



Natural Area  
CONSULTING MANAGEMENT SERVICES

## **City of Rockingham Black Spot Project - Safety Bay Road Flora and Vegetation Survey**

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## Executive Summary

Natural Area Consulting Management Services (Natural Area) was commissioned by City of Rockingham to undertake a basic flora and vegetation survey in Rockingham for a black spot project along an existing road on the intersection of Safety Bay Road and Mandurah Road (Figure 1). The area is proposed to be cleared to make way for the proposed construction of the pre-deflection and shared path. The survey was undertaken to provide information for environmental approvals and processes for construction work that will impact native vegetation at the Safety Bay Road and Mandurah Road roundabout site. Survey outcomes will determine if any conservation significant species or priority or threatened ecological communities (PEC/TEC) are present within the proposed site.

The survey outcomes confirmed:

- a total of 38 flora species (taxa) recorded from 15 families, including 20 native and 18 introduced flora species (weeds)
- no conservation significant flora species were identified
- one Weed of National Significance (WoNS) was identified Bridal Creeper (*asparagus asparagoides*)
- no threatened or priority ecological communities (TEC/PEC) were identified within the survey area
- vegetation condition ranged from Degraded to Completely Degraded, with the majority of the proposed site being Degraded (92%)
- two vegetation types were identified, namely Tuart Woodland (*Eucalyptus gomphocephala*), and Maintained lawn
- six habitat trees were identified during the survey, one containing two hollows that have the potential to be used by threatened black cockatoos.

No TECs or conservation significant flora were found within the boundary. However, there were six potential threatened black cockatoo habitat trees noted within the survey area, with one containing potential black cockatoo hollows.

It is recommended to retain as many habitat trees as possible especially the Tuart (*Eucalyptus gomphocephala*) containing hollows located in the most north-western section of the survey area. This tree has potential to provide suitable habitat for threatened black cockatoo nesting. It is also recommended to landscape with locally endemic species.

## Contents

Executive Summary .....	3
Contents .....	4
1.0 Introduction.....	6
1.1 Location .....	6
1.2 Scope .....	6
1.3 Objective.....	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 .....	8
2.5 Hydrology .....	9
3.0 Methodology .....	10
3.1 Desktop and Literature Review .....	10
3.2 On-ground Flora Survey.....	10
3.2.1 Vegetation Type.....	10
3.2.2 Vegetation Condition.....	11
3.3 Limitations .....	12
4.0 Flora Survey Results.....	13
4.1 Flora Desktop Survey.....	13
4.1.1 Significant Flora .....	13
4.1.2 Threatened and Priority Ecological Communities .....	14
4.2 Flora Survey Results.....	14
4.2.1 Flora.....	14
4.2.2 Vegetation Types .....	18
4.2.3 Vegetation Condition.....	20
4.2.4 Threatened and Priority Communities .....	22
4.2.5 Cockatoo Habitat Trees .....	23
5.0 Implications of Results.....	25
5.1 Flora and Vegetation .....	25
5.2 Significant Flora .....	25
5.3 Threatened Ecological Communities.....	25

5.4	Recommendations.....	25
6.0	References.....	26
Appendix 1:	NatureMap Report 5 km.....	28
Appendix 2:	PMST Report 5 km .....	37
Appendix 3:	Conservation Codes .....	51
Appendix 4:	Species List.....	53

## 1.0 Introduction

Natural Area Consulting Management Services (Natural Area) was commissioned by the City of Rockingham to undertake a flora and vegetation survey for the Safety Bay Road and Mandurah Road roundabout blackspot project. The survey was undertaken to provide information for environmental approvals and processes for construction work that will impact native vegetation at the Safety Bay Road and Mandurah Road roundabout site.

### 1.1 Location

The Blackspot Project site is located on the roundabout of Safety Bay Road and Mandurah Road. It is located approximately 48 km south-west of the Perth Central Business District (CBD) and covers an area of approximately 0.67 ha (Figure 1). The entire survey site occurs within an Environmentally Sensitive Area (ESA) (Department of Water and Environmental Regulation 2021).

### 1.2 Scope

The scope of the works associated with the survey works included:

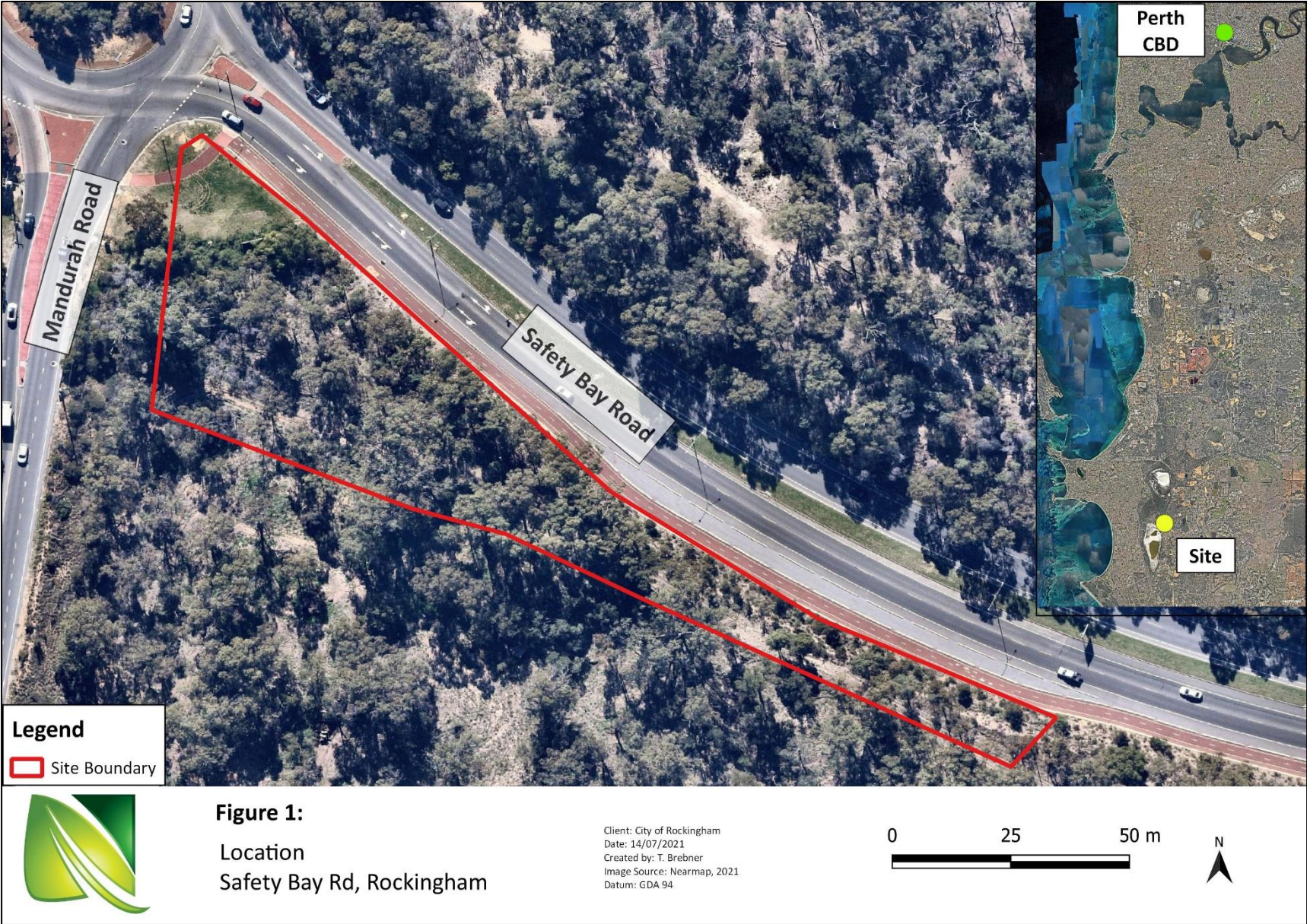
- an initial desktop assessment to determine environmental values and conservation significant flora, vegetation, and or other environmental features (such as riparian areas, wetlands) relating to the project area.
- a detailed flora and vegetation assessment including a desktop and on-ground component
- on-ground detailed flora survey of the area to determine:
  - flora species composition (native and non-native)
  - presence of any priority or threatened flora species
  - vegetation type and condition
  - presence and locations of any Declared Pests and Weeds of National Significance (WoNS)
- reporting outcomes of the survey.

### 1.3 Objective

The main objective of the survey was to collect sufficient data to adequately inform relevant stakeholders and provide information for the environmental approvals process. The flora survey aimed to determine:

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





## 2.0 Site Characteristics

The characteristics of a site have a strong bearing on the flora, vegetation, fauna, and ecological communities present. Key characteristics of site are outlined in this section.

### 2.1 Regional Context

According to Interim Biogeographical Regionalisation of Australia (IBRA) descriptions, the site is located within the Swan Coastal Plain region. This region comprises of two major divisions, namely Swan Coastal Plain 1- Dandaragan Plateau and Swan Coastal Plain 2- Perth Coastal Plain (Department of Primary Industry and Regional Development, 2021).

The site is located within the Perth Coastal Plain 2 (SWA 2- Swan Coastal Plain subregion) and is characterised by low-lying coastal plain with sands of colluvial and aeolian origin. The region is dominated by Banksia and/or Jarrah Woodland over sandy soils associated with dune systems, with Paperbark (*Melaleuca*) in swampy/dampland areas and Jarrah Woodland to the east where the Swan Coastal Plain rises (Mitchell *et al*, 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); Garden Island WA, site number 009256, 2021 the region has an average:

- rainfall of 598.0 mm pa, with rain falling predominantly between June and July
- maximum temperatures ranging from 19.9°C in winter to 28.2°C in summer, with a maximum recorded temperature of 43.4°C
- minimum temperatures ranging from 11.2°C in winter to 19.4°C in summer, with a minimum recorded temperature of 3.5°C
- predominant wind directions include morning easterlies and westerly sea breezes during the summer months, with an average wind speed of 19.4km/h and gusts of more than 100 km/h.

### 2.3 Topography and Soils

Review of the NRInfo Portal indicates only one soil type on site, Spearwood S2a Phase (Department of Primary Industries and Regional Development (DPIRD), 2021). The soil type is described by lower slopes of dune ridge that are moderately deep to deep, with siliceous yellow-brown sands or pale sands with yellow-brown subsoils and minor limestone outcrops. The site contours range from 10 m AHD (Australian Height Datum) in the north corner rising to 18 m AHD in the south (DPIRD, 2021).

### 2.4 Vegetation Complex

One vegetation complex exists within the site boundary, the Cottesloe Complex-Central and South. It is described by Heddle *et al.* (1980) as having limestone outcrops supporting heaths, resembling those in the Northern Cottesloe Complex. The Central and Southern Complex has many similar understory species as its Northern counterpart; however, with its deeper sands it is distinguished with a distinctive dominance of Tuart woodlands as well as an open Tuart-Jarrah-Marri Forest (Heddle *et al.* 1980).



## 2.5 Hydrology

According to the NationalMap, no geomorphic wetlands are located within the Safety Bay Road and Mandurah Road Roundabout Blackspot site. However, there are 11 located within a 2 km buffer (DBCA, 2021a) (Table 1).

**Table 1:** Geomorphic wetlands located within a 2km buffer.

Site	Category
Cooloongup Lake	Conservation Category Wetland
Walungup Lake	Conservation Category Wetland
Hollow Swamp	Conservation Category Wetland
Spot Swamp	Conservation Category Wetland
Opwin Swamp	Conservation Category Wetland
Kerosene Lane Swamp	Conservation Category Wetland
Tamworth Hill Swamp	Conservation Category Wetland
Tamworth Hill Swamp	Multiple Use
Fount Swamp	Conservation Category Wetland
Outridge Swamp	Conservation Category Wetland
Baldivis Swamp	Resource Enhancement
Unknown Name	Resource Enhancement

## 3.0 Methodology

### 3.1 Desktop and Literature Review

The desktop survey included reviewing online databases to gather contextual knowledge and determine preliminary site characteristics including:

- 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 the Agriculture, Water and Environment, 2021) (Appendix 2)
- FloraBase (Department of Biodiversity, Conservation and Attractions, 2021c)
- National Map (Australian Government, 2021)
- NRInfo (Department of Primary Industries and Regional Development, 2021)

Conservation code definitions for the State and Commonwealth provided in Appendix 3.

### 3.2 On-ground Flora Survey

The flora and vegetation survey was conducted in accordance with *Technical Guidance-Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority, 2016), and included a desktop review of literature and databases. Samples were collected, or photographs taken of unfamiliar species to enable later identification.

Natural Area lead botanists Sharon Hynes and Taryn Brebner undertook a monitoring survey on 14 July 2021, with key data recorded using Mappt software on a handheld tablet. Monitoring activities included:

- recording vegetation type including dominant over, middle and understorey species (Table 2) and condition using the scale attributed to Keighery (Table 3) (Government of Western Australia, 2000)
- the use of GPS to map significant species and boundaries of differing vegetation type and condition
- recording species list.

#### 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. A description of the various structural classes is provided in Table 2.

**Table 2:** 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 3) (Government of Western Australia, 2000). Table 3 provides a description of the rating scale.

**Table 3:** 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 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

Category		Description
		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 Limitations

Several limitations associated with both desktop and on-ground flora 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 this was completed for this project
- herbarium records are largely limited to vouchered specimens
- on-ground surveys indicate species present at the time of the assessment, with species flowering at different times not always able to be identified
- the survey was conducted outside the optimal time to survey flora in the South West of WA, however, there were very few species present and all were readily identifiable in the field at the time of the survey. The degraded nature of the site and the weedy understorey also meant it was unlikely that other annual native species such as orchids will be present.
- 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.

## 4.0 Flora Survey Results

### 4.1 Flora Desktop Survey

NatureMap identified a total of 219 flora species which could potentially occur within a 5 km radius of the survey area including:

- 140 dicotyledons
- one gymnosperm
- 78 monocotyledons.

#### 4.1.1 Significant Flora

A desktop survey of online databases indicated the potential for a total of 14 conservation significant species to occur within 5 km of the survey area (Table 4). NatureMap indicated four conservation significant flora species listed under the *Biodiversity Conservation Act 2016* (WA), as potentially occurring within 5 km radius of the site (Department of Biodiversity Conservation and Attractions, 2021b) (Appendix 1). A review of the Protected Matters Search Tool (PMST) (Department of Agriculture, Water, and the Environment, 2021) indicated ten significant flora species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) as potentially occurring within a 5 km radius of the site (Appendix 2).

Of the conservation significant species potentially found in the area, it was determined that the site conditions (soil type, drainage, location) may be suitable for four of these species (highlighted green) (Table 4). Conservation code descriptions are provided in Appendix 3.

**Table 4:** Threatened and priority flora species listed by NatureMap, and PMST

Species Name	Cons Code	NatureMap	PMST
<i>Acacia</i> sp. Binningup	P1	X	
<i>Andersonia gracilis</i>	EN		X
<i>Beyeria cinerea</i> subsp. <i>cinerea</i>	P3	X	
<i>Caladenia huegelii</i>	EN		X
<i>Diuris drummondii</i>	VU		X
<i>Diuris micrantha</i>	VU		X
<i>Diuris purdiei</i>	EN		X
<i>Drakaea elastica</i>	EN		X
<i>Drakaea micrantha</i>	VU		X
<i>Eucalyptus</i> x <i>balanites</i>	EN		X
<i>Jacksonia sericea</i>	P4	X	
<i>Sphaerolobium calcicola</i>	P3	X	
<i>Synaphea</i> sp. Fairbridge Farm	CR		X
<i>Synaphea</i> sp. Serpentine	CR		X

#### 4.1.2 Threatened and Priority Ecological Communities

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

**Table 5:** Potential Threatened Ecological Communities

Name	Status	Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within the area
Sedgeland in Holocene dune swales of the southern Swan Coastal Plain	Endangered	Community known 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

Source: Department of Agriculture, Water, and the Environment, 2021

## 4.2 Flora Survey Results

### 4.2.1 Flora

A total of 38 flora species (taxa) were recorded from 15 families during the 2021 field survey, including 20 (53%) native species and 18 (47%) introduced species (Appendix 4). No threatened or priority species were recorded during the survey. One Weed of National Significance (WoNS), Bridal Creeper (*Asparagus asparagoides*) was identified within the survey site (Figure 4). Declared pests are listed on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management Act 2007* (WA) (DPIRD, 2021a). This classification requires the landowner/land manager to control the population to limit damage as a result of the presence of these species (Department of Primary Industries and Regional Development, 2021). Examples of the native flora species are shown in Figure 2 and introduced species in Figure 3.





*Corymbia calophylla* (Marri)



*Spyridium globulosum* (Basket Bush)



*Acacia lasiocarpa* (Panjang)



*Templetonia retusa* (Cockie Tongues)



*Conostylis candicans* (Grey Cottonhead)



*Grevillea olivacea* (Olive Grevillea)

**Figure 2:** Examples of native flora species recorded





Soursob (\**Oxalis pes-caprae*)



Bridal Creeper (\**Asparagus asparagoides*)



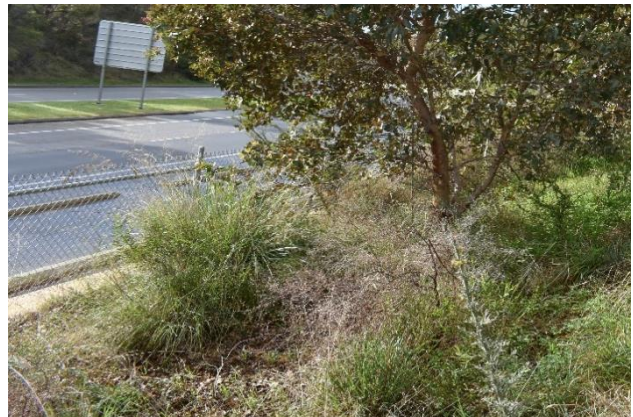
Plumbago (\**Plumbago auriculata*)



Trachyandra (\**Trachyandra divaricata*)



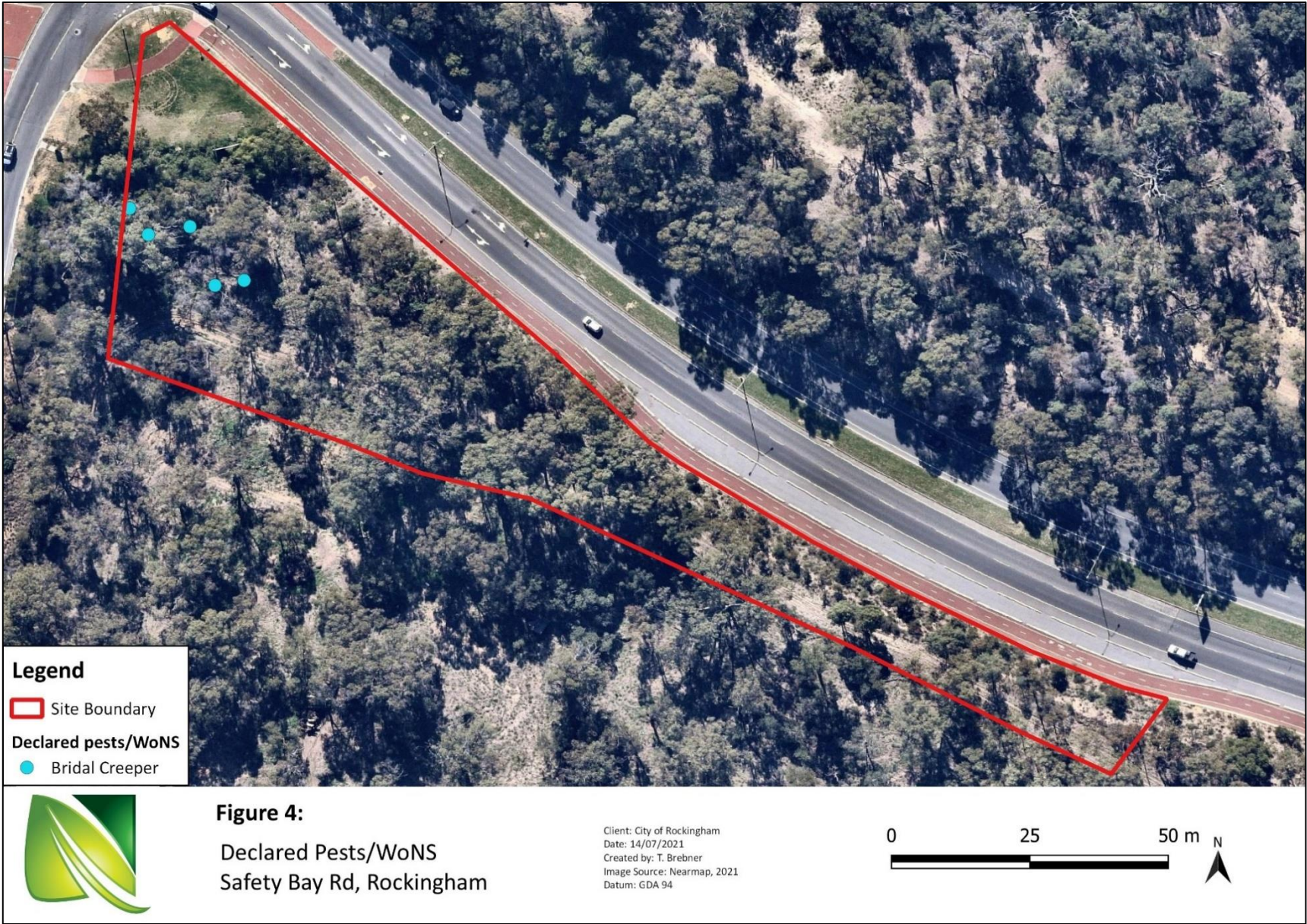
Perennial Veldt (\**Ehrharta calycina*)



African Lovegrass (\**Eragrostis curvula*)

**Figure 3:** Examples of introduced flora species recorded, \*denotes weed species.





#### 4.2.2 Vegetation Types

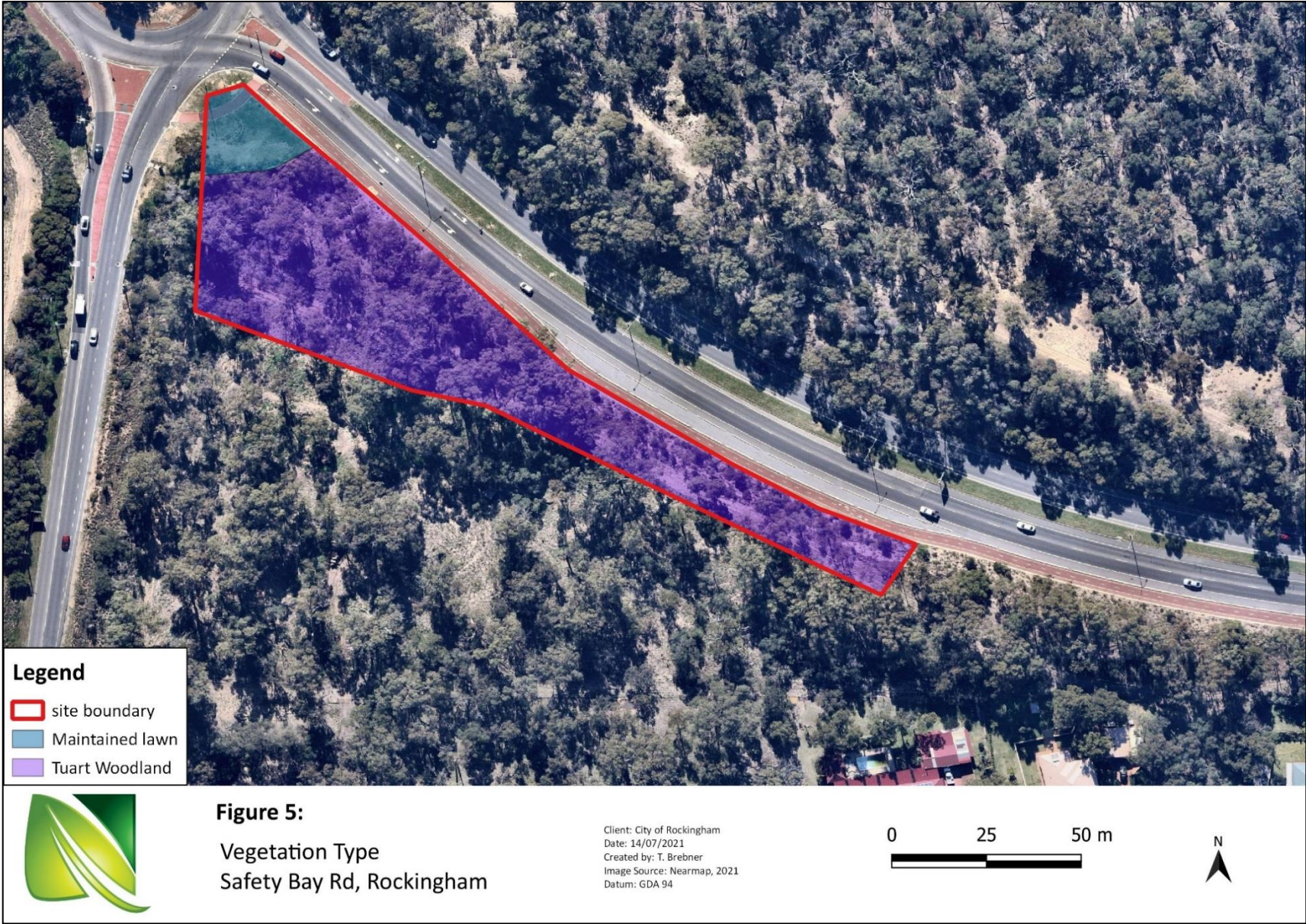
Two vegetation types were recorded within the survey area (Table 6 and Figure 5):

- Open Tuart (*Eucalyptus gomphocephala*) Woodland
- Maintained lawn.

**Table 6:** Vegetation type and description within black spot project

Vegetation Type	Description
Tuart ( <i>Eucalyptus gomphocephala</i> ) Open Woodland	An open woodland of <i>Eucalyptus gomphocephala</i> over <i>Spyridium globulosum</i> and <i>Acacia</i> spp. shrubland and a weedy understory of grasses and herbs (including Perennial Veldt, Annual Veldt and Soursob).
Maintained lawn	Mowed Couch (* <i>Cynodon dactylon</i> ) and other herbaceous weeds





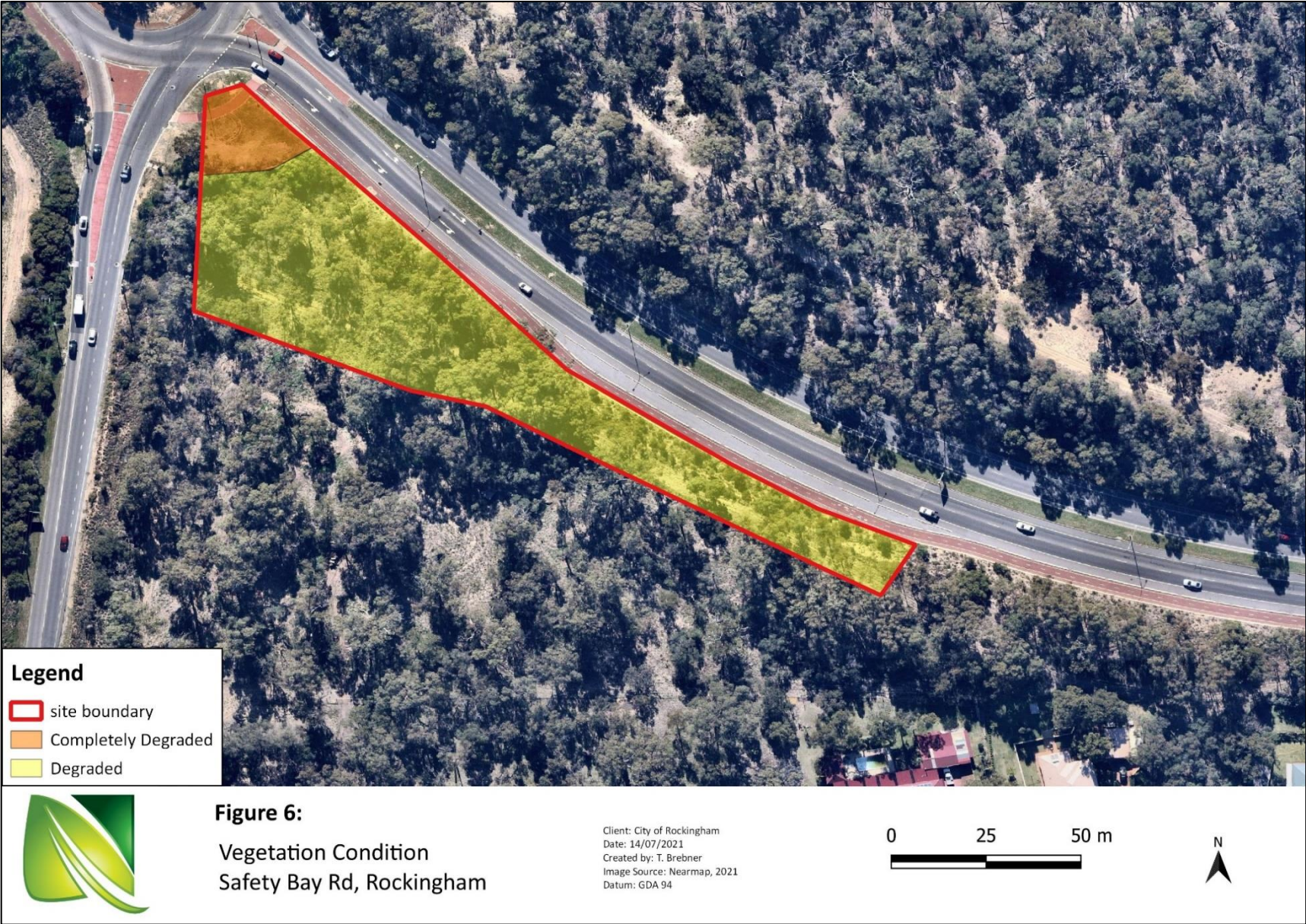
#### 4.2.3 Vegetation Condition

Vegetation condition on site ranged from Completely Degraded to Degraded, with most of the basic vegetation structures impacted from previous disturbance activities (Table 7, Figure 6). Understory comprises of mainly weedy grass with maintained turfed lawns in the north section of the site near the roundabout.

**Table 7:** Vegetation condition within black spot project

Vegetation Condition	Pristine	Excellent	Very Good	Good	Degraded	Completely Degraded	Total
Area (ha)	0	0	0	0	0.6182	0.0539	0.6721
Area (%)	0	0	0	0	92	8	100







#### 4.2.4 Threatened and Priority Communities

No TECs or PECs were found to be within the survey site. The existing vegetation condition and patch size does not meet the minimum condition threshold requirements (highlighted below) to be considered a TEC. Key diagnostic characteristics of the Tuart Woodland TEC are outlined in Table 8.

**Table 8:** Key diagnostic characteristics of the Tuart Woodland TEC

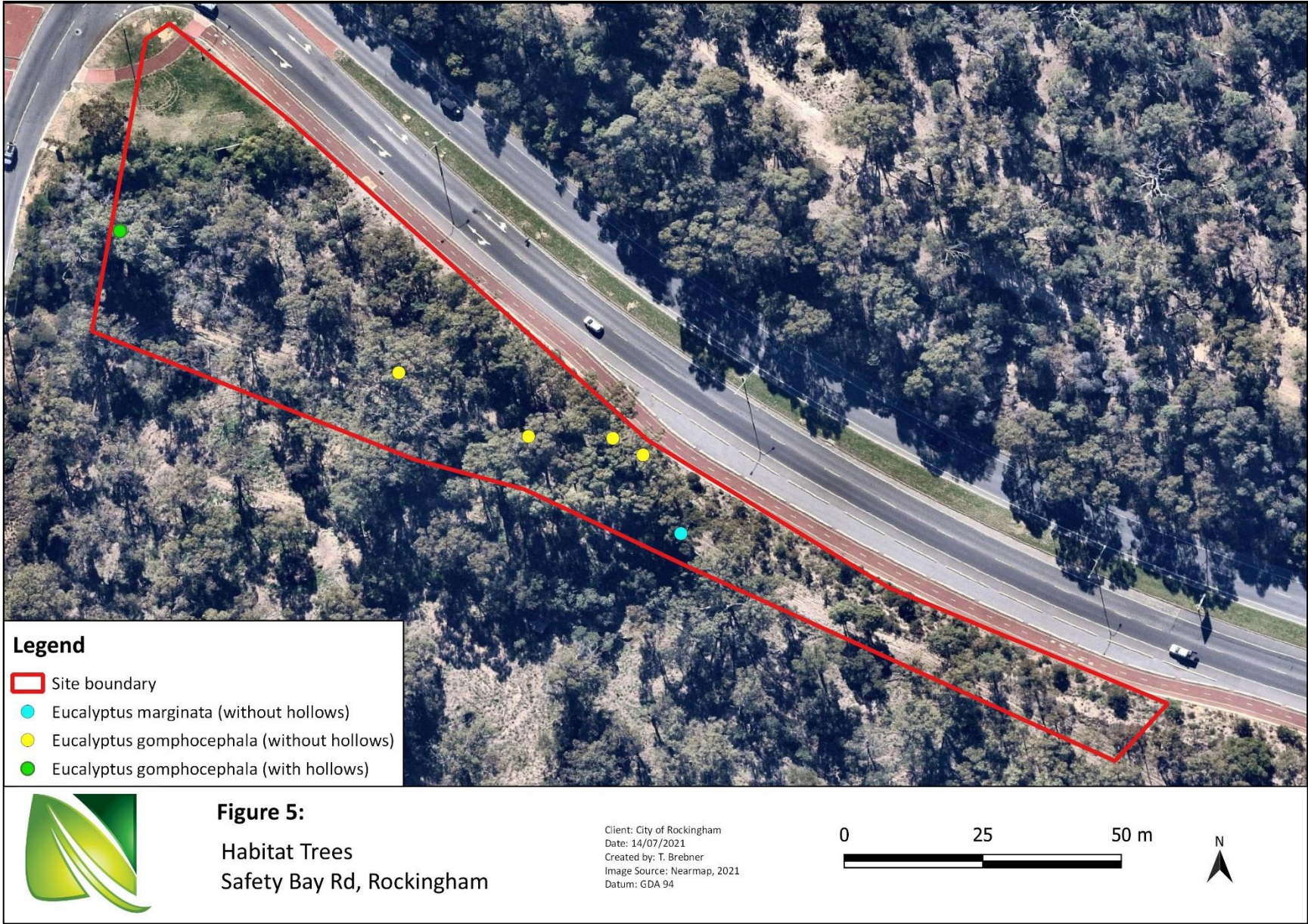
Key diagnostic characteristics	Description
Location	Occurs primarily in the Swan Coastal Plain IBRA Bioregion on Spearwood and Quindalup dune systems. Can also occur on Bassendean dune system, Pinjarra Plain system: and on the banks of rivers and wetlands.
Structural Form	The presence of at least two living established <i>Eucalyptus gomphocephala</i> (Tuart) in the uppermost canopy. Established tree is defined as >15cm diameter breast height (DBH). A patch is defined as having a gap of no more than 60m between outer edges of the canopies of adjacent Tuart trees.
Vegetation	Other tree species may be present in the canopy or sub-canopy. They commonly include: <ul style="list-style-type: none"> <li>▪ <i>Agonis flexuosa</i> (Peppermint)</li> <li>▪ <i>Banksia grandis</i> (Bull Banksia)</li> <li>▪ <i>Banksia attenuata</i> (Candlestick Banksia)</li> <li>▪ <i>Eucalyptus marginata</i> (Jarrah)</li> </ul> And less commonly <ul style="list-style-type: none"> <li>▪ <i>Corymbia calophylla</i> (Marri)</li> <li>▪ <i>Banksia menziesii</i> (Firewood Banksia)</li> <li>▪ <i>Banksia prionotes</i> (Acorn Banksia)</li> </ul> An understory of native plants is typically present, which may include grasses, herbs, and shrubs, although this is often modified by disturbance.
Condition Thresholds	If the patch is smaller than 0.5 ha it is not part of the nationally protected ecological community. If the patch is between 0.5 ha and up to 5 ha in size <ul style="list-style-type: none"> <li>▪ between &gt;0.5 ha and &lt;2 ha, must have at least a high condition <ul style="list-style-type: none"> <li>– &gt;60 % of all understory vegetation cover is native</li> <li>– or at least 8 native understory species per 0.01 ha (10 m x 10 m plot or equivalent sample unit)</li> </ul> </li> <li>▪ between &gt;2 ha to &lt;5 ha, must have at least a moderate condition <ul style="list-style-type: none"> <li>– &gt;50 % of all understory vegetation cover is native or</li> <li>– At least 4 native understory species per 0.01 ha (10 x 10 m plot or equivalent sample unit).</li> </ul> </li> </ul> All patches of 5 ha or greater that meet the key diagnostic characteristics are part of the nationally protected ecological community.

Source: Department of Agriculture, Water and Environment (2019)

#### **4.2.5 Cockatoo Habitat Trees**

A total of six habitat trees with a diameter at breast height (DBH) greater than 500 mm were recorded with the survey site (Figure 7), with Tuart (*Eucalyptus gomphocephala*) being the majority of the species, with one being Jarrah (*Eucalyptus marginata*). Only one of the six habitat trees exhibited hollows (two in total), noted to be suitable for a potential black cockatoo nesting and/or breeding site based on the size and angle of the hollow entrances. The area has the potential to provide foraging source of moderate quality and potential roosting sites for threatened black cockatoos.





## 5.0 Implications of Results

### 5.1 Flora and Vegetation

A total of 38 species, including 20 (53%) native and 18 (47%) introduced were recorded on site. As the site is located along a roadside flora diversity within the survey area is relatively low with almost half the species recorded being weeds. Majority of the natives recorded were in the upper and middle structure levels, with the understorey being dominated by weedy grasses.

One of the species (Bridal Creeper) recorded is a WoNS, this classification requires the landowner/land manager to control the population to limit damage as a result of the presence of these species (Department of Primary Industries and Regional Development, 2021). The condition of the survey site was low with all of the survey area being identified as Degraded or Completely Degraded, with sparse native understorey species present. It was also noted that the area closest to the road had been previously cleared and revegetated.

### 5.2 Significant Flora

No threatened or priority species were recorded during the survey, and due to the highly degraded nature of the road verge vegetation, none are expected to occur within the area.

### 5.3 Threatened Ecological Communities

No threatened or priority ecological communities are recorded during the survey, as the Tuart Woodland present does not meet the condition threshold requirements to be classified as a TEC.

### 5.4 Recommendations

As many habitat trees as possible should be retained, especially the Tuart (*Eucalyptus gomphocephala*) containing hollows located in the most north-western section of the survey area. This tree has potential to provide suitable habitat for threatened black cockatoo nesting. If landscaping is to occur, it is recommended to use locally endemic plant species once works are complete including black cockatoo foraging and habitat species, although these should not be placed within 10 m of the road to ensure no birds are injured due to vehicular traffic.



## 6.0 References

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## **Appendix 1: NatureMap Report 5 km**



# NatureMap Species Report

Created By Guest user on 12/07/2021

Current Names Only Yes  
Core Datasets Only Yes  
Method 'By Circle'  
Centre 115° 47' 31" E, 32° 19' 35" S  
Buffer 5km  
Group By Species Group

Species Group	Species	Records
Amphibian	5	50
Bird	161	3197
Dicotyledon	140	223
Fish	4	4
Fungus	8	8
Gymnosperm	1	3
Invertebrate	12	40
Mammal	13	254
Monocotyledon	78	132
Reptile	29	222
Slime Mould	2	2
<b>TOTAL</b>	<b>453</b>	<b>4135</b>

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
<b>Amphibian</b>				
1.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
2.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
3.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
4.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
5.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
<b>Bird</b>				
6.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
7.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
8.	24262 <i>Acanthiza lineolata</i> (Western Thornbill)			
9.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
10.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
11.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
12.	24282 <i>Accipiter fasciatus subsp. fasciatus</i> (Brown Goshawk)			
13.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
14.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
15.	24312 <i>Anas gracilis</i> (Grey Teal)			
16.	24313 <i>Anas platyrhynchos</i> (Mallard)			
17.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
18.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
19.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
20.	24506 <i>Anous tenuirostris subsp. melanops</i> (Australian Lesser Noddy)		T	
21.	<i>Anser anser</i>			
22.	24561 <i>Anthochaera carunculata</i> (Red Wattiebird)			
23.	24562 <i>Anthochaera lunulata</i> (Western Little Wattiebird)			
24.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
25.	24337 <i>Ardea garzetta subsp. nigripes</i> (Little Egret)			
26.	41324 <i>Ardea modesta</i> (great egret, white egret)			
27.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
28.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
29.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
30.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
31.	24318 <i>Aythya australis</i> (Hardhead)			
32.	<i>Barnardius zonarius</i>			
33.	24319 <i>Biziura lobata</i> (Musk Duck)			
34.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
35.	25715 <i>Cacatua roseicapilla</i> (Galah)			
36.	25716 <i>Cacatua sanguinea</i> (Little Corella)			

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Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
37.	24729 <i>Cacatua tenuirostris</i> (Eastern Long-billed Corella)	Y		
38.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
39.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
40.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
41.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
42.	24786 <i>Calidris melanotos</i> (Pectoral Sandpiper)		IA	
43.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
44.	24789 <i>Calidris subminuta</i> (Long-toed Stint)		IA	
45.	24790 <i>Calidris tenuirostris</i> (Great Knot)		T	
46.	25717 <i>Calyptrorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
47.	24731 <i>Calyptrorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
48.	24734 <i>Calyptrorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
49.	48400 <i>Calyptrorhynchus</i> sp. (white-tailed black cockatoo)		T	
50.	25575 <i>Charadrius leschenaulti</i> (Greater Sand Plover)		T	
51.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
52.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
53.	41332 <i>Chlidonias leucopterus</i> (White-winged Black Tern, white-winged tern)		IA	
54.	<i>Chroicocephalus novaehollandiae</i>			
55.	24288 <i>Circus approximans</i> (Swamp Harrier)			
56.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
57.	25675 <i>Coliurichia harmonica</i> (Grey Shrike-thrush)			
58.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
59.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
60.	25592 <i>Corvus coronoides</i> (Australian Raven)			
61.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
62.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
63.	24322 <i>Cygnus atratus</i> (Black Swan)			
64.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
65.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
66.	<i>Egretta garzetta</i>			
67.	<i>Egretta novaehollandiae</i>			
68.	<i>Elanus axillaris</i>			
69.	47937 <i>Elseyornis melanops</i> (Black-fronted Dotterel)			
70.	<i>Eolophus roseicapillus</i>			
71.	24567 <i>Epthianura albitrons</i> (White-fronted Chat)			
72.	24379 <i>Erythronyx cinctus</i> (Red-kneed Dotterel)			
73.	25621 <i>Falco berigora</i> (Brown Falcon)			
74.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
75.	25623 <i>Falco longipennis</i> (Australian Hobby)			
76.	25727 <i>Fulica atra</i> (Eurasian Coot)			
77.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
78.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
79.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
80.	25730 <i>Gallinulus philippensis</i> (Buff-banded Rail)			
81.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
82.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
83.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
84.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
85.	24295 <i>Haliaeetus spheurnus</i> (Whistling Kite)			
86.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
87.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
88.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
89.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
90.	25637 <i>Larus novaehollandiae</i> (Silver Gull)			
91.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
92.	25638 <i>Larus pacificus</i> (Pacific Gull)			
93.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
94.	24582 <i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
95.	25741 <i>Limosa limosa</i> (Black-tailed Godwit)		IA	
96.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
97.	24691 <i>Macronectes halli</i> (Northern Giant Petrel)		IA	
98.	24326 <i>Malacothynchus membranaceus</i> (Pink-eared Duck)			
99.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
100.	24552 <i>Malurus splendens</i> subsp. <i>splendens</i> (Splendid Fairy-wren)			
101.	24583 <i>Manorina flavigula</i> (Yellow-throated Miner)			
102.	25758 <i>Megalururus gramineus</i> (Little Grassbird)			
103.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
104.	<i>Microcarbo melanoleucos</i>			
105.	48008 <i>Morus serrator</i> (Australasian Gannet)			

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	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
106.	24738	<i>Neophema elegans</i> (Elegant Parrot)			
107.	24798	<i>Numenius madagascariensis</i> (Eastern Curlew)		T	
108.	25564	<i>Nycticorax caledonicus</i> (Rufous Night Heron)			
109.	24407	<i>Ocyphaps lophotes</i> (Crested Pigeon)			
110.	24328	<i>Oxyura australis</i> (Blue-billed Duck)		P4	
111.	25680	<i>Pachycephala rufiventris</i> (Rufous Whistler)			
112.	24692	<i>Pachyptila belcheri</i> (Slender-billed Plover)			
113.	48591	<i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
114.	25681	<i>Pardalotus punctatus</i> (Spotted Pardalote)			
115.	25682	<i>Pardalotus striatus</i> (Striated Pardalote)			
116.	24648	<i>Pelecanus conspicillatus</i> (Australian Pelican)			
117.	48061	<i>Petrochelidon nigricans</i> (Tree Martin)			
118.	48066	<i>Petroica boodang</i> (Scarlet Robin)			
119.	24659	<i>Petroica goodenovii</i> (Red-capped Robin)			
120.	25697	<i>Phalacrocorax carbo</i> (Great Cormorant)			
121.	25698	<i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
122.	24667	<i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
123.	25699	<i>Phalacrocorax varius</i> (Pied Cormorant)			
124.	24668	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
125.	24409	<i>Phaps chalcoptera</i> (Common Bronzewing)			
126.	48071	<i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
127.	24596	<i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
128.	24841	<i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
129.	24842	<i>Platalea regia</i> (Royal Spoonbill)			
130.	25720	<i>Platyercus ictorolis</i> (Western Rosella)			
131.	25721	<i>Platyercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
132.	24750	<i>Platyercus zonarius</i> subsp. <i>semitorquatus</i> (Twenty-eight Parrot)			
133.	24843	<i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
134.	25704	<i>Podiceps cristatus</i> (Great Crested Grebe)			
135.	24681	<i>Poliocephalus poliocephalus</i> (Hoary-headed Grebe)			
136.	25722	<i>Polytelus anthopeplus</i> (Regent Parrot)			
137.	25731	<i>Porphyrio porphyrio</i> (Purple Swamphen)			
138.	24767	<i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			
139.	24769	<i>Porzana fluminea</i> (Australian Spotted Crane)			
140.	24771	<i>Porzana tabuensis</i> (Spotless Crane)			
141.		<i>Purpurecephalus spurius</i>			
142.	30867	<i>Pycnonotus jocosus</i> subsp. <i>jocosus</i> (Red-whiskered Bulbul)	Y		Y
143.	24776	<i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
144.	48096	<i>Rhipidura albiscapa</i> (Grey Fantail)			
145.	25614	<i>Rhipidura leucophrys</i> (Willie Wagtail)			
146.	24454	<i>Rhipidura leucophrys</i> subsp. <i>leucophrys</i> (Willie Wagtail)			
147.	25534	<i>Sericornis frontalis</i> (White-browed Scrubwren)			
148.	30948	<i>Sericornis brevirostris</i> (Weebill)			
149.	25643	<i>Sterna hybrida</i> (Whiskered Tern)			
150.	48594	<i>Sternula nereis</i> (Fairy Tern)			
151.	25597	<i>Strepera versicolor</i> (Grey Currawong)			
152.	25589	<i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
153.	25590	<i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
154.	25705	<i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
155.	24682	<i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
156.	24331	<i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
157.	48597	<i>Thalasseus bergii</i> (Crested Tern)		IA	
158.	48135	<i>Thlornis rubricollis</i> (Hooded Plover, Hooded Dotterel)		P4	
159.	24845	<i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
160.	25549	<i>Todiramphus sanctus</i> (Sacred Kingfisher)			
161.	25723	<i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
162.	24806	<i>Tringa glareola</i> (Wood Sandpiper)		IA	
163.	24808	<i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
164.	24809	<i>Tringa stagnatilis</i> (Marsh Sandpiper, little greenshank)		IA	
165.	24386	<i>Vanelus tricolor</i> (Banded Lapwing)			
166.	25765	<i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			

#### Dicotyledon

167.	3409	<i>Acacia lasiocarpa</i> (Panjlang)
168.	3502	<i>Acacia pulchella</i> (Prickly Moses)
169.	15482	<i>Acacia pulchella</i> var. <i>goadbyi</i>
170.	3525	<i>Acacia rostellata</i> (Summer-scented Wattle)
171.	3527	<i>Acacia saligna</i> (Orange Wattle, Kudjong)
172.	30032	<i>Acacia saligna</i> subsp. <i>saligna</i>
173.	48762	<i>Acacia</i> sp. <i>Binningup</i> (G. Cockerton et al. WB 37754)

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Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
			P1	
174.	4582 <i>Adriana quadripartita</i> (Bitter Bush)			
175.	6565 <i>Alyxia buxifolia</i> (Dysentery Bush)			
176.	7821 <i>Ambrosia psilostachya</i> (Perennial Ragweed)	Y		
177.	6949 <i>Anthocercis littorea</i> (Yellow Tailflower)			
178.	6211 <i>Apium prostratum</i> (Sea Celery)			
179.	12040 <i>Apium prostratum</i> subsp. <i>prostratum</i> var. <i>prostratum</i> (Sea Celery)			
180.	7851 <i>Asteridea pulverulenta</i> (Common Bristle Daisy)			
181.	2480 <i>Atriplex suberecta</i>			
182.	1800 <i>Banksia attenuata</i> (Slender Banksia, Plains)			
183.	1830 <i>Banksia littoralis</i> (Swamp Banksia, Pungara)			
184.	1834 <i>Banksia menziesii</i> (Firewood Banksia)			
185.	32077 <i>Banksia sessilis</i> var. <i>cygnorum</i>			
186.	32080 <i>Banksia sessilis</i> var. <i>sessilis</i>			
187.	7046 <i>Belardia trirago</i> (Belardia)	Y		
188.	48868 <i>Belardia viscosa</i>	Y		
189.	34236 <i>Beyeria cinerea</i> subsp. <i>cinerea</i>		P3	
190.	3710 <i>Bossiaea eriocarpa</i> (Common Brown Pea)			
191.	2856 <i>Calandrinia littoralis</i> (Parakeelya)			
192.	5415 <i>Calothamnus lateralis</i>			
193.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
194.	6539 <i>Centaureum erythraea</i> (Common Centaury)	Y		
195.	6542 <i>Centaureum tenuiflorum</i>	Y		
196.	6214 <i>Centella asiatica</i>			
197.	2889 <i>Cerastium glomeratum</i> (Mouse Ear Chickweed)	Y		
198.	2483 <i>Chenopodium album</i> (Fat Hen)	Y		
199.	2490 <i>Chenopodium glaucum</i> (Glaucous Goosefoot)	Y		
200.	2494 <i>Chenopodium murale</i> (Nettle-leaf Goosefoot)	Y		
201.	10804 <i>Clematis linearifolia</i>			
202.	4552 <i>Comesperma confertum</i>			
203.	4555 <i>Comesperma integrifolium</i>			
204.	6217 <i>Conium maculatum</i> (Hemlock)	Y		
205.	20074 <i>Coryza sumatrensis</i>	Y		
206.	3137 <i>Crassula colorata</i> (Dense Stonecrop)			
207.	3140 <i>Crassula glomerata</i>	Y		
208.	4802 <i>Cryptandra mutile</i>			
209.	6663 <i>Cuscuta epithymum</i> (Lesser Dodder, Greater Dodder)	Y		
210.	7454 <i>Dampiera linearis</i> (Common Dampiera)			
211.	3845 <i>Daviesia triflora</i>			
212.	18541 <i>Diplopeltis huegelii</i> subsp. <i>huegelii</i>			
213.	7054 <i>Dischisma arenarium</i>	Y		
214.	3095 <i>Drosera erythrorhiza</i> (Red Ink Sundew)			
215.	3106 <i>Drosera macrantha</i> (Bridal Rainbow)			
216.	6131 <i>Epilobium billardiereanum</i> (Glabrous Willow Herb)			
217.	17175 <i>Eremophila glabra</i> subsp. <i>albicans</i>			
218.	5649 <i>Eucalyptus foecunda</i> (Narrow-leaved Red Mallee)			
219.	5659 <i>Eucalyptus gomphocephala</i> (Tuart, Quarr)			
220.	5708 <i>Eucalyptus marginata</i> (Jarrah, Djara)			
221.	4648 <i>Euphorbia terracina</i> (Geraldton Carnation Weed)	Y		
222.	10765 <i>Evocarpos sparteus</i> (Broom Ballart, Djuk)			
223.	7323 <i>Gallium murale</i> (Small Goosegrass)	Y		
224.	20475 <i>Gastrolobium capitatum</i>			
225.	4339 <i>Geranium molle</i> (Dove's Foot Cranesbill)	Y		
226.	6587 <i>Gomphocarpus fruticosus</i> (Narrowleaf Cottonbush)	Y		
227.	3957 <i>Gompholobium tomentosum</i> (Hairy Yellow Pea)			
228.	1982 <i>Grevillea crithmifolia</i>			
229.	15839 <i>Grevillea preissii</i> subsp. <i>preissii</i>			
230.	2119 <i>Grevillea vestita</i>			
231.	12824 <i>Grevillea vestita</i> subsp. <i>vestita</i>			
232.	2175 <i>Hakea illocarpha</i> (Honey Bush)			
233.	2197 <i>Hakea prostrata</i> (Harsh Hakea)			
234.	3961 <i>Hardenbergia comptoniana</i> (Native Wisteria)			
235.	3016 <i>Heiophila pusilla</i>	Y		
236.	5117 <i>Hibbertia cuneiformis</i> (Cutleaf Hibbertia)			
237.	5135 <i>Hibbertia hypericoides</i> (Yellow Buttercups)			
238.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
239.	6222 <i>Homaloscladum homalocarum</i>			
240.	12859 <i>Hovea trisperma</i> var. <i>trisperma</i>			
241.	5216 <i>Hybanthus calycinus</i> (Wild Violet)			
242.	5218 <i>Hybanthus debilissimus</i>			

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Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
243.	6224 <i>Hydrocotyle blepharocarpa</i>			
244.	6229 <i>Hydrocotyle diantha</i>			
245.	6232 <i>Hydrocotyle hispidula</i>			
246.	5825 <i>Hypocalymma robustum</i> (Swan River Myrtle)			
247.	8086 <i>Hypochoeris glabra</i> (Smooth Catsear)	Y		
248.	4012 <i>Jacksonia furcellata</i> (Grey Stinkwood)			
249.	4027 <i>Jacksonia sericea</i> (Waldlumi)		P4	
250.	4037 <i>Kennedia coccinea</i> (Coral Vine)			
251.	6427 <i>Leucopogon parviflorus</i> (Coast Beard-heath)			
252.	6436 <i>Leucopogon propinquus</i>			
253.	4362 <i>Linum marginale</i> (Wild Flax)			
254.	9289 <i>Lobelia anceps</i> (Angled Lobelia)			
255.	7408 <i>Lobelia tenax</i> (Slender Lobelia)			
256.	6515 <i>Logania vaginalis</i> (White Spray)			
257.	5959 <i>Meibomia raphanophylla</i> (Swamp Paperbark)			
258.	5978 <i>Meibomia teretifolia</i> (Banbar)			
259.	4084 <i>Melilotus albus</i>	Y		
260.	4085 <i>Melilotus indicus</i>	Y		
261.	7085 <i>Mitostyles orontium</i> (Lesser Snapdragon)	Y		
262.	2412 <i>Muehlenbeckia adpressa</i> (Climbing Lignum)			
263.	7289 <i>Myoporum capranoides</i> (Slender Myoporum)			
264.	14292 <i>Oenothera stricta</i> subsp. <i>stricta</i>	Y		
265.	8127 <i>Olearia axillaris</i> (Coastal Daisybush)			
266.	7348 <i>Opercularia hispidula</i> (Hispid Stinkweed)			
267.	18255 <i>Opercularia vaginata</i> (Dog Weed)			
268.	1762 <i>Parietaria debilis</i> (Pellitory)			
269.	4343 <i>Pelargonium capitatum</i> (Rose Pelargonium)	Y		
270.	4346 <i>Pelargonium littorale</i>			
271.	2273 <i>Persoonia saccata</i> (Snottygobble)			
272.	2299 <i>Petrophile linearis</i> (Pixie Mops)			
273.	6734 <i>Phylla nodiflora</i> var. <i>nodiflora</i>	Y		
274.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
275.	6983 <i>Physalis peruviana</i> (Cape Gooseberry)	Y		
276.	18117 <i>Pimelea rosea</i> subsp. <i>rosea</i>			
277.	7303 <i>Plantago lanceolata</i> (Ribwort Plantain)	Y		
278.	8175 <i>Podolepis gracilis</i> (Slender Podolepis)			
279.	4691 <i>Poranthera microphylla</i> (Small Poranthera)			
280.	6483 <i>Samolus junceus</i>			
281.	6484 <i>Samolus repens</i> (Creeping Brookweed)			
282.	7595 <i>Scaevola anchusifolia</i>			
283.	7626 <i>Scaevola nitida</i> (Shining Fanflower)			
284.	13182 <i>Scaevola repens</i> var. <i>repens</i>			
285.	25878 <i>Senecio condylus</i>			
286.	20161 <i>Senecio pinnatifolius</i>			
287.	2909 <i>Silene gallica</i> (French Catchfly)	Y		
288.	7022 <i>Solanum nigrum</i> (Black Berry Nightshade)	Y		
289.	7037 <i>Solanum symonii</i>			
290.	9367 <i>Sonchus hydrophilus</i> (Native Sowthistle)			
291.	8231 <i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
292.	20348 <i>Sphaerolobium calcicola</i>		P3	
293.	4828 <i>Spyridium globulosum</i> (Basket Bush)			
294.	2918 <i>Stellaria media</i> (Chickweed)	Y		
295.	20397 <i>Stellaria pallida</i>	Y		
296.	2329 <i>Synaphea spinulosa</i>			
297.	15741 <i>Tamarix aphylla</i> (Athei Tree)	Y		
298.	4256 <i>Templetonia retusa</i> (Cockles Tongues)			
299.	5077 <i>Thomasia cognata</i>			
300.	6266 <i>Trachymene coerulescens</i> (Blue Lace Flower)			
301.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
302.	4292 <i>Trifolium campestre</i> (Hop Clover)	Y		
303.	11665 <i>Trymalium ledifolium</i> var. <i>ledifolium</i>			
304.	8255 <i>Ursinia anthemoides</i> (Ursinia)	Y		
305.	38388 <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i>	Y		
306.	6658 <i>Wilsonia backhousei</i> (Narrow-leaf Wilsonia)			
<b>Fish</b>				
307.	<i>Afurcagobius suppositus</i>			
308.	<i>Dactylophora nigricans</i>			
309.	<i>Dactylopus dactylopus</i>			
310.	<i>Siphonognathus radiatus</i>			

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Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
<b>Fungus</b>				
311.	<i>Aleurina ferruginea</i>			
312.	<i>Bysomerulius corium</i>			
313.	<i>Calocera guepinoides</i>			
314.	<i>Fomitopsis (Macinoglia)</i>			
315.	<i>Gymnopilus eucalyptorum</i>			Y
316.	<i>Phlebia rufa</i>			
317.	<i>Phlebia subceracea</i>			
318.	<i>Pluteus atomarginatus</i>			
<b>Gymnosperm</b>				
319.	85 <i>Macrozamia riedlei</i> (Zamia, Dying)			
<b>Invertebrate</b>				
320.	<i>Allothochosina kamf</i>			
321.	<i>Anane malinae</i>			
322.	<i>Anane tepperi</i>			
323.	<i>Dingosa serrata</i>			
324.	<i>Eriophora biapicata</i>			
325.	<i>Idiomma blackwalli</i>			
326.	48935 <i>Idiosoma signatum</i> (Swan Coastal Plain shield-backed trapdoor spider)		P3	
327.	<i>Maratus pavonis</i>			
328.	<i>Missulena granulosa</i>			
329.	33992 <i>Synemon gratiosa</i> (Graceful Sunmoth)		P4	
330.	<i>Tetragnatha demissa</i>			
331.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
<b>Mammal</b>				
332.	47713 <i>Australopus australis</i> (White-striped Free-tailed Bat)			
333.	24186 <i>Chalinolobus gouldi</i> (Gould's Wattled Bat)			
334.	24041 <i>Felis catus</i> (Cat)	Y		
335.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
336.	48588 <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
337.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
338.	24223 <i>Mus musculus</i> (House Mouse)	Y		
339.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
340.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
341.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambengeri</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
342.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
343.	25521 <i>Trichosurus vulpecula</i> (Common Brush-tail Possum)			
344.	24206 <i>Vespertilio regulus</i> (Southern Forest Bat)			
<b>Monocotyledon</b>				
345.	1208 <i>Acanthocarpus preissii</i>			
346.	226 <i>Arundo donax</i> (Giant Reed)	Y		
347.	17234 <i>Austrostipa compressa</i>			
348.	17240 <i>Austrostipa flavescens</i>			
349.	231 <i>Avelonia michellii</i>	Y		
350.	233 <i>Avena barbata</i> (Bearded Oat)	Y		
351.	234 <i>Avena fatua</i> (Wild Oat)	Y		
352.	743 <i>Baumea juncea</i> (Bare Twigrush)			
353.	748 <i>Baumea vaginalis</i> (Sheath Twigrush)			
354.	749 <i>Bolboschoenus caldwellii</i> (Marsh Club-rush)			
355.	244 <i>Briza maxima</i> (Blowfly Grass)	Y		
356.	245 <i>Briza minor</i> (Shively Grass)	Y		
357.	249 <i>Bromus diandrus</i> (Great Brome)	Y		
358.	250 <i>Bromus hordeaceus</i> (Soft Brome)	Y		
359.	12770 <i>Burchardia congesta</i>			
360.	1599 <i>Caladenia latifolia</i> (Pink Fairy Orchid)			
361.	1125 <i>Centrolepis drummondiana</i>			
362.	1280 <i>Chamaescilla corymbosa</i> (Blue Squill)			
363.	1418 <i>Conostylis aculeata</i> (Prickly Conostylis)			
364.	283 <i>Cynodon dactylon</i> (Couch)	Y		
365.	285 <i>Cynosurus echinatus</i> (Rough Dogstail)	Y		
366.	1259 <i>Dianella revoluta</i> (Blueberry Lily)			
367.	11636 <i>Dianella revoluta</i> var. <i>divaricata</i>			
368.	1287 <i>Dichopogon capillipes</i>			
369.	12939 <i>Diuris magnifica</i>			
370.	11156 <i>Drakaea livida</i>			
371.	347 <i>Ehrharta calycina</i> (Perennial Veldt Grass)	Y		
372.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		

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Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
373.	<i>Eragrostis</i> sp. Indet.			
374.	907 <i>Gahnia trifida</i> (Coast Saw-sedge)			
375.	1520 <i>Gladolus caryophyllaceus</i> (Wild Gladolus)	Y		
376.	17841 <i>Hypolaena pubescens</i>			
377.	910 <i>Isolepis cernua</i> (Nodding Club-rush)			
378.	20199 <i>Isolepis cernua</i> var. <i>cernua</i>			
379.	20200 <i>Isolepis cernua</i> var. <i>setiformis</i>			
380.	917 <i>Isolepis marginata</i> (Coarse Club-rush)			
381.	20454 <i>Juncus acutus</i> subsp. <i>acutus</i>	Y		
382.	1178 <i>Juncus bufonius</i> (Toad Rush)	Y		
383.	1185 <i>Juncus kraussii</i> (Sea Rush)			
384.	1370 <i>Lachenalia reflexa</i>	Y		
385.	467 <i>Lagurus ovatus</i> (Hare's Tail Grass)	Y		
386.	1309 <i>Laxmannia squamosa</i>			
387.	925 <i>Lepidosperma angustatum</i>			
388.	933 <i>Lepidosperma gladiatum</i> (Coast Sword-sedge, Kerbin)			
389.	937 <i>Lepidosperma longitudinale</i> (Pithy Sword-sedge)			
390.	944 <i>Lepidosperma scabrum</i>			
391.	<i>Lepidosperma</i> sp.			
392.	476 <i>Lolium perenne</i> (Perennial Ryegrass)	Y		
393.	478 <i>Lolium rigidum</i> (Wimmera Ryegrass)	Y		
394.	1223 <i>Lomandra caespitosa</i> (Tufted Mat Rush)			
395.	1231 <i>Lomandra maritima</i>			
396.	1198 <i>Luzula meridionalis</i> (Field Woodrush)			
397.	1097 <i>Lyginia barbata</i>			
398.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
399.	1372 <i>Ornithogalum arabicum</i> (Lesser Cape Lily)	Y		
400.	516 <i>Parapholis incurva</i> (Coast Bargrass)	Y		
401.	1550 <i>Paterosia occidentalis</i> (Purple Flag, Koma)			
402.	551 <i>Phalaris minor</i> (Lesser Canary Grass)	Y		
403.	552 <i>Phalaris paradoxa</i> (Paradoxa Grass)	Y		
404.	1478 <i>Phlebotypha ciliata</i>			
405.	577 <i>Poa poliformis</i> (Coastal Poa)			
406.	578 <i>Poa porphyroclados</i>			
407.	1556 <i>Romulea rosea</i> (Gulf-of-Grass)	Y		
408.	973 <i>Schoenus asperocarpus</i> (Poison Sedge)			
409.	978 <i>Schoenus brevifolius</i>			
410.	1004 <i>Schoenus nifens</i> (Shiny Bog-rush)			
411.	635 <i>Sporobolus virginicus</i> (Marine Couch)			
412.	1319 <i>Thysanotus arenarius</i>			
413.	1338 <i>Thysanotus manglietianus</i> (Fringed Lily)			
414.	1339 <i>Thysanotus multiflorus</i> (Many-flowered Fringe Lily)			
415.	1351 <i>Thysanotus sparteus</i>			
416.	1361 <i>Tricoryne elatior</i> (Yellow Autumn Lily)			
417.	147 <i>Triglochin mucronata</i>			
418.	151 <i>Triglochin striata</i>			
419.	99 <i>Typia orientalis</i> (Bulrush, Cumbungli)			
420.	722 <i>Vulpia bromoides</i> (Squirrel Tail Fescue)	Y		
421.	724 <i>Vulpia myuros</i> (Rat's Tail Fescue)	Y		
422.	1256 <i>Xanthorrhoea preissii</i> (Grass tree, Palga)			
<b>Reptile</b>				
423.	44629 <i>Anilius australis</i>			
424.	24991 <i>Aprasia repens</i> (Sand-plain Worm-lizard)			
425.	42381 <i>Brachyuophis semifasciatus</i> (Southern Shovel-nosed Snake)			
426.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
427.	30893 <i>Cryptoblepharus buehneri</i>			
428.	25020 <i>Cryptoblepharus plagiocephalus</i>			
429.	30899 <i>Ctenophorus adelaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
430.	25027 <i>Ctenopus australis</i>			
431.	25039 <i>Ctenopus fallens</i>			
432.	25119 <i>Hemlergia quadrilineata</i>			
433.	43384 <i>Hydrophis platurus</i> (Yellow-bellied Seasnake)			
434.	25133 <i>Lerista elegans</i>			
435.	25147 <i>Lerista lineata</i> (Perth Skink, Lined Skink)		P3	
436.	25005 <i>Lialis burtonis</i>			
437.	25184 <i>Morelia greyii</i>			
438.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
439.	25191 <i>Morelia lineocellata</i>			
440.	25249 <i>Neraps calonotos</i> (Black-striped Snake, black-striped burrowing snake)		P3	
441.	25252 <i>Notechis scutatus</i> (Tiger Snake)			

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	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
442.	25253	<i>Parasuta gouldi</i>			
443.	25510	<i>Pogona minor</i> (Dwarf Bearded Dragon)			
444.	24907	<i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
445.	25511	<i>Pseudonaja affinis</i> (Dugite)			
446.	25259	<i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
447.	25266	<i>Simoseirops bertholdi</i> (Jan's Banded Snake)			
448.	25518	<i>Strophurus spinigerus</i>			
449.	25203	<i>Tiliqua occipitalis</i> (Western Bluetongue)			
450.	25519	<i>Tiliqua rugosa</i>			
451.	25207	<i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
<b>Slime Mould</b>					
452.	48434	<i>Reticularia lobata</i>			Y
453.	39097	<i>Trichia decipiens</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

<sup>1</sup> 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 Report 5 km**



**Australian Government**  
**Department of Agriculture,**  
**Water and the Environment**

## 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: 12/07/21 13:46:38

[Summary](#)

[Details](#)

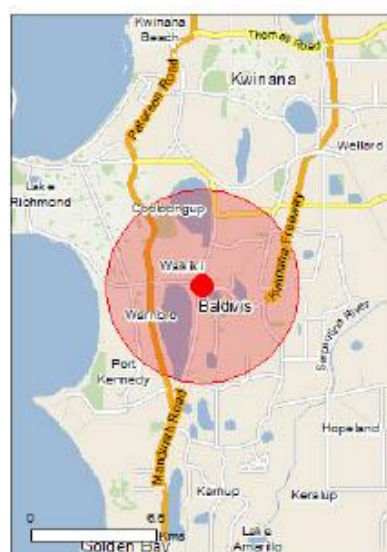
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



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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](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	2
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	3
<a href="#">Listed Threatened Species:</a>	34
<a href="#">Listed Migratory Species:</a>	28

### 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.

<a href="#">Commonwealth Land:</a>	1
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	37
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None

### Extra Information

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

<a href="#">State and Territory Reserves:</a>	1
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	36
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None



## Details

### Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[ Resource Information ]
Name	Proximity
<a href="#">Becher point wetlands</a>	Within 10km of Ramsar
<a href="#">Peel-yalgorup system</a>	10 - 20km upstream

### 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
<a href="#">Banksia Woodlands of the Swan Coastal Plain ecological community</a>	Endangered	Community likely to occur within area
<a href="#">Sedgeland in Holocene dune swales of the southern Swan Coastal Plain</a>	Endangered	Community known to occur within area
<a href="#">Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community</a>	Critically Endangered	Community likely to occur within area

### Listed Threatened Species [ Resource Information ]

Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Botaurus poiciloptilus</a>		
Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a>		
Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
<a href="#">Calidris ferruginea</a>		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calyptorhynchus banksii naso</a>		
Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Calyptorhynchus baudinii</a>		
Baudin's Cockatoo, Long-billed Black-Cockatoo [769]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calyptorhynchus latirostris</a>		
Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
<a href="#">Diomedea epomophora</a>		
Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea sanfordi</a>		
Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Leipoa ocellata</a>		
Malleefowl [934]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat likely to occur within area
<a href="#">Limosa lapponica menzbieri</a> Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Pachyptila turtur subantarctica</a> Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Thalassarche cauta</a> Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<b>Mammals</b>		
<a href="#">Bettongia penicillata ogilbyi</a> Woylie [66844]	Endangered	Species or species habitat likely to occur within area
<a href="#">Dasyurus geoffroii</a> Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pseudocheirus occidentalis</a> Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat likely to occur within area
<b>Other</b>		
<a href="#">Westralunio carteri</a> Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area
<b>Plants</b>		
<a href="#">Andersonia gracilis</a> Slender Andersonia [14470]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caladenia huegelii</a> King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat may occur within area
<a href="#">Diuris drummondii</a> Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat may occur within area
<a href="#">Diuris micrantha</a> Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Diuris purdiei</a> Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
<a href="#">Drakaea elastica</a> Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence
<a href="#">Drakaea micrantha</a> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Eucalyptus x balanites</a> Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat may occur within area
<a href="#">Synaphea sp. Fairbridge Farm (D. Papenfus 696)</a> Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Synaphea sp. Serpentine (G.R. Brand 103)</a> [86879]	Critically Endangered	Species or species habitat may occur within area
<b>Reptiles</b>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area
<b>Listed Migratory Species</b>		<b>[ Resource Information ]</b>
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardenna carneipes</a> Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Sterna dougallii</a> Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche cauta</a> Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<b>Migratory Marine Species</b>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area



Name	Threatened	Type of Presence
<a href="#">Nator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area
<b>Migratory Terrestrial Species</b>		
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat known to occur within area
<a href="#">Calidris ruficollis</a> Red-necked Stint [860]		Species or species habitat known to occur within area
<a href="#">Calidris subminuta</a> Long-toed Stint [861]		Species or species habitat known to occur within area
<a href="#">Charadrius dubius</a> Little Ringed Plover [896]		Species or species habitat known to occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">Limosa limosa</a> Black-tailed Godwit [845]		Species or species habitat known to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat likely to occur within area
<a href="#">Philomachus pugnax</a> Ruff (Reeve) [850]		Species or species habitat known to occur within area
<a href="#">Tringa glareola</a> Wood Sandpiper [829]		Species or species habitat known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
<a href="#">Tringa stagnatilis</a> Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known 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 -

### 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

[Apus pacificus](#)

Fork-tailed Swift [678]

Species or species habitat likely 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 within area

[Calidris melanotos](#)

Pectoral Sandpiper [858]

Species or species habitat known to occur within area

[Calidris ruficollis](#)

Red-necked Stint [860]

Species or species habitat known to occur within area

[Calidris subminuta](#)

Long-toed Stint [861]

Species or species habitat known to occur within area

[Charadrius dubius](#)

Little Ringed Plover [896]

Species or species habitat known to occur within area

[Charadrius ruficapillus](#)

Red-capped Plover [881]

Species or species habitat known to occur within area

[Diomedea epomophora](#)

Southern Royal Albatross [89221]

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

Name	Threatened	Type of Presence
<a href="#">Himantopus himantopus</a> Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">Limosa limosa</a> Black-tailed Godwit [845]		Species or species habitat known to occur within area
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Pachyptila turtur</a> Fairy Prion [1066]		Species or species habitat likely to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat likely to occur within area
<a href="#">Philomachus pugnax</a> Ruff (Reeve) [850]		Species or species habitat known to occur within area
<a href="#">Puffinus carneipes</a> Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
<a href="#">Recurvirostra novaehollandiae</a> Red-necked Avocet [871]		Species or species habitat known to occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
<a href="#">Sterna dougallii</a> Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche cauta</a> Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thinornis rubricollis</a> Hooded Plover [59510]		Species or species habitat known to occur within area
<a href="#">Tringa glareola</a> Wood Sandpiper [829]		Species or species habitat known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area



Name	Threatened	Type of Presence
<a href="#">Tringa stagnatilis</a> Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area
<b>Reptiles</b>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area

#### Extra Information

State and Territory Reserves	[ Resource Information ]
Name	State
Leda	WA

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
<b>Birds</b>		
<a href="#">Acridotheres tristis</a> Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
<a href="#">Anas platyrhynchos</a> Mallard [974]		Species or species habitat likely to occur within area
<a href="#">Carduelis carduelis</a> European Goldfinch [403]		Species or species habitat likely to occur within area
<a href="#">Columba livia</a> Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
<a href="#">Passer domesticus</a> House Sparrow [405]		Species or species habitat likely to occur within area
<a href="#">Passer montanus</a> Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
<a href="#">Streptopelia chinensis</a> Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
<i>Streptopelia senegalensis</i> Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
<i>Sturnus vulgaris</i> Common Starling [389]		Species or species habitat likely to occur within area
<i>Turdus merula</i> Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
<b>Mammals</b>		
<i>Bos taurus</i> Domestic Cattle [16]		Species or species habitat likely to occur within area
<i>Canis lupus familiaris</i> Domestic Dog [82654]		Species or species habitat likely to occur within area
<i>Felis catus</i> Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
<i>Funambulus pennantii</i> Northern Palm Squirrel, Five-striped Palm Squirrel [129]		Species or species habitat likely to occur within area
<i>Mus musculus</i> House Mouse [120]		Species or species habitat likely to occur within area
<i>Oryctolagus cuniculus</i> Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
<i>Rattus norvegicus</i> Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
<i>Rattus rattus</i> Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
<i>Vulpes vulpes</i> Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		
<i>Asparagus asparagoides</i> Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
<i>Brachiaria mutica</i> Para Grass [5879]		Species or species habitat may occur within area
<i>Cenchrus ciliaris</i> Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
<i>Chrysanthemoides monilifera</i> subsp. <i>monilifera</i> Boneseed [16905]		Species or species habitat likely to occur within area
<i>Genista linifolia</i> Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur

Name	Status	Type of Presence
Genista sp. X Genista monspessulana Broom [67538]		within area  Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large- leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892] Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area  Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to 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
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area
<b>Reptiles</b>		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

## 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

-32.3262 115.79168



## 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.
2	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.
3	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
4	Priority Four	Rare or near threatened and other species in need of monitoring.

(Source: Department of Biodiversity, Conservation and Attractions, 2020a)

#### Commonwealth

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

(Source: Department of Biodiversity, Conservation and Attractions, 2019)

## Appendix 4: Species List

The complete flora list for the site is provided in the table below with flora listed by species. \*Denotes introduced species and # denotes species that are native to Western Australia but not to this local region.

Family	Species Name	Common Name
Aizoaceae	* <i>Carpobrotus edulis</i>	Hottentot Fig
Asparagaceae	* <i>Asparagus asparagoides</i>	Bridal Creeper (Declared Pest)
Asparagaceae	<i>Acanthocarpus preissii</i>	
Asphodelaceae	* <i>Trachyandra divaricata</i>	
Asteraceae	* <i>Erigeron sumatrensis</i>	
Asteraceae	* <i>Hypochaeris glabra</i>	Smooth Cats-ear
Asteraceae	* <i>Sonchus oleraceus</i>	Common Sowthistle
Asteraceae	* <i>Ursinia anthemoides</i>	Ursinia
Euphorbiaceae	* <i>Euphorbia peplus</i>	Petty Surge
Euphorbiaceae	* <i>Euphorbia terracina</i>	Geraldton Carnation Weed
Fabaceae	* <i>Lupinus cosentinii</i>	
Fabaceae	<i>Acacia cochlearis</i>	Rigid Wattle
Fabaceae	<i>Acacia lasiocarpa</i>	Panjang
Fabaceae	<i>Acacia pulchella</i>	Prickly Moses
Fabaceae	<i>Acacia rostellifera</i>	Summer-scented Wattle
Fabaceae	<i>Acacia saligna</i>	Orange Wattle
Fabaceae	<i>Hardenbergia comptoniana</i>	Native Wisteria
Fabaceae	<i>Jacksonia furcellata</i>	Grey Stinkwood
Fabaceae	<i>Templetonia retusa</i>	Cockie Tongues
Geraniaceae	* <i>Pelargonium capitatum</i>	Rose Pelargonium
Haemodoraceae	<i>Conostylis candicans</i>	Grey Cottonhead
Myrtaceae	<i>Corymbia calophylla</i>	Marri
Myrtaceae	<i>Eucalyptus gomphocephala</i>	Tuart
Myrtaceae	<i>Eucalyptus marginata</i>	Jarrah
Myrtaceae	<i>Melaleuca systema</i>	
Oxalidaceae	* <i>Oxalis pes-caprae</i>	Soursob
Plumbaginaceae	* <i>Plumbago auriculata</i>	
Poaceae	* <i>Cenchrus clandestinus</i>	Kikuyu Grass
Poaceae	* <i>Cynodon dactylon</i>	Couch



Family	Species Name	Common Name
Poaceae	<i>*Ehrharta calycina</i>	Perennial Veldt Grass
Poaceae	<i>*Ehrharta longiflora</i>	Annual Veldt Grass
Poaceae	<i>*Eragrostis curvula</i>	African Lovegrass
Proteaceae	<i>Banksia attenuata</i>	Slender Banksia
Proteaceae	<i>Banksia grandis</i>	Bull grandis
Proteaceae	<i>Banksia menziesii</i>	Firewood Banksia
Proteaceae	<i>Grevillea olivacea</i>	Olive Grevillea
Rhamnaceae	<i>Spyridium globulosum</i>	Basket Bush
Zamiaceae	<i>Macrozamia riedlei</i>	Zamia