area. Consequently a permit will be not required under the FFG Act.

The entire site is assessed to be 'degraded treeless' vegetation, i.e. scattered native vegetation with less than 25% cover value of perennial native understorey plant species. The areas of the study area that are proposed to be impacted upon are within 'Location Risk A' (i.e. least risk pathway). Therefore there are no implications under State Native Vegetation Permitted Clearing Regulations legislation.

The study area is not covered by Planning Scheme ESO4.

There are not considered to be any significant limitations to this study.

Appendix 1 - ASSESSING CONSERVATION SIGNIFICANCE

Conservation significance is assessed at a range of scales, including global, international, national, state, regional and local. Criteria used for determining the conservation significance of flora and fauna at national to local scales are presented below for botanical and zoological conservation significance.

Botanical Significance

National botanical significance applies to an area when it supports one or more of the following attributes:

a population of at least one nationally threatened plant species listed by Briggs and Leigh (1996) or plant species listed on the schedules to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

A nationally threatened ecological community listed on the schedules of the *Environment Protection and Biodiversity Conservation Act 1999*.

State botanical significance applies to an area when it supports one or more of the following attributes:

A population of at least one plant species threatened in Victoria, as listed by Gullan et al. (1990), NRE (2000a) or more recently in the unpublished records of the Flora Information System (NRE), or on the schedules to the Victorian *Flora and Fauna Guarantee Act 1988*.

An ecological community considered threatened in Victoria through its listing on the schedules of the *Flora and Fauna Guarantee Act 1988*.

Regional botanical significance applies to an area that supports one or more of the following attributes:

Supports a population of one or more regionally depleted species defined in a valid regional assessment of biodiversity (eg. Regional Native Vegetation Plan, Environment Conservation Council Report or Comprehensive Regional Assessment documents).

An ecological vegetation class that is considered endangered or vulnerable in a particular bioregion (based on Conn 1993 and the Regional Native Vegetation Plan), in which case the area is of **High Regional** significance.

An ecological vegetation class that is considered depleted in a particular bioregion (based on Conn 1993 and the Regional Native Vegetation Plan), in which case it is of **Regional** significance.

Local botanical significance applies to all remnant native vegetation that does not meet the above criteria. In much of Victoria, and in particular in the Victorian Volcanic Plain bioregion, native vegetation has been so depleted by past clearing and disturbance that all remaining vegetation must be considered to be of at least local conservation significance.

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Figure 7 Native Vegetation Location