

ECOLOGICAL ASSESSMENT

FOR THE PROPOSED SUBDIVISION OF
2995 PRINCES HWY WINCHELSEA

PREPARED FOR: ST QUENTIN CONSULTING



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Document Information

Ecological assessment for 2995 Princes Hwy, Winchelsea

Report prepared by Okologie Consulting for St Quentin Consulting

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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Summary

Okologie Consulting Pty Ltd was engaged by St Quentin Consulting to undertake an ecological assessment for a parcel of land at 2995 Princes Hwy, Winchelsea.

The proposed development area will be subject to a Planning Scheme Amendment and Planning Permit Application for subdivision. The ecological assessment was undertaken to determine the extent of native vegetation and ascertain the presence/absence of any threatened flora or fauna species or associated habitats within the property and the adjacent road reserve.

The project area was highly modified as a result of previous agricultural use and dominated by exotic vegetation, with planted trees and shrubs around the dwelling and along windrows. Native species was limited to a scattered cover of indigenous grasses and sedges (<1% cover) in paddocks. No listed threatened flora or fauna species or associated habitats 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 (ecological communities, flora or fauna species) are likely to be significantly impacted by future works in the project area.

The proposed development of the site is likely to result in the removal of scattered indigenous grasses and sedges (<1% cover) in paddocks. However, the permit exemption under Clause 52.17-7 *Regrowth* is considered applicable in this instance as this vegetation has colonised cultivated paddocks and is less than 10 years old.

As the scattered indigenous grasses and sedges identified for removal does not meet the criteria of a patch, an application to remove native vegetation is not required under the *Guidelines for the removal, destruction or lopping of native vegetation*.



1 Introduction

1.1 Project Background

Okologie Consulting Pty Ltd was engaged by St Quentin Consulting to undertake an ecological assessment for a parcel of land at 2995 Princes Hwy, Winchelsea.

The proposed development area will be subject to a Planning Scheme Amendment and Planning Permit Application for subdivision. The ecological assessment was undertaken to determine the extent of native vegetation and ascertain the presence/absence of any threatened flora or fauna species or associated habitats within the property and the adjacent road reserve.

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

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 a parcel of land at 2995 Princes Highway, Winchelsea (Lot 1 PS613942) and the adjacent Princes Highway road reserve (Figure 1). It is bound by Princes Highway to the north, and private property to the east, south and west.

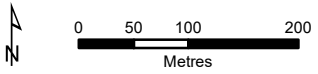
The project area contains an existing dwelling and farm infrastructure, and has been used for agriculture (cropping, grazing). The topography comprised low undulating slopes throughout the project area. The surrounding land use is predominantly agricultural, with residential development to the east. The Princes Highway road reserve contains a modified landform from previous road infrastructure works.

The project area occurs within the Victorian Volcanic Plain bioregion, the Corangamite Catchment Management Authority boundary and the Surf Coast Shire municipality (DELWP 2018a). The Native Vegetation Location mapping shows the project area occurs within Location 1 and 2 (DELWP 2018b). The project area is zoned Farming Zone (FZ) and is not subject to any environmental overlays under the Surf Coast Planning Scheme (DELWP 2018c).

Figure 1
Site Location
2995 Princes Hwy,
Winchelsea

Legend

 Subject Site



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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



2 Methodology

2.1 Species Information

Scientific and common names of flora species follow the Australian Plant Census (Australian National Botanic Gardens 2018). The names of terrestrial vertebrate fauna follow the Victorian Biodiversity Atlas (VBA) (DELWP 2018d). Vegetation communities follow the Ecological Vegetation Class (EVC) bioregion benchmarks (DELWP 2018a).

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) (DoEE 2018).
- Listed as Threatened under the *Flora and Fauna Guarantee Act 1988* (FFG Act) (DELWP 2015).
- 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 2018a).
- Native Vegetation Information Management system (NVIM) (DELWP 2018b).
- Planning Schemes Online for planning information (DELWP 2018c).
- The VBA for threatened flora and fauna species records (DELWP 2018d).
- The Protected Matters Search Tool (PMST) for information relating to Matters of National Environmental Significance (MNES) (listed species and communities) under the EPBC Act (DoEE 2018).
- Relevant environmental legislation, policies and strategies.

2.3 Field Assessment

The field assessment was undertaken on 15 March 2018. The project area was traversed on foot to determine the extent of native vegetation and ascertain the presence of any listed threatened flora or fauna species or associated habitats. The extent of native vegetation was mapped using a Trimble Juno differential GPS (accuracy \pm one metre 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 2018a), and review of remnant vegetation in the local area.



2.4 Assessment Guidelines

The Guidelines 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 (DELWP 2017).

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).

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 native¹; or
- Any area with three or more native canopy trees² where the drip line³ 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.

Scattered tree:

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

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

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 assessment pathway of an application is determined in accordance with the requirements in Table 1.

Table 1: 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 (autumn) 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 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). Extant (2005) EVC mapping shows a modified cover of Plains Grassy Woodland (DELWP 2018a). No remnant native vegetation was recorded within the project area.

3.2 Vegetation Condition

The property was highly modified from agricultural use (cropping), with evidence of recent cultivation (fallow lines) and was dominated by exotic vegetation. Princes Highway road reserve was highly modified from previous road infrastructure works and dominated by exotic vegetation. Native species was limited to a scattered cover of indigenous grasses and sedges (<1% cover) (Figure 2).

Vegetation in open pasture was dominated by exotic Toowoomba Canary-grass *Phalaris aquatica*, Prairie Grass *Bromus catharticus*, Cocksfoot *Dactylis glomerata*, Couch Grass *Cynodon dactylon*, Brown-top Bent *Agrostis capillaris*, Perennial Ryegrass *Lolium perenne*, Squirrel-tail Fescue *Vulpia bromoides*, Kikuyu *Cenchrus clandestinus*, Onion Grass *Romulea rosea*, Yorkshire Fog-grass *Holcus lanatus*, Paspalum *Paspalum dilatatum*, Bearded Oat *Avena fatua*, Rat-tail Grass *Sporobolus africanus*, Burr Medic *Medicago polymorpha*, Hare's-foot Clover *Trifolium arvense*, Galenia *Galenia pubescens*, Ribwort *Plantago lanceolata*, Cat's Ear *Hypochoeris radicata* and Curly Dock *Rumex crispus*, Ox-tongue *Helminthotheca echioides* and Spear Thistle *Cirsium vulgare*. Indigenous species was limited to a scattered cover (<5%) of Bristly Wallaby-grass *Rytidosperma setaceum*, Striped Wallaby-grass *Rytidosperma racemosum* and Finger Rush *Juncus subsecundus* (Plates 1 to 4). This vegetation has been mapped as Predominantly Introduced Vegetation (Figure 2).

Vegetation along Princes Highway road reserve was dominated by exotic Couch Grass, Brown-top Bent, Cocksfoot, Rat-tail Grass, Kikuyu, Onion Grass, Yorkshire Fog-grass, Paspalum, Ribwort, Curly Dock and Ox-tongue (Plate 5). Planted native and exotic trees and shrubs around the dwelling and along windrows included Sugar Gum *Eucalyptus cladocalyx*, Bracelet Honey-myrtle *Melaleuca armillaris*, Flinders Range Wattle *Acacia iteaphylla* and Monterey Cypress *Cupressus macrocarpa* (Plates 6-8).

3.3 Threatened Flora Species

No threatened flora species were recorded during the field assessment. The VBA (DELWP 2018d) contains records of six listed threatened flora species in local area (within a five kilometre radius of the project area). The PMST (DoEE 2018) identified 15



EPBC Act listed flora species or species habitats as likely to occur within the local area (Appendix 3; Figure 3). There is a low likelihood of occurrence for any listed threatened flora species due to the highly modified condition of habitat.

3.4 Threatened Fauna Species

No listed threatened fauna species were recorded during the field assessment. The VBA (DELWP 2018d) contains records of 13 listed threatened fauna species in the local area. The PMST (DoEE 2018) identified 20 EPBC Act listed fauna species or species habitats (terrestrial) as likely to occur within the local area. There is a low likelihood of occurrence for any listed threatened fauna species due to the absence of suitable habitat (Appendix 4; Figure 4).

3.5 Threatened Ecological Communities

Commonwealth Listed Ecological Communities

Review of the PMST (DoEE 2017) identified four 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).
- *Natural Damp Grassland of the Victorian Coastal Plains* (Critically Endangered).
- *White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland* (Critically Endangered).

The project area does not support any EPBC Act listed ecological communities.



Plate 1: Exotic dominated vegetation



Plate 2: Exotic dominated vegetation



Plate 3: Exotic dominated vegetation



Plate 4: Exotic dominated vegetation



Plate 5: Exotic vegetation along Princes Hwy road reserve



Plate 6: Planted native trees and exotic grassland






Plate 7: Planted trees and exotic dominated pasture

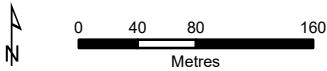


Plate 8: Planted native trees and exotic dominated pasture

Figure 2
Ecological Values
2995 Princes Hwy,
Winchelsea

Legend

-  Subject Site
-  Planted Vegetation
-  Predominantly Introduced Vegetation



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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



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 (i.e. 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).

Implications for the Proposed Development

No EPBC Act listed threatened flora or fauna species were recorded within the project area, and none are considered likely to occur due to the absence of suitable habitat resulting from previous agricultural use. Native vegetation within the project area does not meet the criteria for any EPBC Act listed ecological communities.

An EPBC Act referral to the Commonwealth Environment Minister is not 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 piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes.

A permit is required from DEPI 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* (Grass-trees) (DELWP 2015).

No listed threatened or protected flora species were identified within the project area. An FFG Act permit is generally not required for removal of protected flora species on private property.



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 2017).

The *Guidelines for the removal, destruction or lopping of native vegetation* (the Guidelines) (DELWP 2017) was incorporated into the Victoria Planning Provisions and all planning schemes in Victoria on 12 December 2017.

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. A permit application must be categorised as a basic, intermediate or detailed assessment pathway as specified in the Guidelines (DELWP 2017d). 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 2017).

Clause 52.17 – Native Vegetation

The project area was highly modified and dominated by exotic vegetation, interspersed with planted trees and shrubs. Native species was limited to a scattered cover of indigenous grasses and sedges (<1% cover) in exotic pasture.

The future development of the site is likely to result in the removal of scattered indigenous grasses and sedges. However, this vegetation has colonised cultivated paddocks and is less than 10 years old, and is considered to meet 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 2018b).

As the scattered indigenous grasses and sedges identified for removal does not meet the criteria of a patch, an *application to remove native vegetation* is not required under the Guidelines (DELWP 2017).



5 Conclusion

The project area was highly modified and dominated by exotic vegetation, interspersed with planted trees and shrubs. Native species was limited to a scattered cover of indigenous grasses and sedges (<1% cover). No listed threatened flora or fauna species or associated habitats were recorded the field assessment and none are considered likely to occur due to the highly modified condition of habitat.

An EPBC Act referral is not required as no MNES (ecological communities, flora or fauna species) are likely to be significantly impacted by future works in the project area.

The proposed development of the site is likely to result in the removal of scattered indigenous grasses and sedges (<1% cover). However, the permit exemption under Clause 52.17-7 *Regrowth* is considered applicable in this instance as this vegetation has colonised cultivated paddocks and is less than 10 years old.

As the scattered indigenous grasses and sedges identified for removal does not meet the criteria of a patch, an *application to remove native vegetation* is not required under the Guidelines.



6 References

Australian National Botanic Gardens 2018. Australian Plant Census.

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DoEE 2018. Protected Matters Search Tool. Department of Environment: <http://www.environment.gov.au/epbc/pmst/>

DSE 2013. Advisory List of Threatened Vertebrate Fauna in Victoria. Department of Environment and Primary Industries: <http://www.dse.vic.gov.au>



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 not 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
<i>Acacia dealbata</i>	Silver Wattle#
<i>Agrostis capillaris</i>	Brown-top Bent*
<i>Lysimachia arvensis</i>	Pimpernel*
<i>Arctotheca calendula</i>	Cape Weed*
<i>Avena barbata</i>	Bearded Oat*
<i>Avena fatua</i>	Wild Oat*
<i>Briza maxima</i>	Large Quaking-grass*
<i>Briza minor</i>	Lesser Quaking-grass*
<i>Bromus catharticus</i>	Prairie Grass*
<i>Bromus diandrus</i>	Great Brome*
<i>Cenchrus clandestinus</i>	Kikuyu*
<i>Cirsium vulgare</i>	Spear Thistle**
<i>Cupressus macrocarpa</i>	Monterey Cypress*
<i>Cynosurus echinatus</i>	Rough Dog's-tail*
<i>Cynodon dactylon</i> var. <i>dactylon</i>	Couch*
<i>Cyperus eragrostis</i>	Drain Flat-sedge*
<i>Dactylis glomerata</i>	Cocksfoot*
<i>Rytidosperma racemosum</i> var. <i>racemosum</i>	Slender Wallaby-grass
<i>Rytidosperma setaceum</i>	Bristly Wallaby-grass
<i>Ehrharta calycina</i>	Perennial Veldt-grass*
<i>Ehrharta erecta</i> var. <i>erecta</i>	Panic Veldt-grass*
<i>Eucalyptus cladocalyx</i>	Sugar Gum#
<i>Eucalyptus</i> spp.	Yellow Gum
<i>Galenia pubescens</i> var. <i>pubescens</i>	Galenia*
<i>Helminthotheca echioides</i>	Ox-tongue*
<i>Holcus lanatus</i>	Yorkshire Fog*
<i>Hordeum leporinum</i>	Barley-grass*
<i>Hypochoeris radicata</i>	Flatweed*
<i>Juncus subsecundus</i>	Finger Rush
<i>Lolium perenne</i>	Perennial Rye-grass*
<i>Marrubium vulgare</i>	Horehound*
<i>Paspalum dilatatum</i>	Paspalum*
<i>Phalaris aquatica</i>	Toowoomba Canary Grass*
<i>Plantago lanceolata</i>	Ribwort*
<i>Romulea rosea</i>	Onion Grass*
<i>Solanum nigrum</i> s.l.	Black Nightshade*
<i>Sonchus oleraceus</i>	Common Sow-thistle*
<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover*



Scientific Name	Common Name
<i>Trifolium repens var. repens</i>	White Clover*
<i>Trifolium subterraneum</i>	Subterranean Clover*
<i>Vulpia bromoides</i>	Squirrel-tail Fescue*
<i>Vulpia myuros</i>	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
<i>Lepidium hyssopifolium</i>	Basalt Peppercross	EN en L	4	U	No suitable habitat present
<i>Cullen parvum</i>	Small Scurf-pea	en L	1	U	No suitable habitat present
<i>Coronidium gunnianum</i>	Pale Swamp Everlasting	vu	2	U	No suitable habitat present
<i>Pimelea spinescens</i> subsp. <i>spinescens</i>	Spiny Rice-flower	CR en L	3	U	No suitable habitat present
<i>Dianella amoena</i>	Matted Flax-lily	EN en L	1	U	No suitable habitat present
<i>Dianella</i> sp. aff. <i>longifolia</i> (Benambra)	Arching Flax-lily	vu	1	U	No suitable habitat present

Notes: Threatened species records were sourced from the VBA (DELWP 2018d), 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 (DoEE 2018)

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	Records#	Likely Occurrence	Comments
<i>Tringa nebularia</i>	Common Greenshank	vu	1	U	Absence of suitable habitat
<i>Grus rubicunda</i>	Brolga	vu L	10	U	Absence of suitable habitat
<i>Ardea modesta</i>	Eastern Great Egret	vu L	2	U	Absence of suitable habitat
<i>Anas rhynchotis</i>	Australasian Shoveler	vu	3	U	Absence of suitable habitat
<i>Stictonetta naevosa</i>	Freckled Duck	en L	1	U	Absence of suitable habitat
<i>Aythya australis</i>	Hardhead	vu	2	U	Absence of suitable habitat
<i>Biziura lobata</i>	Musk Duck	vu	1	U	Absence of suitable habitat
<i>Falco subniger</i>	Black Falcon	vu N	1	U	Absence of suitable habitat
<i>Hirundapus caudacutus</i>	White-throated Needletail	vu	2	U	Absence of suitable habitat
<i>Dasyurus maculatus maculatus</i>	Spot-tailed Quoll	EN en L	1	U	Absence of suitable habitat
<i>Delma impar</i>	Striped Legless Lizard	VU en L	1	U	Absence of suitable habitat
<i>Pseudophryne semimarmorata</i>	Southern Toadlet	vu	1	U	Absence of suitable habitat
<i>Litoria raniformis</i>	Growling Grass Frog	VU en L	1	U	Absence of suitable habitat

Notes: Threatened species records were sourced from the VBA (DELWP 2018d), 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 (DoEE 2018)

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

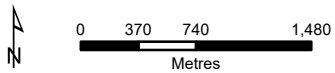
r Rare

Figure 3
 Threatened Flora Species
 within 5km of the Subject
 Site

2995 Princes Hwy,
 Winchelsea

Legend

- Subject Site
- Arching Flax-lily
- Basalt Peppercross
- Giant Honey-myrtle
- Matted Flax-lily
- Pale Swamp Everlasting
- Small Scurf-pea
- Spiny Rice-flower



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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

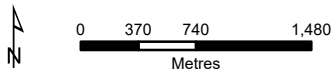
Figure 4

Threatened Fauna Species within 5km of the Subject Site

2995 Princes Hwy,
Winchelsea

Legend

 Subject Site



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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community