



Natural Area
CONSULTING MANAGEMENT SERVICES

City of Bunbury

Hands Oval Ecological Survey

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Executive Summary

Natural Area Consulting Management Services (Natural Area) was commissioned by the City of Bunbury (the City) to undertake ecological surveys of vegetation at Hands Oval in the suburb of South Bunbury. Ecological surveys included a basic flora and fauna survey, as well as targeted searches for Western Ringtail Possum and Black Cockatoos. Findings from this survey will inform the relevant stakeholders and environmental approvals associated with the proposed the upgrading and development of facilities at Hands Oval.

The basic flora and vegetation survey aimed to determine:

- the extent and boundaries of vegetation types and condition
- flora species (native and introduced) present
- the location of declared rare or priority flora and or ecological communities
- the location of individual species.

The basic fauna survey aimed to determine:

- fauna species (native and introduced) present
- evidence of fauna presence through indicators such as tracks, scats, dens, warrens and calls
- targeted survey of Western Ringtail Possums and Black Cockatoos.

The flora and vegetation survey confirmed:

- a total of 13 flora species from six families
- a total of four native and nine introduced flora species
- no threatened or priority flora species
- no threatened or priority ecological communities
- two vegetation types, namely Open Grassland and *Agonis flexuosa* and Mixed Eucalyptus Open Woodland
- vegetation condition across the entire site is Completely Degraded.

The fauna survey confirmed:

- two bird species
- 41 habitat trees with diameter at breast height (DBH) greater than 500mm
- 11 habitat trees exhibiting hollows, including one habitat tree with hollows large enough to accommodate mature Black Cockatoos
- no evidence of foraging, roosting or nesting by black cockatoos
- potential evidence of Western Ringtail Possums utilising site.

Natural Area has the following recommendations to reduce potential environmental impacts associated with the proposed clearing:

- retention of native habitat trees (*Eucalyptus gomphocephala* and *Agonis flexuosa* with DBH>500mm) where possible
- if non-native trees are proposed to be removed. They are to be replaced with native species representative of the area, including *Eucalyptus gomphocephala* and *Agonis flexuosa*
- clearing to occur outside of peak breeding season (spring) when avian species may utilise trees at Hands Oval as potential breeding sites.

Contents

Executive Summary	3
Contents	4
1.0 Introduction.....	6
1.1 Location	6
1.2 Scope	6
1.3 Objectives	6
2.0 Site Characteristics	8
2.1 Regional Context	8
2.2 Climate.....	8
2.3 Topography and Soils	8
2.4 Vegetation Complex	10
2.5 Tenure and Current Land Use.....	10
3.0 Methodology	11
3.1 Desktop and Literature Review	11
3.2 On-ground Flora Methodology.....	11
3.2.1 Vegetation Type.....	12
3.2.2 Vegetation Condition.....	12
3.3 On-ground Fauna Methodology	13
3.4 Limitations	14
4.0 Results	15
4.1 Flora Desktop Survey	15
4.2 Fauna Desktop Survey	16
4.3 Flora On-ground Survey.....	19
4.3.1 Flora Species.....	19
4.3.2 Vegetation Types	21
4.3.3 Vegetation Condition.....	21
4.3.4 Threatened and Priority Ecological Communities	21
4.4 Fauna On-ground Survey.....	24
4.4.1 Western Ringtail Possum.....	24
4.4.2 Black Cockatoo	24
5.0 Discussion and Recommendations.....	28
5.1 Flora and Vegetation	28

5.2	Significant Flora	28
5.3	Threatened and Priority Ecological Communities	28
5.4	Fauna	28
5.5	Significant Fauna	28
5.6	Recommendations.....	31
6.0	References.....	33
Appendix 1:	NatureMap	35
Appendix 2:	PMST.....	51
Appendix 3:	Conservation Codes.....	70

1.0 Introduction

Natural Area Consulting Management Services (Natural Area) was commissioned by the City of Bunbury (the City) to undertake an ecological survey for Hands Oval, Bunbury. This includes a basic flora, vegetation and fauna survey, as well as a targeted survey for Western Ringtail Possum and Black Cockatoos. Findings from this survey will inform the relevant stakeholders and environmental approvals associated with the proposed upgrading and development of facilities at Hands Oval.

1.1 Location

Hands Oval is located approximately 160 km south-west of Perth Central Business District within the suburb of South Bunbury. It is bounded by Clarke Street to the north, Blair Street to the east and Spencer Street to the west (Figure 1). It covers an area of 6.9 ha consisting mostly of cleared parkland.

1.2 Scope

Natural Area's scope of works included:

- desktop assessment to determine environmental values and likelihood of conservation significant flora, fauna or habitat occurring within the survey area
- a basic flora survey to identify species present, existing vegetation types and conditions, occurrence of conservation significant flora and/or Threatened and Priority Ecological Communities (TECs, PECs)
- a basic fauna survey to identify any potential significant fauna habitat and record any opportunistic observations or evidence of presence of fauna within the survey area
- targeted surveys for the Western Ringtail Possum and Black Cockatoos
- provide all spatial/mapping data collected
- report outcomes of survey.

1.3 Objectives

The main objective of the ecological surveys at Hands Oval was to collect sufficient data to accurately inform stakeholders and relevant environmental approvals, including but not limited to a Native Vegetation Clearing Permit under the *Environmental Protection Act 1986*.

The basic flora and vegetation survey aimed to determine:

- the extent and boundaries of vegetation types and condition
- flora species (native and introduced) present
- the location of declared rare or priority flora and or ecological communities
- the location of individual species.

The basic fauna survey aimed to determine:

- identification of fauna presence through indicators such as tracks, scats, dens/warrens and calls
- fauna species (native and introduced) present (direct observation)
- targeted survey of threatened Western Ringtail Possums and Black Cockatoos.



Legend
— Site Boundary



Figure 1:
Site Location
Hands Oval, Bunbury

Client: City of Bunbury
Date: Feb 2021
Created by: J.Weil
Image Source: Nearmap, 2021
Datum: GDA 94



2.0 Site Characteristics

2.1 Regional Context

According to the Interim Biographical Regionalisation of Australia (IBRA) descriptions, Bunbury is located within the Swan Coastal Plain region. The Swan Coastal Plain comprises two major divisions, the Swan Coastal Plain 1 -Dandaragan Plateau and Swan Coastal Plain 2 - Perth Coastal Plain (Mitchell, Williams and Desmond, 2002), with the survey area situated in the latter.

This area is described as a low-lying coastal plain with sands of colluvial and aeolian origin, as well as alluvial river flats and coastal limestone. The region is dominated by Banksia and/or Jarrah Woodland over sandy soils associated with the dune systems, with Paperbark (Melaleuca) in swampy/damp areas and Jarrah Woodland to the east where the Swan Coastal Plain rises (Mitchell, Williams & Desmond, 2002).

2.2 Climate

The climate experienced in the area is Mediterranean, with dry, hot summers and cool, wet winters. According to the Bureau of Meteorology (2021); Bunbury WA (Site Number 009965), the region has an average:

- rainfall of 718.4 mm annually, with rain falling predominantly between May and August
- maximum temperatures ranging from 17.3 °C in winter to 30 °C in summer, with a maximum recorded temperature of 40.8 °C
- minimum temperatures ranging from 7.1 °C in winter to 15.9 °C in summer, with a minimum recorded temperature of -3 °C
- predominant wind directions include morning easterlies and westerly sea breezes in the afternoons, with an average wind speed of 17.9 km/h and gusts of more than 100 km/h.

2.3 Topography and Soils

The site is relatively flat, with gentle undulations in the south of the site ranging between 4 to 6 AHD (Australian Height Datum). Two soil types are present namely, Spearwood S4a Phase and Spearwood S2a Phase (Department of Primary Industries and Regional Development, 2021) (Table 1 and Figure 2).

Table 1: Soil types

Name	Symbol	Description
Spearwood S4a Phase	211Sp__S4a	Flat to gently undulating sand plain with deep, pale and sometimes bleached sands with yellow-brown subsoils.
Spearwood S2a Phase	211Sp__S2a	Lower slopes (1-5%) of dune ridge with moderately deep to deep siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrop.

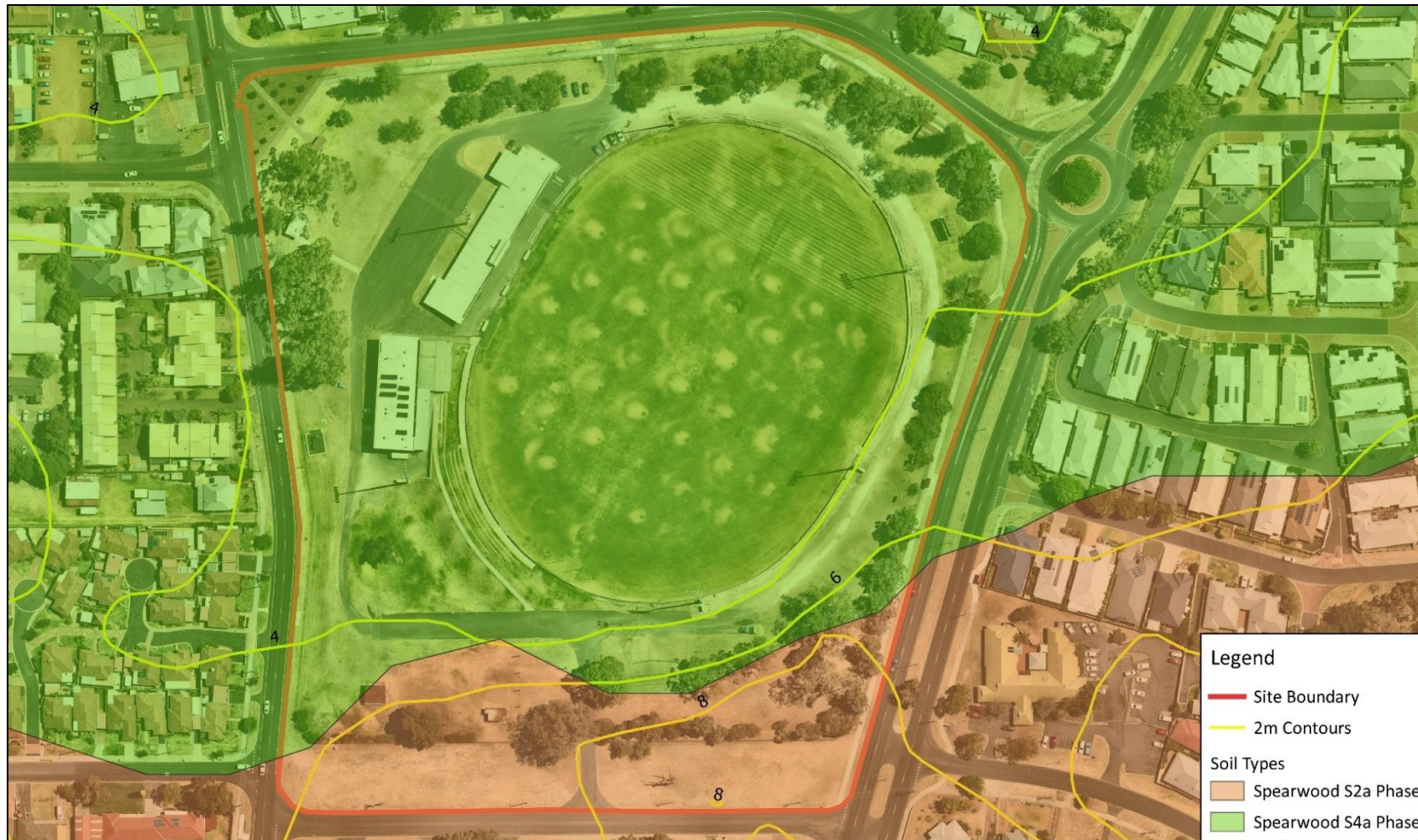


Figure 2:
Topography and Soils
Hands Oval, Bunbury

Client: City of Bunbury
Date: Feb 2021
Created by: J.Weil
Image Source: Nearmap, 2021
Datum: GDA 94



2.4 Vegetation Complex

Two vegetation complexes, as described by Heddle et al (1980), were identified within the survey area. They include the Yoongarillup Complex and Vasse Complex (Table 2). Only 38.72 % of the Yoongarillup Complex and 34.84% of the Vasse Complex remain since pre-European settlement (WALGA, 2013). Due to past clearing and the current land use as a public open space including a stadium, pre-European vegetation complexes are not likely to be represented within the survey area.

Table 2: Vegetation Complexes

Name	Description
Yoongarillup Complex	Dominated by extensive tuart woodland in the Darling System. It is characterised by large numbers of <i>Agonis flexuosa</i> in the second storey and understorey species including <i>Banksia attenuate</i> , <i>Hibbertia hypericoides</i> , and <i>Macrozamia riedlei</i> . In restricted patches, the tuart is often replaced by open forest.
Vasse Complex	Mixture of closed-scrub of <i>Melaleuca sp.</i> fringing open-forests and woodlands of Tuart, Jarrah and Marri. Other species included <i>Melaleuca raphiophylla</i> , <i>M. preissiana</i> , <i>Acacia saligna</i> and <i>Casuarina obesa</i> . <i>Arthorocnemum</i> and <i>Salicomia spp.</i> along with other samphire species grow extensively in areas subject to inundation.

Source: Heddle *et. al.* 1980

2.5 Tenure and Current Land Use

Hands Oval, also known as JE Hands Memorial Park is currently zoned as a Public Open Space according to the City's Local Planning Scheme No. 8. It currently serves as a recreational space for public use as well as hosting various sporting events on its grounds (City of Bunbury, 2021). Being Bunbury's premiere Australian Rules Football Oval, it contains supporting infrastructure such as carparks, club rooms, change rooms, kiosk and spectator seating.

The City received funding to renew and expand existing infrastructures within Hands Oval. Upgrading works include a new stadium building as well as increased carparking bays and spectator seating. Future private developments have also been planned for the southern end of Hands Oval.

3.0 Methodology

3.1 Desktop and Literature Review

Desktop surveys were undertaken to determine:

- likely native and non-native flora and fauna species present
- current extent of native vegetation
- general floristic community types
- likely presence of threatened or priority flora and fauna species
- likely presence of any threatened or priority ecological communities.

The following databases were accessed to obtain relevant information:

- NatureMap (Department of Biodiversity, Conservation and Attractions, 2021b) (Appendix 1)
- Protected Matters Search Tool (Department of Agriculture, Water and the Environment, 2021b), (Appendix 2)
- Threatened Flora and Fauna Database Search (Department of Biodiversity Conservation and Attractions. 2021a)
- FloraBase (Department of Biodiversity, Conservation and Attractions, 2021c)

3.2 On-ground Flora Methodology

Natural Area personnel, Ben Connor surveyed the site on 17 February 2021, with key GPS data recorded using Mappt software on a handheld Samsung tablet. Field activities included:

- walking the site and identifying flora species present, including targeting declared rare and priority species indicated as potentially present during desktop assessments
- assessing vegetation condition across the site
- using a GPS to map significant species and extent of differing vegetation types and condition
- determining the presence of any further threatened or priority listed flora species and/or ecological communities listed under the *Biodiversity and Conservation Act 2016* (WA) and/or the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth).

The basic flora and vegetation survey was carried out in accordance with *EPA Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority, 2016).

Samples were collected and any unfamiliar species were recorded and photographed to enable later identification.

3.2.1 Vegetation Type

The vegetation type was determined using the structural classes described in *Bush Forever Volume 2* (Government of Western Australia, 2000), and records dominant over, middle and understorey species (Table 3).

Table 3: Vegetation structural classes

Life Form/Height Class	Canopy Percentage Cover			
	100 – 70%	70 – 30%	30 – 10%	10 – 2 %
Trees over 30 m	Tall closed forest	Tall open forest	Tall woodland	Tall open woodland
Trees 10 – 30 m	Closed forest	Open forest	Woodland	Open woodland
Trees under 10 m	Low closed forest	Low open forest	Low woodland	Low open woodland
Tree Mallee	Closed tree mallee	Tree mallee	Open tree mallee	Very open tree mallee
Shrub Mallee	Closed shrub mallee	Shrub mallee	Open shrub mallee	Very open shrub mallee
Shrubs over 2 m	Closed tall scrub	Tall open scrub	Tall shrubland	Tall open shrubland
Shrubs 1 – 2 m	Closed heath	Open heath	Shrubland	Open shrubland
Shrubs under 1 m	Closed low heath	Open low heath	Low shrubland	Low open shrubland
Grasses	Closed grassland	Grassland	Open grassland	Very open grassland
Herbs	Closed herbland	Herbland	Open herbland	Very open herbland
Sedges	Closed sedgeland	Sedgeland	Open sedgeland	Very open sedgeland

(Source: Government of Western Australia, 2000)

3.2.2 Vegetation Condition

Vegetation condition was assessed using the rating scale attributed to Keighery in *Bush Forever Volume 2* (Table 4) (Government of Western Australia, 2000).

Table 4: Vegetation condition ratings

Category	Description
1 Pristine	Pristine or nearly so, no obvious signs of disturbance.
2 Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
3 Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
4 Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the

Category	Description
	presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
5 Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
6 Completely Degraded	The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

(Source: Government of Western Australia, 2000)

3.3 On-ground Fauna Methodology

A basic fauna survey was undertaken in conjunction with other survey activities. The on-ground fauna survey was completed in accordance with a Basic Fauna Survey as outlined in the Environmental Protection Authority (EPA) *Technical Guidance, Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA, 2020). The fauna survey included recording opportunistic sightings of fauna species while traversing the survey area along with recording evidence of their presence in the form of:

- scats
- tracks
- diggings
- burrows, dens
- calls.

The Western Ringtail Possum survey recorded:

- locations of suitable habitat trees (*Agonis flexuosa*)
- dreys
- scats
- other presence indicators.

The Black Cockatoo habitat survey recorded:

- locations of habitat trees with a diameter at breast height (DBH) of 500 mm which have the potential to provide habitat in the form of foraging (form of chewed nuts), roosting or hollows for threatened black cockatoos
- recording habitat tree species and whether they contain hollows
- recording direct sighting of birds within the survey area
- a photography of each habitat tree and its canopy.

3.4 Limitations

Several limitations associated with both desktop and on-ground flora and fauna surveys exist, including:

- database searches provide an indication of what flora species may be present, with on ground surveys required to confirm those present
- information on flora species provided on some databases include out-of-date species names, meaning that names need to be checked for currency
- herbarium records are largely limited to vouchered specimens
- plant species flower at different times and are not always able to be identified
- on-ground surveys indicate species present at the time of the assessment, with species flowering at different times not always able to be identified
- not all species flower annually
- the differing databases are reliant on information submitted via various reporting mechanisms, so all records of a particular species or ecological community within a specified area may not be complete
- survey was carried out in summer, which is outside the optimal period to carry out flora surveys in the region.

Despite these limitations, Natural Area estimates that 80 – 90% of flora species within the survey area were identified.

4.0 Results

4.1 Flora Desktop Survey

A review of Nature map identified a total of 530 flora species which could potentially occur within a 5km radius of the survey site including:

- 332 dicotyledons,
- two gymnosperms
- 196 monocots.

4.1.1 Significant Flora

A review of NatureMap indicated 15 conservation significant flora species listed under the *Biodiversity Conservation Act 2016* (WA), potentially occurring within 5 km of the survey site (Department of Biodiversity, Conservation and Attractions, 2021a). A review of the Protected Matters Search Tool (PMST) indicated that 14 significant flora species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (Cwlth) have the potential to occur within a 5 km radius of the survey site (Department of the Environment and Energy, 2021). The Department of Biodiversity Conservation and Attractions' (DBCA) threatened and priority flora species database search indicated 12 species with the potential to occur in the close proximity to the survey area (DBCA, 2021a).

The current land use of the survey area supports a mainly cleared landscape, consisting of maintained parkland, a sports oval with grassed areas and sparse trees, it is unlikely to provide a suitable habitat for most of the 27 conservation significant species. However, considering the soil type, drainage and known home ranges, there may be a possibility for the following four species (highlighted green in Table 5) to occur or formerly occur within the survey area. Conservation code descriptions are provided in Appendix 3.

Table 5: Threatened and Priority flora species listed by NatureMap, PMST, and DBCA

Species Name	Cons. Code	NatureMap	PMST	DBCA
<i>Acacia flagelliformis</i>	P4	X		X
<i>Acacia semitrullata</i>	P4	X		
<i>Andersonia gracilis</i>	EN		X	
<i>Aponogeton hexatepalus</i>	P4	X		X
<i>Austrostipa bronwenae</i>	T/EN	X	X	X
<i>Austrostipa jacobiana</i>	T/CR	X	X	X
<i>Banksia nivea subsp. uliginosa</i>	EN		X	
<i>Caladenia huegelii</i>	EN		X	
<i>Caladenia speciosa</i>	P4	X		X
<i>Diuris drummondii</i>	T/VU	X	X	X
<i>Diuris micrantha</i>	T/VU		X	
<i>Diuris purdiei</i>	EN		X	

Species Name	Cons. Code	NatureMap	PMST	DBCA
<i>Drakaea elastica</i>	EN		X	
<i>Drakaea micrantha</i>	T/VU		X	
<i>Eleocharis keigheryi</i>	T/VU		X	
<i>Eucalyptus rudis subsp. cratyantha</i>	P4	X		
<i>Lambertia echinata subsp. occidentalis</i>	EN		X	
<i>Lasiopetalum membranaceum</i>	P3	X		X
<i>Platysace ramosissima</i>	P3	X		X
<i>Puccinellia vassica</i>	P1	X		
<i>Pultenaea skinneri</i>	P4	X		X
<i>Schoenus benthamii</i>	P3	X		X
<i>Stylidium longitubum</i>	P4			X
<i>Synaphea sp.</i> Fairbridge Farm	T		X	
<i>Synaphea sp.</i> Serpentine	CR		X	
<i>Thelymitra variegata</i>	P2	X		
<i>Verticordia attenuata</i>	P3	X		X

4.1.2 Threatened Ecological Communities

A review of the PMST report identified three listed Threatened Ecological Communities that could potential occur within 5 km of the site (Table 6).

Table 6: Potential Threatened Ecological Communities within the site

Name	Status	Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Parkland Cleared - Community unlikely to occur within area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Parkland Cleared - Community unlikely to occur within area
Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Parkland Cleared- Community unlikely to occur within area

4.2 Fauna Desktop Survey

A desktop survey of online databases indicated the potential for a total of 64 conservation significant fauna species to occur within 5 km of the survey area (Table 7). NatureMap indicated 44 conservation significant species listed under the *Biodiversity Conservation Act 2016 (WA)* as potentially occurring within a 5 km radius of Hands Oval (Department of Biodiversity, Conservation and Attractions, 2021b) (Appendix 1). The

Protected Matters Search Tool (PMST) (Department of Agriculture, Water and the Environment, 2021) indicated 31 threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* (Cwlth) as potentially occurring within a 5 km radius of the site (Appendix 2). A review of the DBCA threatened and priority fauna species database indicated the potential for 42 conservation significant fauna species to occur within a 10 km radius of the site.

Both abiotic (soil, climate) as well as biotic (food resources, predator pressure) will determine the suitability of habitats for specific fauna assemblages, based on their ecological requirements. Evaluating the site locality, existing conditions and known home ranges. Natural Area determined that the following seven species (highlighted green in Table 7) have the potential to be present within Hands Oval.

Table 7: Threatened and Priority flora species listed by NatureMap, PMST, and DBCA

Species Name	Lifeform	Cons. Code	NatureMap	PMST	DBCA
<i>Actitis hypoleucos</i>	Bird	IA	X		X
<i>Anous tenuirostris melanops</i>	Bird	T/VU		X	X
<i>Ardenna carneipes</i>	Bird	T	X		
<i>Arenaria interpres</i>	Bird	IA	X		X
<i>Botaurus poiciloptilus</i>	Bird	EN		X	
<i>Calidris acuminata</i>	Bird	IA	X		X
<i>Calidris alba</i>	Bird	IA	X		
<i>Calidris canutus</i>	Bird	EN/IA	X	X	X
<i>Calidris ferruginea</i>	Bird	CR	X	X	X
<i>Calidris ruficollis</i>	Bird	IA	X		X
<i>Calidris tenuirostris</i>	Bird	T	X		X
<i>Calyptorhynchus banksii naso</i>	Bird	T/VU	X	X	X
<i>Calyptorhynchus baudinii</i>	Bird	T/EN	X	X	X
<i>Calyptorhynchus latirostris</i>	Bird	T/EN	X	X	X
<i>Charadrius leschenaultii</i>	Bird	T	X		X
<i>Ctenotus ora</i>	Reptile	P3			X
<i>Dasyurus geoffroii</i>	Mammal	VU		X	X
<i>Diomedea amsterdamensis</i>	Bird	EN		X	
<i>Diomedea dabbenena</i>	Bird	EN		X	
<i>Diomedea epomophora</i>	Bird	VU		X	
<i>Diomedea exulans</i>	Bird	VU	X	X	X
<i>Diomedea exulans subsp. exulans</i>	Bird	T	X		
<i>Diomedea sanfordi</i>	Bird	EN		X	

City of Bunbury
Hands Oval Ecological Survey

<i>Falco hypoleucos</i>	Bird	VU		X	
<i>Falco peregrinus</i>	Bird	S	X		X
<i>Halobaena caerulea</i>	Bird	VU		X	
<i>Hydroprogne caspia</i>	Bird	IA	X		X
<i>Hydromys chrysogaster</i>	Mammal	P4	X		X
<i>Idiosoma sigillatum</i>	Invertebrate	P3			X
<i>Isoodon fusciventer</i>	Mammal	P4	X		X
<i>Ixobrychus flavicollis australia</i>	Bird	P2			X
<i>Limosa lapponica menzbieri</i>	Bird	CR	X	X	X
<i>Limosa limosa</i>	Bird	IA	X		
<i>Macronectes giganteus</i>	Bird	EN/IA	X	X	X
<i>Macronectes halli</i>	Bird	VU		X	
<i>Notamacropus irma</i>	Mammal	P4	X		X
<i>Numenius madagascariensis</i>	Bird	CR	X	X	X
<i>Numenius phaeopus</i>	Bird	IA	X		X
<i>Oceanites oceanicus</i>	Bird	IA	X		X
<i>Onychoprion anaethetus</i>	Bird	IA	X		
<i>Oxyura australis</i>	Bird	P4	X		X
<i>Pachyptila turtur subantarctica</i>	Bird	VU		X	
<i>Pandion cristatus</i>	Bird	IA	X		X
<i>Phascogale tapoatafa wambenger</i>	Mammal	S	X		X
<i>Phoebetria fusca</i>	Bird	VU		X	
<i>Plegadis falcinellus</i>	Bird	IA	X		X
<i>Pluvialis fulva</i>	Bird	IA	X		X
<i>Pluvialis squatarola</i>	Bird	IA	X		X
<i>Pseudocheirus occidentalis</i>	Mammal	CR	X	X	X
<i>Psophodes nigrogularis subsp. nigrogularis</i>	Bird	T	X		
<i>Pterodroma mollis</i>	Bird	VU		X	
<i>Rostratula australis</i>	Bird	EN		X	
<i>Setonix brachyurus</i>	Mammal	VU		X	
<i>Sterna hirundo</i>	Bird	IA	X		X
<i>Sternula nereis nereis</i>	Bird	VU		X	
<i>Thalassarche carteri</i>	Bird	VU/T	X	X	X

<i>Thalassarche cauta</i>	Bird	EN		X
<i>Thalassarche chrysostoma</i>	Bird	VU/T		
<i>Thalassarche melanophris</i>	Bird	EN/T		X
<i>Thalassarche impavida</i>	Bird	VU		X
<i>Thalassarche melanophris</i>	Bird	VU/T	X	X
<i>Thalassarche steadi</i>	Bird	VU		X
<i>Thalasseus bergii</i>	Bird	IA	X	X
<i>Thinornis rubricollis</i>	Bird	P4		X
<i>Tringa brevipes</i>	Bird	P4	X	X
<i>Tringa glareola</i>	Bird	IA	X	
<i>Tringa nebularia</i>	Bird	IA	X	X
<i>Tringa stagnatilis</i>	Bird	IA	X	
<i>Xenus cinereus</i>	Bird	IA	X	X

4.3 Flora On-ground Survey

4.3.1 Flora Species

As the survey area consists of mainly cleared parkland, including stadium grounds hosting recreational activities such as cricket and football matches, native flora diversity is low with majority of the site consisting of maintained turf with parkland trees. The survey confirmed the presence of 13 flora species from six families, including four native species, nine introduced species (Table 8) (Figure 3). No threatened or priority species are recorded on site. The entire site consists mainly of maintained parkland and it is unlikely that any threatened or priority flora would be present unless planted or is part of revegetation efforts.

Table 8: Species recorded on site. *Denotes introduced species

Family	Taxon	Common Name
Myrtaceae	<i>Agonis flexuosa</i>	Peppermint tree
Haemodoraceae	<i>Anigozanthos flavidus</i>	Kangaroo Paw
Araucariaceae	* <i>Araucaria heterophylla</i>	Norfolk Pine Tree
Myrtaceae	* <i>Callistemon</i> 'Kings Park Special'	Bottlebrush
Cupressus	* <i>Cupressus sp.</i>	Cypress
Asphodelaceae	<i>Dianella revoluta</i>	Blueberry Lily (landscape variant)
Fabaceae	* <i>Erythrina x sykesii</i>	Coral Tree
Myrtaceae	* <i>Eucalyptus botryoides</i>	Bangalay Jarrah
Myrtaceae	* <i>Eucalyptus cladocalyx</i>	Sugar Gum
Myrtaceae	<i>Eucalyptus gomphocephala</i>	Tuart
Myrtaceae	* <i>Eucalyptus petiolaris</i>	Blue Gum

Family	Taxon	Common Name
Myrtaceae	* <i>Eucalyptus</i> sp	Eucalyptus sp.
Myrtaceae	* <i>Melaleuca quinquenervia</i>	Paperbark



Eucalyptus cladocalyx (Sugar Gum)



Agonis flexuosa (Peppermint)



Araucaria heterophylla (Norfolk Pine)



Erythrina x sykesii (Coral Tree)

Figure 3: Photos of flora species recorded on site

4.3.2 Vegetation Types

Two vegetation types were recorded in the Hands Oval survey site (Figure 4), namely:

- Open Grassland- Cleared parkland of maintained turf, including oval
- *Agonis flexuosa* and Mixed Eucalyptus Open Woodland- Dominant canopy tree species include *Agonis flexuosa* and *Eucalyptus cladocalyx* over maintained grassed areas

4.3.3 Vegetation Condition

The entire survey site is considered to be in a Completely Degraded state. The site consists of cleared parkland, with isolated native trees over maintained grassed areas. Natural vegetation structure for middle and understorey strata layers is not present.

4.3.4 Threatened and Priority Ecological Communities

No TECs or PECs were recorded within the Hands Oval site. The only TEC indicated by the desktop searches that could occur based on remnant native species present would be the Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain ecological community. However, due to the Completely Degraded condition and patch size of the survey site, it does not meet the requirements and threshold levels for it to be considered a TEC. A patch, as defined by draft conservation advice for the threatened ecological community (Department of Agriculture, Water and the Environment, 2017), must contain a minimum of three established Tuart trees with no greater than 40 m between the outer edges of their canopies. Therefore, while the site contains several key diagnostic characteristics (Table 9) of the Tuart woodlands and forests of the Swan Coastal Plain, the five Tuarts within Hands Oval are not contiguous and do not meet the patch requirements.

Table 9: Key diagnostics characteristics of the Tuart woodlands and forests of the Swan Coastal Plain

	Key diagnostic characteristics
Location	Occurs primarily in the Swan Coastal Plain IBRA Bioregion on Spearwood and Quindalup dune systems. Can also occurs on Bassendean dunes system, Pinjarra Plain system; and on the banks of rivers and wetlands
Structural Form	<ul style="list-style-type: none"> ▪ The presence of at least two living established <i>Eucalyptus gomphocephala</i> (Tuart) in the uppermost canopy. ▪ Established tree is defined as ≥ 15 cm diameter breast height (DBH) ▪ A Patch is defined as having a gap of no more than 60 m between outer edges of the canopies of adjacent Tuart trees.
Vegetation	<p>Other tree species may be present in the canopy or sub-canopy. They commonly include:</p> <ul style="list-style-type: none"> ▪ <i>Agonis flexuosa</i> (Peppermint) and ▪ <i>Banksia grandis</i> (Bull Banksia), ▪ <i>Banksia attenuata</i> (Candlestick Banksia), ▪ <i>Eucalyptus marginata</i> (Jarrah), ▪ and less commonly, <ul style="list-style-type: none"> ▪ <i>Corymbia calophylla</i> (Marri), ▪ <i>Banksia menziesii</i> (Firewood Banksia) and ▪ <i>Banksia prionotes</i> (Acorn Banksia).

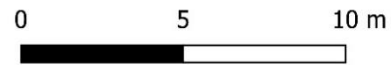
Key diagnostic characteristics

An understorey of native plants is typically present, which may include grasses, herbs and shrubs, although this is often modified by disturbance.



Figure 4:
Vegetation Type
Hands Oval, Bunbury

Client: City of Bunbury
Date: Feb 2021
Created by: J.Weir
Image Source: Nearmap, 2021
Datum: GDA 94



4.4 Fauna On-ground Survey

The field survey confirmed the presence of two vertebrate fauna species, with both species being birds that can be frequently observed in urban spaces within modified landscapes. No conservation significant species were recorded within survey area. The two bird species include:

- *Cacatua roseicapilla* (Galah)
- *Platycercus spurius* (Red-capped Parrot).

During the survey, Galahs were observed assessing tree hollows within the site. This indicates potential for breeding activities to occur within the area during the spring breeding season. As survey was conducted in late summer, no breeding activities were observed. Several habitat trees (DBH>500 mm) exhibited small hollows. These hollows may provide breeding/ roosting sites for avian species. Understorey species and ground cover is limited with mostly maintained grassed areas, reducing suitable habitat for smaller mammals and reptiles.

4.4.1 Western Ringtail Possum

The Western Ringtail Possum is an arboreal mammal that is endemic to the south-west of Western Australia. Populations are often associated with *Agonis flexuosa* Woodlands, for which the flora species is a known food resource (Department of Parks and Wildlife, 2014). While several *Agonis flexuosa* were recorded on site, no direct observation of the Western Ringtail Possum, nor evidence from scats or dreys were recorded during the survey.

Two *Agonis flexuosa* trees in the northern section of the park exhibited scratch marks on their trunks, potentially indicating the presence of the Western Ringtail Possum. However, no further observations to indicate the presence of the species were noted. Due to the highly disturbed and modified nature of the parkland, it is more likely that the Western Ringtail Possums may utilise the site transiently for foraging or movement rather than having a resident population. There are several recorded sightings and roadkill records in close proximity to the survey area, with majority of the sightings occurring 3 km to the south, where larger patches of remnant vegetation remain (DBCA, 2021c).

4.4.2 Black Cockatoo

A total of 41 habitat trees (DBH > 500 mm) that satisfied the EPBC Act referral guidelines for three threatened black cockatoo species were identified and their locations mapped (Table 10, Figure 5). Eleven habitat trees were observed to have hollows, with only one Tuart (*Eucalyptus gomphocephala*) noted to have the potential to function as a breeding site (hollow opening large enough to accommodate mature black cockatoos). None of the tree hollows displayed any signs of current black cockatoo breeding activity. No threatened black cockatoos were observed during the survey with no observable foraging or roosting evidence noted.

Table 10: Habitat trees

Tree No.	Species	Hollows	Latitude	Longitude
Habitat 10	<i>Agonis flexuosa</i>	None visible	-33.3459373	115.6440961
Habitat 18	<i>Agonis flexuosa</i>	Small hollows visible	-33.3468070	115.6417980
Habitat 2	<i>Agonis flexuosa</i>	None visible	-33.3452313	115.6435974
Habitat 29	<i>Agonis flexuosa</i>	Several small hollows	-33.3454068	115.6418968
Habitat 3	<i>Agonis flexuosa</i>	None visible	-33.3453183	115.6435559
Habitat 31	<i>Agonis flexuosa</i>	None visible	-33.3453403	115.6421592
Habitat 33	<i>Agonis flexuosa</i>	Small hollow visible	-33.3453290	115.6422551
Habitat 34	<i>Agonis flexuosa</i>	Medium hollow visible with pink and grey galah in it	-33.3452654	115.6423068
Habitat 35	<i>Agonis flexuosa</i>	Small hollow visible	-33.3453136	115.6424278
Habitat 36	<i>Agonis flexuosa</i>	No hollows visible but claw marks on trunk	-33.3453063	115.6424787
Habitat 37	<i>Agonis flexuosa</i>	No hollows visible but claw marks on trunk	-33.3452960	115.6428377
Habitat 38	<i>Agonis flexuosa</i>	None visible	-33.3452233	115.6429111
Habitat 39	<i>Agonis flexuosa</i>	None visible	-33.3453768	115.6436354
Habitat 4	<i>Agonis flexuosa</i>	Small hollows	-33.3452631	115.6431585
Habitat 40	<i>Agonis flexuosa</i>	Small hollows visible	-33.3452427	115.6432775
Habitat 41	<i>Agonis flexuosa</i>	None visible	-33.3456062	115.6438671
Habitat 6	<i>Agonis flexuosa</i>	None visible	-33.3452603	115.6424808
Habitat 21	<i>Araucaria heterophylla</i>	None visible	-33.3460832	115.6440698
Habitat 23	<i>Araucaria heterophylla</i>	None visible	-33.3452432	115.6421776
Habitat 25	<i>Araucaria heterophylla</i>	None visible	-33.3457959	115.6441855
Habitat 30	<i>Araucaria heterophylla</i>	None visible	-33.3472434	115.6430640
Habitat 9	<i>Araucaria heterophylla</i>	None visible	-33.3461859	115.6415556
Habitat 11	<i>Erythrina x sykesii</i>	None visible	-33.3460661	115.6415628
Habitat 32	<i>Erythrina x sykesii</i>	None visible	-33.345973	115.6415578
Habitat 8	<i>Erythrina x sykesii</i>	None visible	-33.3458776	115.6415544
Habitat 14	<i>Eucalyptus cladocalyx</i>	None visible	-33.3456057	115.6415930

Tree No.	Species	Hollows	Latitude	Longitude
Habitat 15	<i>Eucalyptus cladocalyx</i>	None visible	-33.3455272	115.6415039
Habitat 19	<i>Eucalyptus cladocalyx</i>	None visible	-33.3453625	115.6416474
Habitat 20	<i>Eucalyptus cladocalyx</i>	None visible	-33.3471747	115.6432622
Habitat 22	<i>Eucalyptus cladocalyx</i>	None visible	-33.3452205	115.6434266
Habitat 24	<i>Eucalyptus cladocalyx</i>	None visible	-33.3470592	115.6435775
Habitat 26	<i>Eucalyptus cladocalyx</i>	None visible	-33.3474207	115.6425164
Habitat 27	<i>Eucalyptus cladocalyx</i>	None visible	-33.3453247	115.6438115
Habitat 28	<i>Eucalyptus cladocalyx</i>	3 vertical hollows	-33.3472954	115.6435775
Habitat 1	<i>Eucalyptus gomphocephala</i>	Many visible small hollows	-33.3472608	115.6426749
Habitat 12	<i>Eucalyptus gomphocephala</i>	None visible	-33.3456536	115.6442087
Habitat 13	<i>Eucalyptus gomphocephala</i>	Many hollows visible, 2 visible bee hives	-33.3461859	115.6414514
Habitat 17	<i>Eucalyptus gomphocephala</i>	2 large hollows visible, 1 with active bee hive. Many smaller hollows visible	-33.3459557	115.6414161
Habitat 5	<i>Eucalyptus gomphocephala</i>	None visible	-33.3457027	115.6413753
Habitat 16	<i>Eucalyptus sp</i>	None visible	-33.3452654	115.6418302
Habitat 7	<i>Melaleuca quinqueflora</i>	None visible	-33.3454667	115.6440752



Figure 5:
 Habitat Tree
 Hands Oval, Bunbury

Client: City of Bunbury
 Date: Feb 2021
 Created by: J.Weil
 Image Source: Nearmap, 2021
 Datum: GDA 94



5.0 Discussion and Recommendations

5.1 Flora and Vegetation

Natural Area's survey recorded 13 flora species from six families, of which nine were introduced and four were native. Two vegetation types were determined within the survey site, namely Open Grassland and *Agonis flexuosa* and Mixed Eucalyptus Open Woodland. Vegetation condition is Completely Degraded. The survey area consists cleared parkland with isolated native and non-native trees over maintained grasses areas.

5.2 Significant Flora

No threatened or priority flora species were recorded during survey. However, the flora survey was conducted outside the optimal time (spring) for the South West Botanical Region and annual species, such as orchids, may not be presenting and therefore, not recorded during the survey. However, due to the degraded condition, past clearing and current land use as a public open space, it is unlikely to provide suitable habitat for conservation significant flora species.

5.3 Threatened and Priority Ecological Communities

No priority or threatened ecological communities were recorded on site. Vegetation condition of the entire site was Completely Degraded and did not meet the condition requirements for it to be classified as any of the potentially occurring TECs.

5.4 Fauna

Two birds were observed on site during the survey. Species recorded are consistent with urban fauna assemblage that have adapted to modified anthropogenic landscapes. As the park is utilised for various recreational activities and sporting events, with roads and urban development surrounding the site, shy and cryptic species would most likely have emigrated from the reserve due to noise and light disturbance from proximity to urban activities. With its current use as a public open space and retention and maintenance of numerous mature trees, Hands Oval will function as a refuge for many urban species for both foraging and movement.

5.5 Significant Fauna

A total of 41 habitat trees (DBH >500 mm) were recorded within the site, of which 20 are considered suitable roosting sites (Tuarts and introduced eucalypts and pines. Eleven presented small hollows with only one Tuart (*Eucalyptus gomphocephala*) exhibiting a hollow large enough to accommodate mature black cockatoos and potentially function as a breeding site. However, no roosting or feeding by any of the three threatened black cockatoo species was recorded. The closest confirmed breeding sites occur 17.7 km south (DBCA, 2021d) with known roosting sites occurring 1.5 km south east of Hands Oval (DBCA, 2021e). Assessment of the site characteristics against the referral guidelines for the three threatened black cockatoo species is shown in Table 11.

Table 11: Referral guidelines for the three threatened black cockatoos

Guidelines		Comments
High risk of significant impacts: referral recommended	<ul style="list-style-type: none"> ▪ Clearing of any known nesting tree ▪ Clearing or degradation of any part of a vegetation community known to contain breeding habitat ▪ Clearing of more than 1 ha of quality foraging habitat. ▪ Clearing or degradation (including pruning the top canopy) of a known night roosting site ▪ Creating a gap of greater than 4 km between patches of black cockatoo habitat (breeding, foraging or roosting). 	<p>Unlikely to be high risk of significant impacts:</p> <ul style="list-style-type: none"> ▪ No nesting or evidence of nesting activities were recorded on site. ▪ There were 41 potential habitat trees (DBH>500 mm) including a mix of native and introduced species. One Tuart exhibited hollow potentially large enough for black cockatoos. ▪ Closest confirmed Carnaby’s cockatoo breeding site occurs 17.7 km south of Hands Oval. Closest black cockatoo breeding site occurs 46 km north to site (DBCA, 2021d). ▪ Hands Oval is approximately 6.9 ha in size, consisting primarily of cleared parkland in Completely Degraded vegetation condition. Site contains less than 1 ha of remnant vegetation. ▪ Closest known roosting site for Carnaby’s cockatoo occurs 16 km south east. Closest known black cockatoo roosting site occurs 1.5 km east to Hands Oval (DBCA, 2021e).
Uncertainty: referral recommended or contact the department	<ul style="list-style-type: none"> ▪ Degradation (such as through altered hydrology or fire regimes) of more than 1 ha of foraging habitat. Significance will depend on the level and extent of degradation and the quality of the habitat. ▪ Clearing or disturbance in areas surrounding black cockatoo breeding, foraging or night roosting habitat that has the potential to degrade habitat through introduction of invasive species, edge effects, hydrological changes, increased human visitation or fire. ▪ Actions that do not directly affect the listed species but that have the potential for 	<ul style="list-style-type: none"> ▪ Remnant vegetation on site is less than 1 ha and consists of Completely Degraded parkland. ▪ Current land use as a recreational sports oval and park presents existing disturbances and anthropogenic influences. ▪ Proposed clearing is within an urban area with common urban avian species already present. Nesting competition currently exists and will not be increased by the proposed works. ▪ The proposed clearing is not expected to introduce plant diseases into the area if hygiene and machinery hygiene is maintained during the clearing process.

Guidelines		Comments
	<p>indirect impacts such as increasing competitors for nest hollows.</p> <ul style="list-style-type: none"> ▪ Actions with the potential to introduce known plant diseases such as <i>Phytophthora</i> spp. to an area where the pathogen was not previously known. 	
Low risk of significant impacts: referral may not be required	<ul style="list-style-type: none"> ▪ Actions that do not affect black cockatoo habitat or individuals. ▪ Actions whose impacts occur outside the modelled distribution of the three black cockatoos. 	<p>The proposed clearing has a low risk of significant impacts as:</p> <ul style="list-style-type: none"> ▪ Hands Oval occurs outside known cockatoo breeding sites and is unlikely to function as a suitable breeding location as it resides within an urban space. ▪ Black cockatoos would use the site transiently as a low quality foraging and roosting area.

Seventeen mature *Agonis flexuosa* were recorded on site. This tree species is a critical indicating factor to determine the presence of the Western Ringtail Possum. While no observable signs (scats, dreys, direct sighting) were recorded, scratch marks on the base of two *Agonis flexuosa*, indicate the potential presence of the Western Ringtail Possum. DBCA database showed past records of road kills and sightings near Hands Oval. This may indicate that the species may utilise the site transiently within their home range to seek refuge or for resource foraging. There are several suitable habitats for Western Ringtail Possums near Hands Oval. They include Big Swamp Reserve, Sam's Park and Vincent Park (DBCA, 2021f).

A significant impact assessment was undertaken in accordance with EPBC Act Policy Statement 3.10 (Department of the Environment, Water, Heritage and the Arts, 2009) (Table 12). According to the policy statement, the survey site (Bunbury) is located within Area 3- Supporting Habitat of the southern Swan Coastal Plain.

Table 12: Significant Impact Assessment for Area 3- Supporting Habitat

Actions with Potential Significant Impacts	Comments
Clearing in a remnant habitat patch that is greater than 0.5 ha in size	<p>Hands Oval is approximately 6.9 ha in size, consisting primarily of cleared parkland in Completely Degraded Vegetation Condition.</p> <p>Site contains approximately 1 ha of remnant vegetation including many introduced Eucalyptus, pines and horticultural landscape trees. Patches of Peppermint trees (<i>Agonis flexuosa</i>) are located</p>

Actions with Potential Significant Impacts	Comments
	<p>towards the northeast of Hands Oval and spanning approximately 0.4 ha.</p> <p>Proposed clearing is unlikely to have significant impacts.</p>
<p>Clearing of more than 50 % of a remnant habitat patch that is between 0.1 and 0.5 ha in size</p>	<p>Proposed clearing may result in over 50 % loss of remnant habitat if all trees are removed.</p> <p>However, majority of the proposed developments are planned for the south and east portions of Hands Oval. Retention of Peppermint trees in the northern section is possible if lower footprint structures such as paths and roads are designed around existing trees.</p>
<p>Fragmentation of existing habitat linkages</p>	<p>Majority of the habitat trees within Hands Oval are separated by more than six metres, including Peppermint trees. In addition, there is a lack of understorey and ground cover, further limiting the site’s function as a significant habitat linkage.</p> <p>Hands Oval is also currently surrounded by urban residential developments and is unlikely to function as a significant local or regional ecological linkage for the Western Ringtail Possum.</p> <p>It is unlikely that Hands Oval function as an existing linkage due to current site conditions and lack of tree canopy continuity.</p>

5.6 Recommendations

Due to the current vegetation condition of the survey area and its function as a public open space, its conservation value in terms of supporting native biodiversity is limited. The competing priority as a recreational space also prevents natural regeneration and introduces anthropogenic disturbances. This is confirmed with the low diversity of flora and fauna species recorded during the survey, with 70% of the flora species being non-native (introduced/planted species).

The parkland supports species adapted to urban spaces and may also provide temporary shelter and foraging for conservation significant species such as the Western Ringtail Possum and black cockatoos. While the mentioned species may utilise the site transiently, it is unlikely that Hands Oval functions as a critical habitat necessary of the survival of the species. Proposed clearing of the survey area has low risk of significant impacts on conservation significant species and is unlikely that a referral under the EPBC Act is

required. Although there is a low risk of a significant impact, the City may still choose to have a pre-referral meeting to discuss the proposed action and/or contact the Department of Agriculture, Water and the Environment. The Department of Water and Environmental Regulation (DWER) regulates clearing of native vegetation under the EP Act and is facilitated through clearing permits. Clearing of native vegetation for the lawful construction of a building or other structure is exempt if other relevant approvals have been obtained, including any planning approvals, building license and if clearing does not exceed five hectares. If planning approvals from relevant authorities have not been acquired, a clearing permit will have to be submitted and assessed by DWER.

Natural Area has the following recommendations to reduce potential environmental impacts associated with the proposed clearing:

- apply local protection methods to important individual trees including the retention of mature habitat trees (DBH>500mm) where possible
- native habitat trees (*Eucalyptus gomphocephala* and *Agonis flexuosa*), with DBH>500mm and presenting hollows, even if they are dead should be prioritised for retention
- non-native trees, including introduced Eucalyptus and pines, may also provide suitable habitat for conservation significant species if they present suitable hollows or have DBH greater than 500mm trees should be retained where possible. If they are proposed to be removed, trees should be replaced with native species representative of the area, including *Eucalyptus gomphocephala* and *Agonis flexuosa*.
- clearing to occur outside of peak breeding season (spring) when avian species may utilise trees at Hands Oval as potential breeding sites.

6.0 References

Bureau of Meteorology. (2021). *Climate and Weather Statistics – Bunbury Site ID 9965*, accessed February 2021 via: http://www.bom.gov.au/climate/averages/tables/cw_009965.shtml.

City of Bunbury. (2021). *Intramaps*. Retrieved from <http://maps.bunbury.wa.gov.au/intramaps96/>

Department of Agriculture, Water and the Environment. (2017). *TUART (EUCALYPTUS GOMPHOCEPHALA) WOODLANDS AND FORESTS OF THE SWAN COAST PLAIN ECOLOGICAL COMMUNITY- DRAFT CONSERVATION ADVICE INCLUDING DRAFT LISTING ADVICE*. Retrieved from <https://www.environment.gov.au/system/files/consultations/6c733160-9b7f-41f9-b47e-02ca095737e6/files/draft-conservation-advice-tuart-woodlands-ec.pdf>

Department of Agriculture, Water, and the Environment. (2021a). *Conservation Codes*, accessed February 2021 via <http://www.environment.gov.au/biodiversity/threatened/species>

Department of Agriculture, Water, and the Environment. (2021b). *Protected Matters Search Tool*, accessed February 2021 via <http://www.environment.gov.au/epbc/pmst/>.

Department of Biodiversity, Conservation and Attractions. (2020). *Conservation Codes*, accessed February 2021 via: <https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/Conservation%20code%20definitions.pdf>.

Department of Biodiversity, Conservation and Attractions. (2021a). *FloraBase – The Western Australian Flora*, accessed February 2021 via <https://florabase.dpaw.wa.gov.au/>.

Department of Biodiversity, Conservation and Attractions. (2021b). *NatureMap*, accessed February 2021 via <http://naturemap.dpaw.wa.gov.au/default.aspx>.

Department of Biodiversity, Conservation and Attractions. (2021c). *Threatened and Priority Flora, Fauna and Ecological Communities Database Searches*, personal communication.

Department of Biodiversity, Conservation and Attractions. (2021d). *Carnabys Cockatoo Confirmed Breeding Areas within the Swan Coastal Plain and Jarrah Forest IBRA Regions (DBCA-054)*. Retrieved from https://services.slip.wa.gov.au/public/services/SLIP_Public_Services/Plants_and_Animals/MapServer/WMSServer

Department of Biodiversity, Conservation and Attractions. (2021e). *Black Cockatoo Roosting Sites- Buffered (DBCA-064)*. Retrieved from https://services.slip.wa.gov.au/public/services/SLIP_Public_Services/Plants_and_Animals/MapServer/WMSServer

Department of Biodiversity, Conservation and Attractions (2021f). *Western Ringtail Possum Habitat Suitability (DBCA-049)*. Retrieved from

https://services.slip.wa.gov.au/public/services/SLIP_Public_Services/Plants_and_Animals/MapServer/WMSServer

Department of Parks and Wildlife. (2014). *An assessment of habitat for Western Ringtail Possum (Pseudocheirus occidentalis) on the southern Swan Coastal Plain (Binningup to Dunsborough)*. Retrieved from https://www.dpaw.wa.gov.au/images/shedley_and_williams_2014_an_assessment_of_habitat_for_western_ringtail_possum_on_the_southern_swan_coastal_plain_-_binningup_to_dunsborough_department_of_parks_and_wildlife.pdf

Department of Primary Industries and Regional Development. (2021). *NRInfo for Western Australia: map application*, accessed February 2021 via <https://www.agric.wa.gov.au/resource-assessment/nrinfo-western-australia>.

Department of the Environment, Water, Heritage and the Arts. (2009). *Significant impact guidelines for the vulnerable western ringtail possum (Pseudocheirus occidentalis) in the southern Swan Coastal Plain, Western Australia. Nationally threatened species and ecological communities. EPBC Act policy statement 3.10*. Retrieved from <https://www.environment.gov.au/system/files/resources/12125dcb-7a21-42b7-8491-a404f4bbfc07/files/western-ringtail-possum.pdf>

Environmental Protection Authority. (2016). *Technical Guidance: Flora and Vegetation survey for Environmental Impact Assessment*, accessed February 2021 via http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf.

Government of Western Australian. (2000). *Bush Forever, Volume 2*, Government of Western Australia, Perth, Western Australia.

Hedde, E., Loneragan, O., and Havel, J. (1980). *Vegetation Complexes of the Darling System Western Australia*. In *Atlas of Natural Resources - Darling System, Western Australia* (pp. 37 - 72), Department of Conservation and Environment, Western Australia.

Hearn, R., Williams, K., Comer, S., and Beecham, B. (2002). *Jarrah Forest 2 (JF2 – Southern Jarrah Forest subregion)*, accessed September 2020 via: <https://www.dpaw.wa.gov.au/about-us/science-and-research/ecoinformatics-research/117-a-biodiversity-audit-of-wa>.

Western Australian Local Government Association (WALGA). (2013). *2013 Native Vegetation extent by Vegetation Complexes on the Swan Coastal Plain south of Moore River (Local Biodiversity Program, 2013)*. Retrieved from <http://pbb.walga.asn.au/Portals/1/Templates/docs/SCP%202013%20remnant%20veg.pdf>

Western Australian Local Government Association (WALGA). (2021). *LG Map – Explanatory Notes for Users: Vegetation*, accessed February 2021 via https://lbp.asn.au/en.htm#_Appendix_2:_Vegetation.

Appendix 1: NatureMap

NatureMap Species Report

Created By Guest user on 23/02/2021

Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 115° 38' 35" E, 33° 20' 46" S
Buffer 5km
Group By Species Group

Species Group	Species	Records
Alga	20	27
Amphibian	9	239
Bird	186	7717
Bryopsid (Moss)	12	18
Dicotyledon	332	584
Fish	61	92
Fungus	3	9
Gymnosperm	2	2
Hepatic (Liverwort)	1	1
Invertebrate	43	169
Lichen	14	15
Mammal	26	1032
Monocotyledon	196	344
Pteridophyte (Fern)	1	1
Reptile	30	132
TOTAL	936	10382

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Alga				
1.	35909 <i>Amansia pinnatifida</i>			
2.	26586 <i>Caulocystis uvifera</i>			
3.	26607 <i>Chaetomorpha aerea</i>			
4.	26663 <i>Cladurus elatus</i>			
5.	26666 <i>Cliftonaea pectinata</i>			
6.	26667 <i>Codiophyllum flabelliforme</i>			
7.	26720 <i>Cystophora grevillei</i>			
8.	26854 <i>Gigartina disticha</i>			
9.	26877 <i>Grateloupia filicina</i>			
10.	27090 <i>Myriodesma quercifolium</i>			
11.	27126 <i>Petalonia fascia</i>			
12.	27131 <i>Phacelocarpus alatus</i>			
13.	27151 <i>Platythalia angustifolia</i>			
14.	27195 <i>Pterocladia lucida</i>			
15.	27238 <i>Sargassum distichum</i>			
16.	27249 <i>Sargassum linearifolium</i>			
17.	35911 <i>Scytosiphon lomentaria</i>			
18.	27327 <i>Thamnoclonium dichotomum</i>			
19.	27345 <i>Turbinaria gracilis</i>			
20.	35260 <i>Ulva compressa</i>			
Amphibian				
21.	25398 <i>Crinia georgiana</i> (Quacking Frog)			
22.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
23.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
24.	25404 <i>Geocrinia leai</i> (Ticking Frog)			
25.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
26.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
27.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
28.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
29.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
Bird				
30.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
31.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
32.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
33.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
34.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
35.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
36.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
37.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
38.	24310 <i>Anas castanea</i> (Chestnut Teal)			
39.	24312 <i>Anas gracilis</i> (Grey Teal)			
40.	24313 <i>Anas platyrhynchos</i> (Mallard)			
41.	<i>Anas platyrhynchos</i> subsp. <i>domesticus</i>			
42.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
43.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
44.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
45.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
46.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
47.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
48.	25558 <i>Ardea ibis</i> (Cattle Egret)			
49.	41324 <i>Ardea modesta</i> (great egret, white egret)			
50.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
51.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
52.	41326 <i>Ardenna carneipes</i> (Flesh-footed Shearwater, Fleishy-footed Shearwater)		T	
53.	25736 <i>Arenaria interpres</i> (Ruddy Turnstone)		IA	
54.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
55.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
56.	24318 <i>Aythya australis</i> (Hardhead)			
57.	<i>Barnardius zonarius</i>			
58.	24319 <i>Biziura lobata</i> (Musk Duck)			
59.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
60.	25714 <i>Cacatua pastinator</i> (Western Long-billed Corella)			
61.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
62.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
63.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
64.	24780 <i>Calidris alba</i> (Sanderling)		IA	
65.	25738 <i>Calidris canutus</i> (Red Knot, knot)		IA	
66.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
67.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
68.	24790 <i>Calidris tenuirostris</i> (Great Knot)		T	
69.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
70.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
71.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
72.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
73.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
74.	25575 <i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	
75.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
76.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
77.	<i>Chroicocephalus novaehollandiae</i>			
78.	24432 <i>Chrysococcyx lucidus</i> subsp. <i>plagosus</i> (Shining Bronze Cuckoo)			
79.	24288 <i>Circus approximans</i> (Swamp Harrier)			
80.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
81.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
82.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
83.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
84.	25592 <i>Corvus coronoides</i> (Australian Raven)			
85.	24417 <i>Corvus coronoides</i> subsp. <i>perplexus</i> (Australian Raven)			
86.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
87.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
88.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
89.	24322 <i>Cygnus atratus</i> (Black Swan)			
90.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
91.	25618 <i>Diomedea exulans</i> (Wandering Albatross)		T	
92.	30836 <i>Diomedea exulans</i> subsp. <i>exulans</i> (Snowy Albatross)		T	
93.	<i>Egretta garzetta</i>			
94.	<i>Egretta novaehollandiae</i>			
95.	<i>Elanus axillaris</i>			
96.	47937 <i>Elsyornis melanops</i> (Black-fronted Dotterel)			
97.	<i>Eolophus roseicapillus</i>			
98.	24651 <i>Eopsaltria australis</i> subsp. <i>griseogularis</i> (Western Yellow Robin)			
99.	24652 <i>Eopsaltria georgiana</i> (White-breasted Robin)			
100.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			

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101.	24813 <i>Eudyptes chrysocome</i> subsp. <i>filholi</i> (Rockhopper Penguin)			Y
102.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
103.	25623 <i>Falco longipennis</i> (Australian Hobby)			
104.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
105.	25727 <i>Fulica atra</i> (Eurasian Coot)			
106.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
107.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
108.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
109.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
110.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
111.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
112.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
113.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
114.	24295 <i>Haliastur spheurnus</i> (Whistling Kite)			
115.	24689 <i>Halobaena caerulea</i> (Blue Petrel)			
116.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
117.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
118.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
119.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
120.	25638 <i>Larus pacificus</i> (Pacific Gull)			
121.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
122.	30932 <i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
123.	25741 <i>Limosa limosa</i> (Black-tailed Godwit)		IA	
124.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
125.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
126.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
127.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
128.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
129.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
130.	<i>Microcarbo melanoleucos</i>			
131.	48008 <i>Morus serrator</i> (Australasian Gannet)			
132.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
133.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
134.	25742 <i>Numenius phaeopus</i> (Whimbrel)		IA	
135.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
136.	24497 <i>Oceanites oceanicus</i> (Wilson's Storm-petrel)		IA	
137.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
138.	41347 <i>Onychoprion anaethetus</i> (Bridled Tern)		IA	
139.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
140.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
141.	24692 <i>Pachyptila belcheri</i> (Slender-billed Prion)			
142.	24693 <i>Pachyptila desolata</i> (Antarctic Prion)			
143.	25707 <i>Pachyptila salvini</i> (Salvin's Prion)			
144.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
145.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
146.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
147.	25687 <i>Passer domesticus</i> (House Sparrow)	Y		
148.	24642 <i>Passer montanus</i> (Eurasian Tree Sparrow)	Y		
149.	24649 <i>Pelecanoides urinatrix</i> subsp. <i>exsul</i> (Common Diving Petrel)			
150.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
151.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
152.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
153.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
154.	24664 <i>Phalacrocorax carbo</i> subsp. <i>novaeahollandiae</i> (Great Cormorant)			
155.	24665 <i>Phalacrocorax fuscescens</i> (Black-faced Cormorant)			
156.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
157.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
158.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
159.	24668 <i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
160.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
161.	25587 <i>Phaps elegans</i> (Brush Bronzewing)			
162.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
163.	24596 <i>Phylidonyris novaeahollandiae</i> (New Holland Honeyeater)			
164.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
165.	24842 <i>Platalea regia</i> (Royal Spoonbill)			
166.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
167.	24747 <i>Platycercus spurius</i> (Red-capped Parrot)			
168.	25721 <i>Platycercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
169.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
170.	24382 <i>Pluvialis fulva</i> (Pacific Golden Plover)		IA	

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
171.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
172.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
173.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
174.	24681 <i>Poliiocephalus poliocephalus</i> (Hoary-headed Grebe)			
175.	25722 <i>Polytelis anthopeplus</i> (Regent Parrot)			
176.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
177.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
178.	24388 <i>Psophodes nigrogularis</i> subsp. <i>nigrogularis</i> (Western Whipbird (western heath))		T	
179.	24702 <i>Pterodroma brevirostris</i> (Kerguelen Petrel)			
180.	24703 <i>Pterodroma lessonii</i> (White-headed Petrel)			
181.	<i>Pterodroma macroptera</i> subsp. <i>macroptera</i>			
182.	25711 <i>Pterodroma mollis</i> (Soft-plumaged Petrel)			
183.	24711 <i>Puffinus assimilis</i> subsp. <i>assimilis</i> (Little Shearwater)			
184.	<i>Purpureicephalus spurius</i>			
185.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
186.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
187.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
188.	25616 <i>Rhipidura rufiventris</i> (Northern Fantail)			
189.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
190.	30948 <i>Smicronis brevirostris</i> (Weebill)			
191.	24522 <i>Sterna bergii</i> (Crested Tern)			
192.	25642 <i>Sterna hirundo</i> (Common Tern)		IA	
193.	48594 <i>Sternula nereis</i> (Fairy Tern)			
194.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			
195.	25655 <i>Stipiturus malachurus</i> (Southern Emu-wren)			
196.	24554 <i>Stipiturus malachurus</i> subsp. <i>westernensis</i> (Southern Emu-wren)			
197.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
198.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
199.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
200.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
201.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
202.	34134 <i>Thalassarche carteri</i> (Indian Yellow-nosed Albatross)		T	
203.	44607 <i>Thalassarche melanophris</i> (Black-browed Albatross)		T	
204.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
205.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
206.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
207.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
208.	24755 <i>Trichoglossus haematodus</i> subsp. <i>moluccanus</i> (Rainbow Lorikeet)	Y		
209.	24803 <i>Tringa brevipes</i> (Grey-tailed Tattler)		P4	
210.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
211.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
212.	24809 <i>Tringa stagnatilis</i> (Marsh Sandpiper, little greenshank)		IA	
213.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
214.	41351 <i>Xenus cinereus</i> (Terek Sandpiper)		IA	
215.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			

Bryopsid (Moss)

216.	32315 <i>Barbula calycina</i>			
217.	32338 <i>Campylopus introflexus</i>	Y		
218.	32345 <i>Didymodon australasiae</i>			
219.	32346 <i>Didymodon torquatus</i>			
220.	32367 <i>Fissidens megalotis</i>			
221.	32369 <i>Fissidens tenellus</i>			
222.	32380 <i>Gemmabryum pachythecum</i>			
223.	32480 <i>Racopilum cuspidigerum</i> var. <i>convolutaceum</i>			
224.	32424 <i>Rosulabryum albolimbatum</i>			
225.	44608 <i>Rosulabryum billardieri</i>			
226.	32437 <i>Syntrichia antarctica</i>			
227.	32486 <i>Thuidium sparsum</i> var. <i>hastatum</i>			

Dicotyledon

228.	3207 <i>Acacia alata</i> (Winged Wattle)			
229.	15466 <i>Acacia applanata</i>			
230.	3282 <i>Acacia cyclops</i> (Coastal Wattle)			
231.	3339 <i>Acacia flagelliformis</i>		P4	
232.	3383 <i>Acacia incurva</i>			
233.	18217 <i>Acacia iteaphylla</i>	Y		
234.	17861 <i>Acacia longifolia</i>	Y		
235.	17860 <i>Acacia podalyriifolia</i>	Y		
236.	3502 <i>Acacia pulchella</i> (Prickly Moses)			
237.	15481 <i>Acacia pulchella</i> var. <i>glaberrima</i>			

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238.	3527 <i>Acacia saligna</i> (Orange Wattle, Kudjong)			
239.	3537 <i>Acacia semitrullata</i>		P4	
240.	3557 <i>Acacia stenoptera</i> (Narrow Winged Wattle)			
241.	3576 <i>Acacia tetragonocarpa</i>			
242.	1790 <i>Adenanthos meisneri</i>			
243.	1791 <i>Adenanthos obovatus</i> (Basket Flower)			
244.	4582 <i>Adriana quadripartita</i> (Bitter Bush)			
245.	48513 <i>Aizoon pubescens</i>	Y		
246.	1732 <i>Allocasuarina humilis</i> (Dwarf Sheoak)			
247.	6565 <i>Alyxia buxifolia</i> (Dysentery Bush)			
248.	4585 <i>Amperea ericoides</i>			
249.	7833 <i>Angianthus preissianus</i>			
250.	6949 <i>Anthocercis littorea</i> (Yellow Tailflower)			
251.	8595 <i>Apium graveolens</i> (Wild Celery)	Y		
252.	12040 <i>Apium prostratum</i> subsp. <i>prostratum</i> var. <i>prostratum</i> (Sea Celery)			
253.	17355 <i>Araujia sericifera</i>	Y		
254.	7839 <i>Arctotheca populifolia</i> (Dune Arctotheca, Beach Pumpkin, Coast Capeweed, Beach Daisy)	Y		
255.	20350 <i>Astartea affinis</i> (West-coast Astartea)			
256.	45213 <i>Astartea pulchella</i>			
257.	7851 <i>Asteridea pulverulenta</i> (Common Bristle Daisy)			
258.	6323 <i>Astroloma ciliatum</i> (Candle Cranberry)			
259.	2452 <i>Atriplex cinerea</i> (Grey Saltbush)			
260.	2460 <i>Atriplex hortensis</i> (Garden Orache)	Y		
261.	2463 <i>Atriplex isatidea</i> (Coast Saltbush)			
262.	6828 <i>Avicennia marina</i> (White Mangrove)			
263.	14555 <i>Avicennia marina</i> subsp. <i>marina</i>			
264.	1800 <i>Banksia attenuata</i> (Slender Banksia, Piara)			
265.	1822 <i>Banksia ilicifolia</i> (Holly-leaved Banksia)			
266.	1830 <i>Banksia littoralis</i> (Swamp Banksia, Pungura)			
267.	48868 <i>Bellardia viscosa</i>	Y		
268.	7853 <i>Berkheya rigida</i> (African Thistle, Hamelin Thistle)	Y		
269.	4417 <i>Boronia dichotoma</i>			
270.	4441 <i>Boronia spathulata</i> (Boronia)			
271.	48782 <i>Bossiaea angustifolia</i>			
272.	14396 <i>Bossiaea aquifolium</i> subsp. <i>aquifolium</i>			
273.	3710 <i>Bossiaea eriocarpa</i> (Common Brown Pea)			
274.	7878 <i>Brachyscome iberidifolia</i>			
275.	2994 <i>Brassica x juncea</i> (Indian Mustard)	Y		
276.	3002 <i>Cakile maritima</i> (Sea Rocket)	Y		
277.	4717 <i>Callitriche stagnalis</i> (Common Starwort)	Y		
278.	5415 <i>Calothamnus lateralis</i>			
279.	35797 <i>Calothamnus lateralis</i> var. <i>lateralis</i>			
280.	16493 <i>Calycopeplus oligandrus</i>			
281.	5458 <i>Calytrix flavescens</i> (Summer Starflower)			
282.	19713 <i>Campsis radicans</i>	Y		
283.	11501 <i>Cassytha glabella</i> forma <i>casuarinae</i>			
284.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
285.	2483 <i>Chenopodium album</i> (Fat Hen)	Y		
286.	2490 <i>Chenopodium glaucum</i> (Glaucous Goosefoot)	Y		
287.	2494 <i>Chenopodium murale</i> (Nettle-leaf Goosefoot)	Y		
288.	8971 <i>Chorizema cordatum</i>			
289.	7935 <i>Cichorium intybus</i> (Chicory)	Y		
290.	4554 <i>Comesperma flavum</i>			
291.	4564 <i>Comesperma virgatum</i> (Milkwort)			
292.	6348 <i>Conostephium pendulum</i> (Pearl Flower)			
293.	19881 <i>Convolvulus angustissimus</i> subsp. <i>angustissimus</i>			
294.	6611 <i>Convolvulus arvensis</i> (Field Bindweed)	Y		
295.	20074 <i>Conyza sumatrensis</i>	Y		
296.	2891 <i>Corrigiola litoralis</i> (Strapwort)	Y		
297.	7946 <i>Cotula cotuloides</i> (Smooth Cotula)			
298.	7947 <i>Cotula turbinata</i> (Funnel Weed)	Y		
299.	42009 <i>Craspedia</i> sp. Yalgorup National Park (G.J. Keighery 14449)			
300.	13354 <i>Craspedia variabilis</i>			
301.	3136 <i>Crassula alata</i>	Y		
302.	3137 <i>Crassula colorata</i> (Dense Stonecrop)			
303.	15706 <i>Crassula natans</i> var. <i>minus</i>	Y		
304.	29054 <i>Crepis foetida</i> subsp. <i>foetida</i> (Stinking Hawksbeard)	Y		
305.	13484 <i>Cryptandra arbutiflora</i> var. <i>tubulosa</i>			
306.	16411 <i>Cucumis</i> sp. Bunbury (G. Brayshaw s.n. 26/2/91)	Y		Y

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
307.	13732 <i>Cuscuta campestris</i> (Golden dodder)	Y		
308.	6663 <i>Cuscuta epithymum</i> (Lesser Dodder, Greater Dodder)	Y		
309.	7428 <i>Dampiera coronata</i> (Wedge-leaved Dampiera)			
310.	7454 <i>Dampiera linearis</i> (Common Dampiera)			
311.	7462 <i>Dampiera pedunculata</i>			
312.	3793 <i>Daviesia angulata</i>			
313.	19747 <i>Daviesia decurrens</i> subsp. <i>decurrens</i>			
314.	3832 <i>Daviesia physodes</i>			
315.	3835 <i>Daviesia preissii</i>			
316.	4454 <i>Diplolaena dampieri</i> (Southern Diplolaena)			
317.	3012 <i>Diplotaxis tenuifolia</i> (Sand Rocket)	Y		
318.	3867 <i>Dipogon lignosus</i> (Dolichos Pea)	Y		
319.	7961 <i>Dittrichia graveolens</i> (Stinkwort)	Y		
320.	48751 <i>Drosera drummondii</i>			
321.	3097 <i>Drosera gigantea</i> (Giant Sundew)			
322.	48769 <i>Drosera indumenta</i>			
323.	3118 <i>Drosera pallida</i> (Pale Rainbow)			
324.	8911 <i>Drosera rosulata</i>			
325.	3131 <i>Drosera stolonifera</i> (Leafy Sundew)			
326.	13205 <i>Drosera tubaestylis</i>			
327.	33500 <i>Dysphania ambrosioides</i> (Mexican Tea)	Y		
328.	33517 <i>Dysphania multifida</i> (Scented Goosefoot)	Y		
329.	33480 <i>Dysphania pumilio</i> (Clammy Goosefoot)			
330.	17175 <i>Eremophila glabra</i> subsp. <i>albicans</i>			
331.	4336 <i>Erodium moschatum</i> (Musky Crowfoot)	Y		
332.	5659 <i>Eucalyptus gomphocephala</i> (Tuart, Duart)			
333.	5708 <i>Eucalyptus marginata</i> (Jarrah, Djara)			
334.	13512 <i>Eucalyptus rucis</i> subsp. <i>cratyantha</i>		P4	
335.	15137 <i>Euchiton sphaericus</i>			
336.	4636 <i>Euphorbia paralias</i> (Sea Spurge)	Y		
337.	3880 <i>Eutaxia virgata</i>			
338.	10765 <i>Exocarpos sparteus</i> (Broom Ballart, Djuk)			
339.	6221 <i>Foeniculum vulgare</i> (Fennel)	Y		
340.	5209 <i>Frankenia pauciflora</i> (Seaheath)			
341.	2969 <i>Fumaria capreolata</i> (Whiteflower Fumitory)	Y		
342.	20475 <i>Gastrolobium capitatum</i>			
343.	19190 <i>Gastrolobium cuneatum</i>			
344.	20473 <i>Gastrolobium ebracteolatum</i>			
345.	20512 <i>Gastrolobium praemorsum</i>			
346.	16311 <i>Gazania linearis</i>	Y		
347.	3936 <i>Genista linifolia</i> (Flaxleaf Broom)	Y		
348.	46134 <i>Glebionis segetum</i>	Y		
349.	3956 <i>Gompholobium shuttleworthii</i>			
350.	3957 <i>Gompholobium tomentosum</i> (Hairy Yellow Pea)			
351.	7505 <i>Goodenia eatoniana</i>			
352.	12551 <i>Goodenia micrantha</i>			
353.	19286 <i>Goodenia pulchella</i> subsp. Coastal Plain A (M. Hislop 634)			
354.	14282 <i>Gratiola pubescens</i>			
355.	2066 <i>Grevillea pilulifera</i> (Woolly-flowered Grevillea)			
356.	2122 <i>Grevillea wilsonii</i> (Native Fuchsia)			
357.	2216 <i>Hakea varia</i> (Variable-leaved Hakea)			
358.	3961 <i>Hardenbergia comptoniana</i> (Native Wisteria)			
359.	8008 <i>Helianthus annuus</i> (Sunflower, Common Sunflower)	Y		
360.	12016 <i>Helianthus debilis</i> subsp. <i>cucumerifolius</i>	Y		
361.	6839 <i>Hemiantra pungens</i> (Snakebush)			
362.	41020 <i>Hemiphora bartlingii</i> (Woolly Dragon)			
363.	5109 <i>Hibbertia amplexicaulis</i>			
364.	5117 <i>Hibbertia cuneiformis</i> (Cutleaf Hibbertia)			
365.	20051 <i>Hibbertia diamesogenos</i>			
366.	5135 <i>Hibbertia hypericoides</i> (Yellow Buttercups)			
367.	45534 <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>			
368.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
369.	5172 <i>Hibbertia stellaris</i> (Orange Stars)			
370.	5173 <i>Hibbertia subvaginata</i>			
371.	5176 <i>Hibbertia vaginata</i>			
372.	6222 <i>Homalosciadium homalocarpum</i>			
373.	3968 <i>Hovea trisperma</i> (Common Hovea)			
374.	5216 <i>Hybanthus calycinus</i> (Wild Violet)			
375.	5221 <i>Hybanthus floribundus</i>			
376.	12007 <i>Hybanthus floribundus</i> subsp. <i>floribundus</i>			

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377.	6223 <i>Hydrocotyle alata</i>			
378.	6224 <i>Hydrocotyle blepharocarpa</i>			
379.	6225 <i>Hydrocotyle bonariensis</i>	Y		
380.	11546 <i>Hydrocotyle pilifera</i> var. <i>glabrata</i>			
381.	5817 <i>Hypocalymma angustifolium</i> (White Myrtle, Kudjid)			
382.	35070 <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777)			
383.	5825 <i>Hypocalymma robustum</i> (Swan River Myrtle)			
384.	8086 <i>Hypochoeris glabra</i> (Smooth Catsear)	Y		
385.	9352 <i>Hypochoeris radicata</i> (Flat Weed, Cats-ear)	Y		
386.	6630 <i>Ipomoea indica</i> (Morning Glory)	Y		
387.	4012 <i>Jacksonia furcellata</i> (Grey Stinkwood)			
388.	4017 <i>Jacksonia horrida</i>			
389.	4028 <i>Jacksonia spinosa</i>			
390.	37960 <i>Kennedia coccinea</i> subsp. <i>calcaria</i>			
391.	4044 <i>Kennedia prostrata</i> (Scarlet Runner)			
392.	5832 <i>Kunzea ericifolia</i> (Spearwood, Pondil)			
393.	15498 <i>Kunzea glabrescens</i> (Spearwood)			
394.	17461 <i>Kunzea micrantha</i> subsp. <i>micrantha</i>			
395.	3669 <i>Labichea punctata</i> (Lance-leaved Cassia)			
396.	8096 <i>Lactuca serriola</i> (Prickly Lettuce)	Y		
397.	5038 <i>Lasiopetalum membranaceum</i>		P3	
398.	4047 <i>Lathyrus tingitanus</i> (Tangier Pea)	Y		
399.	4958 <i>Lawrencia spicata</i>			
400.	7572 <i>Lechenaultia expansa</i>			
401.	7574 <i>Lechenaultia floribunda</i> (Free-flowering Leschenaultia)			
402.	6880 <i>Leonotis leonurus</i> (Lion's Ear)	Y		
403.	19989 <i>Lepidium didymum</i>	Y		
404.	16449 <i>Leucophyta brownii</i>			
405.	6374 <i>Leucopogon conostephioides</i>			
406.	6425 <i>Leucopogon oxycedrus</i>			
407.	6428 <i>Leucopogon pendulus</i>			
408.	6434 <i>Leucopogon polymorphus</i>			
409.	6440 <i>Leucopogon racemosus</i>			
410.	7677 <i>Levenhookia stipitata</i> (Common Stylewort)			
411.	4363 <i>Linum trigynum</i> (French Flax)	Y		
412.	36160 <i>Liparophyllum capitatum</i>			
413.	36180 <i>Liparophyllum latifolium</i>			
414.	9289 <i>Lobelia anceps</i> (Angled Lobelia)			
415.	7408 <i>Lobelia tenuior</i> (Slender Lobelia)			
416.	3048 <i>Lobularia maritima</i> (Sweet Alyssum)	Y		
417.	4059 <i>Lotus angustissimus</i> (Narrowleaf Trefoil)	Y		
418.	8564 <i>Lotus subbiflorus</i>	Y		
419.	4065 <i>Lupinus angustifolius</i> (Narrowleaf Lupin)	Y		
420.	4067 <i>Lupinus luteus</i> (Yellow Lupin)	Y		
421.	36375 <i>Lysimachia arvensis</i> (Pimpernel)	Y		
422.	34736 <i>Lysinema pentapetalum</i>			
423.	5281 <i>Lythrum hyssopifolia</i> (Lesser Loosestrife)	Y		
424.	36480 <i>Malva arborea</i> (Tree Mallow)	Y		
425.	4075 <i>Medicago littoralis</i> (Strand Medic)	Y		
426.	4079 <i>Medicago polymorpha</i> (Burr Medic)	Y		
427.	13273 <i>Melaleuca incana</i> subsp. <i>incana</i>			
428.	5926 <i>Melaleuca lateritia</i> (Robin Redbreast Bush)			
429.	5938 <i>Melaleuca microphylla</i>			
430.	20297 <i>Melaleuca osullivanii</i>			
431.	5946 <i>Melaleuca pauciflora</i>			
432.	5952 <i>Melaleuca preissiana</i> (Moonah)			
433.	48990 <i>Melaleuca quinquenervia</i>	Y		
434.	5959 <i>Melaleuca raphiophylla</i> (Swamp Paperbark)			
435.	18598 <i>Melaleuca systema</i>			
436.	5978 <i>Melaleuca teretifolia</i> (Banbar)			
437.	5980 <i>Melaleuca thymoides</i>			
438.	4785 <i>Melianthus major</i>	Y		
439.	4085 <i>Melilotus indicus</i>	Y		
440.	19827 <i>Melilotus siculus</i>	Y		
441.	29418 <i>Monoculus monstrosus</i>	Y		
442.	37440 <i>Monopsis debilis</i> var. <i>depressa</i>	Y		
443.	4666 <i>Monotaxis occidentalis</i>			
444.	16896 <i>Muehlenbeckia complexa</i>			Y
445.	7289 <i>Myoporum caprarioides</i> (Slender Myoporum)	Y		
446.	6189 <i>Myriophyllum crispatum</i>			

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447.	2401 <i>Nuytsia floribunda</i> (Christmas Tree, Mudja)			
448.	16390 <i>Oenothera drummondii</i> subsp. <i>drummondii</i>	Y		
449.	6140 <i>Oenothera mollissima</i>	Y		
450.	8127 <i>Olearia axillaris</i> (Coastal Daisybush)			
451.	8133 <i>Olearia elaeophila</i>			
452.	46316 <i>Orianthera serpyllifolia</i> subsp. <i>angustifolia</i>			
453.	36177 <i>Ornduffia albiflora</i>			
454.	36181 <i>Ornduffia parnassifolia</i>			
455.	4113 <i>Ornithopus compressus</i> (Yellow Serradella)	Y		
456.	7122 <i>Orobanche minor</i> (Lesser Broomrape)	Y		
457.	5225 <i>Passiflora filamentosa</i>	Y		
458.	6244 <i>Pastinaca sativa</i> (Wild Parsnip)	Y		
459.	4343 <i>Pelargonium capitatum</i> (Rose Pelargonium)	Y		
460.	4346 <i>Pelargonium littorale</i>			
461.	6006 <i>Pericalymma ellipticum</i> (Swamp Teatree)			
462.	16477 <i>Pericalymma ellipticum</i> var. <i>ellipticum</i>			
463.	11052 <i>Persicaria prostrata</i>			
464.	2299 <i>Petrophile linearis</i> (Pixie Mops)			
465.	19825 <i>Petrophragma dubia</i>	Y		
466.	18529 <i>Philothea spicata</i> (Pepper and Salt)			
467.	16825 <i>Phyllangium divergens</i>			
468.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
469.	31275 <i>Physalis hederifolia</i> (Sticky Cape Gooseberry)	Y		Y
470.	2408 <i>Pilosyles hamiltonii</i>			
471.	11402 <i>Pimelea imbricata</i> var. <i>piligera</i>			
472.	5252 <i>Pimelea lanata</i>			
473.	18117 <i>Pimelea rosea</i> subsp. <i>rosea</i>			
474.	42281 <i>Pithocarpa cordata</i>			
475.	7303 <i>Plantago lanceolata</i> (Ribwort Plantain)	Y		
476.	6249 <i>Platysace compressa</i> (Tapeworm Plant)			
477.	6253 <i>Platysace filiformis</i>			
478.	11132 <i>Platysace ramosissima</i>		P3	
479.	4524 <i>Platytheca galioides</i>			
480.	8179 <i>Podolepis nutans</i> (Nodding Podolepis)			
481.	8188 <i>Pogonolepis stricta</i>			
482.	2905 <i>Polycarpon tetraphyllum</i> (Fourleaf Allseed)	Y		
483.	15856 <i>Ptilotus sericostachyus</i> subsp. <i>sericostachyus</i>			
484.	4183 <i>Pultenaea skinneri</i> (Skinner's Pea)		P4	
485.	19183 <i>Retama raetam</i>	Y		
486.	2578 <i>Rhagodia baccata</i> (Berry Saltbush)			
487.	11341 <i>Rhagodia baccata</i> subsp. <i>baccata</i>			
488.	4705 <i>Ricinus communis</i> (Castor Oil Plant)	Y		
489.	3066 <i>Rorippa nasturtium-aquaticum</i> (Watercress)	Y		
490.	2433 <i>Rumex crispus</i> (Curled Dock)	Y		
491.	2443 <i>Rumex vesicarius</i> (Ruby Dock)	Y		
492.	2908 <i>Sagina maritima</i>	Y		
493.	48433 <i>Salicornia blackiana</i>			
494.	6483 <i>Samolus junceus</i>			
495.	6484 <i>Samolus repens</i> (Creeping Brookweed)			
496.	14107 <i>Samolus repens</i> var. <i>paucifolius</i>			
497.	7602 <i>Scaevola calliptera</i>			
498.	7619 <i>Scaevola lanceolata</i> (Long-leaved Scaevola)			
499.	41660 <i>Schenkia australis</i>			
500.	48834 <i>Schinus terebinthifolia</i>	Y		
501.	6263 <i>Schoenolaena juncea</i>			
502.	20663 <i>Senecio multicaulis</i> subsp. <i>multicaulis</i>			
503.	20161 <i>Senecio pinnatifolius</i>			
504.	8225 <i>Siloxerus humifusus</i> (Procumbent Siloxerus)			
505.	8227 <i>Silybum marianum</i> (Variegated Thistle)	Y		
506.	7005 <i>Solanum elaeagnifolium</i> (White Horse Nettle, Silverleaf Nightshade)	Y		
507.	7022 <i>Solanum nigrum</i> (Black Berry Nightshade)	Y		
508.	1765 <i>Soleirolia soleiroliae</i> (Babys Tears)	Y		
509.	10920 <i>Soliva sessilis</i> (Jo-jo, Onehunga Weed)	Y		
510.	8231 <i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
511.	4828 <i>Spyridium globulosum</i> (Basket Bush)			
512.	6930 <i>Stachys arvensis</i> (Staggerweed)	Y		
513.	4733 <i>Stackhousia monogyna</i>			
514.	2918 <i>Stellaria media</i> (Chickweed)	Y		
515.	2316 <i>Stirlingia latifolia</i> (Blueboy)			
516.	30278 <i>Stylidium androsaceum</i>			

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517.	7693 <i>Stylidium brunonianum</i> (Pink Fountain Triggerplant)			
518.	7696 <i>Stylidium calcaratum</i> (Book Triggerplant)			
519.	7713 <i>Stylidium dichotomum</i> (Pins-and-needles)			
520.	7745 <i>Stylidium junceum</i> (Reed Triggerplant)			
521.	7774 <i>Stylidium piliferum</i> (Common Butterfly Triggerplant)			
522.	7798 <i>Stylidium schoenoides</i> (Cow Kicks)			
523.	<i>Stylidium</i> sp.			
524.	7806 <i>Stylidium utricularioides</i> (Pink Fan Triggerplant)			
525.	6476 <i>Styphelia tenuiflora</i> (Common Pinheath)			
526.	2639 <i>Suaeda australis</i> (Seablite)			
527.	45613 <i>Taraxacum khatoonae</i>	Y		
528.	33236 <i>Tecticornia halocnemoides</i> (Shrubby Samphire)			
529.	33319 <i>Tecticornia indica</i> subsp. <i>bidens</i>			
530.	4535 <i>Tetradlea hirsuta</i> (Black Eyed Susan)			
531.	48341 <i>Tetradlea hirsuta</i> subsp. <i>viminea</i>			
532.	5084 <i>Thomasia grandiflora</i> (Large Flowered Thomasia)			
533.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
534.	4291 <i>Trifolium arvense</i> (Hare's Foot Clover)	Y		
535.	17763 <i>Trifolium campestre</i> var. <i>campestre</i> (Hop Clover)	Y		
536.	4293 <i>Trifolium cernuum</i> (Drooping Flower Clover)	Y		
537.	17759 <i>Trifolium fragiferum</i> var. <i>fragiferum</i>	Y		
538.	4298 <i>Trifolium hirtum</i> (Rose Clover)	Y		
539.	<i>Trifolium</i> sp.			
540.	4313 <i>Trifolium subterraneum</i> (Subterranean Clover)	Y		
541.	4737 <i>Tripterococcus brunonis</i> (Winged Stackhousia)			
542.	1139 <i>Trithuria bibracteata</i>			
543.	8255 <i>Ursinia anthemoides</i> (Ursinia)	Y		
544.	7145 <i>Utricularia menziesii</i> (Redcoats)			
545.	8257 <i>Vellereophyton dealbatum</i> (White Cudweed)	Y		
546.	7107 <i>Verbascum virgatum</i> (Twiggy Mullein)	Y		
547.	20120 <i>Verbena litoralis</i>	Y		Y
548.	19511 <i>Verbena officinalis</i>	Y		
549.	7108 <i>Veronica arvensis</i> (Wall Speedwell)	Y		
550.	12392 <i>Verticordia attenuata</i>		P3	
551.	4320 <i>Vicia hirsuta</i> (Hairy Vetch)	Y		
552.	4322 <i>Vicia sativa</i> (Common Vetch)	Y		
553.	11474 <i>Vicia sativa</i> subsp. <i>nigra</i>	Y		
554.	7389 <i>Wahlenbergia preissii</i>			
555.	8282 <i>Waitzia suaveolens</i> (Fragrant Waitzia)			
556.	6658 <i>Wilsonia backhousei</i> (Narrow-leaf Wilsonia)			
557.	6659 <i>Wilsonia humilis</i> (Silky Wilsonia)			
558.	6289 <i>Xanthosia huegelii</i>			
559.	2331 <i>Xylomelum occidentale</i> (Woody Pear, Djandin)			

Fish

560.	<i>Acentrogobius bifrenatus</i>			
561.	<i>Aetapcus maculatus</i>			
562.	<i>Aldrichetta forsteri</i>			
563.	<i>Anoplocapros lenticularis</i>			
564.	<i>Aracana aurita</i>			
565.	<i>Arenigobius bifrenatus</i>			
566.	<i>Arripis truttacea</i>			
567.	<i>Asymbolus submaculatus</i>			
568.	<i>Atherinosoma elongata</i>			
569.	<i>Aulohalaelurus labiosus</i>			
570.	<i>Auxis thazard</i>			
571.	<i>Carcharhinus</i> sp.			
572.	<i>Chelidonichthys kumu</i>			
573.	<i>Cleidopus gloriamaris</i>			
574.	<i>Dactylophora nigricans</i>			
575.	<i>Diodon nichthemerus</i>			
576.	<i>Diodon</i> sp.			
577.	<i>Echeneis naucrates</i>			
578.	<i>Eubalichthys</i> sp.			
579.	<i>Euleptorhamphus viridis</i>			
580.	<i>Furgaleus macki</i>			
581.	<i>Galeorhinus galeus</i>			
582.	34030 <i>Geotria australis</i> (Pouched Lamprey)		P3	
583.	<i>Gonorynchus greyi</i>			
584.	<i>Gymnapistes marmoratus</i>			
585.	<i>Gymnothorax woodwardi</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
586.	<i>Hemipristis elongata</i>			
587.	<i>Heterodontus portusjacksoni</i>			
588.	<i>Hippocampus</i> sp.			
589.	<i>Hyperlophus vittatus</i>			
590.	<i>Hyporhamphus melanochir</i>			
591.	<i>Ichthyoscopus barbatus</i>			
592.	<i>Lagocephalus sceleratus</i>			
593.	<i>Makaira indica</i>			
594.	<i>Meuschenia freycineti</i>			
595.	<i>Mugil cephalus</i>			
596.	<i>Myliobatis</i> sp.			
597.	<i>Nelusetta ayraudi</i>			
598.	<i>Omegophora armilla</i>			
599.	<i>Ophisurus serpens</i>			
600.	<i>Ophthalmolepis lineolatus</i>			
601.	<i>Parazanclostius hutchinsi</i>			
602.	<i>Phyllopteryx taeniolatus</i>			
603.	<i>Platycephalus speculator</i>			
604.	<i>Prionace glauca</i>			
605.	<i>Pristiophorus nudipinnis</i>			
606.	<i>Pseudogobius olorum</i>			
607.	<i>Pterygotrigla polyommata</i>			
608.	<i>Scomber australasicus</i>			
609.	<i>Sillago fraseri</i> (invalid)			Y
610.	<i>Sphyræna obtusata</i>			
611.	<i>Squalus megalops</i>			
612.	<i>Squatina australis</i>			
613.	<i>Stigmatopora argus</i>			
614.	<i>Thyrsites atun</i>			
615.	<i>Trachinotus bailloni</i>			
616.	<i>Trachurus novaezelandiae</i>			
617.	<i>Trichiurus lepturus</i>			
618.	<i>Trichiurus</i> sp.			
619.	<i>Trygonoptera mucosa</i>			
620.	<i>Urolophus</i> sp.			

Fungus

621.	46074	<i>Boletellus ananiceps</i>		
622.		<i>Phytophthora cinnamomi</i>		
623.	45895	<i>Ustilago avenae</i>		

Gymnosperm

624.	85	<i>Macrozamia riedlei</i> (<i>Zamia</i> , <i>Djiridji</i>)		
625.	86	<i>Podocarpus drouynianus</i> (<i>Wild Plum</i> , <i>Kula</i>)		

Hepatic (Liverwort)

626.		<i>Cephaloziella exiliflora</i>		
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Invertebrate

627.		<i>Allothereua maculata</i>		
628.		<i>Aname mainae</i>		
629.		<i>Aname tepperi</i>		
630.		<i>Argiope protensa</i>		
631.		<i>Arkys walckenaeri</i>		
632.		<i>Artoria linnaei</i>		
633.		<i>Artoriopsis exposita</i>		
634.		<i>Austracantha minax</i>		
635.		<i>Backobourkia brounii</i>		
636.		<i>Backobourkia heroine</i>		
637.		<i>Baiami volucripes</i>		
638.		<i>Celaenia excavata</i>		
639.		<i>Cercophonius sulcatus</i>		
640.		<i>Cormocephalus hartmeyer</i>		
641.		<i>Cryptoerithus quobba</i>		
642.		<i>Cyclosa trilobata</i>		
643.		<i>Cyrtophora parnasia</i>		
644.		<i>Dingosa serrata</i>		
645.		<i>Erigone prominens</i>		
646.		<i>Eriophora biapicata</i>		
647.	48935	<i>Idiosoma sigillatum</i> (<i>Swan Coastal Plain shield-backed trapdoor spider</i>)		P3
648.		<i>Isopeda leishmanni</i>		
649.		<i>Lampona cylindrata</i>		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
650.	<i>Lampona punctigera</i>			
651.	<i>Latrodectus hasseltii</i>			
652.	<i>Missulena granulosa</i>			
653.	<i>Missulena hoggi</i>			
654.	<i>Missulena occatoria</i>			
655.	<i>Mituliodon tarantulinus</i>			
656.	<i>Mitzoruga insularis</i>			
657.	<i>Nephila edulis</i>			
658.	<i>Nicodamus mainae</i>			
659.	<i>Nunciella aspera</i>			
660.	<i>Pholcus phalangioides</i>			
661.	<i>Platorish gelorup</i>			
662.	<i>Steatoda capensis</i>			
663.	<i>Steatoda grossa</i>			
664.	<i>Synsphyronus magnus</i>			
665.	<i>Tamopsis distinguenda</i>			
666.	<i>Tasmanicosa leuckartii</i>			
667.	<i>Venator immansueta</i>			
668.	<i>Venatrix pullastra</i>			
669.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	

Lichen

670.	27628 <i>Caloplaca erythrosticka</i>			
671.	27645 <i>Candelariella xanthostigmoides</i>			
672.	27744 <i>Flavoparmelia ferax</i>			
673.	41286 <i>Flavoparmelia virensica</i>			
674.	27775 <i>Heterodermia japonica</i>			
675.	27787 <i>Hypogymnia subphysodes</i>			
676.	45299 <i>Jackelixia elixii</i>			
677.	30458 <i>Parmotrema reticulatum</i>			
678.	27975 <i>Physcia stellaris</i>			
679.	28223 <i>Ramalina celastri</i> subsp. <i>ovalis</i>			
680.	28224 <i>Ramalina inflata</i> subsp. <i>australis</i>			
681.	28065 <i>Teloschistes chrysophthalmus</i>			
682.	<i>Trapeliopsis flexuosa</i>			
683.	28087 <i>Usnea inermis</i>			

Mammal

684.	24209 <i>Arctocephalus tropicalis</i> (Subantarctic fur-seal)		T	
685.	24044 <i>Balaenoptera acutorostrata</i> (Dwarf Minke Whale)			
686.	24251 <i>Bos taurus</i> (European Cattle)	Y		
687.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
688.	24043 <i>Eubalaena australis</i> (Southern Right Whale)		T	
689.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
690.	48588 <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
691.	<i>Lobodon carcinophaga</i>			
692.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
693.	24076 <i>Mesoplodon bowdoini</i> (Andrew's Beaked Whale)			
694.	24078 <i>Mesoplodon grayi</i> (Gray's Beaked Whale)			
695.	24081 <i>Mesoplodon mirus</i> (True's Beaked Whale)			
696.	24210 <i>Neophoca cinerea</i> (Australian Sea-lion)		T	
697.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
698.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
699.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
700.	24073 <i>Physeter macrocephalus</i> (Sperm Whale)		T	
701.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
702.	24243 <i>Rattus fuscipes</i> (Western Bush Rat)			
703.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
704.	48113 <i>Stenella coeruleoalba</i> (Striped Dolphin)			
705.	48114 <i>Stenella longirostris</i> (Spinner Dolphin)		P4	
706.	24259 <i>Sus scrofa</i> (Pig)	Y		
707.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
708.	30954 <i>Tursiops aduncus</i> (Indo-Pacific Bottlenose Dolphin)			
709.	24069 <i>Tursiops truncatus</i> (Bottlenose Dolphin)			

Monocotyledon

710.	1208 <i>Acanthocarpus preissii</i>			
711.	23501 <i>Agrostocrinum scabrum</i> subsp. <i>scabrum</i>			
712.	184 <i>Aira caryophyllea</i> (Silvery Hairgrass)	Y		
713.	35159 <i>Ammophila arenaria</i> subsp. <i>arenaria</i>	Y		
714.	126 <i>Amphibolis antarctica</i> (Sea Nymph)			

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715.	13380 <i>Amphibromus nervosus</i>			
716.	11434 <i>Anigozanthos humilis</i> subsp. <i>humilis</i>			
717.	11261 <i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>			
718.	29487 <i>Anigozanthos manglesii</i> var. <i>x angustifolius</i>			
719.	1416 <i>Anigozanthos viridis</i> (Green Kangaroo Paw, Kurulbardang)			
720.	202 <i>Anthoxanthum odoratum</i> (Sweet Vernal Grass)	Y		
721.	1117 <i>Aphelia cyperoides</i>			
722.	141 <i>Aponogeton hexatepalus</i> (Stalked Water Ribbons)		P4	
723.	8779 <i>Asparagus asparagoides</i> (Bridal Creeper)	Y		
724.	16943 <i>Asparagus declinatus</i>	Y		
725.	16945 <i>Asparagus plumosus</i>	Y		
726.	38480 <i>Austrostipa bronwenae</i>		T	
727.	17233 <i>Austrostipa campylachne</i>			
728.	17234 <i>Austrostipa compressa</i>			
729.	38481 <i>Austrostipa jacobiana</i>		T	
730.	17253 <i>Austrostipa semibarbata</i>			
731.	231 <i>Avellinia michelii</i>	Y		
732.	233 <i>Avena barbata</i> (Bearded Oat)	Y		
733.	235 <i>Avena sativa</i> (Common Oat)	Y		
734.	743 <i>Baumea juncea</i> (Bare Twigrush)			
735.	749 <i>Bolboschoenus caldwellii</i> (Marsh Club-rush)			
736.	244 <i>Briza maxima</i> (Blowfly Grass)	Y		
737.	245 <i>Briza minor</i> (Shivery Grass)	Y		
738.	248 <i>Bromus catharticus</i> (Prairie Grass)	Y		
739.	249 <i>Bromus diandrus</i> (Great Brome)	Y		
740.	12770 <i>Burchardia congesta</i>			
741.	1385 <i>Burchardia multiflora</i> (Dwarf Burchardia)			
742.	1276 <i>Caesia micrantha</i> (Pale Grass Lily)			
743.	1277 <i>Caesia occidentalis</i>			
744.	15332 <i>Caladenia attingens</i> subsp. <i>attingens</i>			
745.	15579 <i>Caladenia chapmanii</i>			
746.	1592 <i>Caladenia flava</i> (Cowslip Orchid)			
747.	1595 <i>Caladenia hirta</i> (Sugar Candy Orchid)			
748.	15354 <i>Caladenia hirta</i> subsp. <i>hirta</i>			
749.	1605 <i>Caladenia marginata</i> (White Fairy Orchid)			
750.	15371 <i>Caladenia nana</i> subsp. <i>nana</i>			
751.	15503 <i>Caladenia paludosa</i>			
752.	18026 <i>Caladenia pendens</i> subsp. <i>pendens</i>			
753.	13862 <i>Caladenia speciosa</i>		P4	
754.	19309 <i>Calectasia narragara</i>			
755.	754 <i>Carex divisa</i> (Divided Sedge)	Y		
756.	41570 <i>Cenchrus spinifex</i> (Spiny Burrgrass)	Y		
757.	1121 <i>Centrolepis aristata</i> (Pointed Centrolepis)			
758.	1125 <i>Centrolepis drummondiana</i>			
759.	1134 <i>Centrolepis polygyna</i> (Wiry Centrolepis)			
760.	17685 <i>Chaetanthus aristatus</i>			
761.	1280 <i>Chamaescilla corymbosa</i> (Blue Squill)			
762.	267 <i>Chloris gayana</i> (Rhodes Grass)	Y		
763.	1418 <i>Conostylis aculeata</i> (Prickly Conostylis)			
764.	11826 <i>Conostylis aculeata</i> subsp. <i>aculeata</i>			
765.	12118 <i>Conostylis aculeata</i> subsp. <i>gracilis</i>			
766.	48259 <i>Cortaderia seloana</i> subsp. <i>seloana</i>	Y		
767.	11283 <i>Corynotheca micrantha</i> var. <i>micrantha</i>			
768.	15114 <i>Cyanicula gemmata</i>			
769.	768 <i>Cyathochaeta avenacea</i>			
770.	783 <i>Cyperus congestus</i> (Dense Flat-sedge)	Y		
771.	792 <i>Cyperus eragrostis</i> (Umbrella Sedge)	Y		
772.	801 <i>Cyperus laevigatus</i>	Y		
773.	816 <i>Cyperus tenuiflorus</i> (Scaly Sedge)	Y		
774.	10916 <i>Cyrtostylis huegelii</i>			
775.	1218 <i>Dasypogon bromeliifolius</i> (Pineapple Bush)			
776.	17691 <i>Desmocladus fasciculatus</i>			
777.	16326 <i>Dianella brevicaulis</i>			
778.	1287 <i>Dichopogon capillipes</i>			
779.	10796 <i>Diuris drummondii</i> (Tall Donkey Orchid)		T	
780.	10938 <i>Diuris filifolia</i> (Cat's Face Orchid)			
781.	1640 <i>Drakaea glyptodon</i> (King-in-his-carriage)			
782.	11156 <i>Drakaea livida</i>			
783.	347 <i>Ehrharta calycina</i> (Perennial Veldt Grass)	Y		
784.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
785.	822 <i>Eleocharis acuta</i> (Common Spikerush)			
786.	1643 <i>Elythranthera brunonis</i> (Purple Enamel Orchid)			
787.	1644 <i>Elythranthera emarginata</i> (Pink Enamel Orchid)			
788.	1067 <i>Empodisma gracillimum</i>			
789.	376 <i>Eragrostis curvula</i> (African Lovegrass)	Y		
790.	1646 <i>Eriochilus dilatatus</i> (White Bunny Orchid)			
791.	15410 <i>Eriochilus dilatatus</i> subsp. <i>dilatatus</i>			
792.	15412 <i>Eriochilus dilatatus</i> subsp. <i>multiflorus</i>			
793.	15415 <i>Eriochilus scaber</i> subsp. <i>scaber</i>			
794.	430 <i>Festuca arundinacea</i> (Tall Fescue)	Y		
795.	20216 <i>Ficinia nodosa</i> (Knotted Club Rush)			
796.	907 <i>Gahnia trifida</i> (Coast Saw-sedge)			
797.	1524 <i>Gladiolus undulatus</i> (Wild Gladiolus)	Y		
798.	49050 <i>Gloriosa superba</i>	Y		Y
799.	1472 <i>Haemodorum simplex</i>			
800.	11451 <i>Hemarthria uncinata</i> var. <i>uncinata</i>			
801.	444 <i>Holcus lanatus</i> (Yorkshire Fog)	Y		
802.	1070 <i>Hypolaena exsulca</i>			
803.	1071 <i>Hypolaena fastigiata</i>			
804.	17841 <i>Hypolaena pubescens</i>			
805.	20199 <i>Isolepis cernua</i> var. <i>cernua</i>			
806.	20200 <i>Isolepis cernua</i> var. <i>setiformis</i>			
807.	912 <i>Isolepis cyperoides</i>			
808.	917 <i>Isolepis marginata</i> (Coarse Club-rush)			
809.	919 <i>Isolepis oldfieldiana</i>			
810.	1295 <i>Johnsonia acaulis</i>			
811.	1178 <i>Juncus bufonius</i> (Toad Rush)	Y		
812.	1180 <i>Juncus capitatus</i> (Capitate Rush)	Y		
813.	11922 <i>Juncus kraussii</i> subsp. <i>australiensis</i>			
814.	19955 <i>Lachnagrostis plebeia</i>			
815.	925 <i>Lepidosperma angustatum</i>			
816.	937 <i>Lepidosperma longitudinale</i> (Pithy Sword-sedge)			
817.	940 <i>Lepidosperma pubisquamatum</i>			
818.	20398 <i>Lepidosperma</i> sp. <i>Blackwood</i> (R. Davis 7696)			
819.	29150 <i>Lepidosperma</i> sp. <i>Margaret River</i> (B.J. Lepschi 1841)			
820.	945 <i>Lepidosperma squamatum</i>			
821.	46376 <i>Leptocarpus denmarkicus</i>			
822.	46377 <i>Leptocarpus scoparius</i>			
823.	46374 <i>Leptocarpus trisepalus</i>			
824.	1493 <i>Leucojum aestivum</i> (Snowflake)	Y		
825.	476 <i>Lolium perenne</i> (Perennial Ryegrass)	Y		
826.	478 <i>Lolium rigidum</i> (Wimmera Ryegrass)	Y		
827.	<i>Lolium</i> sp.			
828.	1223 <i>Lomandra caespitosa</i> (Tufted Mat Rush)			
829.	1228 <i>Lomandra hermaphrodita</i>			
830.	1234 <i>Lomandra nigricans</i>			
831.	1236 <i>Lomandra odora</i> (Tiered Matrush)			
832.	1239 <i>Lomandra preissii</i>			
833.	1240 <i>Lomandra purpurea</i> (Purple Mat Rush)			
834.	1246 <i>Lomandra suaveolens</i>			
835.	1092 <i>Loxocarya cinerea</i>			
836.	1097 <i>Lyginia barbata</i>			
837.	18049 <i>Lyginia imberbis</i>			
838.	1656 <i>Lyperanthus serratus</i> (Rattle Beak Orchid)			
839.	14985 <i>Melinis repens</i>	Y		
840.	957 <i>Mesomelaena tetragona</i> (Semaphore Sedge)			
841.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
842.	10954 <i>Microtis media</i> (Tall Mignonette Orchid)			
843.	15419 <i>Microtis media</i> subsp. <i>media</i>			
844.	19179 <i>Moraea flaccida</i> (One-leaf Cape Tulip)	Y		
845.	44496 <i>Narcissus tazetta</i> subsp. <i>italicus</i>	Y		
846.	1381 <i>Nothoscordum gracile</i>	Y		
847.	14531 <i>Ottelia ovalifolia</i> subsp. <i>ovalifolia</i>			
848.	502 <i>Panicum capillare</i> (Witchgrass)	Y		
849.	1550 <i>Patersonia occidentalis</i> (Purple Flag, Koma)			
850.	43762 <i>Pauridia occidentalis</i> var. <i>quadriloba</i>			
851.	547 <i>Phalaris angusta</i>	Y		
852.	1478 <i>Phlebocarya ciliata</i>			
853.	577 <i>Poa poiliformis</i> (Coastal Poa)			
854.	583 <i>Polypogon tenellus</i>			

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855.	122 <i>Posidonia angustifolia</i>			
856.	110 <i>Potamogeton drummondii</i>			
857.	15424 <i>Praecoxanthus aphyllus</i>			
858.	1674 <i>Prasophyllum giganteum</i> (Bronze Leek Orchid)			
859.	1680 <i>Prasophyllum parvifolium</i> (Autumn Leek Orchid)			
860.	44084 <i>Prasophyllum</i> sp. early (G. Brockman GBB 1626)			
861.	1685 <i>Pterostylis angusta</i>			
862.	15426 <i>Pterostylis aspera</i>			
863.	44723 <i>Pterostylis glebosa</i>			
864.	11118 <i>Pterostylis pyramidalis</i> (Snail Orchid)			
865.	1694 <i>Pterostylis rogersii</i> (Curled-tongue Shell Orchid)			
866.	<i>Pterostylis</i> sp.			
867.	10998 <i>Pterostylis turfosa</i> (Bird Orchid)			
868.	1698 <i>Pterostylis vittata</i> (Banded Greenhood)			
869.	31673 <i>Puccinellia vassica</i>		P1	
870.	16367 <i>Pyrorchis nigricans</i> (Red beaks, Elephants ears)			
871.	14485 <i>Romulea flava</i> var. <i>minor</i>	Y		
872.	1555 <i>Romulea obscura</i>	Y		
873.	1556 <i>Romulea rosea</i> (Guildford Grass)	Y		
874.	40426 <i>Rytidosperma occidentale</i>			
875.	968 <i>Schoenoplectus pungens</i> (Sharpleaf Rush)			
876.	973 <i>Schoenus asperocarpus</i> (Poison Sedge)			
877.	974 <i>Schoenus benthamii</i>		P3	
878.	996 <i>Schoenus laevigatus</i>			
879.	17614 <i>Schoenus plumosus</i>			
880.	1011 <i>Schoenus rigens</i>			
881.	1013 <i>Schoenus sculptus</i> (Gimlet Bog-rush)			
882.	1312 <i>Sowerbaea laxiflora</i> (Purple Tassels)			
883.	625 <i>Spinifex longifolius</i> (Beach Spinifex)			
884.	635 <i>Sporobolus virginicus</i> (Marine Couch)			
885.	1036 <i>Tetragia octandra</i>			
886.	1717 <i>Thelymitra variegata</i> (Queen of Sheba)		P2	
887.	1318 <i>Thysanotus arbuscula</i>			
888.	1319 <i>Thysanotus arenarius</i>			
889.	1351 <i>Thysanotus sparteus</i>			
890.	1354 <i>Thysanotus tenellus</i>			
891.	1357 <i>Thysanotus thyrsoideus</i>			
892.	1368 <i>Trachyandra divaricata</i>	Y		
893.	1481 <i>Tribonanthes australis</i> (Southern Tiurmdin)			
894.	1482 <i>Tribonanthes brachypetala</i> (Nodding Tiurmdin)			
895.	1483 <i>Tribonanthes longipetala</i> (Branching Tiurmdin)			
896.	147 <i>Triglochin mucronata</i>			
897.	18587 <i>Triglochin nana</i>			
898.	151 <i>Triglochin striata</i>			
899.	722 <i>Vulpia bromoides</i> (Squirrel Tail Fescue)	Y		
900.	724 <i>Vulpia myuros</i> (Rat's Tail Fescue)	Y		
901.	1566 <i>Watsonia marginata</i>	Y		
902.	18108 <i>Watsonia meriana</i> var. <i>bulbillifera</i>	Y		
903.	18118 <i>Watsonia meriana</i> var. <i>meriana</i>	Y		
904.	1251 <i>Xanthorrhoea brunonis</i>			
905.	1049 <i>Zantedeschia aethiopica</i> (Arum Lily)	Y		

Pteridophyte (Fern)

906. 6 *Selaginella gracillima* (Tiny Clubmoss)

Reptile

907. 42368 *Acritoscincus trilineatus* (Western Three-lined Skink)

908. 24991 *Aprasia repens* (Sand-plain Worm-lizard)

909. 25335 *Caretta caretta* (Loggerhead Turtle) T

910. 24980 *Christinus marmoratus* (Marbled Gecko)

911. 30893 *Cryptoblepharus buchananii*

912. 25027 *Ctenotus australis*

913. 25049 *Ctenotus labillardieri*

914. 25096 *Egernia kingii* (King's Skink)

915. 25250 *Elapognathus coronatus* (Crowned Snake)

916. 30919 *Hemiergis gracilipes* (skink)

917. 25119 *Hemiergis quadrilineata*

918. 44656 *Hydrophis major* (Olive-headed seasnake, greater seasnake)

919. 42410 *Hydrophis ornatus* (Ornate Reef Seasnake, Sea Snake)

920. 43384 *Hydrophis platurus* (Yellow-bellied Seasnake)

921. 25131 *Lerista distinguenda*

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
922.	25133 <i>Lerista elegans</i>			
923.	25005 <i>Lialis burtonis</i>			
924.	42413 <i>Lissolepis luctuosa</i> (Western Swamp Skink)			
925.	25184 <i>Menetia greyii</i>			
926.	25191 <i>Morethia lineocellata</i>			
927.	25344 <i>Natator depressus</i> (Flatback Turtle)		T	
928.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
929.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
930.	25253 <i>Parasuta gouldii</i>			
931.	25255 <i>Parasuta nigriceps</i>			
932.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			
933.	24907 <i>Pogona minor subsp. minor</i> (Dwarf Bearded Dragon)			
934.	25259 <i>Pseudonaja affinis subsp. affinis</i> (Dugite)			
935.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
936.	25519 <i>Tiliqua rugosa</i>			

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Appendix 2: PMST



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 18/02/21 17:23:34

[Summary](#)

[Details](#)

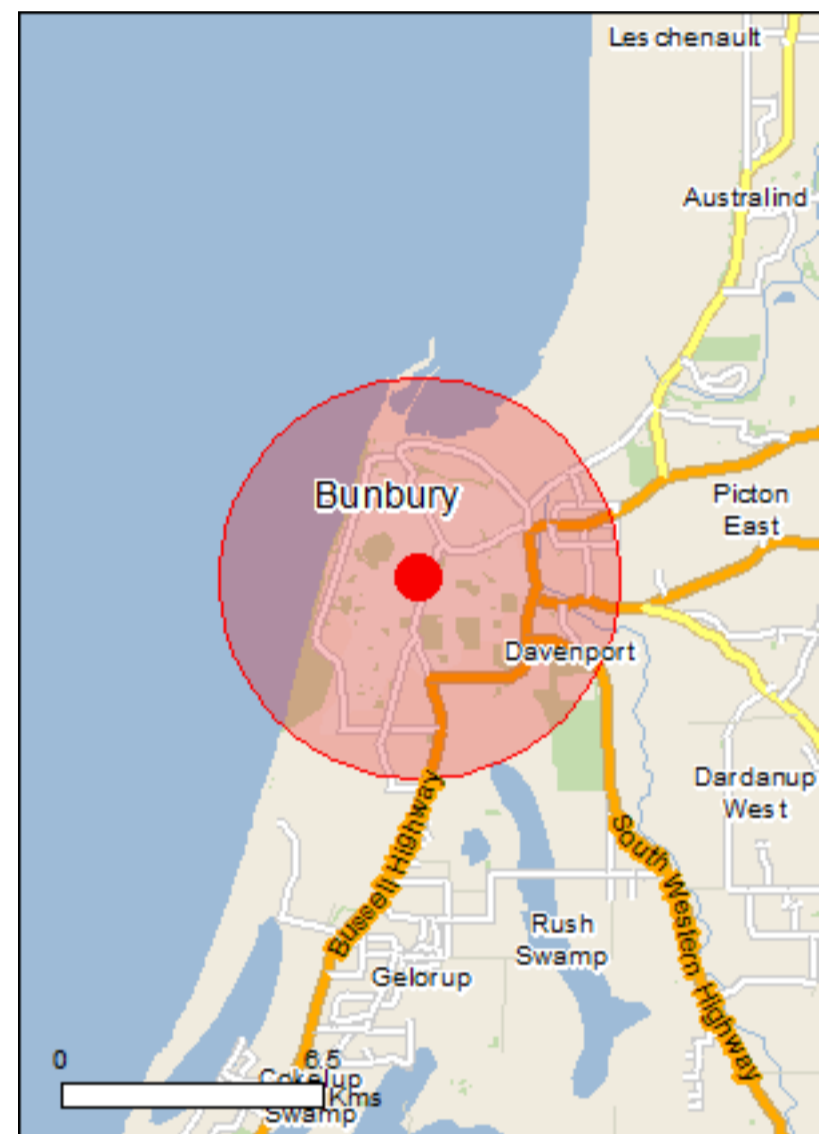
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

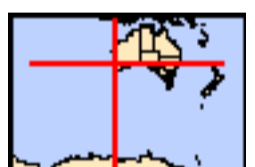
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

[Buffer: 5.0Km](#)



Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	58
Listed Migratory Species:	44

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	69
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	28
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[[Resource Information](#)]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area
Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area

Listed Threatened Species

[[Resource Information](#)]

Name	Status	Type of Presence
Birds		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Long-billed Black-Cockatoo [769]	Endangered	Breeding known to occur within area
Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely

Name	Status	Type of Presence
Diomedea exulans Wandering Albatross [89223]	Vulnerable	to occur within area Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Name	Status	Type of Presence
Fish		
Nannatherina balstoni Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat known to occur within area
Setonix brachyurus Quokka [229]	Vulnerable	Species or species habitat may occur within area
Other		
Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area
Plants		
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
Austrostipa bronwenae [87808]	Endangered	Species or species habitat known to occur within area
Austrostipa jacobsiana [87809]	Critically Endangered	Species or species habitat known to occur within area
Banksia nivea subsp. uliginosa Swamp Honeypot [82766]	Endangered	Species or species habitat may occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat known to occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Drakaea elastica Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat may occur within area
Lambertia echinata subsp. occidentalis Western Prickly Honeysuckle [64528]	Endangered	Species or species habitat may occur within area
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
Synaphea sp. Serpentine (G.R. Brand 103) [86879]	Critically Endangered	Species or species habitat may occur within area

Reptiles

Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Sharks

Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species

Name	Threatened	Type of Presence
Diomedea dabbenena Tristan Albatross [66471]	Endangered	habitat may occur within area Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Hydroprogne caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Onychoprion anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Breeding known to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within

Name	Threatened	Type of Presence area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

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

Name
Commonwealth Land - Defence - BUNBURY TRAINING DEPOT

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur

Name	Threatened	Type of Presence within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Catharacta skua Great Skua [59472]		Species or species habitat may occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Puffinus assimilis Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Sterna anaethetus Bridled Tern [814]		Foraging, feeding or related behaviour likely to occur within area
Sterna caspia Caspian Tern [59467]		Foraging, feeding or related behaviour known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Fish		
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Hippocampus subelongatus West Australian Seahorse [66722]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
Lissocampus fatiloquus Prophet's Pipefish [66250]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Mitotichthys meraculus Western Crested Pipefish [66259]		Species or species habitat may occur within area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area

Name	Status	Type of Presence
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

Invasive Species [\[Resource Information \]](#)

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus declinatus Bridal Veil, Bridal Veil Creeper, Pale Berry Asparagus Fern, Asparagus Fern, South African Creeper [66908]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle,		Species or species habitat likely to occur within area

Name	Status	Type of Presence
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Prairie-berry, Satansbos, Silver-leaf Bitter-apple,
Silverleaf-nettle, Trompillo [12323]

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-33.34598 115.64297

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

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Appendix 3: Conservation Codes

Western Australia

Conservation Code	Name	Description
T	Threatened	Flora or fauna that is rare or likely to become extinct, ranked according to their level of threat using IUCN Red List criteria (Schedules 1-3 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice)
CR	Critically endangered	Species considered to be facing an extremely high risk of extinction within the wild in the immediate future
EN	Endangered	Species considered to be facing a very high risk of extinction in the wild in the near future
VU	Vulnerable	Species considered to be facing a high risk of extinction in the wild in the medium-term future
EX	Extinct Species	Species where 'there is no reasonable doubt that the last member of the species has died (Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice)
EW	Extinct in the Wild	Species that are known to only survive in cultivation, in captivity, or as a naturalised population well outside its past range; and it has not been recorded in its known or expected habitat at appropriate seasons anywhere in its past range, despite surveys over a timeframe appropriate to its life cycle and form
MI	Migratory Species	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth (Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice)
CD	Conservation Dependent	Species of special conservation interest (conservation dependent fauna), being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened (Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice)
OS	Specially Protected	Fauna otherwise in need of special protection to ensure their conservation (Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice)
P	Priority Species	Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or

Conservation Code	Name	Description
		flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.
P1	Priority One	Poorly known species – Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either very small or on lands not managed for conservation, such as road verges, urban areas, farmland, active mineral lease and under threat of habitat destruction or degradation.
P2	Priority Two	Poorly known species – Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, such as national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves and similar.
P3	Priority Three	Poorly known species – Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat
P4	Priority Four	Rare or near threatened and other species in need of monitoring.

(Source: Department of Biodiversity, Conservation and Attractions, 2021a)

Commonwealth

Category	Description
Critically Endangered	Species facing an extremely high risk of extinction in the wild in the immediate future
Endangered	Species facing a very high risk of extinction in the wild in the near future
Vulnerable	Species facing a high risk of extinction in the wild in the medium term

(Source: Department of Agriculture, Water, and the Environment, 2021a)