

# Flora & Fauna Significance Assessment

## Rapids Landing South, Margaret River

15 March 2022

Prepared for:  
RPS AAP Consulting Pty Ltd



# Limitations Statement

This report has been prepared in accordance with the Agreement between Ecosystem Solutions Pty Ltd and RPS AAP Consulting Pty Ltd (“Client”). It has been solely prepared for a to inform a clearing application for a sewer extension at Brookfield Estate, Margaret River (“Site”).

## Information

In undertaking this work the authors have made every effort to ensure the accuracy of the information used. Unless otherwise stated in the report, Ecosystem Solutions Pty Ltd has not independently verified such information and cannot guarantee its accuracy or completeness.

## Conclusions

Within the limitations imposed by the scope of work, preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable ecological consultants under similar circumstances. No other warranty, expressed or implied, is made.

## Reliance

This report is solely for the use of the Client and any reliance on this report by third parties will be at such party’s sole risk. This report must only be presented in full and may not be used to support any other purpose than those set out in the report and the Agreement, except where prior written approval with comments are provided by Ecosystem Solutions Pty Ltd. All intellectual property rights in documents created by Ecosystem Solutions Pty Ltd remain the property of Ecosystem Solutions Pty Ltd.

Other parties should not rely on the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters. Ecosystem Solutions Pty Ltd accepts no Liability, or responsibility whatsoever for or in respect of any use or reliance upon this report and its supporting material subsequently used by others. Please note that the contents of this report may not be directly applicable towards another organisation’s needs and may not contain sufficient information for purposes of other parties or for other uses.

Ecosystem Solutions Pty Ltd will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of this report.

# Document Control

RPS AAP Consulting Pty Ltd

Rapids Landing South, Margaret River

Version	Revision	Purpose	Author	Reviewer	Submitted	Form	Date
Report	Rev A	Initial Report	HD/KL/LD	GM	Electronic	(email)	16/03/2022

Filename: z:\projects\221272 rapids landing south f&f\reports\rapids landing south - flora and fauna significance report.docx

# Contents

<b>Document Control</b>	<b>3</b>
<b>Contents</b>	<b>4</b>
<b>1 Introduction</b>	<b>7</b>
<b>2 Site Details</b>	<b>9</b>
<b>3 Flora and Vegetation</b>	<b>10</b>
3.1 Desktop analysis	10
3.1.1 Soil Landscape	10
3.1.2 Regional Vegetation	10
3.1.3 Hydrology and Wetlands	11
3.1.4 Threatened and Priority Flora	14
3.2 Field Survey	14
3.3 Results	14
3.3.1 Threatened and Priority Flora	14
3.3.2 Vegetation Communities	20
3.3.3 Vegetation Condition	22
<b>4 Fauna</b>	<b>25</b>
4.1 Desktop Analysis	25
4.2 Field Survey	33
4.3 Results	33
<b>5 Survey Constraints</b>	<b>36</b>
<b>6 Significance</b>	<b>39</b>
<b>7 Summary and Recommendations</b>	<b>44</b>
<b>8 References (not all cited)</b>	<b>45</b>



## List of Figures

Figure 1	Site Layout for the works at Rapids Landing Estate	8
Figure 2	Soil-Landscape Mapping for Rapids Landing Estate	12
Figure 3	Vegetation Complex Mapping for Rapids Landing Estate	13
Figure 4	Vegetation Community and Relevé location at Rapids Landing Estate	21
Figure 5	Vegetation Condition for Rapids Landing Estate	24
Figure 6	Conservation Significant Fauna at Rapids Landing Estate	35
Figure 7	Relevé - R01	86

## List of Tables

Table 1	Vegetation Complex Statistics (Southwest 2018 report)	11
Table 2	Conservation significant flora species known to occur within 10 km of the Site	15
Table 3	Keighery Condition Scale (Keighery 1994)	22
Table 4	Conservation significant fauna species recorded within 10 km of the Site	26
Table 5	Fauna survey times and observations	34
Table 6	Summary of flora survey limitations	36
Table 7	Summary of fauna survey limitations	37
Table 8	Significant Impact Criteria for Key Protected Species	40
Table 9	Assessment of Significant Impact to Black Cockatoo	42
Table 10	Structural Classification	87

# Appendices

Appendix A	NatureMap Extract
Appendix B	Protected Matters Search Tool Extract
Appendix C	Conservation Codes for Western Australian Flora and Fauna
Appendix D	Relevé Field Sheet and Vegetation Structural Information

# 1 Introduction

Ecosystem Solutions were contracted by RPS AAP Pty Ltd to survey an area of Rapids Landing Estate, Margaret River for a proposed construction of a recreation zone (hereafter called the “Site”) within the Shire of Augusta-Margaret River. A survey was undertaken to document the presence and distribution of flora and fauna on the Site to facilitate clearing of vegetation on the Site. A previous survey (Ecosystem Solutions, unpublished report, February 2016) has also been conducted across the Site.

The purpose of this report is to identify flora, fauna and assess vegetation values within the Site.

The fauna species specifically targeted are conservation significant species with known breeding to occur within the area, Western Ringtail Possum (*Pseudocheirus occidentale*) and Black Cockatoo Species (*Calyptorhynchus baudinii*, *C. latirostris* and *C. banksii subsp. naso*). Other conservation significant fauna likely to occur within the proposed area of disturbance have also been considered.

The flora elements specifically targeted include Threatened and Priority species and Threatened or Priority Ecological Communities.

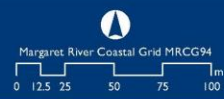
This flora and fauna assessment was limited to observing species identifiable and present during the time of the surveys.





**RPS**

Job Number: 11319409  
 Doc Number: 002  
 Date: 14.03.16  
 Scale: 1:3,000 @ A3  
 Created by: MA  
 Source: Clearing Line - Ecosystem Solutions, March 2016 Orthophoto - Landgate, Aug 2015 Foreshore Management - Coffey, 2010



**Figure 2**  
**Site Layout**

**Figure 1** Site Layout for the works at Rapids Landing Estate



## 2 Site Details

The Site is located within Lot 9014, southeast of the intersection of Pimelia Drive and Mahoney Street, Margaret River. The extent of works is approximately 0.471522 hectares (Figure 1 above) and comprises mostly of previously cleared land adjacent to a patch of remnant vegetation. The eastern edge of the Site includes vegetated areas.

The Site sits at approximately 80m AHD and slopes gently down to a tributary of Darch Brook, which runs along the eastern boundary of the Site. The central coordinates of the Site are approximately -33.96553 115.0884.

# 3 Flora and Vegetation

## 3.1 Desktop analysis

### 3.1.1 Soil Landscape

Soil-Landscape systems are areas with recurring patterns of landforms, soils and vegetation and are used by the Department of Agriculture to maintain a consistent approach to land resource surveys (DAFWA, 2007).

The Site is entirely within the Leeuwin Zone, which is defined as:

- Leeuwin Block (tectonic geology), moderately dissected lateritic plateau on granite. Colluvial soils in the valleys. On the western margin the granite is overlain by Tamala Limestone and there are some coastal dunes (DPIRD, accessed October 2021).

There is one soil landscape system represented on the Site, the Cowaramup Uplands System:

- Cowaramup Uplands System (216Co) - Lateritic plateau, in the Leeuwin Zone. Sandy gravel, loamy gravel and grey sandy duplex. Jarrah-marri forest.

Soil systems are further divided into mapping units. The soils within the Site are identified as:

- Cowaramup wet vales Phase - 216CoCOvw - Small, broad U-shaped drainage depressions with swampy floors. Gravelly duplex (Forest Grove) soils on sideslopes and poorly drained alluvial soils on valley floor (Figure 2).

### 3.1.2 Regional Vegetation

The South West forest region has been mapped for vegetation complexes by Havel and Matiske (2000). The majority of the Site has been historically cleared, with only a small amount of remnant vegetation remaining. The Havel and Matiske (2000) dataset identifies a small area of Cowaramup Valleys, Cw1, that remains to the east of the Site (Figure 2).

- Cowaramup valleys (Cw1) - Mixture of open forest to woodland of *Eucalyptus diversicolor* - *Corymbia calophylla* and woodland of *Eucalyptus marginata* subsp. *marginata* - *Corymbia calophylla* on slopes and low woodland of *Melaleuca preissiana* - *Banksia littoralis* on depressions in the hyperhumid zone.

The 2018 South West Vegetation Complex Statistics (Government of Western Australia, 2019) for these vegetation associations are shown in Table 1. The National Objectives and Targets for



Biodiversity Conservation (DEH, 2001) aims to retain and protect those vegetation communities with less than 30% remaining. The Cowaramup Valleys (Cw1) vegetation complex does not meet this target, with just over 28% remaining. In addition, ecological communities with only 1,500 ha or 15% or less (whichever is the greater) within reserves in the Southwest Forest Region (Molloy *et al.*, 2007) are referred to as a Locally Significant Natural Area, with only 8.71% of this complex is within secure tenure protected for Conservation, the Cw1 vegetation complex meets this criterion.

*Table 1 Vegetation Complex Statistics (Southwest 2018 report)*

Vegetation Complex	Pre-European Extent	Current Extent	Extent Remaining	Vegetation Complex Extent within Lands Protected for Conservation (IUCN I-IV)
Cowaramup valleys (Cw1)	6144.37 ha	1726.07 ha	28.09%	8.71%

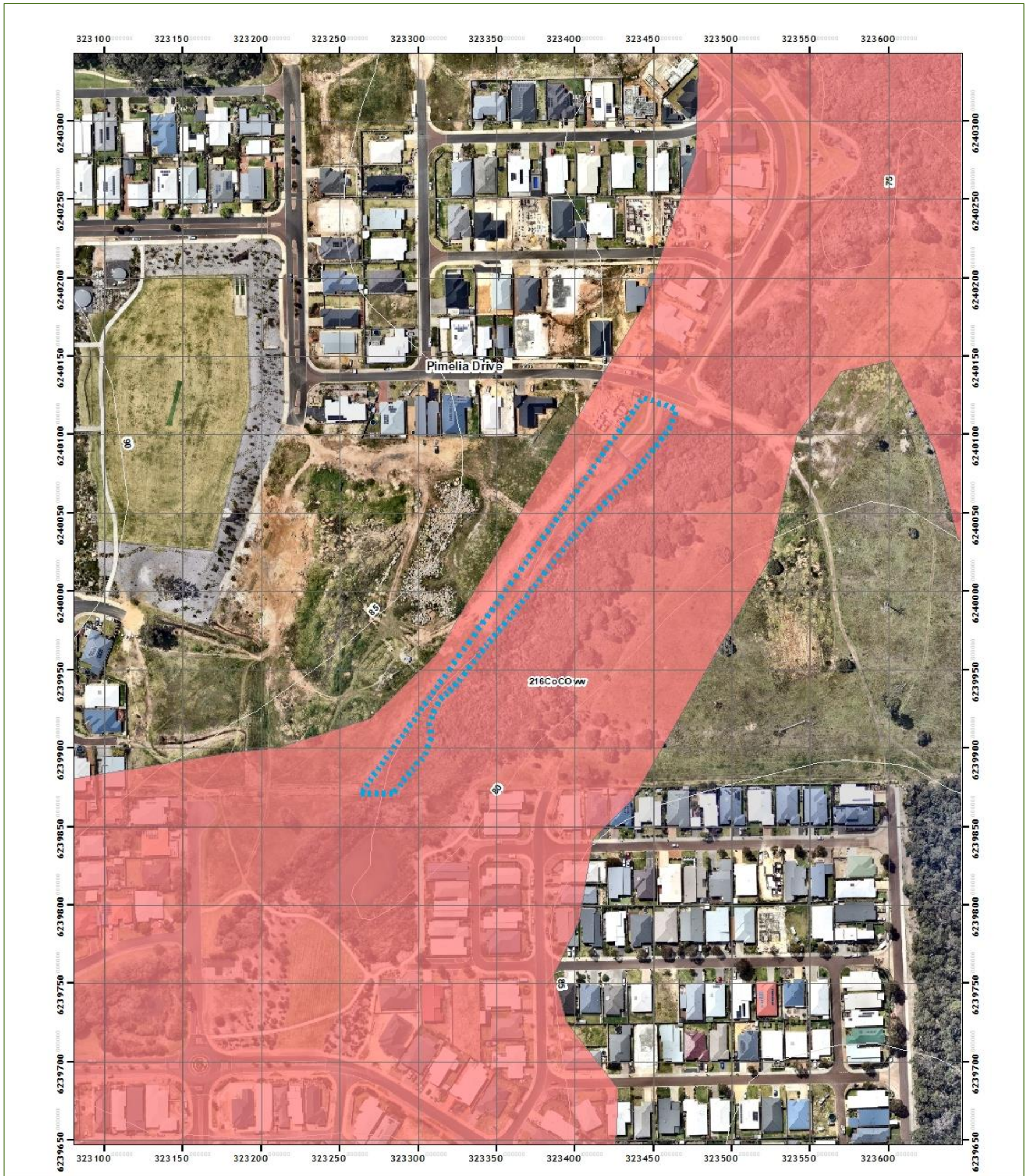
### 3.1.3 Hydrology and Wetlands

Wetlands include areas of seasonally or permanently waterlogged soils, or inundated land, with fresh or saline, flowing or static, water (Wetlands Advisory Committee, 1977). They are important as they support a large proportion of the States flora and fauna.

DBCA manages and protects Ramsar wetlands, which are of international importance, listed under the Ramsar Convention, and those listed in the Directory of Important Wetlands in Australia. There are no Ramsar wetlands or Nationally Important Wetlands within proximity to the Site (DBCA-012 and DBCA-045)

The Site is located within the catchment of Margaret River, with the mainstream of the Margaret River located north of the Site (DWER Dataset-031). The Site is parallel to a creekline and wetland which form a tributary to the Margaret River.

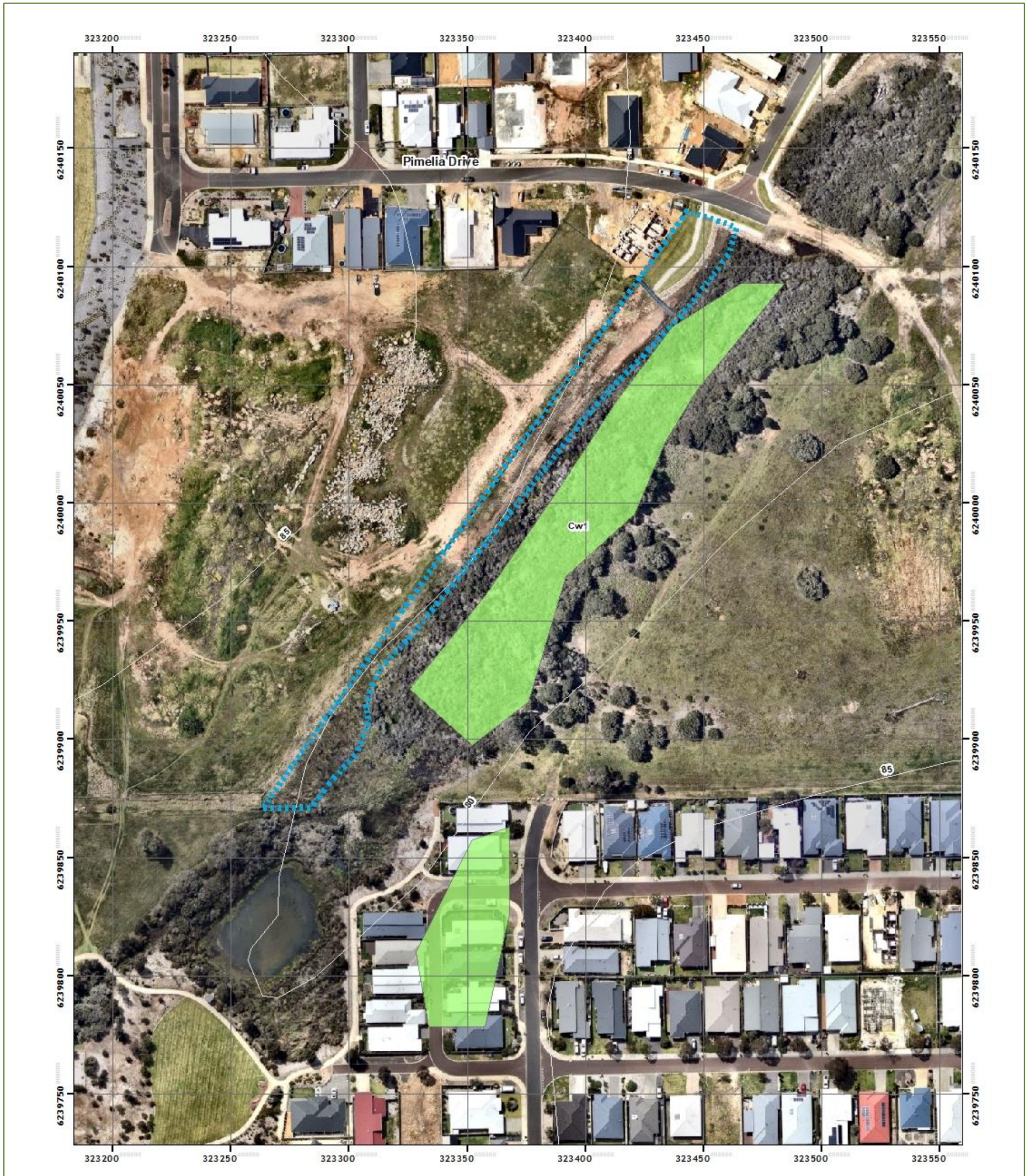




<h3>Soil Landscape Map</h3> <h4>Rapids Landing South, Margaret River</h4>			
<p>Project: 221272          Report: F &amp; F          Assessment date: 04/03/2022          Prepared by: H. Drake          Aerial photo date: Oct 2021          Projection: GDA94 z50</p>	<p>www.ecosystemsolutions.com.au          (08) 9759 1960</p>	<p><b>Legend</b></p> <p> Survey Area</p> <p> Soil Landscape</p> <p> Contour Lines</p> <p> Cowaramup wet vales Phase (216CoCOww)</p>	

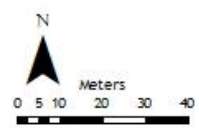
Figure 2 Soil-Landscape Mapping for Rapids Landing Estate





**Vegetation Complex Map**  
**Rapids Landing South, Margaret River**

Project: 221272  
 Report: F & F  
 Assessment date: 04/03/2022  
 Prepared by: D. Plowman  
 Aerial photo date: Oct 2021  
 Projection: GDA94 z50



 ecosystem solutions  
 www.ecosystemsolutions.com.au  
 (08) 9759 1960

**Legend**

-  Survey Area
-  Contour Lines
- Vegetation Complex**
-  Cowaramup valleys (Cw1)

Figure 3 Vegetation Complex Mapping for Rapids Landing Estate



### 3.1.4 Threatened and Priority Flora

Extracts from the Department of Biodiversity, Conservation and Attractions (DBCA) NatureMap Database (Appendix A) and the Commonwealth Environmental Protection and Biodiversity Conservation (EPBC) Protected Matters Search Tool (Appendix B) were obtained, using a 10 km buffer from the Site, to determine if records of any rare or threatened flora are known within the boundary or surrounding the Site.

Appendix C presents the definitions for conservation codes under the *Biodiversity Conservation Act (2016)* which was previously the *Wildlife Conservation Act 1950*.

## 3.2 Field Survey

The Site was surveyed on 8<sup>th</sup> March 2022 by Kelly Lamp (B.Sc Hons. Nat Rs Mgmt., FB62000182 / TFL 54-2021) and Lorraine Duffy (B.Sc Env Biology, B. Arts Geo, FB62000280) from Ecosystem Solutions.

The Site was walked in a systematic manner to cover the entire area. Zones with consistent vegetation structure and composition were noted and the main species in each of the strata were identified. Due to the small area and disturbed condition of the vegetation, only one relevé was completed (Figure 4, Appendix D). The condition of the vegetation based on Keighery (1994) was also recorded across the Site (Figure 5).

## 3.3 Results

### 3.3.1 Threatened and Priority Flora

The NatureMap Database identified three Threatened species and thirteen Priority listed species within a 10 km radius of the Site. The Protected Matters Search Tool identified ten threatened species, within a 10 km radius of the Site. Two of those are considered Critically Endangered, six Endangered and two Vulnerable (Appendix A & B). Table 2 summarises the conservation significant flora known to occur within 10 km of the Site, with a total of 10 Threatened and 13 Priority flora species previously recorded. Species that have potential to occur within the Site, given preferred soil types and habitat, are shaded in green.

Note that the Site was not surveyed during peak flowering time for potential significant species, however many of these species can be detected year round.

Table 2 Conservation significant flora species known to occur within 10 km of the Site

Species	BC Act (State)	EPBC (Federal)	Act	Life Form	Habitat	Likelihood of occurrence within the Site
<i>Caladenia lodgeana</i>	T	CR		Herb	Black loamy soils. Open, seasonally wet situations amongst low <i>Melaleuca</i> sp. (Brown <i>et al.</i> , 2013).	Unlikely.  One record for this species exists in proximity to the Site. This was collected in 1987 and approximately 1.6km to the west of the Site (location determined using description, as coordinates appear to be inaccurate). Currently only known from locations near Augusta (Brown <i>et al.</i> , 2013). Site does not include black loamy soil and has been heavily disturbed.
<i>Calectasia cyanea</i>	T	CR		Herb	White, grey or yellow sand, gravel.	Unlikely.  DBCA records with a 20km buffer do not include any records of this species. Florabase records show that this species is recorded within the Albany and Cranbrook local government areas. The soil within the Site does not match where this species has previously been recorded.
<i>Banksia nivea subsp. uliginosa</i>	T	EN		Shrub	Sandy Clay, gravel. Occurs in two areas, near Busselton and Scott River Plain on clay over laterite in thick scrub, in winter wet southern ironstones.	Unlikely.  This species is an ironstone endemic, habitat does not occur within the Site.

Species	BC Act (State)	EPBC (Federal)	Act	Life Form	Habitat	Likelihood of occurrence within the Site
<i>Caladenia excelsa</i>	T	EN		Herb	White, grey or brown sands, sandy loams, loam, clay, laterite and granite. Hilltops, ridges, slopes, swales and low plains in deep pale yellow or grey sandy soils.	Unlikely. All recent records of <i>Caladenia excelsa</i> are over 5km to the west of the Site. The only record in closer proximity is from 1979, with the coordinates used a manual input. It is not expected that this species occurs within the Site.
<i>Caladenia hoffmanii</i>	T	EN		Herb	Clay, loam, laterite, granite. Rocky outcrops and hillsides, ridges, swamps and gullies. Confined to the Geraldton sandplains.	Unlikely. DBCA records with a 20km buffer do not include any records of this species. Its distribution is recorded as between Geraldton and the Murchison River (Brown et al., 2013) and it is presumed to be an error that it is included in the PMST search results.
<i>Caladenia huegelii</i>	T	EN		Herb	Grey or Brown sand, clay loam. Current distribution confined to Dunsborough and north of Busselton.	Unlikely. DBCA records with a 20km buffer do not include any records of this species. Florabase shows closest record at Yallingup, over 30km to the north of the Site.
<i>Gastrolobium papilio</i>	T	EN		Shrub	Sandy clay over ironstone and laterite. Flat plains. Species is restricted to Hithergreen and Walsall area in Busselton.	Unlikely. Habitat not present and DBCA records with a 20km buffer do not include any records of this species.



Species	BC Act (State)	EPBC (Federal)	Act	Life Form	Habitat	Likelihood of occurrence within the Site
<i>Lambertia echinata</i> subsp. <i>occidentalis</i>	T	EN		Shrub	White sandy soils over laterite, orange/brown-red clay over ironstone. Flats to foothills, winter wet sites.	Unlikely. Habitat not present and DBCA records with a 20km buffer do not include any records of this species.
<i>Banksia squarrosa</i> subsp. <i>argillacea</i>	T	VU		Shrub	White/grey sand, gravelly clay or loam. Winter-wet flats, clay flats. Confined to the western base of the Whicher scarp, east of Busselton.	Unlikely. Habitat not present.
<i>Drakaea micrantha</i>	T	VU		Herb	Sandy soil in jarrah forest and <i>Kunzea</i> shrublands.	Unlikely. Habitat does not occur within the Site. Closest record is 9km to the north east on white sand.
<i>Synaphea macrophylla</i>	P1			Shrub	Gravelly loam.	Unlikely. Habitat not present. Closest record is over 5km to the south of the Site, in Eucalyptus woodland in laterite substrate with sand.
<i>Synaphea</i> sp. <i>Redgate Road</i>	P1			Low Shrub	Dry grey sands.	Unlikely. Can be identified outside of flowering season. Closest record over 7km to the south of the Site.
<i>Amperea micrantha</i>	P2			Herb	Black peaty sand, clay, swamps, creeks.	Unlikely. Habitat does not occur within the Site. Closest record nearly 8km to the north west of the Site on grey sand.

Species	BC Act (State)	EPBC (Federal)	Act	Life Form	Habitat	Likelihood of occurrence within the Site
<i>Xyris maxima</i>	P2			Herb	Black peaty sand, drainage flats.	Unlikely. Habitat not present Closest record 3.5km to the east of the Site.
<i>Acacia inops</i>	P3			Shrub	Black peaty sand, clay, swamps, creeks. Grows along watercourses and swamps.	Possible. Closest record 1.5km to the north of the Site, however this record is from 1898 and the location will be inaccurate.
<i>Dampiera heteroptera</i>	P3			Herb or Shrub	Sandy soils, swampy areas	Possible. Closest record 10km to the north of the Site.
<i>Gastrolobium formosum</i>	P3			Shrub	Clay loams, along river banks or in swamps.	Possible. Habitat present Closest record 2km to the north west of the Site.
<i>Juncus meianthus</i>	P3			Herb	Black sand, sandy clay, seepage areas.	Possible. Habitat present. Closest record 2.5 km to the east of the Site.
<i>Pimelea ciliata</i> <i>subsp. longituba</i>	P3			Shrub	Grey sand over clay loam.	Unlikely. Habitat not present. Closest record over 7km to the north of the Site.

Species	BC Act (State)	EPBC (Federal)	Act	Life Form	Habitat	Likelihood of occurrence within the Site
<i>Pultenaea pinifolia</i>	P3			Shrub	Loams or clay, floodplains, swampy areas.	Possible. Habitat occurs within the Site. Closest record 2 km to the north west of the Site, however this is a manual entry from 1973. Other records are all over 10km to the north east of the Site.
<i>Styloidium lowrieianum</i>	P3			Herb	Sand or sandy loam over limestone in peppermint woodlands.	Unlikely. Habitat not present. Closest record 2 km to the north west of the Site.
<i>Eucalyptus marginata x megacarpa</i>	P4			Tree	Sandy loam. Interdunal areas.	Unlikely. Habitat not present Closest record 8 km to the south west of the Site.
<i>Franklandia triaristata</i>	P4			Shrub	White or grey sand.	Unlikely. Closest record 3 km to the north of the Site, however this is a manual entry from 1991 and likely to be inaccurate.
<i>Gahnia sclerioides</i>	P4			Shrub	Jarrah forest on loam, sandy soils, often along creek lines. Moist shaded situations.	Possible. Closest record 1.4 km to the north of the Site.

\* BC Act: T = Threatened, P = Priority; EPBC Act: CR = Critically Endangered, EN = Endangered, VU = Vulnerable

### 3.3.2 Vegetation Communities

The extract obtained from the DBCA database identified one Threatened Ecological Community (TEC) and one Priority Ecological Community (PEC) occurring within 10 km of the Site:

- Rimstone Pools and Cave Structures Formed by Microbial Activity on Marine Shorelines (Endangered)
- *Melaleuca lanceolata* forests, Leeuwin Naturaliste Ridge (Priority 2).

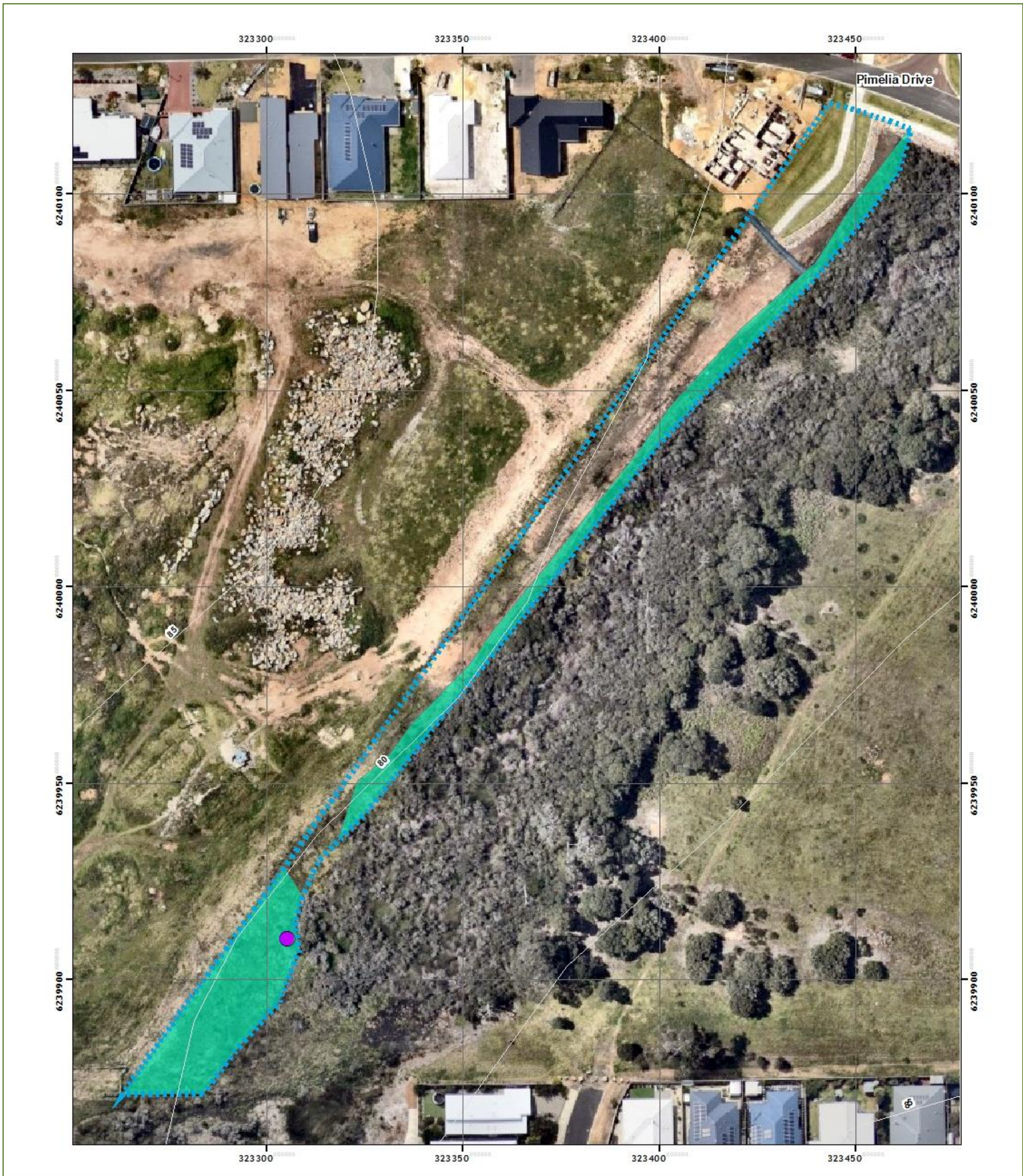
One relevé was completed within the Site, with location noted in Figure 4 and data collected presented in Appendix D. During the Site assessment the remnant vegetation within the Site was observed to comprise of one community (described according to Keighery, 1994, adapted Muir (1977) and Aplin (1979), Appendix D - Table 7) of:

- Vegetation Community A - *Taxandria linearifolia* and *Agonis flexuosa* tall closed scrub over *Taxandria linearifolia* shrubland over *Juncus microcephalus*, *Lepidosperma tetraquetrum* and *Juncus pallidus* sedgeland.

The vegetation within the Site does not have the characteristics of any TEC or PECs.

Vegetation Community A occupies just under 0.2 ha of the Site. The remainder of the Site is completely degraded.





**Vegetation Community**  
**Rapids Landing South, Margaret River**

Project: 221272  
 Report: F & F  
 Assessment date: 04/03/2022  
 Prepared by: K. Lamp  
 Aerial photo date: Oct 2021  
 Projection: GDA94 z50

N  
 0 4.25 8.5 17 25.5 34  
 Meters

ecosystem solutions  
 www.ecosystemsolutions.com.au  
 (08) 9759 1960

- Legend**
- Survey Area
  - Contour Lines
  - Vegetation A
  - Relevé

Figure 4 Vegetation Community and Relevé location at Rapids Landing Estate



### 3.3.3 Vegetation Condition

Areas of vegetation were assessed within the Site to determine the vegetation condition according to a scale of condition developed by Keighery (1994, Table 2).

Significant areas of the Site have been previously cleared and the condition rating reflects this, with the majority of the Site Completely Degraded (59.4%, 900m<sup>2</sup>) or Degraded (21.2%, 1001m<sup>2</sup>). In the Completely Degraded area, vegetation consists of exotic grass species and very occasional shrubs, predominantly young *Taxandria linearifolia*.

The Degraded area (21.2%, 1001m<sup>2</sup>) is in a wetland area, to the south of the Site. Vegetation consists of a thick shrub layer of introduced and native vegetation, heavily impacted by an understorey of aggressive introduced grasses, pasture and other weed species. Previously cleared areas, devoid of shrubs are observable, with only an understorey of introduced species remaining.

An area of Good condition (19.1%, 900m<sup>2</sup>) vegetation is located along the eastern edge of the Site on the outer edge of the riparian vegetation. This vegetation consists of Tall Closed Shrub, with thick native shrubs over 2 meters tall over an understorey of native herb, shrub and sedge species (*Centella asiatica*, *Machaerina rubiginosa*, *Juncus* sp, *Chorizandra cymbaria*). This area is also impacted by an understorey of aggressive introduced grasses and other weed species.

Table 3 Keighery Condition Scale (Keighery 1994)

Category	Description
<b>Pristine</b>	Pristine or nearly so, no obvious signs of destruction.
<b>Excellent</b>	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. For example, damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle track.
<b>Very Good</b>	Vegetation structure altered, No 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.
<b>Good</b>	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate to 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.



Category	Description
<b>Degraded</b>	Basic vegetation structure severely impacted by disturbance. Scope for regeneration, but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
<b>Completely Degraded</b>	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 composing weed or crop species with isolated native trees or shrubs.



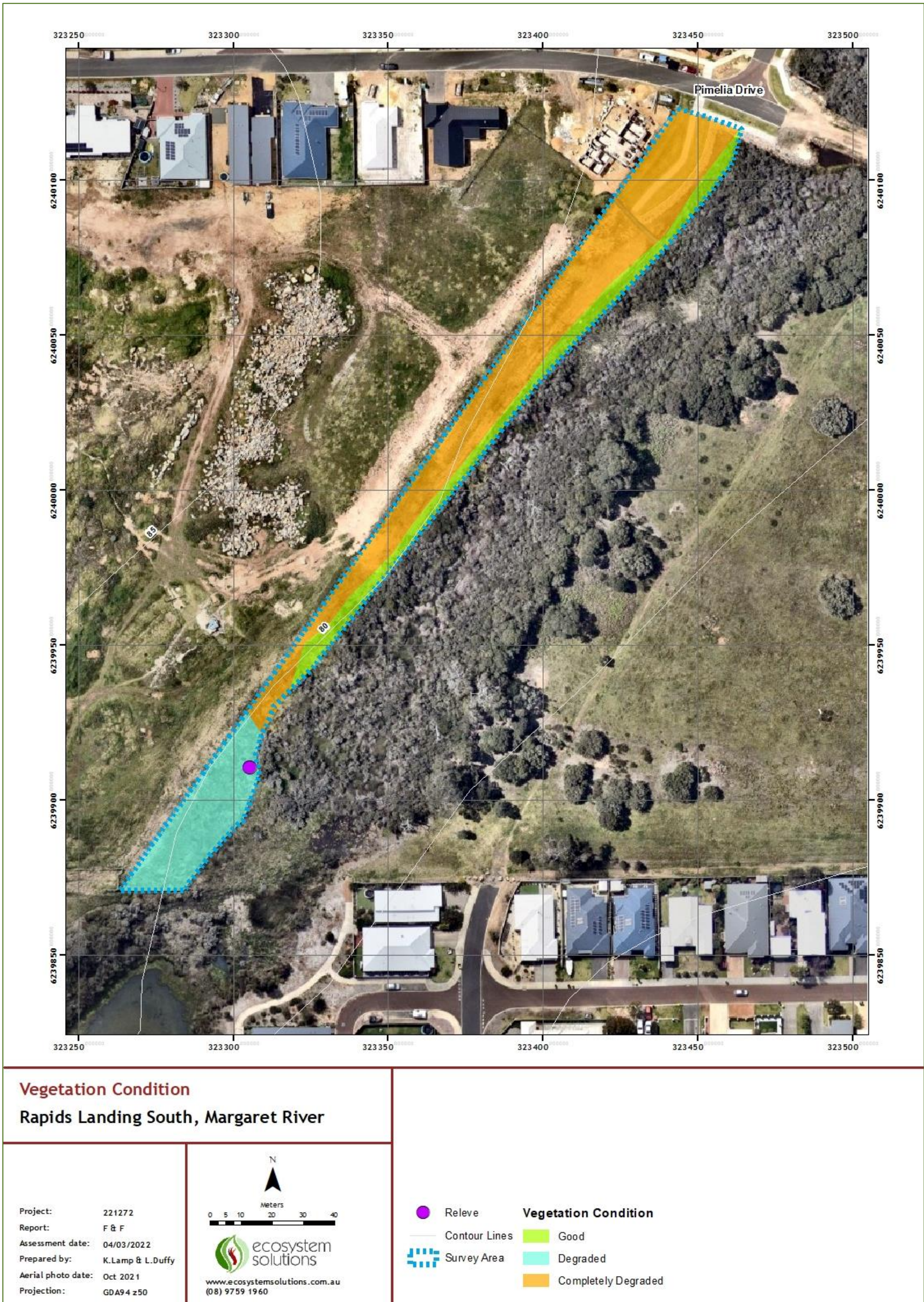


Figure 5 Vegetation Condition for Rapids Landing Estate



# 4 Fauna

## 4.1 Desktop Analysis

The conservation status of fauna within Western Australia is determined by criteria outlined within two acts of legislation: Commonwealth EPBC Act 1999 and the State-based Western Australian *Biodiversity Conservation Act 2016* (WA). The conservation codes for fauna under the *Biodiversity Conservation Act (2016)* which was previously the *Wildlife Conservation Act 1950* are presented in Appendix C. These categories are consistent with the International Union for Conservation of Nature (IUCN) classifications and therefore link into a global ranking system for taxa at risk of extinction.

A desktop study and analysis of the records of NatureMap and the Protected Matters Search Tool (Appendix A & B) were made to determine the presence or likely presence of fauna or fauna assemblages within the Site. The analysis primarily targeted terrestrial threatened vertebrate species listed under the *Biodiversity Conservation Act 2016* (WA) and *Environmental Protection Biodiversity Conservation Act 1999* (Commonwealth). A list of fauna expected to occur within a 10-kilometre radius of the Site was compiled from searches conducted on the DBCA database (NatureMap) and the Commonwealth EPBC Protected Matters Search Tool. As the NatureMap Database is not currently available online, a data extract (10km radius of the Site) was obtained from the DBCA.

Marine species have been excluded due to the location of the Site. Invertebrates have been included however as this is a specialist area these species are not covered under the Scope of this report. The results of the native fauna database search for species known to be within 10 km or utilising the Site are listed below (Table 3).

Table 4 Conservation significant fauna species recorded within 10 km of the Site

Species	Conservation Status		Preferred Habitat	Likelihood of occurrence within the Site
	BC Act (State)	EPBC Act (Federal)		
<i>Cherax tenuimanus</i> Margaret River hairy marron	T	CR	Clear, permanent, oxygen rich freshwater habitats of the Margaret River.	Unlikely. Species or species habitat known to occur within the area (NatureMap). However, habitat within the Site not suitable to support the species.
<i>Galaxiella munda</i> Mud minnow	T	Not Listed	Prefer relatively undisturbed, permanent stream habitats. Prefers small, gently flowing creeks and streams. Found in low pH environments (as low as pH 3), but low salt tolerance (susceptible to salinisation).	Unlikely. Species or species habitat known to occur within the area (NatureMap). However, habitat within the Site not suitable to support the species.
<i>Geocrinia alba</i> White-bellied frog	T	EN	Broad drainage lines with riparian vegetation.	Possible. Species or species habitat known to occur within the area (NatureMap). However, all known locations occur along tributaries of the Blackwood River.
<i>Geotria australis</i> Pouched lamprey	P3	Not Listed		Unlikely. Species or species habitat known to occur within the area (NatureMap).  However, habitat within the Site not suitable to support the species.
<i>Ixobrychus flavicollis australis</i>	P2	Not Listed	Roost and nest in trees and are found in tree-lined wetlands and in mangroves.	Unlikely. Species or species habitat known to occur within the area (NatureMap).

<i>Black Bittern</i>			They forage day and or night mainly from shady trees over water but may be seen during the day in open areas of short marshy vegetation and along creeks in shrubby vegetation.	However, habitat within the Site unlikely to support the species as no trees present.
<i>Kawaniphila pachomai</i>	P1	Not Listed	Katydid inhabit tree and shrubs in heath or mixed woodland in coastal southwest.	Unlikely. Species or species habitat known to occur within the area (NatureMap). However, habitat within the Site unlikely to support the species.
<i>Grey vernal katydid</i>				
<i>Nannatherina balstoni</i>	T	VU	Slow-flowing, low salinity, acidic and tannin-stained waters, and complex instream habitat.	Unlikely. Species or species habitat known to occur within the area (NatureMap). However, habitat within the Site not suitable to support the species.
<i>Balston's pygmy perch</i>				
<i>Trichosternus relictus</i>	P1	Not Listed	Unknown	Possible. Species or species habitat known to occur within the area (NatureMap).
Ground beetle (Margaret River)				
<i>Westralunio carteri</i>			Coastal freshwater rivers and lakes of the south-west region. Also occurs in water supply and farm dams. Prefers slower flowing waters where sediments stable. Species has low salinity tolerance.	Unlikely. Species or species habitat known to occur within the area (NatureMap). Habitat within the Site not suitable to support the species.
<i>Carter's freshwater mussel</i>				
<i>Pseudocheirus occidentalis</i>	T	CR	Coastal areas of Peppermint woodland and peppermint woodland and peppermint / tuart associations.	Possible. Species or species habitat known to occur within area (PMST).
Western Ringtail Possum				

<i>Botaurus poiciloptilus</i> Australasian Bittern	T	EN	Wetlands with tall, dense vegetation, favours permanent and seasonal freshwater habitats, dominated by sedges rushes and reeds, growing over a muggy or peaty substrate.	Possible. Species or species habitat known to occur within the area (NatureMap).
<i>Atrichornis clamosus</i> Noisy Scrub-bird	T	EN	Dense vegetation, including low forest, scrub/thicket and (rarely) heath. These vegetation formations generally occur in the gullies and drainage lines of hills and granite mountains and, in lowland areas, in overgrown swamps, lake margins and beside streams. Species or habitat for the species habitat only occurs in Harvey and Albany (SPRAT, 2022).	Unlikely. NatureMap recognises the species or species habitat to occur within the area. This is believed to be an old record or error as the Australian Government SPRAT database confirms the species and or habitat for the species does not occur within the area.
<i>Bettongia penicillata</i> subsp. <i>ogilbyi</i> Woylie	T	EN	Open forest and woodland with low understory of woody scrub. Woodlands and adjacent heaths with a dense understorey of shrubs. Tall eucalypt forest and woodland, dense myrtaceous shrubland, kwongan or mallee heath.	Unlikely. Species or species habitat known to occur within the area (NatureMap). Habitat within the Site not suitable to support the species.
<i>Calyptorhynchus baudinii</i> Baudin's Cockatoo	T	EN	Dense Jarrah, Karri and Marri forests. Species nest in large hollows in these species.	Unlikely. While breeding is known to occur within area (PMST), no suitable habitat is present within the Site.
<i>Calyptorhynchus latirostris</i>	T	EN		



Carnaby's Cockatoo			Dense Jarrah, Karri and Marri forests. Species nest in large hollows in these species.	Unlikely. While species or species habitat known to occur within area (PMST), no suitable habitat is present within the Site.
<i>Myrmecobius fasciatus</i>	T	EN	Eucalyptus forest and woodlands with abundant hollow logs and branches.	Unlikely. While species or species habitat known to occur within area (PMST), this is likely to be an error or historical record as the species is known only further inland (Upper Warren, Dryandra).
Numbat			Inland regions at Dryandra Woodland and Upper Warren.	
<i>Calyptorhynchus banksii subsp. naso</i>	T	VU	Dense Jarrah, Karri and Marri forests. Species nest in large hollows in these species.	Unlikely. While species or species habitat known to occur within area (PMST), no suitable habitat is present within the Site.
Forest Red-tailed Black Cockatoo				
<i>Dasyurus geoffroii</i>	T	VU	Variety, most dense in riparian jarrah forests. Require large, unfragmented habitats.	Unlikely. While species or species habitat known to occur within area (PMST), no suitable habitat is present within the Site.
Chuditch				
<i>Leipoa ocellata</i>	T	VU	Semi-arid to arid shrublands and low woodlands dominated by mallee and/or acacia.	Unlikely. While species or species habitat known to occur within area (PMST), this is likely to be an error or historical record as the species is known only further inland.
Malleefowl				
<i>Macrotis lagotis</i>	T	VU		

Bilby			Open tussock grassland on uplands and hills, <i>Acacia aneura</i> (mulga) woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas. Restricted to northern regions of WA (Kimberley, Pilbara, Dampierland and Ord-Victoria Plains) (DBCA, 2022).	Unlikely. While species or species habitat known to occur within area (PMST), this is likely to be an error or historical record as the species is now known from far north WA only.
<i>Psophodes nigrogularis</i> <i>subsp. nigrogularis</i>	T	VU	Occurs in heath-like thicket associations on coastal dunes and in low, dense mallee woodland or shrubland with understorey of dense, stunted shrubs. Preferred habitat is thicket, 2-3m high of varied floristic composition.	Possible. Species or species habitat known to occur within the area (NatureMap).
Western Whipbird				
<i>Setonix brachyurus</i>	T	VU	Mainly dense riparian vegetation, other areas with dense vegetated understorey with close proximity to freshwater.	Unlikely. NatureMap indicates the most recent record in Margaret River being recorded in 1933.
Quokka				
<i>Dasyornis broadbenti subsp. litoralis</i>	EX		Stunted dense coastal shrublands on clifftops and sand-dunes.	Presumed extinct.
Rufous Bristlebird, Rufous Bristlebird (SW WA)				
<i>Potorous platyops</i>	EX		Unknow.	Presumed extinct.
Broad-faced Potoroo				
<i>Falco peregrinus</i>	OS			

Peregrine Falcon		Wide variety. Prefers coastal and inland cliffs or open woodlands near water.	Unlikely. While species or species habitat known to occur within area (PMST), no suitable habitat is present within the Site.
<i>Phascogale tapoatafa</i> subsp. OS <i>wambenger</i>		Highly arboreal, prefers dry sclerophyll forests and open woodlands with sparse groundcover and contain hollow bearing trees.	Unlikely. While species or species habitat known to occur within area (PMST), no suitable habitat is present within the Site.
South-western Brush-tailed Phascogale			
<i>Tyto novaehollandiae</i> subsp. P3 <i>novaehollandiae</i>		Tall open eucalypt forest and woodlands. Preferred roosts large hollows in standing trees.	Unlikely to occur. While the species is known to occur in Margaret River Shire Reserves, habitat within the Site is not suitable.
Masked Owl			
<i>Hydromys chrysogaster</i> P4		Found near permanent fresh or brackish waters.	Unlikely. While species or species habitat known to occur within area (PMST), no suitable habitat is present within the Site.
Rakali			
<i>Isoodon fusciventer</i> P4		Forest, woodland, shrub, and heath, usually in sandy soils with dense healthy vegetation in lower stratum.	Likely. Species or species habitat known to occur within the area (NatureMap). Habitat within Site suitable.
Quenda			
<i>Notamacropus irma</i> P4		Favours open, seasonal damp areas with low grasses and open scrubby brush.	Unlikely. While species or species habitat known to occur within area (PMST), no suitable habitat is present within the Site.
Western Brush Wallaby			

\* BC Act: T = Threatened, P = Priority; EPBC Act: CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, OS = Other Specially Protected Fauna



The NatureMap Database identified 12 Threatened species, two Extinct species, three Specifically Protected species and four Priority listed species within the 10 km radius of the Site. The Protected Matters Search Tool identified eight threatened species, within a 10 km radius of the Site. One of which is a Critically endangered species, four Endangered species and three Vulnerable species.

Analysis of the results of the database searches show that conservation significant mammal species likely to be within or utilising the Site include *Pseudocheirus occidentalis* (Western Ringtail Possum) and *Isoodon fusciventer* (Quenda).

The three Black Cockatoo species, *Calyptorhynchus banksii* subsp. *naso* (Forest Red-tailed Black Cockatoo), *Calyptorhynchus baudinii* (Baudin's Cockatoo) and *Calyptorhynchus latirostris* (Carnaby's Cockatoo) or species habitat are also likely to occur within the Site.

Other fauna of conservation significance may use the Site infrequently or as part of a larger patch, such as birds and fauna that rely on the wetland. Impacts to these species are considered negligible due to the small area of vegetation to be removed.

## 4.2 Field Survey

With these species in mind, a field study of the site was conducted. The approach adopted for this survey was:

- A Satellite Image of the Site was acquired.
- A daytime visual inspection of the property and adjoining vegetation for any signs of fauna (e.g. scats, diggings, dreys, nests, burrows, feeding signs) was conducted.
- Hollow bearing trees or trees suitable for Black Cockatoos were recorded.
- Direct observations of fauna and signs of fauna were recorded using a Trimble Global Positioning System (GPS) and ArcPad© (Version 8- ESRI).
- Two dusk/nocturnal surveys were conducted to determine Western Ringtail Possum and Quenda activity. A 40 w LightForce hand-held spotlight was used with white light to observe nocturnal mammals. Observations were recorded using GPS and ArcPad©.
- Field observations were analysed and mapped with ArcGis (ArcMap V10.3©).

The Site was inspected via a walked transect and shrubs were inspected via a physical inspection for signs of fauna usage.

This type of survey has minimal impact on the fauna within the property and provides sufficient data on the presence and relative abundance and distribution of taxa. During the field surveys, the habitat at the site was assessed to determine its potential suitability to host any of the anticipated threatened or rare species. This approach is consistent with a Level 1 survey under the EPA's Technical Guidance: Sampling methods for Terrestrial vertebrate fauna (2016) which specifies a minimum requirement of a desktop study to gather information on the subject site and a reconnaissance survey to verify the accuracy of the background study and delineate fauna and faunal assemblages.

The survey's protocol is also consistent with the requirements outlined in the Development Planning Guidelines for Western Ringtail Possums (CALM 2003, now DBCA).

The draft referral guideline for the three threatened black cockatoo species (Department of Environment and Energy, 2017) outline requirements for appropriate level of surveys for these species. This survey's intensity and design comply with these guidelines.

## 4.3 Results

Field surveys were confined to one day flora/fauna survey and two dusk / nocturnal fauna spotlight survey. Dusk/Nocturnal surveys were conducted for any sign of Western Ringtail Possums, Quenda

and any other conservation listed species, as described in Table 4. Surveys were conducted by Gary McMahon (B.Sc. M. Env Mgmt, PG Dip Bushfire CEnvP) from Ecosystem Solutions.

Dawn surveys were not conducted as habitat on the Site was not suitable for Black Cockatoo Species. No trees were present within the Site and therefore there no suitable hollows or any Black Cockatoo roosts or nesting sites present.

*Table 5 Fauna survey times and observations*

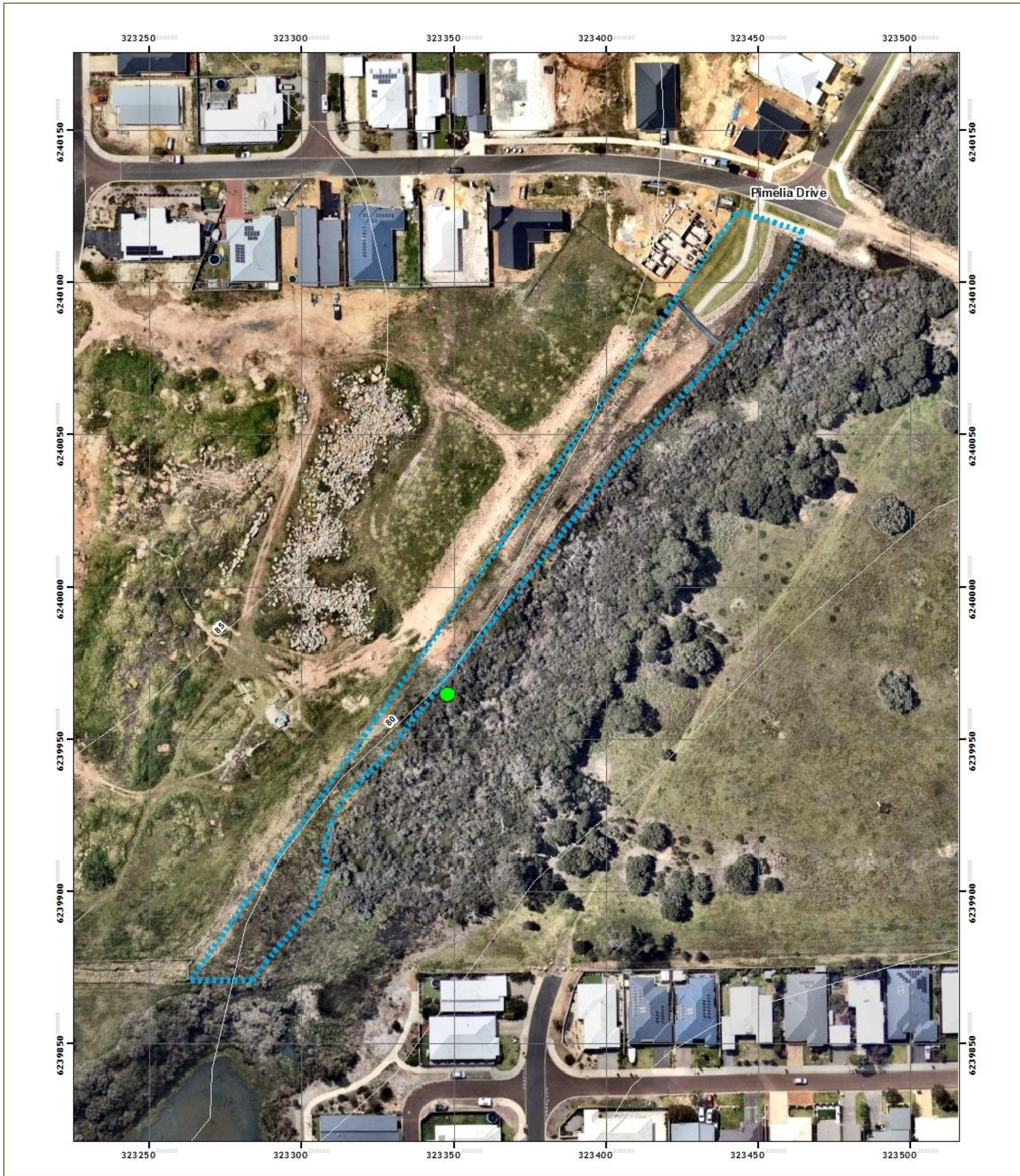
Survey Type	Date and Time	Sunrise / Sunset Time	Observations
Dusk/Nocturnal	23 February 2022 5:00 pm - 8:10 pm	Sunset 7:03 pm Last light 7:29 pm	No animals observed.
Dusk/Nocturnal	25 February 2022 4:55 pm - 8:15 pm	Sunset 7:01 pm Last light 7:26 pm	No animals observed.

During the day survey on 8<sup>th</sup> March 2022, the canopy of the vegetation within the Site was thoroughly inspected. No dreys were observed. A Quenda runnel was noted to the south of the Site (Figure 6).

While no other animals of significance were observed, either directly or through signs, the lack of this data should not be taken directly as an indication that those species are absent from the Site. No trapping or seasonal sampling was conducted.

Table 3 above summarises the likely presence of the conservation significant species identified in the desktop searches. Table 7 and Table 8 discuss the likely presence and impact on Western Ringtail Possums and Black Cockatoos.





<h3>Conservation Significant Fauna</h3> <h4>Rapids Landing South, Margaret River</h4>			
<p>Project: 221272          Report: F &amp; F          Assessment date: 04/03/2022          Prepared by: K.Lamp &amp; L.Duffy          Aerial photo date: Oct 2021          Projection: GDA94 z50</p>		<ul style="list-style-type: none"> <li><span style="color: green;">●</span> Quenda_Tunnel</li> <li>— Contour Lines</li> <li><span style="color: blue;">- - -</span> Survey Area</li> </ul>	

Figure 6 Conservation Significant Fauna at Rapids Landing Estate



## 5 Survey Constraints

Survey limitations are summarised in Table 6 and 7 below:

*Table 6 Summary of flora survey limitations*

Constraint	Impact	Comment
Availability of contextual information at a regional and local scale	Nil	Broad scale vegetation and soil mapping data were available. DBCA, NatureMap and PMST database extracts for conservation significant flora and ecological communities were obtained.
Competency / experience of the survey team	Nil	The ecologists leading the field surveys have conducted numerous flora surveys across the south west of Western Australia and have over 10 years' experience. The ecologist completing the flora identifications has over 10 years' experience identifying Western Australian flora, including for numerous surveys across the south west.
Proportion of flora recorded and/or collected, any identification issues	Minor	A focus was placed on identifying any potential conservation significant flora species, with these specimens all identified to species level. Specimens that were not potentially conservation significant species have been identified to genus level, or species where this is easily ascertained.
Was the appropriate area fully surveyed (effort and extent)	Nil	One relevé was conducted within the Site, with the entire Site surveyed on foot for Conservation Significant vegetation communities and flora species
Access restrictions within the survey area	Nil	All parts of the Site were accessible by foot.
Survey timing, rainfall, season of survey	High	The survey was conducted in March, which is outside of the recommended survey time in the south west (EPA, 2016).
Inconsistent flowering period		Not all species flower every year, with some requiring triggers such as fire, rainfall, limiting the ability to detect them.

Constraint	Impact	Comment
Disturbance that may have affected the results of the survey, such as fire, flood or clearing	Nil	There were no disturbances that constrained the survey of the Site.

*Table 7 Summary of fauna survey limitations*

Constraint	Impact	Comment
Availability of data and information	Nil	NatureMap and PMST database extracts for conservation significant fauna were obtained. The Site is within a well surveyed area, where Ecosystem Solutions has had previous experience.
Competency / experience of the survey team, including experience in the bioregion surveyed	Nil	The ecologists leading the field surveys have conducted numerous fauna surveys across the south west of Western Australia and have over 20 years' experience.
Scope of the survey, e.g. where faunal groups were excluded from the survey	Minor	This survey focussed on birds, mammals and other vertebrate species. Invertebrates were not included in the scope of this survey.
Timing, weather and season	High	The surveys were conducted in February and March, which is outside of the recommended time for bush bird and mammal surveys in the south west.
Timing of fauna activity	High	The time WRP move from rest sites is variable.
Transient nature of fauna	High	WRP home ranges may overlap the survey area, with a rest site being used outside the Site during survey times.
Disturbance that may have affected results, e.g. fire, flood	Nil	There were no disturbances that constrained the survey of the Site.
The proportion of fauna identified, recorded or collected	Nil	Yes, all conservation significant fauna species observed during the surveys have been identified.



Constraint	Impact	Comment
Adequacy of the survey intensity and proportion of survey achieved, e.g. the extent to which the area was surveyed	Nil	The whole of the Site was surveyed on foot for Conservation Significant fauna species, during daytime, dawn and dusk / nocturnal surveys.
Access problems	Nil	All parts of the Site were accessible by foot.

## 6 Significance

Under the EPBC Act, an action that has, will have, or is likely to have, a significant impact on a matter of national environmental significance, requires approval from the Minister. A significant impact is defined as an impact which is important or of consequence, having regard for its context or intensity (Commonwealth of Australia, 2009).

Matters of environmental significance include listed threatened species and ecological communities. For this proposal, there is limited potential for impact on threatened species. Significant Impact Guidelines 1.1 (Commonwealth of Australia, 2009) lists significant impact criteria for the assessment for activities which may impact on threatened species.

Table 7 and Table 8 discuss the referral triggers and the likely presence and impact on Black Cockatoos and Western Ringtail Possums.

Table 8 Significant Impact Criteria for Key Protected Species

Significant Impact Criterion	Discussion		Meets Criterion
	Black Cockatoo Species	Western Ringtail Possum	
Lead to a long-term decrease in the size of an important population <sup>1</sup> of a species	Unlikely. No suitable Cockatoo habitat is present on the Site. No Cockatoos were observed foraging, nesting or roosting within the Site. No observable signs of foraging were evident.	Unlikely. No WRP or observable signs (Dreys, droppings) of WRP were observed on the Site. It is unlikely this proposal will lead to a long-term decrease of the species.	No
Reduce the area of occupancy of an important population	Unlikely. No suitable Cockatoo habitat is present on the Site.	Unlikely. No WRP or observable signs (Dreys, droppings) of WRP were observed on the Site.  It is unlikely this proposal will lead to a long-term decrease of the species.	No
Fragment an existing important population into two or more populations	Unlikely. No suitable Cockatoo habitat is present on the Site.	Unlikely. No WRP or observable signs (Dreys, droppings) of WRP were observed on the Site.  It is unlikely this proposal will lead to a long-term decrease of the species.	No

<sup>1</sup> An 'important population' is a population that is necessary for a species' long-term survival and recovery.



Adversely affect habitat critical to the survival of a species	Unlikely. No suitable Cockatoo habitat is present on the Site.	Unlikely. No WRP or observable signs (Dreys, No droppings) of WRP were observed on the Site.  It is unlikely this proposal will lead to a long-term decrease of the species.	No
Disrupt the breeding cycle of an important population	Unlikely. No suitable Cockatoo habitat is present on the Site.	Unlikely. No WRP or observable signs (Dreys, No droppings) of WRP were observed on the Site.  It is unlikely this proposal will lead to a long-term decrease of the species.	No
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Unlikely. No suitable Cockatoo habitat is present on the Site.	Unlikely. No WRP or observable signs (Dreys, No droppings) of WRP were observed on the Site.  It is unlikely this proposal will lead to a long-term decrease of the species.	No
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Unlikely. No suitable Cockatoo habitat is present on the Site.	The Site does not appear to contain WRP. It is unlikely that further introduction of invasive species will impact the species.	No
Introduce disease that may cause the species to decline	Highly unlikely to occur.	Highly unlikely to occur.	No
Interfere substantially with the recovery of the species.	Unlikely. The clearing of on Site vegetation will not impact on the recovery of the species.	Unlikely. The clearing of vegetation within the Site will not impact on the recovery of the species.	No

Referral guidelines for the three threatened Black Cockatoo species (Commonwealth of Australia. 2011) uses a decision tree and a set of criteria to determine whether actions significantly impact on Black Cockatoos. These are set out in Table 8, based on the details of the development and the data obtained from the surveys. Notes on the flow chart follow.

*Table 9 Assessment of Significant Impact to Black Cockatoo*

Question	Answer
1. Could the impacts of your action occur within the modelled distribution of the Black Cockatoos?	Yes - Action occurs within the distribution area of all three species.
2. Could the impacts of your action affect any Black Cockatoo habitat or individuals?	No.
3. Have you surveyed for Black Cockatoos using the recommended methods?	Yes. No suitable habitat or significant trees or those with hollows are present on the Site.
4. Is Black Cockatoo habitat present?	No.
5. Is your impact mitigation best practice so that it may reduce the significance of your impacts on Black Cockatoos?	No as there is no significant impact anticipated due to lack of evidence of foraging, roosting or nesting within the Site.
6. Could your action require a referral to the federal environmental Minister for significant impact on Black Cockatoos?	No, as there are no direct signs of the three cockatoo species present within the Site or potential impact.

The summary of these responses are:

- The proposed clearing is within the area of modelled distribution of Black Cockatoo and Western Ringtail Possum species.
- The Site has been surveyed using the recommended methods from relevant guidelines.
- Black Cockatoo Species were not observed within the Site. No signs of foraging, nesting or roosting were evident at the time of survey.
- No Western Ringtail Possums were observed within the Site.
- The area to be cleared is considered small and negligible, being approximately 0.47 ha.

Using the flow chart and criteria it is determined that there is a low risk of actions resulting in an impact upon Black Cockatoos and Western Ringtail Possums within the Site.

It is recommended that a referral pursuant to the *EPBC Act* is not required for clearing of the Site, as actions involved do not constitute a significant impact on any of the threatened species present.



## 7 Summary and Recommendations

- The Site is an area of 0.47 ha (4,700m<sup>2</sup>), of which less than 40% is vegetated and 59% predominantly cleared of native vegetation.
- There were no Threatened or Priority flora identified within the Site.
- Vegetation of the Site can be described as *Taxandria linearifolia* and *Agonis flexuosa* tall closed scrub over *Taxandria linearifolia* shrubland over *Juncus microcephalus*, *Lepidosperma tetraquetrum* and *Juncus pallidus* sedgeland.
- Vegetation condition of the Site is classified as Completely Degraded (59.4%), with smaller areas of Good (19.10%) and Degraded (21.23%) vegetation within the Site (Figure 5). Disturbance factors include clearing, weed invasion with some aggressive weed species present.
- The proposed clearing is within the area of modelled distribution of Black Cockatoo and Western Ringtail Possum species.
- Black Cockatoo Species nor suitable habitat for the species were not observed within the Site. No signs of foraging, nesting or roosting were evident at the time of survey.
- No Western Ringtail Possums were observed within the Site.
- A Quenda runnel was observed during survey. As the Site contains habitat suitable for the species, it should be assumed it is present.
- A Fauna Spotter should be used to monitor any vegetation removal, to ensure no fauna, particularly Quenda or Western Ringtail Possum are present, at the time of any vegetation clearing. While WRP have not been sighted at the time of survey, habitat of the Site is suitable. Due to the mobile nature of the WRP it is likely they are in the area and utilising the Site.
- While no other animals of significance were observed, either directly or through signs, the lack of this data should not be taken directly as an indication that those species are absent from the Site. No trapping or seasonal sampling was conducted.
- A referral under the EPBC Act is not considered required as this action is unlikely to significantly impact on the species or local populations.

## 8 References (not all cited)

Aplin, T.E.H. (1977) The Flora. *Environment and Science*. (Ed. B.J. O'Brien) (University of Western Australia Press, Perth).

Brown, A., Dixon, K., French, C., and Brockman, G (2013) Field Guide to the Orchids of Western Australia. Simon Nevill Publications.

DAFWA, 2007 GIS Soil-landscape mapping in South-Western

Department of Biodiversity, Conservation and Attractions (2017). *Fauna Profile Western Ringtail Possum Pseudocheirus occidentalis*.

Department of Environment and Energy (2017) Revised draft referral guideline for three threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black Cockatoo. Commonwealth of Australia, 2017'

Department of Parks and Wildlife (2013). Carnaby's cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. Department of Parks and Wildlife, Perth, Western Australia.

Department of Sustainability, Environment, Water, Populations and Communities (2012). *Guidelines for three black cockatoo species*.

Environmental Protection Authority (2016). Technical Guidance: Flora and Vegetation Surveys for *Environmental Impact Assessment in Western Australia*. EPA December 2016.

Environmental Protection Authority (2020). *Technical Guidance. Terrestrial vertebrate fauna surveys for environmental impact assessment*. EPA, Western Australia.

Havel, J.J. and Matiske, E.M. (2000). Vegetation mapping of south west forest region of Western Australia. Part 6, maps (MAP). Department of Conservation and Land Management, 7 maps.

Hedde, EM, Loneragan, OW. & Havel JJ (1980) Vegetation Complexes of the Darling System Western Australia in *Atlas of Natural Resources Darling System Western Australia*. Department of Conservation and Land Management. WA.

Keighery, B. J. (1994). *Bushland Plant Survey: A guide to plant community survey for the community*. Wildflower Society of Western Australia (Inc.), Nedlands.

Muir, B.G. (1977) Biological survey of the Western Australia wheatbelt, Part II. Records of the Western Australian Museum, Supplement No. 3.

Saunders, D.A. (1990). Problems of survival in an extensively cultivated landscape: the case of Carnaby's Cockatoo *Calyptorhynchus funereus latirostris*. *Biological Conservation*. 54:277-290.

Triggs, B. (2004). *Tracks, Scats and Other Traces: A Field Guide to Australian Mammals*. Revised Edition. Oxford University Press.

Wayne, A.F., Cowling, A., Rooney, J.F., Ward, C.G., Wheeler, I.B., Lindenmayer, D.B., & Donnelly, C.F. (2005b). Factors affecting the detection of possums by spotlighting in Western Australia. *Wildlife Research*. 32: 689-700.

Webb, A, Keighery, B.J., Keighery, G.J., Longman, V. (2009). The flora and vegetation of the Busselton Plain (Swan Coastal Plain): a report for the Department of Environment and Conservation as part of the Swan Bioplan Project. Dept. of Environment and Conservation, Perth, Western Australia.

Wetlands Advisor Committee (1977) Report of the Wetlands Advisory Committee to the Environmental Protection Authority: The status of reserves in System Six, Environmental Protection Authority, Perth

Whitford, K.R. (2002). Hollows in jarrah (*Eucalyptus marginata*) and marri (*Corymbia calophylla*) trees I. Hollow sizes, tree attributes and ages. *Forest Ecology and Management*. 160:201-214.



## Appendix A NatureMap Extract

# 47-0322NM Flora 10km Buffer Report

Created By Guest user on 03/03/2022

<b>Kingdom</b>	Plantae
<b>Current Names Only</b>	Yes
<b>Core Datasets Only</b>	Yes
<b>Method</b>	'By Circle'
<b>Centre</b>	115° 05' 18" E, 33° 57' 56" S
<b>Buffer</b>	10km
<b>Group By</b>	Conservation Status

Conservation Status	Species	Records
Non-conservation taxon	721	1665
Priority 1	2	3
Priority 2	2	3
Priority 3	6	30
Priority 4	3	5
Rare or likely to become extinct	3	32
<b>TOTAL</b>	<b>737</b>	<b>1728</b>

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
<b>Rare or likely to become extinct</b>				
1.	13619 <i>Caladenia excelsa</i>		T	
2.	18037 <i>Caladenia lodgeana</i>		T	
3.	13635 <i>Drakaea micrantha</i>		T	
<b>Priority 1</b>				
4.	17271 <i>Synaphea macrophylla</i>		P1	
5.	18591 <i>Synaphea sp. Redgate Road (J. Scott 16)</i>		P1	
<b>Priority 2</b>				
6.	4586 <i>Amperea micrantha</i>		P2	
7.	17481 <i>Xyris maxima</i>		P2	
<b>Priority 3</b>				
8.	3386 <i>Acacia inops</i>		P3	
9.	20504 <i>Gastrolobium formosum</i>		P3	
10.	14631 <i>Juncus melanthus</i>		P3	
11.	12077 <i>Pimelea ciliata subsp. longituba</i>		P3	
12.	4179 <i>Pultenaea pinifolia</i>		P3	
13.	12590 <i>Stylidium lowrieianum (Lowrie's Triggerplant)</i>		P3	
<b>Priority 4</b>				
14.	16888 <i>Eucalyptus marginata x megacarpa</i>		P4	
15.	1945 <i>Franklandia triaristata (Lanoline Bush)</i>		P4	
16.	17744 <i>Gahnia scleroides</i>		P4	
<b>Non-conservation taxon</b>				
17.	15429 <i>Acacia alata var. alata</i>			
18.	18285 <i>Acacia baileyana</i>	Y		
19.	3233 <i>Acacia barbinervis</i>			
20.	3247 <i>Acacia browniana</i>			
21.	11731 <i>Acacia browniana var. browniana</i>			
22.	11377 <i>Acacia browniana var. obscura</i>			
23.	3262 <i>Acacia cochlearis (Rigid Wattle)</i>			
24.	3307 <i>Acacia divergens</i>			
25.	3331 <i>Acacia extensa (Wiry Wattle)</i>			
26.	3347 <i>Acacia gilbertii</i>			
27.	3410 <i>Acacia lateriticola</i>			
28.	3424 <i>Acacia littorea</i>			
29.	3448 <i>Acacia mooreana</i>			
30.	3453 <i>Acacia myrtifolia</i>			
31.	3454 <i>Acacia nervosa (Rib Wattle)</i>			
32.	3464 <i>Acacia obovata</i>			
33.	3502 <i>Acacia pulchella (Prickly Moses)</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
34.	15481 <i>Acacia pulchella</i> var. <i>glaberrima</i>			
35.	15483 <i>Acacia pulchella</i> var. <i>pulchella</i>			
36.	3525 <i>Acacia rostellifera</i> (Summer-scented Wattle)			
37.	30036 <i>Acacia saligna</i> subsp. <i>stolonifera</i>			
38.	3530 <i>Acacia scalpelliformis</i>			
39.	<i>Acacia</i> sp.			
40.	3576 <i>Acacia tetragonocarpa</i>			
41.	3588 <i>Acacia uliginosa</i>			
42.	3591 <i>Acacia urophylla</i>			
43.	15487 <i>Acacia varia</i> var. <i>varia</i>			
44.	1208 <i>Acanthocarpus preissii</i>			
45.	13146 <i>Acetabularia peniculus</i>			
46.	1791 <i>Adenanthos obovatus</i> (Basket Flower)			
47.	28281 <i>Adenanthos</i> sp. <i>Whicher Range</i> (G.J. Keighery 9736)			
48.	25 <i>Adiantum aethiopicum</i> (Common Maidenhair)			
49.	5316 <i>Agonis flexuosa</i> (Peppermint, Wonil)			
50.	17202 <i>Agonis flexuosa</i> var. <i>flexuosa</i>			
51.	23474 <i>Agrostocrinum hirsutum</i>			
52.	184 <i>Aira caryophylla</i> (Silvery Hairgrass)	Y		
53.	186 <i>Aira elegantissima</i>	Y		
54.	48513 <i>Alzoon pubescens</i>	Y		
55.	1378 <i>Allium triquetrum</i> (Three-cornered Garlic)	Y		
56.	1379 <i>Allium vineale</i> (Crow Garlic)	Y		
57.	1732 <i>Allocasuarina humilis</i> (Dwarf Sheoak)			
58.	1734 <i>Allocasuarina microstachya</i>			
59.	1489 <i>Amaryllis belladonna</i> (Belladonna Lily)	Y		
60.	4585 <i>Amperea ericoides</i>			
61.	13101 <i>Amperea simulans</i>			
62.	194 <i>Amphipogon amphipogonoides</i>			
63.	197 <i>Amphipogon debilis</i>			
64.	20184 <i>Amphipogon laguroides</i> subsp. <i>laguroides</i>			
65.	1058 <i>Anarthria gracilis</i>			
66.	1062 <i>Anarthria prolifera</i>			
67.	1063 <i>Anarthria scabra</i>			
68.	6306 <i>Andersonia caerulea</i> (Foxtails)			
69.	6317 <i>Andersonia micrantha</i>			
70.	41736 <i>Andersonia</i> sp. <i>Falla</i> (K.L. Lemson KLL 62)			
71.	6321 <i>Andersonia sprengeloides</i>			
72.	1407 <i>Anigozanthos flavidus</i> (Tall Kangaroo Paw)			
73.	1409 <i>Anigozanthos humilis</i> (Catspaw)			
74.	11261 <i>Anigozanthos manglesii</i> subsp. <i>manglesii</i>			
75.	202 <i>Anthoxanthum odoratum</i> (Sweet Vernal Grass)	Y		
76.	3686 <i>Aotus cordifolia</i>			
77.	1117 <i>Aphelia cyperoides</i>			
78.	11399 <i>Apium prostratum</i> subsp. <i>prostratum</i> var. <i>filiforme</i>			
79.	7838 <i>Arctotheca calendula</i> (Cape Weed, African Marigold)	Y		
80.	8779 <i>Asparagus asparagoides</i> (Bridal Creeper)	Y		
81.	61 <i>Asplenium aethiopicum</i> (Forked Spleenwort)			
82.	20249 <i>Astartea leptophylla</i> (River-bank Astartea)			
83.	20283 <i>Astartea scoparia</i> (Common Astartea)			
84.	7851 <i>Asteridea pulverulenta</i> (Common Bristle Daisy)			
85.	6323 <i>Astroloma ciliatum</i> (Candle Cranberry)			
86.	6334 <i>Astroloma pallidum</i> (Kick Bush)			
87.	17233 <i>Austrostipa campylachne</i>			
88.	17240 <i>Austrostipa flavescens</i>			
89.	18279 <i>Babiana angustifolia</i>	Y		
90.	32616 <i>Banksia dallanneyi</i> subsp. <i>sylvestris</i>			
91.	1819 <i>Banksia grandis</i> (Bull Banksia, Pulgarla)			
92.	1822 <i>Banksia ilicifolia</i> (Holly-leaved Banksia)			
93.	1830 <i>Banksia littoralis</i> (Swamp Banksia, Pungura)			
94.	1837 <i>Banksia occidentalis</i> (Red Swamp Banksia)			
95.	32315 <i>Barbula calycina</i>			
96.	741 <i>Baumea articulata</i> (Jointed Rush)			
97.	743 <i>Baumea juncea</i> (Bare Twigrush)			
98.	745 <i>Baumea preissii</i>			
99.	746 <i>Baumea riparia</i>			
100.	19943 <i>Baumea</i> sp. <i>Blackwood</i> (R. Davis 7681)			
101.	748 <i>Baumea vaginalis</i> (Sheath Twigrush)			
102.	5392 <i>Beaufortia sparsa</i> (Swamp Bottlebrush)			
103.	12686 <i>Berula erecta</i> (Narrowleaf Water Parsnip)	Y		

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
104.	3157 <i>Billardiera floribunda</i> (White-flowered Billardiera)			
105.	25798 <i>Billardiera fusiformis</i> (Australian Bluebell)			
106.	3159 <i>Billardiera laxiflora</i>			
107.	3165 <i>Billardiera varifolia</i>			
108.	4403 <i>Boronia alata</i> (Winged Boronia)			
109.	4413 <i>Boronia crenulata</i> (Aniseed Boronia)			
110.	29274 <i>Boronia crenulata</i> subsp. <i>crenulata</i>			
111.	11503 <i>Boronia crenulata</i> subsp. <i>crenulata</i> var. <i>crenulata</i>			
112.	17653 <i>Boronia crenulata</i> subsp. <i>pubescens</i>			
113.	4415 <i>Boronia defoliata</i>			
114.	4416 <i>Boronia denticulata</i>			
115.	4417 <i>Boronia dichotoma</i>			
116.	4422 <i>Boronia gracilipes</i> (Karri Boronia)			
117.	16632 <i>Boronia juncea</i> subsp. <i>minima</i>			
118.	4428 <i>Boronia megastigma</i> (Scented Boronia)			
119.	4429 <i>Boronia mollis</i> (Tall Boronia)			
120.	4442 <i>Boronia stricta</i>			
121.	20392 <i>Boronia tenuior</i>			
122.	1267 <i>Borya constricta</i>			
123.	3708 <i>Bossiaea disticha</i>			
124.	3713 <i>Bossiaea linophylla</i>			
125.	3714 <i>Bossiaea ornata</i> (Broad Leaved Brown Pea)			
126.	3718 <i>Bossiaea rufo</i>			
127.	244 <i>Briza maxima</i> (Blowfly Grass)	Y		
128.	245 <i>Briza minor</i> (Shivery Grass)	Y		
129.	249 <i>Bromus diandrus</i> (Great Brome)	Y		
130.	250 <i>Bromus hordeaceus</i> (Soft Brome)	Y		
131.	12770 <i>Burchardia congesta</i>			
132.	1385 <i>Burchardia multiflora</i> (Dwarf Burchardia)			
133.	1276 <i>Caesia micrantha</i> (Pale Grass Lily)			
134.	1277 <i>Caesia occidentalis</i>			
135.	13853 <i>Caladenia arrecta</i>			
136.	15332 <i>Caladenia attingens</i> subsp. <i>attingens</i>			
137.	18035 <i>Caladenia bicallata</i> subsp. <i>bicallata</i>			
138.	15341 <i>Caladenia citrina</i>			
139.	1581 <i>Caladenia corynephora</i>			
140.	1590 <i>Caladenia ferruginea</i> (Rusty Spider Orchid)			
141.	1592 <i>Caladenia flava</i> (Cowslip Orchid)			
142.	15348 <i>Caladenia flava</i> subsp. <i>flava</i>			
143.	15354 <i>Caladenia hirta</i> subsp. <i>hirta</i>			
144.	1597 <i>Caladenia infundibularis</i>			
145.	15366 <i>Caladenia longicauda</i> subsp. <i>merrittii</i>			
146.	1604 <i>Caladenia macrostylis</i> (Leaping Spider Orchid)			
147.	1605 <i>Caladenia marginata</i> (White Fairy Orchid)			
148.	18033 <i>Caladenia pholcoidea</i> subsp. <i>pholcoidea</i>			
149.	10830 <i>Caladenia rhomboidiformis</i>			
150.	2856 <i>Calandrinia liniflora</i> (Parakeelya)			
151.	45758 <i>Calcectasia demarzi</i> (Demarzi's Tinsel Lily)			
152.	10861 <i>Callistachys lanceolata</i> (Wonnich)			
153.	5428 <i>Calothamnus rupestris</i> (Mouse Ears)			
154.	32338 <i>Campylopus introflexus</i>	Y		
155.	753 <i>Carex appressa</i> (Tall Sedge)			
156.	43241 <i>Carex thecata</i>			
157.	2951 <i>Cassytha flava</i> (Dodder Laurel)			
158.	2952 <i>Cassytha glabella</i> (Tangled Dodder Laurel)			
159.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
160.	11799 <i>Cassytha racemosa</i> forma <i>racemosa</i>			
161.	41564 <i>Cenchrus clandestinus</i> (Kikuyu Grass)	Y		
162.	6542 <i>Centaurium tenuiflorum</i>	Y		
163.	6214 <i>Centella asiatica</i>			
164.	7367 <i>Centranthus ruber</i> (Red Valerian)	Y		Y
165.	35322 <i>Centranthus ruber</i> subsp. <i>ruber</i>	Y		
166.	1121 <i>Centrolepis aristata</i> (Pointed Centrolepis)			
167.	1128 <i>Centrolepis fascicularis</i>			
168.	1133 <i>Centrolepis pilosa</i>			
169.	<i>Cephalozella hirta</i>			
170.	<i>Cephalozella varians</i>			
171.	18156 <i>Chamaecytisus palmensis</i> (Tagasaste)	Y		
172.	1280 <i>Chamaescilla corymbosa</i> (Blue Squill)			
173.	1513 <i>Chasmanthe floribunda</i> (African Cornflag)	Y		



Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
174.	31 <i>Cheilanthes austrotenuifolia</i>			
175.	<i>Chiloscyphus semiteres</i> var. <i>semiteres</i>			
176.	4448 <i>Chorilaena quercifolia</i> ( <i>Chorilaena</i> )			
177.	762 <i>Chorizandra cymbaria</i> ( <i>Heron Bristle Rush</i> )			
178.	3754 <i>Chorizema diversifolium</i>			
179.	12765 <i>Chorizema nanum</i>			
180.	3761 <i>Chorizema rhombeum</i>			
181.	2929 <i>Clematis pubescens</i> ( <i>Common Clematis</i> )			
182.	44593 <i>Coleonema pulchellum</i>	Y		
183.	4550 <i>Comesperma calymega</i> ( <i>Blue-spike Milkwort</i> )			
184.	4551 <i>Comesperma ciliatum</i>			
185.	4552 <i>Comesperma confertum</i>			
186.	4564 <i>Comesperma virgatum</i> ( <i>Milkwort</i> )			
187.	1862 <i>Conospermum caeruleum</i> ( <i>Blue Brother</i> )			
188.	1863 <i>Conospermum capitatum</i>			
189.	16854 <i>Conospermum capitatum</i> subsp. <i>capitatum</i>			
190.	16853 <i>Conospermum capitatum</i> subsp. <i>glabratum</i>			
191.	16847 <i>Conospermum paniculatum</i>			
192.	6348 <i>Conostephium pendulum</i> ( <i>Pearl Flower</i> )			
193.	1418 <i>Conostylis aculeata</i> ( <i>Prickly Conostylis</i> )			
194.	11826 <i>Conostylis aculeata</i> subsp. <i>aculeata</i>			
195.	1438 <i>Conostylis laxiflora</i>			
196.	1453 <i>Conostylis serrulata</i>			
197.	11597 <i>Conostylis setigera</i> subsp. <i>setigera</i>			
198.	20074 <i>Conyza sumatrensis</i>	Y		
199.	48259 <i>Cortaderia selloana</i> subsp. <i>selloana</i>	Y		
200.	17104 <i>Corymbia calophylla</i> ( <i>Marr</i> )			
201.	17105 <i>Corymbia haematoxylon</i> ( <i>Mountain Marr</i> )			
202.	18319 <i>Cotoneaster glaucophyllus</i>	Y		
203.	7947 <i>Cotula turbinata</i> ( <i>Funnel Weed</i> )	Y		
204.	13354 <i>Craspedia variabilis</i>			
205.	7952 <i>Crepis capillaris</i> ( <i>Smooth Hawksbeard</i> )	Y		
206.	13484 <i>Cryptandra arbutiflora</i> var. <i>tubulosa</i>			
207.	15404 <i>Cyanicula sericea</i>			
208.	51 <i>Cyathaea cooperi</i>	Y		
209.	768 <i>Cyathochaeta avenacea</i>			
210.	783 <i>Cyperus congestus</i> ( <i>Dense Flat-sedge</i> )	Y		
211.	792 <i>Cyperus eragrostis</i> ( <i>Umbrella Sedge</i> )	Y		
212.	816 <i>Cyperus tenuiflorus</i> ( <i>Scaly Sedge</i> )	Y		
213.	10964 <i>Cyrtostylis robusta</i>			
214.	287 <i>Dactylis glomerata</i> ( <i>Cocksfoot</i> )	Y		
215.	7420 <i>Dampiera alata</i> ( <i>Winged-stem Dampiera</i> )			
216.	7444 <i>Dampiera hederacea</i> ( <i>Karri Dampiera</i> )			
217.	7454 <i>Dampiera linearis</i> ( <i>Common Dampiera</i> )			
218.	7484 <i>Dampiera trigona</i> ( <i>Angled-stem Dampiera</i> )			
219.	1218 <i>Dasyogon bromeliifolius</i> ( <i>Pineapple Bush</i> )			
220.	1219 <i>Dasyogon hookeri</i> ( <i>Pineapple Bush</i> )			
221.	6964 <i>Datura stramonium</i> ( <i>Common Thornapple</i> )	Y		
222.	6218 <i>Daucus glochidiatus</i> ( <i>Australian Carrot</i> )			
223.	3799 <i>Daviesia cordata</i> ( <i>Bookleaf</i> )			
224.	19747 <i>Daviesia decurrens</i> subsp. <i>decurrens</i>			
225.	18560 <i>Daviesia divaricata</i> subsp. <i>divaricata</i>			
226.	3815 <i>Daviesia horrida</i> ( <i>Prickly Bitter-pea</i> )			
227.	3817 <i>Daviesia inflata</i>			
228.	17691 <i>Desmocladius fasciculatus</i>			
229.	16595 <i>Desmocladius flexuosus</i>			
230.	299 <i>Deyouxia quadrifida</i> ( <i>Reed Bentgrass</i> )			
231.	7487 <i>Diaspasis filifolia</i> ( <i>Thread-leaved Diaspasis</i> )			
232.	32344 <i>Dicranoloma diaphanoneuron</i>			
233.	20367 <i>Dillwynia laxiflora</i>			
234.	4454 <i>Diplolaena dampieri</i> ( <i>Southern Diplolaena</i> )			
235.	3011 <i>Diploaxis muralis</i> ( <i>Wall Rocket</i> )	Y		
236.	3867 <i>Dipogon lignosus</i> ( <i>Dolichos Pea</i> )	Y		
237.	1635 <i>Diuris longifolia</i> ( <i>Common Donkey Orchid</i> )			
238.	4757 <i>Dodonaea ceratocarpa</i>			
239.	1640 <i>Drakaea glyptodon</i> ( <i>King-in-his-carriage</i> )			
240.	11156 <i>Drakaea livida</i>			
241.	1642 <i>Drakaea thymniphila</i>			
242.	3098 <i>Drosera glanduligera</i> ( <i>Pimpernel Sundew</i> )			
243.	48769 <i>Drosera indumenta</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
244.	3108 <i>Drosera marchantii</i>			
245.	3109 <i>Drosera menziesii</i> (Pink Rainbow)			
246.	3118 <i>Drosera pallida</i> (Pale Rainbow)			
247.	3124 <i>Drosera pulchella</i> (Pretty Sundew)			
248.	13385 <i>Drosera stelliflora</i>			
249.	33480 <i>Dysphania pumilio</i> (Clammy Goosefoot)			
250.	11105 <i>Echinochloa crus-galli</i>	Y		
251.	340 <i>Echinopogon ovatus</i> (Hedgehog Grass)			
252.	6681 <i>Echium plantagineum</i> (Paterson's Curse)	Y		
253.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		
254.	351 <i>Ehrharta villosa</i> (Pyp Grass)	Y		
255.	1643 <i>Elythranthera brunonis</i> (Purple Enamel Orchid)			
256.	1067 <i>Empodisma gracillimum</i>			
257.	11992 <i>Epilobium billardiereanum</i> subsp. <i>intermedium</i>			
258.	7968 <i>Erigeron karvinskianus</i>	Y		
259.	1646 <i>Eriochilus dilatatus</i> (White Bunny Orchid)			
260.	15410 <i>Eriochilus dilatatus</i> subsp. <i>dilatatus</i>			
261.	15412 <i>Eriochilus dilatatus</i> subsp. <i>multiflorus</i>			
262.	15415 <i>Eriochilus scaber</i> subsp. <i>scaber</i>			
263.	2962 <i>Eschschotzia californica</i>	Y		
264.	5625 <i>Eucalyptus diversicolor</i> (Karrri)			
265.	5708 <i>Eucalyptus marginata</i> (Jarrah, Djara)			
266.	5709 <i>Eucalyptus megacarpa</i> (Bullich, Pulidj)			
267.	18602 <i>Eucalyptus microcorys</i>	Y		
268.	5739 <i>Eucalyptus patens</i> (Swan River Blackbutt, Dwuda)			
269.	<i>Eucalyptus</i> sp.			
270.	19088 <i>Euchiton collinus</i>			
271.	15137 <i>Euchiton sphaericus</i>			
272.	3876 <i>Eutaxia epacridoides</i>			
273.	32756 <i>Eutaxia exilis</i>			
274.	3880 <i>Eutaxia virgata</i>			
275.	10765 <i>Exocarpos sparteus</i> (Broom Ballart, Djuk)			
276.	430 <i>Festuca arundinacea</i> (Tall Fescue)	Y		
277.	6221 <i>Foeniculum vulgare</i> (Fennel)	Y		
278.	18392 <i>Freesia alba</i> x <i>leichtlinii</i>	Y		
279.	8365 <i>Fumaria bastardii</i>	Y		
280.	2969 <i>Fumaria capreolata</i> (Whiteflower Fumitory)	Y		
281.	31532 <i>Fumaria muralis</i> subsp. <i>muralis</i>	Y		
282.	32370 <i>Funaria hygrometrica</i>			
283.	900 <i>Gahnia aristata</i>			
284.	902 <i>Gahnia decomposita</i>			
285.	3891 <i>Gastrolobium bilobum</i> (Heart Leaf Poison)			
286.	20475 <i>Gastrolobium capitatum</i>			
287.	19190 <i>Gastrolobium cuneatum</i>			
288.	20473 <i>Gastrolobium ebracteolatum</i>			
289.	3936 <i>Genista linifolia</i> (Flaxleaf Broom)	Y		
290.	18143 <i>Genista monspessulana</i>	Y		
291.	1518 <i>Gladiolus angustus</i> (Long Tubed Painted Lady)	Y		
292.	3948 <i>Gompholobium capitatum</i>			
293.	10909 <i>Gompholobium confertum</i>			
294.	19216 <i>Gompholobium cyaninum</i>			
295.	3951 <i>Gompholobium marginatum</i>			
296.	3953 <i>Gompholobium ovatum</i>			
297.	3954 <i>Gompholobium polymorphum</i>			
298.	3955 <i>Gompholobium preissii</i>			
299.	11083 <i>Gompholobium scabrum</i>			
300.	6146 <i>Gonocarpus benthamii</i>			
301.	16746 <i>Gonocarpus benthamii</i> subsp. <i>benthamii</i>			
302.	29362 <i>Goodenia coerulea</i>			
303.	7505 <i>Goodenia eatoniana</i>			
304.	13165 <i>Goodenia pusilla</i>			
305.	37500 <i>Grammatotheca bergiana</i> var. <i>bergiana</i>	Y		
306.	14282 <i>Gratiola pubescens</i>			
307.	13427 <i>Grevillea manglesioides</i> subsp. <i>manglesioides</i>			
308.	19494 <i>Grevillea manglesioides</i> subsp. <i>metaxa</i>			
309.	15990 <i>Grevillea pulchella</i> subsp. <i>ascendens</i>			
310.	2080 <i>Grevillea quercifolia</i> (Oak-leaf Grevillea)			
311.	908 <i>Gymnoschoenus aenaceps</i>			
312.	1465 <i>Haemodorum discolor</i>			
313.	1468 <i>Haemodorum laxum</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
314.	1475 <i>Haemodorum spicatum</i> (Mardja)			
315.	2128 <i>Hakea amplexicaulis</i> (Prickly Hakea)			
316.	2137 <i>Hakea ceratophylla</i> (Horned Leaf Hakea)			
317.	2170 <i>Hakea lasianthoides</i>			
318.	2174 <i>Hakea linearis</i>			
319.	2175 <i>Hakea lissocarpa</i> (Honey Bush)			
320.	2203 <i>Hakea ruscifolia</i> (Candle Hakea)			
321.	2214 <i>Hakea trifurcata</i> (Two-leaf Hakea)			
322.	2216 <i>Hakea varia</i> (Variable-leaved Hakea)			
323.	48568 <i>Halopeltis australis</i>			
324.	6171 <i>Halragis digyna</i>			
325.	3961 <i>Hardenbergia comptoniana</i> (Native Wisteria)			
326.	18297 <i>Hedera helix</i>	Y		
327.	3016 <i>Heliphila pusilla</i>	Y		
328.	6855 <i>Hemigenia humilis</i>			
329.	6866 <i>Hemigenia pritzelii</i>			
330.	5109 <i>Hibbertia amplexicaulis</i>			
331.	5114 <i>Hibbertia commutata</i>			
332.	5117 <i>Hibbertia cuneiformis</i> (Cutleaf Hibbertia)			
333.	5118 <i>Hibbertia cunninghamii</i>			
334.	20051 <i>Hibbertia diamisogenos</i>			
335.	5126 <i>Hibbertia furfuracea</i>			
336.	19777 <i>Hibbertia glomerata</i> subsp. <i>glomerata</i>			
337.	5132 <i>Hibbertia grossularifolia</i>			
338.	45534 <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>			
339.	5137 <i>Hibbertia inconspicua</i>			
340.	19687 <i>Hibbertia notibractea</i>			
341.	5154 <i>Hibbertia perfoliata</i>			
342.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
343.	5172 <i>Hibbertia stellaris</i> (Orange Stars)			
344.	13758 <i>Histiopteris incisa</i>			
345.	1294 <i>Hodgsoniella junciformis</i>			
346.	444 <i>Holcus lanatus</i> (Yorkshire Fog)	Y		
347.	9051 <i>Homalanthus novo-guineensis</i>			
348.	5816 <i>Homalospermum firmum</i>			
349.	3964 <i>Hovea chorizemifolia</i> (Holly-leaved Hovea)			
350.	3965 <i>Hovea elliptica</i> (Tree Hovea)			
351.	3967 <i>Hovea stricta</i>			
352.	3968 <i>Hovea trisperma</i> (Common Hovea)			
353.	5216 <i>Hybanthus calycinus</i> (Wild Violet)			
354.	5218 <i>Hybanthus debilissimus</i>			
355.	6231 <i>Hydrocotyle hirta</i> (Hairy Pennywort)			
356.	6237 <i>Hydrocotyle plebeyia</i>			
357.	452 <i>Hypparrhenia hirta</i> (Tambookie Grass)	Y		
358.	5182 <i>Hypericum perforatum</i> (St John's Wort)	Y		
359.	31234 <i>Hypericum perforatum</i> subsp. <i>veronense</i> (St John's Wort)	Y		
360.	5818 <i>Hypocalymma cordifolium</i>			
361.	43120 <i>Hypocalymma minus</i>			
362.	5825 <i>Hypocalymma robustum</i> (Swan River Myrtle)			
363.	8086 <i>Hypochaeris glabra</i> (Smooth Catsear)	Y		
364.	9352 <i>Hypochaeris radicata</i> (Flat Weed, Cats-ear)	Y		
365.	1070 <i>Hypolaena exsulca</i>			
366.	17841 <i>Hypolaena pubescens</i>			
367.	912 <i>Isolepis cyperoides</i>			
368.	2237 <i>Isopogon sphaerocephalus</i> (Drumstick Isopogon)			
369.	7396 <i>Isotoma hypocrateriformis</i> (Woodbridge Poison)			
370.	3992 <i>Isotropis cuneifolia</i> (Granny Bonnets)			
371.	1532 <i>Ixia maculata</i> (Yellow Ixia)	Y		
372.	8092 <i>Ixolaena viscosa</i> (Sticky Ixolaena)			
373.	4017 <i>Jacksonia horrida</i>			
374.	1297 <i>Johnsonia lupulina</i> (Hooded Lily)			
375.	8328 <i>Juncus amabilis</i>			
376.	1177 <i>Juncus articulatus</i> (Jointed Rush)	Y		
377.	1180 <i>Juncus capitatus</i> (Capitate Rush)	Y		
378.	1184 <i>Juncus holoschoenus</i> (Jointleaf Rush)			
379.	1185 <i>Juncus kraussii</i> (Sea Rush)			
380.	11922 <i>Juncus kraussii</i> subsp. <i>australiensis</i>			
381.	1186 <i>Juncus microcephalus</i>	Y		
382.	1188 <i>Juncus pallidus</i> (Pale Rush)			
383.	1189 <i>Juncus pauciflorus</i> (Loose Flower Rush)			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
384.	1190 <i>Juncus planifolius</i> (Broadleaf Rush)			
385.	1195 <i>Juncus subsecundus</i> (Finger Rush)			
386.	4036 <i>Kennedia carinata</i>			
387.	4037 <i>Kennedia coccinea</i> (Coral Vine)			
388.	1221 <i>Kingia australis</i> (Kingia, Pulonok)			
389.	15674 <i>Kunzea ciliata</i>			
390.	17461 <i>Kunzea micrantha</i> subsp. <i>micrantha</i>			
391.	5841 <i>Kunzea recurva</i>			
392.	14775 <i>Kunzea spathulata</i>			
393.	3669 <i>Labichea punctata</i> (Lance-leaved Cassia)			
394.	20019 <i>Lachnagrostis filiformis</i>			
395.	18585 <i>Lagenophora huegelii</i>			
396.	467 <i>Lagurus ovatus</i> (Hare's Tail Grass)	Y		
397.	48345 <i>Lasiopetalum occidentale</i>			
398.	4047 <i>Lathyrus tingitanus</i> (Tangier Pea)	Y		
399.	6879 <i>Lavandula stoechas</i> (Italian Lavender)	Y		
400.	7568 <i>Lechenaultia bitoba</i> (Blue Leschenaultia)			
401.	27013 <i>Lenormandia spectabilis</i>			
402.	8099 <i>Leontodon saxatilis</i> (Hairy Hawkbit)	Y		
403.	925 <i>Lepidosperma angustatum</i>			
404.	42741 <i>Lepidosperma apricola</i>			
405.	42742 <i>Lepidosperma calcicola</i>			
406.	929 <i>Lepidosperma carphoides</i> (Black Rapier Sedge)			
407.	932 <i>Lepidosperma effusum</i> (Spreading Sword-sedge)			
408.	933 <i>Lepidosperma gladiatum</i> (Coast Sword-sedge, Kerbin)			
409.	936 <i>Lepidosperma leptostachyum</i>			
410.	937 <i>Lepidosperma longitudinale</i> (Pithy Sword-sedge)			
411.	940 <i>Lepidosperma pubisquamum</i>			
412.	<i>Lepidosperma</i> sp.			
413.	29150 <i>Lepidosperma</i> sp. Margaret River (B.J. Lepschi 1841)			
414.	945 <i>Lepidosperma squamatum</i>			
415.	948 <i>Lepidosperma tetraquetrum</i>			
416.	1078 <i>Leptocarpus coangustatus</i>			
417.	46382 <i>Leptocarpus roycet</i>			
418.	1080 <i>Leptocarpus scariosus</i>			
419.	1082 <i>Leptocarpus tenax</i> (Slender Twine Rush)			
420.	46379 <i>Leptocarpus thysananthus</i>			
421.	15418 <i>Leptoceras menziesii</i>			
422.	2342 <i>Leptomeria cunninghamii</i>			
423.	2355 <i>Leptomeria squarrosula</i>			
424.	5850 <i>Leptospermum laevigatum</i> (Coast Teatree)	Y		
425.	1085 <i>Lepyrodia glauca</i>			
426.	1090 <i>Lepyrodia muii</i>			
427.	17552 <i>Lepyrodia porterae</i>			
428.	6358 <i>Leucopogon assimilis</i>			
429.	6360 <i>Leucopogon australis</i> (Spiked Beard-heath)			
430.	6367 <i>Leucopogon capitellatus</i>			
431.	6396 <i>Leucopogon glabellus</i>			
432.	6402 <i>Leucopogon hirsutus</i>			
433.	6427 <i>Leucopogon parviflorus</i> (Coast Beard-heath)			
434.	6428 <i>Leucopogon pendulus</i>			
435.	6436 <i>Leucopogon propinquus</i>			
436.	19662 <i>Leucopogon</i> sp. Margaret River (J. Scott 207)			
437.	6454 <i>Leucopogon verticillatus</i> (Tassel Flower)			
438.	7676 <i>Levenhookia pusilla</i> (Midget Stylewort)			
439.	49103 <i>Levenhookia</i> sp. Whicher Range (J.A. Wege 2090)			
440.	7677 <i>Levenhookia stipitata</i> (Common Stylewort)			
441.	59 <i>Lindsaea linearis</i> (Screw Fern)			
442.	36180 <i>Liparophyllum latifolium</i>			
443.	9289 <i>Lobelia anceps</i> (Angled Lobelia)			
444.	7402 <i>Lobelia gibbosa</i> (Tall Lobelia)			
445.	7408 <i>Lobelia tenuior</i> (Slender Lobelia)			
446.	6515 <i>Logania vaginalis</i> (White Spray)			
447.	9356 <i>Logfia gallica</i>	Y		
448.	475 <i>Lolium multiflorum</i> (Italian Ryegrass)	Y		
449.	<i>Lolium</i> sp.			
450.	11073 <i>Lolium x hybridum</i>	Y		
451.	1223 <i>Lomandra caespitosa</i> (Tufted Mat Rush)			
452.	1228 <i>Lomandra hermaphrodita</i>			
453.	1229 <i>Lomandra integra</i>			



Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
454.	1234 <i>Lomandra nigricans</i>			
455.	1238 <i>Lomandra pauciflora</i>			
456.	1240 <i>Lomandra purpurea</i> (Purple Mat Rush)			
457.	<i>Lomandra</i> sp.			
458.	7365 <i>Lonicera japonica</i> (Japanese Honeysuckle)	Y		
459.	35321 <i>Lonicera x italica</i>	Y		
460.	4059 <i>Lotus angustissimus</i> (Narrowleaf Trefoil)	Y		
461.	8564 <i>Lotus subbiflorus</i>	Y		
462.	4063 <i>Lotus uliginosus</i> (Greater Lotus)	Y		
463.	1092 <i>Loxocarya cinerea</i>			
464.	15835 <i>Loxocarya striata</i>			
465.	1198 <i>Luzula meridionalis</i> (Field Woodrush)			
466.	36375 <i>Lysimachia arvensis</i> (Pimpernel)	Y		
467.	36373 <i>Lysimachia minima</i>	Y		
468.	6457 <i>Lysinema conspicuum</i>			
469.	34736 <i>Lysinema pentapetalum</i>			
470.	5281 <i>Lythrum hyssopifolia</i> (Lesser Loosestrife)	Y		
471.	85 <i>Macrozamia riedlei</i> (Zamia, Djiiriji)			
472.	17637 <i>Marianthus candidus</i> (White Marianthus)			
473.	17630 <i>Marianthus tenuis</i>			
474.	34676 <i>Meioneetes brownii</i> (Swamp Raspwort)			
475.	13271 <i>Melaleuca huegelii</i> subsp. <i>huegelii</i>			
476.	5921 <i>Melaleuca incana</i> (Grey Honeymyrtle)			
477.	13273 <i>Melaleuca incana</i> subsp. <i>incana</i>			
478.	20297 <i>Melaleuca osullivanii</i>			
479.	18598 <i>Melaleuca systema</i>			
480.	4085 <i>Meililotus indicus</i>	Y		
481.	6883 <i>Mentha pulegium</i> (Pennyroyal)	Y		
482.	953 <i>Mesomelaena graciliceps</i>			
483.	957 <i>Mesomelaena tetragona</i> (Semaphore Sedge)			
484.	27068 <i>Metagoniolithon radiatum</i>			
485.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
486.	1658 <i>Microtis atrata</i> (Swamp Mignonette Orchid)			
487.	4090 <i>Mirbelia dilatata</i> (Holly-leaved Mirbelia)			
488.	4963 <i>Modiola caroliniana</i>	Y		
489.	19179 <i>Moraea flaccida</i> (One-leaf Cape Tulip)	Y		
490.	2412 <i>Muehlenbeckia adpressa</i> (Climbing Lignum)			
491.	7292 <i>Myoporum oppositifolium</i> (Twin-leaf Myoporum)			
492.	6185 <i>Myriophyllum aquaticum</i> (Brazilian Water Milfoil)	Y		
493.	492 <i>Neurachne alopecuroidea</i> (Foxtail Mulga Grass)			
494.	6970 <i>Nicandra physalodes</i> (Apple of Peru)	Y		
495.	2923 <i>Nymphaea odorata</i> (Fragrant Waterlily)	Y		
496.	6139 <i>Oenothera glazioviana</i> (Evening Primrose)	Y		
497.	8127 <i>Olearia axillaris</i> (Coastal Daisybush)			
498.	8133 <i>Olearia elaeophila</i>			
499.	8143 <i>Olearia paucidentata</i> (Autumn Scrub Daisy)			
500.	8149 <i>Olearia rudis</i> (Rough Daisybush)			
501.	7346 <i>Opercularia echinocephala</i> (Bristly Headed Stink Weed)			
502.	7348 <i>Opercularia hispida</i> (Hispid Stinkweed)			
503.	7354 <i>Opercularia volubilis</i> (Twining Stinkweed)			
504.	46316 <i>Oriathera serpyllifolia</i> subsp. <i>angustifolia</i>			
505.	46315 <i>Oriathera serpyllifolia</i> subsp. <i>serpyllifolia</i>			
506.	36181 <i>Ornduffia parnassifolia</i>			
507.	7122 <i>Orobanche minor</i> (Lesser Broomrape)	Y		
508.	1537 <i>Orthrosanthus laxus</i> (Morning Iris)			
509.	1540 <i>Orthrosanthus polystachyus</i> (Many Spike Orthrosanthus)			
510.	17756 <i>Osteospermum ecklonis</i>	Y		
511.	4349 <i>Oxalis corniculata</i> (Yellow Wood Sorrel)	Y		
512.	18331 <i>Oxalis debilis</i> var. <i>corymbosa</i> (Pink Shamrock)	Y		
513.	4354 <i>Oxalis incarnata</i>	Y		
514.	4356 <i>Oxalis pes-caprae</i> (Soursob)	Y		
515.	7117 <i>Pandorea pandorana</i>			
516.	3618 <i>Paraserianthes lophantha</i> (Albizia)			
517.	17114 <i>Paraserianthes lophantha</i> subsp. <i>lophantha</i>			
518.	7089 <i>Parentucella latifolia</i> (Common Bartsia)	Y		
519.	1762 <i>Parietaria debilis</i> (Pellitory)			
520.	527 <i>Paspalum dilatatum</i>	Y		
521.	533 <i>Paspalum vaginatum</i> (Salt Water Couch)			
522.	1548 <i>Patersonia limbata</i>			
523.	1550 <i>Patersonia occidentalis</i> (Purple Flag, Koma)			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
524.	30472 <i>Patersonia occidentalis</i> var. <i>occidentalis</i>			
525.	1553 <i>Patersonia umbrosa</i> (Yellow Flags)			
526.	11550 <i>Patersonia umbrosa</i> var. <i>xanthina</i> (Yellow Flags)			
527.	43780 <i>Pauridia gardneri</i>			
528.	43760 <i>Pauridia occidentalis</i>			
529.	43762 <i>Pauridia occidentalis</i> var. <i>quadriloba</i>			
530.	4343 <i>Pelargonium capitatum</i> (Rose Pelargonium)	Y		
531.	6245 <i>Pentapeltis peltigera</i>			
532.	2262 <i>Persoonia elliptica</i> (Spreading Snottygobble)			
533.	2267 <i>Persoonia longifolia</i> (Snottygobble)			
534.	2273 <i>Persoonia saccata</i> (Snottygobble)			
535.	2293 <i>Petrophile diversifolia</i>			
536.	20460 <i>Pheladenia deformis</i>			
537.	18529 <i>Phllotheca spicata</i> (Pepper and Salt)			
538.	1478 <i>Phlebocarya ciliata</i>			
539.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
540.	2408 <i>Ptilostyles hamiltonii</i>			
541.	5231 <i>Pimelea angustifolia</i> (Narrow-leaved Pimelea)			
542.	11928 <i>Pimelea ciliata</i> subsp. <i>ciliata</i>			
543.	5239 <i>Pimelea clavata</i>			
544.	5243 <i>Pimelea ferruginea</i>			
545.	5249 <i>Pimelea hispida</i> (Bristly Pimelea)			
546.	18117 <i>Pimelea rosea</i> subsp. <i>rosea</i>			
547.	5264 <i>Pimelea spectabilis</i> (Bunjong)			
548.	12041 <i>Pimelea suaveolens</i> subsp. <i>suaveolens</i>			
549.	5269 <i>Pimelea sylvestris</i>			
550.	88 <i>Pinus radiata</i> (Radiata Pine)	Y		
551.	42260 <i>Pithocarpa ramosa</i>			
552.	16322 <i>Pittosporum undulatum</i>	Y		
553.	7303 <i>Plantago lanceolata</i> (Ribwort Plantain)	Y		
554.	6249 <i>Platysace compressa</i> (Tapeworm Plant)			
555.	6253 <i>Platysace filiformis</i>			
556.	6259 <i>Platysace tenuissima</i>			
557.	4524 <i>Platytheca galioides</i>			
558.	577 <i>Poa poiformis</i> (Coastal Poa)			
559.	578 <i>Poa porphyroclados</i>			
560.	17016 <i>Podalyria sericea</i>	Y		
561.	86 <i>Podocarpus drouynianus</i> (Wild Plum, Kula)			
562.	8175 <i>Podolepis gracilis</i> (Slender Podolepis)			
563.	8177 <i>Podolepis lessonii</i>			
564.	2905 <i>Polycarpon tetraphyllum</i> (Fourleaf Allseed)	Y		
565.	8395 <i>Polygala myrtifolia</i> (Myrtleleaf Milkwort)	Y		
566.	4690 <i>Poranthera huegelii</i>			
567.	110 <i>Potamogeton drummondii</i>			
568.	15424 <i>Praecoxanthus aphyllus</i>			
569.	1671 <i>Prasophyllum elatum</i> (Tall Leek Orchid)			
570.	44084 <i>Prasophyllum</i> sp. <i>early</i> (G. Brockman GBB 1626)			
571.	1683 <i>Prasophyllum triangulare</i> (Dark Leek Orchid)			
572.	8189 <i>Pseudognaphalium luteoalbum</i> (Jersey Cudweed)			
573.	41651 <i>Pteridium esculentum</i> subsp. <i>esculentum</i>			
574.	45 <i>Pteris vittata</i> (Chinese Brake)			
575.	1686 <i>Pterostylis barbata</i> (Bird Orchid)			
576.	44527 <i>Pterostylis erubescens</i>			
577.	1693 <i>Pterostylis recurva</i> (Jug Orchid)			
578.	1694 <i>Pterostylis rogersii</i> (Curled-tongue Shell Orchid)			
579.	<i>Pterostylis</i> sp.			
580.	18655 <i>Pterostylis</i> sp. <i>crinkled leaf</i> (G.J. Keighery 13426)			
581.	1698 <i>Pterostylis vittata</i> (Banded Greenhood)			
582.	2742 <i>Ptilotus manglesii</i> (Pom Poms, Mulamula)			
583.	20195 <i>Pultenaea brachytropis</i>			
584.	4181 <i>Pultenaea reticulata</i>			
585.	4187 <i>Pultenaea verruculosa</i>			
586.	16367 <i>Pyrorchis nigricans</i> (Red beaks, Elephants ears)			
587.	48316 <i>Quercus suber</i>	Y		Y
588.	32480 <i>Racopilum cuspidigerum</i> var. <i>convolutaceum</i>			
589.	2932 <i>Ranunculus colonorum</i> (Common Buttercup)			
590.	2933 <i>Ranunculus muricatus</i> (Sharp Buttercup)	Y		
591.	3061 <i>Raphanus raphanistrum</i> (Wild Radish)	Y		
592.	18547 <i>Rhadinothamnus anceps</i>			
593.	2578 <i>Rhagodia baccata</i> (Berry Saltbush)			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
594.	13300 <i>Rhodanthe citrina</i>			
595.	4695 <i>Ricinocarpus glaucus</i>			
596.	17020 <i>Robinia pseudoacacia</i>	Y		
597.	45434 <i>Roldana petasitis</i>	Y		
598.	3066 <i>Rorippa nasturtium-aquaticum (Watercress)</i>	Y		
599.	16243 <i>Rosa canina</i>	Y		
600.	32424 <i>Rosulabryum albolimbatum</i>			
601.	44608 <i>Rosulabryum billardieri</i>			
602.	32426 <i>Rosulabryum campylothecium</i>			
603.	20506 <i>Rubus anglocandicans</i>	Y		
604.	20496 <i>Rubus laudatus</i>	Y		
605.	2429 <i>Rumex acetosella (Sorrel)</i>	Y		
606.	2430 <i>Rumex brownii (Swamp Dock)</i>	Y		
607.	46434 <i>Rumex hypogaeus</i>	Y		
608.	40431 <i>Rytidosperma acerosum</i>			
609.	40425 <i>Rytidosperma caespitosum</i>			
610.	40426 <i>Rytidosperma occidentale</i>			
611.	2908 <i>Sagina maritima</i>	Y		
612.	6484 <i>Samolus repens (Creeping Brookweed)</i>			
613.	6485 <i>Samolus valerandi (Water Pimpernel)</i>	Y		
614.	7602 <i>Scaevola calliptera</i>			
615.	7613 <i>Scaevola glandulifera (Viscid Hand-flower)</i>			
616.	7624 <i>Scaevola microphylla (Small-leaved Scaevola)</i>			
617.	7626 <i>Scaevola nitida (Shining Fanflower)</i>			
618.	7646 <i>Scaevola striata (Royal Robe)</i>			
619.	48356 <i>Schoenoplectus tabernaemontani</i>			
620.	992 <i>Schoenus grandiflorus (Large Flowered Bogrush)</i>			
621.	1005 <i>Schoenus obtusifolius</i>			
622.	32433 <i>Sematophyllum homomallum</i>			
623.	8203 <i>Senecio diascidies</i>			
624.	20663 <i>Senecio multicaulis subsp. multicaulis</i>			
625.	11803 <i>Silene gallica var. quinquevulnera</i>	Y		
626.	2911 <i>Silene vulgaris (Bladder Campion)</i>	Y		
627.	8224 <i>Siloxerus filifolius</i>			
628.	7020 <i>Solanum linnaeanum (Apple of Sodom)</i>	Y		
629.	7022 <i>Solanum nigrum (Black Berry Nightshade)</i>	Y		
630.	10920 <i>Solva sessilis (Jo-jo, Onehunga Weed)</i>	Y		
631.	8231 <i>Sonchus oleraceus (Common Sowthistle)</i>	Y		
632.	1312 <i>Sowerbaea laxiflora (Purple Tassels)</i>			
633.	1558 <i>Sparaxis bulbifera</i>	Y		
634.	17551 <i>Sphaerolobium drummondii</i>			
635.	20302 <i>Sphaerolobium hygrophilum</i>			
636.	4207 <i>Sphaerolobium medium</i>			
637.	4209 <i>Sphaerolobium racemosum</i>			
638.	31931 <i>Sphenotoma capitata</i>			
639.	31952 <i>Sphenotoma gracilis (Swamp Paper-heath)</i>			
640.	14917 <i>Sporadanthus rivularis</i>			
641.	14915 <i>Sporadanthus strictus</i>			
642.	4828 <i>Spyridium globulosum (Basket Bush)</i>			
643.	6930 <i>Stachys arvensis (Staggerweed)</i>	Y		
644.	3080 <i>Stenopetalum robustum</i>			
645.	7684 <i>Stylidium amoenum (Lovely Triggerplant)</i>			
646.	30278 <i>Stylidium androsaceum</i>			
647.	7695 <i>Stylidium caespitosum (Fly-away Triggerplant)</i>			
648.	7708 <i>Stylidium crassifolium (Thick-leaved Triggerplant)</i>			
649.	7713 <i>Stylidium dichotomum (Pins-and-needles)</i>			
650.	7718 <i>Stylidium diversifolium (Touch-me-not)</i>			
651.	7719 <i>Stylidium ecorne (Foot Triggerplant)</i>			
652.	19251 <i>Stylidium eriopodium</i>			
653.	7725 <i>Stylidium fasciculatum (Pale Beaked Triggerplant)</i>			
654.	7745 <i>Stylidium junceum (Reed Triggerplant)</i>			
655.	7774 <i>Stylidium pliferum (Common Butterfly Triggerplant)</i>			
656.	7787 <i>Stylidium rhyngocarpum (Black-beaked Triggerplant)</i>			
657.	7798 <i>Stylidium schoenoides (Cow Kicks)</i>			
658.	<i>Stylidium sp.</i>			
659.	7799 <i>Stylidium spathulatum (Creamy Triggerplant)</i>			
660.	7802 <i>Stylidium squamosotuberosum (Fleshy-rhizomed Trigger Plant)</i>			
661.	7808 <i>Stylidium violaceum (Violet Triggerplant)</i>			
662.	1260 <i>Stypandra glauca (Blind Grass)</i>			
663.	49143 <i>Styphelia sp. Nannup (R.D. Royce 3978)</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
664.	2323 <i>Synaphea gracillima</i>			
665.	32437 <i>Syntrichia antarctica</i>			
666.	15827 <i>Taraxis grossa</i>			
667.	20135 <i>Taxandria linearifolia</i>			
668.	20133 <i>Taxandria parviceps</i>			
669.	4256 <i>Templetonia retusa</i> (Cockies Tongues)			
670.	1034 <i>Tetaria capillaris</i> (Hair Sedge)			
671.	1036 <i>Tetaria octandra</i>			
672.	35579 <i>Tetaria</i> sp. Jarrah Forest (R. Davis T391)			
673.	667 <i>Tetrarhena laevis</i> (Forest Ricegrass)			
674.	4544 <i>Tetralthea setigera</i>			
675.	1705 <i>Thelymitra crinita</i> (Blue Lady Orchid)			
676.	5080 <i>Thomasia foliosa</i>			
677.	5084 <i>Thomasia grandiflora</i> (Large Flowered Thomasia)			
678.	5091 <i>Thomasia paniculata</i>			
679.	5092 <i>Thomasia pauciflora</i> (Few Flowered Thomasia)			
680.	17391 <i>Thomasia</i> sp. Big Brook (M. Koch 2373)			
681.	5105 <i>Thomasia triphylla</i>			
682.	32486 <i>Thuidium sparsum</i> var. <i>hastatum</i>			
683.	1319 <i>Thysanotus arenarius</i>			
684.	1338 <i>Thysanotus manglesianus</i> (Fringed Lily)			
685.	1339 <i>Thysanotus multiflorus</i> (Many-flowered Fringe Lily)			
686.	<i>Thysanotus</i> sp.			
687.	8248 <i>Tolpis barbata</i> (Yellow Hawkweed)	Y		
688.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
689.	4547 <i>Tremandra diffusa</i>			
690.	4548 <i>Tremandra stelligera</i>			
691.	8251 <i>Trichocline spathulata</i> (Native Gerbera)			
692.	1362 <i>Tricoryne humilis</i>			
693.	17541 <i>Trifolium incarnatum</i> var. <i>incarnatum</i>	Y		
694.	4302 <i>Trifolium ligusticum</i> (Ligurian Clover)	Y		
695.	14738 <i>Trifolium resupinatum</i> var. <i>resupinatum</i>	Y		
696.	34963 <i>Trihaloragis hexandra</i>			
697.	35016 <i>Trihaloragis hexandra</i> subsp. <i>integrifolia</i>			
698.	34965 <i>Trihaloragis hexandra</i> subsp. <i>serrata</i>			
699.	4737 <i>Tripterococcus brunonis</i> (Winged Stackhousia)			
700.	1561 <i>Tritonia crocata</i>	Y		
701.	38401 <i>Tritonia gladiolaris</i> (Lined Tritonia)	Y		
702.	4360 <i>Tropaeolum majus</i> (Garden Nasturtium)	Y		
703.	4842 <i>Trymalium ledifolium</i>			
704.	11665 <i>Trymalium ledifolium</i> var. <i>ledifolium</i>			
705.	13479 <i>Trymalium ledifolium</i> var. <i>rosmarinifolium</i>			
706.	33438 <i>Trymalium odoratissimum</i> subsp. <i>trifidum</i>			
707.	17680 <i>Tyrbastes glaucescens</i>			
708.	38388 <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i>	Y		
709.	33537 <i>Vallisneria australis</i>	Y		
710.	7665 <i>Velleia trinervis</i>			
711.	8257 <i>Vellereophyton dealbatum</i> (White Cudweed)	Y		
712.	7107 <i>Verbascum virgatum</i> (Twiggy Mullein)	Y		
713.	7108 <i>Veronica arvensis</i> (Wall Speedwell)	Y		
714.	7112 <i>Veronica plebeia</i> (Creeping Speedwell)			
715.	15618 <i>Verticordia plumosa</i> var. <i>plumosa</i>			
716.	4322 <i>Vicia sativa</i> (Common Vetch)	Y		
717.	4325 <i>Viminaria juncea</i> (Swishbush, Koweda)			
718.	6575 <i>Vinca major</i> (Blue Periwinkle)	Y		
719.	5223 <i>Viola odorata</i> (Common Violet)	Y		
720.	37540 <i>Wahlenbergia littoralis</i> subsp. <i>littoralis</i>			
721.	7388 <i>Wahlenbergia multicaulis</i>			
722.	13103 <i>Watsonia borbonica</i>	Y		
723.	18108 <i>Watsonia meriana</i> var. <i>bulbillifera</i>	Y		
724.	18118 <i>Watsonia meriana</i> var. <i>meriana</i>	Y		
725.	1569 <i>Watsonia versfeldii</i>	Y		
726.	12072 <i>Wurmbea dioica</i> subsp. <i>alba</i>			
727.	20737 <i>X Cyanthera glossoides</i>			
728.	1253 <i>Xanthorrhoea gracilis</i> (Graceful Grass Tree, Mimidi)			
729.	1256 <i>Xanthorrhoea preissii</i> (Grass tree, Palga)			
730.	6283 <i>Xanthosia atkinsoniana</i>			
731.	6284 <i>Xanthosia candida</i>			
732.	19330 <i>Xanthosia tasmanica</i>			
733.	2331 <i>Xylomelum occidentale</i> (Woody Pear, Djandjin)			



Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
734.	1146 <i>Xyris inaequalis</i>			
735.	1149 <i>Xyris lacera</i>			
736.	1049 <i>Zantedeschia aethiopica (Arum Lily)</i>	Y		
737.	36218 <i>Zygodon menziesii</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.

# 47-0322NM Fauna 10km Buffer Report

Created By Guest user on 03/03/2022

<b>Kingdom</b>	Animalia
<b>Current Names Only</b>	Yes
<b>Core Datasets Only</b>	Yes
<b>Method</b>	'By Circle'
<b>Centre</b>	115° 05' 18" E, 33° 57' 56" S
<b>Buffer</b>	10km
<b>Group By</b>	Conservation Status

Conservation Status	Species	Records
Non-conservation taxon	375	7518
Other specially protected fauna	3	28
Presumed extinct	2	4
Priority 1	1	1
Priority 3	4	10
Priority 4	4	98
Protected under international agreement	5	24
Rare or likely to become extinct	23	1017
<b>TOTAL</b>	<b>417</b>	<b>8700</b>

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
<b>Rare or likely to become extinct</b>				
1.	24209 <i>Arctocephalus tropicalis</i> (Subantarctic fur-seal)		T	
2.	24358 <i>Atrichornis clamosus</i> (Noisy Scrub-bird, tjimluk)		T	
3.	34110 <i>Austroassiminea lethae</i> (Cape Leeuwin Freshwater Snail)		T	
4.	24049 <i>Balaenoptera musculus</i> subsp. <i>intermedia</i> (Antarctic Blue Whale)		T	
5.	24162 <i>Bettongia penicillata</i> subsp. <i>ogilbyi</i> (Woylie, Brush-tailed Bettong)		T	
6.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
7.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
8.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
9.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
10.	25335 <i>Caretta caretta</i> (Loggerhead Turtle)		T	
11.	33940 <i>Cherax tenuimanus</i> (Margaret River hairy marron, Margaret River Marron)		T	
12.	24092 <i>Dasyurus geoffroyi</i> (Chuditch, Western Quoll)		T	
13.	34026 <i>Galaxiella munda</i> (mud minnow, western dwarf galaxias)		T	
14.	25403 <i>Geocrinia alba</i> (White-bellied Frog)		T	
15.	24557 <i>Leipoa ocellata</i> (Malleefowl)		T	
16.	24168 <i>Macrotis lagotis</i> (Bilby, Dalgyle, Ninu)		T	
17.	24146 <i>Myrmecobius fasciatus</i> (Numbat, Walpurt)		T	
18.	34033 <i>Nannatherina balstoni</i> (Balston's Pygmy Perch)		T	
19.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
20.	25579 <i>Psophodes nigrogularis</i> (Western Whipbird)		T	
21.	24388 <i>Psophodes nigrogularis</i> subsp. <i>nigrogularis</i> (Western Whipbird (western heath))		T	
22.	24145 <i>Setonix brachyurus</i> (Quokka)		T	
23.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
<b>Presumed extinct</b>				
24.	24439 <i>Dasyornis broadbenti</i> subsp. <i>itoralis</i> (Rufous Bristlebird, Rufous Bristlebird (SW WA))		X	
25.	24164 <i>Potorous platyops</i> (Broad-faced Potoroo)		X	
<b>Protected under international agreement</b>				
26.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
27.	24780 <i>Calidris alba</i> (Sanderling)		IA	
28.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
29.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
30.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
<b>Other specially protected fauna</b>				
31.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
32.	24475 <i>Falco peregrinus</i> subsp. <i>macropus</i> (Australian Peregrine Falcon)		S	

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
33.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
<b>Priority 1</b>				
34.	33980 <i>Kawaniphila pachomai</i> (Grey Vernal Katydid (southwest), cricket)		P1	
<b>Priority 3</b>				
35.	47873 <i>Bertmainius opimus</i> (western pygmy trapdoor spider)		P3	
36.	34030 <i>Geotria australis</i> (Pouched Lamprey)		P3	
37.	33995 <i>Trichosternus relictus</i> (a ground beetle (Margaret River), beetle)		P3	
38.	24855 <i>Tyto novaehollandiae</i> subsp. <i>novaehollandiae</i> (Masked Owl (southwest))		P3	
<b>Priority 4</b>				
39.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
40.	48588 <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
41.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
42.	48135 <i>Thinornis rubricollis</i> (Hooded Plover, Hooded Dotterel)		P4	
<b>Non-conservation taxon</b>				
43.	<i>Acanthaluteres vittiger</i>			
44.	<i>Acanthistius pardalotus</i>			
45.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
46.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
47.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
48.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
49.	<i>Acariformes</i> sp.			
50.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
51.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
52.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
53.	<i>Acritoptila globosa</i>			
54.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
55.	<i>Aeshnidae</i> sp.			
56.	<i>Afurcagobius suppositus</i>			
57.	<i>Akamptogonus novariae</i>			
58.	<i>Akamptogonus novariae?</i>			Y
59.	<i>Allothereua maculata</i>			
60.	<i>Alotanypus dalyupensis</i>			
61.	<i>Amphisopodidae</i> sp.			
62.	<i>Aname tepperi</i>			
63.	24312 <i>Anas gracilis</i> (Grey Teal)			
64.	24313 <i>Anas platyrhynchos</i> (Mallard)			
65.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
66.	<i>Ancylidae</i> sp.			
67.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
68.	24088 <i>Antechinus flavipes</i> subsp. <i>leucogaster</i> (Yellow-footed Antechinus, Mardo)			
69.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
70.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
71.	24599 <i>Anthus australis</i> subsp. <i>australis</i> (Australian Pipit)			
72.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
73.	<i>Aracana aurita</i>			
74.	<i>Arachnura higginsii</i>			
75.	<i>Araneus cyphoxis</i>			
76.	<i>Araneus eburniventris</i>			
77.	<i>Araneus senicaudatus</i>			
78.	<i>Archaeosynthemis leachii</i>			
79.	<i>Archaeosynthemis occidentalis</i>			
80.	<i>Archaeosynthemis spiniger</i>			
81.	<i>Archichauliodes</i> sp.			
82.	<i>Arkys walckenaeri</i>			
83.	<i>Arrenuridae</i> sp.			
84.	<i>Arripis georgiana</i>			
85.	<i>Arripis truttacea</i>			
86.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
87.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
88.	<i>Artoria cingulipes</i>			
89.	<i>Artoria flavimana</i>			
90.	<i>Artoria linnaei</i>			
91.	<i>Asadipus kunderang</i>			
92.	<i>Atherinosoma wallacei</i>			
93.	<i>Aturidae</i> sp.			
94.	<i>Australacantha minax</i>			
95.	<i>Australomimetes diabolicus</i>			
96.	<i>Australomimetes tasmaniensis</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
97.	<i>Austroaeschna anacantha</i>			
98.	<i>Austrochiloptera sp.</i>			
99.	<i>Baetidae sp.</i>			
100.	<i>Baiami tegenarioides</i>			
101.	<i>Baiami volucripes</i>			
102.	<i>Barnardius zonarius</i>			
103.	<i>Bibulmena kadjina</i>			
104.	24319 <i>Bizura lobata</i> (Musk Duck)			
105.	<i>Botryocladus freemani</i>			
106.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
107.	25713 <i>Cacatua galerita</i> (Sulphur-crested Cockatoo)			
108.	24723 <i>Cacatua pastinator</i> subsp. <i>butleri</i> (Butler's Corella)			
109.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
110.	24427 <i>Cacomantis flabelliformis</i> subsp. <i>flabelliformis</i> (Fan-tailed Cuckoo)			
111.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
112.	<i>Caenidae sp.</i>			
113.	25717 <i>Calyptrorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
114.	<i>Capreolus capreolus</i>			Y
115.	<i>Carabidae sp.</i>			
116.	<i>Carassius auratus</i>			
117.	<i>Ceratopogonidae sp.</i>			
118.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
119.	<i>Cercophonius sulcatus</i>			
120.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
121.	24187 <i>Chalinolobus morio</i> (Chocolate Wattled Bat)			
122.	43380 <i>Chelodina collei</i> (South-western Snake-necked Turtle)			
123.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
124.	33939 <i>Cherax cainii</i> (Marron)			
125.	<i>Cherax quinquecarinatus</i>			
126.	<i>Chironominae sp.</i>			
127.	<i>Chironomus aff. alternans</i> (V24) (CB)			
128.	<i>Chironomus tepperi</i>			
129.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
130.	<i>Chroicocephalus novaehollandiae</i>			
131.	24432 <i>Chrysococcyx lucidus</i> subsp. <i>plagosus</i> (Shining Bronze Cuckoo)			
132.	24288 <i>Circus approximans</i> (Swamp Harrier)			
133.	<i>Cladocera (non-daphniidae)</i>			
134.	<i>Cladocera (unident.)</i>			
135.	<i>Coenagrionidae sp.</i>			
136.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
137.	<i>Conicochernes crassus</i>			
138.	<i>Copepoda sp.</i>			
139.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
140.	<i>Cordulidae sp.</i>			
141.	<i>Coris auricularis</i>			
142.	<i>Corixidae sp.</i>			
143.	<i>Cormocephalus aurantipes</i>			
144.	<i>Cormocephalus hartmeyer</i>			
145.	<i>Cormocephalus strigosus</i>			
146.	25592 <i>Corvus coronoides</i> (Australian Raven)			
147.	24417 <i>Corvus coronoides</i> subsp. <i>perplexus</i> (Australian Raven)			
148.	<i>Corydalidae sp.</i>			
149.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
150.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
151.	<i>Cricotopus 'parbicinctus'</i>			
152.	25398 <i>Crinia georgiana</i> (Quacking Frog)			
153.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
154.	25401 <i>Crinia pseudinsignifera</i> (Bleating Froglet)			
155.	<i>Cristiceps australis</i>			
156.	30893 <i>Cryptoblepharus buehananii</i>			
157.	25047 <i>Ctenotus impar</i>			
158.	25049 <i>Ctenotus labillardieri</i>			
159.	<i>Culicidae sp.</i>			
160.	<i>Curculionidae sp.</i>			
161.	<i>Cyclosa trilobata</i>			
162.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
163.	<i>Dactylophora nigricans</i>			
164.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
165.	<i>Dicrotendipes sp. A</i> (V47) (SAP)			
166.	24470 <i>Dromaius novaehollandiae</i> (Emu)			



Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
167.	<i>Dugesidae</i> sp.			
168.	<i>Dytiscidae</i> sp.			
169.	25251 <i>Echloopsis curta</i> (Bardick)			
170.	<i>Edella vittata</i>			
171.	25096 <i>Egernia kingii</i> (King's Skink)			
172.	25100 <i>Egernia napoleonis</i>			
173.	<i>Egretta novaehollandiae</i>			
174.	<i>Elanus axillaris</i>			
175.	25250 <i>Elapognathus coronatus</i> (Crowned Snake)			
176.	47937 <i>Euseyornis melanops</i> (Black-fronted Dotterel)			
177.	<i>Empididae</i> sp.			
178.	<i>Enchytraeidae</i> sp.			
179.	<i>Eolophus roseicapillus</i>			
180.	24651 <i>Eopsaltria australis</i> subsp. <i>griseogularis</i> (Western Yellow Robin)			
181.	24652 <i>Eopsaltria georgiana</i> (White-breasted Robin)			
182.	<i>Ephydriidae</i> sp.			
183.	24567 <i>Ephianura albifrons</i> (White-fronted Chat)			
184.	<i>Eriophora biapicata</i>			
185.	25621 <i>Falco berigora</i> (Brown Falcon)			
186.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
187.	25623 <i>Falco longipennis</i> (Australian Hobby)			
188.	24041 <i>Felis catus</i> (Cat)	Y		
189.	25727 <i>Fulica atra</i> (Eurasian Coot)			
190.	34028 <i>Galaxias occidentalis</i> (Western Minnow)			
191.	25404 <i>Geocrinia leai</i> (Ticking Frog)			
192.	<i>Geogarypus taylori</i>			
193.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
194.	<i>Glossiphoniidae</i> sp.			
195.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
196.	<i>Gripopterygidae</i> sp.			
197.	<i>Gyrinidae</i> sp.			
198.	25627 <i>Haematopus fuliginosus</i> (Sooty Oystercatcher)			
199.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
200.	<i>Halichoeres brownfieldi</i>			
201.	<i>Harrisia</i> sp. B (SFM)			
202.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
203.	25411 <i>Heleioporus inornatus</i> (Whooping Frog)			
204.	<i>Hemicordulidae</i> sp.			
205.	30919 <i>Hemiergis gracilipes</i> (skink)			
206.	25118 <i>Hemiergis peronii</i> subsp. <i>tridactyla</i>			
207.	<i>Hemicops dentatus</i>			
208.	<i>Heterodontus portusjacksoni</i>			
209.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
210.	<i>Hippocampus</i> sp.			
211.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
212.	<i>Holasteron aspinosum</i>			
213.	<i>Hydraenidae</i> sp.			
214.	<i>Hydrometridae</i> sp.			
215.	<i>Hydrophilidae</i> sp.			
216.	43384 <i>Hydrophis platurus</i> (Yellow-bellied Seasnake)			
217.	<i>Hydroptilidae</i> sp.			
218.	<i>Hyridae</i> sp.			
219.	<i>Isopeda leishmanni</i>			
220.	25562 <i>Ixobrychus flavicollis</i> (Black Bittern)			
221.	<i>Ixodes australiensis</i>			
222.	<i>Kiefferulus intertinctus</i>			
223.	<i>Lagynochthonius australicus</i>			
224.	<i>Lampona cylindrata</i>			
225.	<i>Lamponella ainslie</i>			
226.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
227.	25638 <i>Larus pacificus</i> (Pacific Gull)			
228.	<i>Lectrides parilis</i>			
229.	<i>Lepidoptera</i> (non-pyralid)			
230.	<i>Leptoceridae</i> sp.			
231.	<i>Leptoperia australica</i>			
232.	<i>Leptophlebid</i> genus S sp. AV1			
233.	<i>Leptophlebiidae</i> sp.			
234.	25131 <i>Lerista distinguenda</i>			
235.	25133 <i>Lerista elegans</i>			
236.	25154 <i>Lerista microtis</i> subsp. <i>microtis</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
237.	25155 <i>Lerista muelleri</i>			
238.	25005 <i>Lialis burtonis</i>			
239.	<i>Libellulidae</i> sp.			
240.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
241.	24582 <i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
242.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
243.	42413 <i>Lissolepis luctuosa</i> (Western Swamp Skink)			
244.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
245.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
246.	<i>Lophoctinia isura</i>			
247.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
248.	25650 <i>Malurus elegans</i> (Red-winged Fairy-wren)			
249.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
250.	<i>Maratus pavonis</i>			
251.	<i>Megaloptera</i> sp.			
252.	<i>Megapodagrionidae</i> sp.			
253.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
254.	24587 <i>Melithreptus chiroptis</i> (Western White-naped Honeyeater)			
255.	25184 <i>Menetia greyii</i>			
256.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
257.	<i>Mesoveliidae</i> sp.			
258.	25419 <i>Metacrinia nichollsii</i> (Forest Toadlet)			
259.	<i>Meuschenia flavolineata</i>			
260.	<i>Meuschenia galii</i>			
261.	<i>Meuschenia hippocrepis</i>			
262.	<i>Microcarbo melanoleucos</i>			
263.	<i>Microvelia</i> ( <i>Austromicrovelia</i> ) <i>australiensis</i>			
264.	<i>Microvelia</i> sp.			
265.	24213 <i>Mirounga leonina</i> (Southern Elephant Seal)			
266.	<i>Missulena granulosa</i>			
267.	<i>Mituliodon tarantulinus</i>			
268.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
269.	25191 <i>Morethia lineocellata</i>			
270.	25192 <i>Morethia obscura</i>			
271.	48008 <i>Morus serrator</i> (Australasian Gannet)			
272.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			
273.	<i>Naididae</i> sp.			
274.	<i>Nannoperca vittata</i>			
275.	<i>Naucrates ductor</i>			
276.	<i>Neboissophlebia occidentalis</i>			
277.	<i>Nematoda</i> sp.			
278.	<i>Neopataecus waterhousii</i>			
279.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
280.	24739 <i>Neophema petrophila</i> (Rock Parrot)			
281.	<i>Newmanoperla exigua</i>			
282.	<i>Notalina</i> sp.			
283.	<i>Notalina</i> sp. AV15 (PSW)			
284.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
285.	<i>Notonectidae</i> sp.			
286.	<i>Notoperata tenax</i>			
287.	<i>Nousia</i> sp. AV16			
288.	<i>Nunciella aspera</i>			
289.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
290.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
291.	<i>Nyungara bunnyi</i>			
292.	<i>Ochthebius</i> sp.			
293.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
294.	<i>Odax acroptilus</i>			
295.	<i>Oligochaeta</i> sp.			
296.	<i>Oniscidae</i> sp.			
297.	<i>Orthocladinae</i> 'woodminer' (SAP)			
298.	<i>Orthocladinae</i> sp.			
299.	<i>Ostracoda</i> (unident.)			
300.	<i>Oxidae</i> sp.			
301.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
302.	<i>Palaemonidae</i> sp.			
303.	<i>Paralimnophyes pullulus</i> (V42)			
304.	<i>Paramerina levidensis</i>			
305.	<i>Parastacidae</i> sp.			
306.	25255 <i>Parasuta nigriceps</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
307.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
308.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
309.	24630 <i>Pardalotus striatus</i> subsp. <i>westraliensis</i> (Striated Pardalote)			
310.	<i>Pelsartia humeralis</i>			
311.	<i>Pentastemon intermedium</i>			
312.	<i>Perthiidae</i> sp.			
313.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
314.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
315.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
316.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
317.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
318.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
319.	25587 <i>Phaps elegans</i> (Brush Bronzewing)			
320.	<i>Phreatoicidae</i> sp.			
321.	<i>Phreodrilidae</i> sp.			
322.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
323.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
324.	<i>Pictilabrus laticlavus</i>			
325.	<i>Pianorbidae</i> sp.			
326.	<i>Platycephalus</i> sp.			
327.	25720 <i>Platyercus icterotis</i> (Western Rosella)			
328.	24745 <i>Platyercus icterotis</i> subsp. <i>icterotis</i> (Western Rosella)			
329.	24747 <i>Platyercus spurius</i> (Red-capped Parrot)			
330.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
331.	<i>Polypedilum</i> nr. <i>convexum</i> (SAP)			
332.	<i>Polypedilum watsoni</i>			
333.	25722 <i>Polytelis anthopeplus</i> (Regent Parrot)			
334.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
335.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
336.	<i>Prionosternum nitidiceps</i>			
337.	<i>Protocheilifer cavernarum</i>			
338.	<i>Pseudogobius olorum</i>			
339.	25259 <i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
340.	<i>Pseudotyrannochthonius giganteus</i>			
341.	<i>Pterygotrigla polyommata</i>			
342.	24711 <i>Puffinus assimilis</i> subsp. <i>assimilis</i> (Little Shearwater)			
343.	<i>Purpureicephalus spurius</i>			
344.	25008 <i>Pygopus lepidopodus</i> (Common Scaly Foot)			
345.	24243 <i>Rattus fuscipes</i> (Western Bush Rat)			
346.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
347.	<i>Rhectanytarsus</i> sp. (SFM)			
348.	<i>Rhectanytarsus trivittatus</i>			
349.	<i>Rhectanytarsus underwoodi</i>			
350.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
351.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
352.	<i>Richardsonianidae</i> sp.			
353.	<i>Riekoperla occidentalis</i>			
354.	<i>Riethia</i> v4			
355.	<i>Schuettea woodwardi</i>			
356.	<i>Sciomyzidae</i> sp.			
357.	<i>Scirtidae</i> sp.			
358.	<i>Scobinichthys granulatus</i>			
359.	<i>Scolopendra laeta</i>			
360.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
361.	24279 <i>Sericornis frontalis</i> subsp. <i>maculatus</i> (White-browed Scrubwren)			
362.	<i>Simaetha tenuior</i>			
363.	<i>Simuliidae</i> sp.			
364.	<i>Siphonognathus beddomei</i>			
365.	<i>Siphonotus flavomarginatus</i>			
366.	<i>Skusella</i> "V12 ex-WA" (Cranston)			
367.	30948 <i>Smicromis brevirostris</i> (Weebill)			
368.	24109 <i>Sminthopsis dolichura</i> (Little long-tailed Dunnart)			
369.	24111 <i>Sminthopsis gilberti</i> (Gilbert's Dunnart)			
370.	<i>Sphaeriidae</i> sp.			
371.	<i>Spinicrus minimus</i>			
372.	<i>Spinicrus porongorupensis</i>			
373.	24645 <i>Stagonopleura oculata</i> (Red-eared Firetail)			
374.	<i>Staphylinidae</i> sp.			
375.	<i>Steatoda grossa</i>			
376.	24522 <i>Sterna bergii</i> (Crested Tern)			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
377.	<i>Sternopriscus</i> sp.			
378.	25655 <i>Stipiturus malachurus</i> (Southern Emu-wren)			
379.	24554 <i>Stipiturus malachurus</i> subsp. <i>westernensis</i> (Southern Emu-wren)			
380.	<i>Storosa tetrica</i>			
381.	25697 <i>Strepera versicolor</i> (Grey Currawong)			
382.	<i>Stylonicidae</i> sp.			
383.	<i>Supinna picta</i>			
384.	<i>Synthemistidae</i> sp.			
385.	<i>Tabankidae</i> sp.			
386.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
387.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
388.	<i>Tamopsis perthensis</i>			
389.	<i>Tanypodinae</i> sp.			
390.	<i>Tanytarsus aff manleyensis</i>			
391.	<i>Tanytarsus</i> nr K5			
392.	<i>Tanytarsus palmatus</i>			
393.	<i>Taphiassa robertsi</i>			
394.	24167 <i>Tarsipes rostratus</i> (Honey Possum, Noolbenger)			
395.	<i>Tasmanicosa leuckartii</i>			
396.	<i>Tasmanocoenis tilyardi</i>			
397.	<i>Telephlebitidae</i> sp.			
398.	<i>Temnocephalidea</i> sp.			
399.	<i>Thienemanniella</i> sp. (V19) (SAP)			
400.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
401.	25519 <i>Tiliqua rugosa</i>			
402.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
403.	<i>Tipulidae</i> sp.			
404.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
405.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
406.	24158 <i>Trichosurus vulpecula</i> subsp. <i>vulpecula</i> (Common Brushtail Possum)			
407.	<i>Triplectides</i> sp. AV1 (SFM)			
408.	<i>Triplectides</i> sp. AV21 (SFM)			
409.	48147 <i>Turnix varius</i> (Painted Button-quail)			
410.	25764 <i>Tyto novaehollandiae</i> (Masked Owl)			
411.	<i>Urodacus novaehollandiae</i>			
412.	25225 <i>Varanus rosenbergi</i> (Heath Monitor)			
413.	<i>Velidae</i> sp.			
414.	<i>Venator immansueta</i>			
415.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
416.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		
417.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereeye)			

**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 B Protected Matters Search Tool Extract



## 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: 25/02/22 15:10:45

### [Summary](#)

### [Details](#)

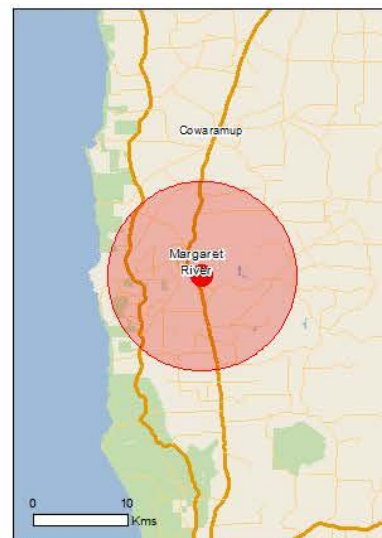
[Matters of NES](#)

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

[Extra Information](#)

### [Caveat](#)

### [Acknowledgements](#)



This map may contain data which are  
©Commonwealth of Australia  
(Geoscience Australia), ©PSMA 2015

[Coordinates](#)

Buffer: 10.0Km



## 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>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	None
<a href="#">Listed Threatened Species:</a>	28
<a href="#">Listed Migratory Species:</a>	11

### 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>	16
<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>	7
<a href="#">Regional Forest Agreements:</a>	1
<a href="#">Invasive Species:</a>	24
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None

## Details

### Matters of National Environmental Significance

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 may occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely 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	Breeding known 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="#">Limosa lapponica menzbieri</a> Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	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 may occur within area
<a href="#">Pachyptila turtur subantarctica</a> Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area
<b>Crustaceans</b>		
<a href="#">Cherax tenuimanus</a> Hairy Marron, Margaret River Hairy Marron, Margaret River Marron [78931]	Critically Endangered	Species or species habitat may occur within area
<b>Fish</b>		
<a href="#">Nannatherina balstoni</a> Balston's Pygmy Perch [66698]	Vulnerable	Species or species habitat likely to occur within area
<b>Frogs</b>		



Name	Status	Type of Presence
<a href="#">Geocrinia alba</a> White-bellied Frog, Creek Frog [26181]	Critically Endangered	Species or species habitat known to occur within area
<b>Mammals</b>		
<a href="#">Bettongia penicillata ogilbyi</a> Woylie [66844]	Endangered	Species or species habitat known to occur within area
<a href="#">Dasyurus geoffroii</a> Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Pseudocheirus occidentalis</a> Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Setonix brachyurus</a> Quokka [229]	Vulnerable	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="#">Banksia nivea subsp. uliginosa</a> Swamp Honeypot [82766]	Endangered	Species or species habitat may occur within area
<a href="#">Banksia squarrosa subsp. argillacea</a> Whicher Range Dryandra [82769]	Vulnerable	Species or species habitat may occur within area
<a href="#">Caladenia excelsa</a> Giant Spider-orchid [56717]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caladenia hoffmanii</a> Hoffman's Spider-orchid [56719]	Endangered	Species or species habitat may 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="#">Caladenia lodgeana</a> Lodge's Spider-orchid [68664]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calectasia cyanea</a> Blue Tinsel Lily [7669]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Drakaea micrantha</a> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Gastrolobium papilio</a> Butterfly-leaved Gastrolobium [78415]	Endangered	Species or species habitat may occur within area
<a href="#">Lambertia echinata subsp. occidentalis</a> Western Prickly Honeysuckle [64528]	Endangered	Species or species habitat may occur within area
Listed Migratory Species		[ Resource Information ]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		

Name	Threatened	Type of Presence
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat 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 likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		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 may occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

#### Other Matters Protected by the EPBC Act

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

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

Name  
Commonwealth Land -

##### 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
<b>Birds</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area

Name	Threatened	Type of Presence
<a href="#">Ardea ibis</a> Cattle Egret [59542]		Species or species habitat may occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat may 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 may occur within area
<a href="#">Pachyptila turtur</a> Fairy Prion [1066]		Species or species habitat known to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area
<a href="#">Thinornis rubricollis</a> Hooded Plover [59510]		Species or species habitat known to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

## Extra Information

### State and Territory Reserves [\[ Resource Information \]](#)

Name	State
Bramley	WA
Leeuwin-Naturaliste	WA
NTWA Bushland covenant (0003)	WA
NTWA Bushland covenant (0065A)	WA
NTWA Bushland covenant (0065B)	WA
NTWA Bushland covenant (0144)	WA
NTWA Bushland covenant (0147)	WA

### Regional Forest Agreements [\[ Resource Information \]](#)

Note that all areas with completed RFAs have been included.

Name	State
<a href="#">South West WA RFA</a>	Western Australia

### 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>		
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
<b>Mammals</b>		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area



Name	Status	Type of Presence
<i>Rattus rattus</i> Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
<i>Sus scrofa</i> Pig [6]		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>Cenchrus ciliaris</i> Buffel-grass, Black Buffel-grass [20213]		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 within area
<i>Genista monspessulana</i> Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
<i>Genista</i> sp. X <i>Genista monspessulana</i> Broom [67538]		Species or species habitat may occur within area
<i>Lycium ferocissimum</i> African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
<i>Pinus radiata</i> Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
<i>Rubus fruticosus</i> aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
<i>Tamarix aphylla</i> 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

## Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

## Coordinates

-33.96553 115.0884

## 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.

# Appendix C Conservation Codes for Western Australian Flora and Fauna



**CONSERVATION CATEGORY**  
**CODE**

**Threatened Ecological Community (TEC)**

An ecological community is a naturally occurring biological assemblage that occurs in a particular type of habitat. A TEC is one which is found to fit into one of the following categories: Presumed Totally Destroyed; Critically Endangered; Endangered, or Vulnerable.

Possible TECs that do not meet survey criteria are added to the Department of Parks and Wildlife's Priority Ecological Community Lists, under Priority 1, 2 and 3. These are ranked in order of priority for survey and/or definition of the community type and evaluation of its conservation status.

**Threatened species (T)**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under Section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

*Threatened fauna* is that subset of 'Specially Protected Fauna' listed under Schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

*Threatened flora* is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The Assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below

**Critically endangered species (CR)**

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

CONSERVATION CODE	CATEGORY
----------------------	----------

<b>Endangered species (EN)</b>	<p>Threatened species considered to be <i>“facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines”</i>.</p> <p>Listed as endangered under Section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the <i>Wildlife Conservation (Specially Protected Fauna) Notice 2018</i> for endangered fauna or the <i>Wildlife Conservation (Rare Flora) Notice 2018</i> for endangered flora.</p>
------------------------------------	--

<b>Vulnerable species (VU)</b>	<p>Threatened species considered to be <i>“facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines”</i>.</p> <p>Listed as endangered under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the <i>Wildlife Conservation (Specially Protected Fauna) Notice 2018</i> for vulnerable fauna or the <i>Wildlife Conservation (Rare Flora) Notice 2018</i> for vulnerable flora.</p>
------------------------------------	--

<b>Extinct species (EX)</b>	<p>Species where <i>“there is no reasonable doubt that the last member of the species has died”</i>, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).</p> <p>Published as presumed extinct under schedule 4 of the <i>Wildlife Conservation (Specially Protected Fauna) Notice 2018</i> for extinct fauna or the <i>Wildlife Conservation (Rare Flora) Notice 2018</i> for extinct flora.</p>
---------------------------------	---

<b>Extinct in the wild species (EW)</b>	<p>Species that <i>“is known only to survive in cultivation, captivity or as a naturalised population well outside its part range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form”</i>, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).</p> <p>Currently there are no threatened fauna or flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.</p>
---	---

**CONSERVATION CODE CATEGORY**

**Specially protected species**

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

**Migratory species (MI)**

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; and listing is otherwise in accordance with the ministerial guidelines (Section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and the Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements of treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

**Species of special conservation interest (conservation dependent fauna) (CD)**

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CONSERVATION CODE	CATEGORY
-------------------	----------

<b>Other specially protected species (OS)</b>	Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).
---	--

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

<b><u>Priority species (P)</u></b>	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 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.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

<b>Priority 1 (P1) - Poorly-known species</b>	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, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases, or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
---	---

<b>Priority 2 (P2) - Poorly-known species</b>	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, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
---	---



CONSERVATION CODE	CATEGORY
----------------------	----------

<b>Priority 3 (P3) - Poorly-known species</b>	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 suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
---	--

---

<b>Priority 4 (P4) - Rare, Near Threatened and other species in need of monitoring</b>	<p>(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.</p> <p>(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.</p> <p>(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>
--	--

---

Appendix D    Relevé Field Sheet and  
Vegetation Structural  
Information

STRUCTURAL VEGETATION, FLORA - Relevé				SITE_ID: R01
Date: 08/03/2022	GPS:	115.08758 °	E	Structural comm. type
		33.96651 °	N	
Recorder: LD				Tall Closed Scrub
Location: Rapids Landing South, Margaret River				

Condition: Degraded	
Aspect: East	Slope: Gentle
Geology: Other	Rock: 0
Soil Colour: Orange/Brown	Soil Type: Clay
Litter (% cover & depth): 20%, 30cm, elevated	Bare Ground (% cover): 0%
Hydrology: Poor drain, seasonally wet, damp year-round	Topographic position: Creekline/Drainage Line

Layer	Height (m)	Cover	Plant Species (Dominant 3 first)
Tree (T2)	10-30	N/A	N/A
Tree (T3)	< 10	N/A	N/A
Shrub (S1)	> 2	>70%	<i>Taxandria linearifolia</i> , <i>Agonis flexuosa</i>
Shrub (S2)	1-2	10-30	<i>Taxandria linearifolia</i>
Shrub (S3)	0-1	<2%	<i>Agonis flexuosa</i> , <i>Taxandria linearifolia</i> , <i>*Homalanthus sp.</i>
Sedge/Rush (VR)		30-70%	<i>*Juncus microcephalus</i> , <i>Lepidosperma tetraquetrum.</i> , <i>Juncus sp.</i> , <i>Juncus pallidus</i> , <i>*Isolepis prolifera</i>
Herb (H)		10-30%	<i>Lobelia anceps</i> , <i>*Lotus sp.</i> , <i>Epilobium sp.</i> , <i>*Rumex sp.</i> , <i>Persicaria sp.</i> , <i>*Alternanthera nodiflora</i> , <i>*Hypochaeris sp.</i> , <i>Gratiola pubescens</i>
Grass (G)		10-30% (Patchy)	<i>*Paspalum sp.</i> , <i>*Holcus lanatus</i> , <i>*Cenchrus clandestinus</i>
Other (climbers) (C)		<1%	NA

Cover Codes: D >70% M 30-70% S 10-30% V 2-10% VV <2% E <5% Emergent 0% None \* = Introduced/planted

Surrounding plants: *Centella asiatica*



Figure 7 Relevé - R01



Table 10 Structural Classification (from Keighery 1994, adapted from Muir 1977 and Aplin 1979).

Stratum	Canopy Cover				
	70%-100%	30%-70%	10%-30%	2%-10%	<2%
<b>Trees &gt; 30m</b>	Tall Closed Forest	Tall Open Forest	Tall Woodland	Tall Open Woodland	Scattered Tall Trees
<b>Trees 10-30m</b>	Closed Forest	Open Forest	Woodland	Open Woodland	Scattered Trees
<b>Trees &lt; 10m</b>	Low Closed Forest	Low Open Forest	Low Woodland	Low Open Woodland	Scattered Low Trees
<b>Shrubs &gt;2m</b>	Tall Closed Scrub	Tall Open Scrub	Tall Shrubland	Tall Open Shrubland	Scattered Tall Shrubs
<b>Shrubs 1-2m</b>	Closed Heath	Open Heath	Shrubland	Open Shrubland	Scattered Shrubs
<b>Shrubs &lt;1m</b>	Low Closed Heath	Low Open Heath	Low Shrubland	Low Open Shrubland	Scattered Low Shrubs
<b>Hummock Grasses</b>	Closed Hummock Grassland	Mid-Dense Hummock Grasslands	Hummock Grassland	Open Hummock Grassland	Scattered Hummock Grassland
<b>Grasses, Sedges &amp; Herbs</b>	Closed Tussock Grassland/ Sedgeland/ Herbland	Tussock Grassland/ Sedgeland/ Herbland	Open Tussock Grassland/ Sedgeland/ Herbland	Very Open Tussock Grassland/ Sedgeland/ Herbland	Scattered Tussock Grassland/ Sedgeland/ Herbland

## Appendix E Flora Species Lists

## Introduced Flora

Scientific name	Common Name
<i>Histiopteris incisa</i>	Water fern
<i>Erigeron canadensis</i>	Horseweed
<i>Alternanthera nodiflora</i>	Joy weed
<i>Cirsium vulgare</i>	Spear thistle
<i>Solanum nigrum</i>	Black berry nightshade
<i>Rumex sp.</i>	Dock
<i>Mentha pulegium</i>	Pennyroyal
<i>Plantago lanceolata</i>	Ribwort Plantain
<i>Paspalum sp.</i>	Lambs tale grass
<i>Erigeron sp.</i>	Fleabane
<i>Persacaria sp</i>	Knotweed
<i>Cenchrus clandestinus</i>	Kikuyu
<i>Cyperus sp</i>	N/A
<i>Holcus lanatus</i>	Yorkshire Fog
<i>Juncus microcephalus</i>	South American rush
<i>Anagalis arvensis</i>	Scarlett pimpernel
<i>Jacaranda mimosifolia</i>	Jacaranda
<i>Lotus sp</i>	Lotus
<i>Callistemon sp</i>	Bottlebrush
<i>Rubus sp.</i>	Blackberry
<i>Sonchus oleraceus</i>	Common Sowthistle
<i>Isolepis prolifera</i>	Budding Club Rush
<i>Centaureum erythraea</i>	Common Centaury
<i>Cynodon dactylon</i>	Couch
<i>Homolanthus novo-guineensis</i>	Bleeding heart

## Native Flora Species within the Site

Scientific name	Common Name
<i>Gratiola pubescens</i>	Asutral/Hairy Brooklime
<i>Chorizandra cymbaria</i>	Heron Bristle Rush
<i>(Machaerina rubiginosa)</i>	Soft twig rush
<i>Callistachys lanceolata</i>	Wonnich
<i>Anarthria prolifera</i>	N/A
<i>(Astartea scoparia)</i>	Common Astartea
<i>Melaleuca incana</i>	Grey honeymyrtle
<i>Juncus sp</i>	Rush

<i>Epilobium hirtigerum</i>	Hairy Willow herb
<i>Lepidosperma tetraquetrum</i>	<i>Lepidosperma tetraquetrum</i>
<i>Centella asiatica</i>	Centella
<i>Taxandria linearifolia</i>	Swamp peppermint
<i>Agonis flexuosa</i>	Peppermint
<i>Pteridium esculentum</i>	Bracken
<i>Lepidosperma</i> sp fine	N/A
<i>Juncus pallidus</i>	Pale Rush
<i>Mirbelia dilatata</i>	Holly-leaved Mirbelia
<i>Drosera</i> sp.	Sundew
<i>Cyathochaeta</i> sp	N/A
<i>Acacia myrtifolia</i>	Myrtle Wattle
<i>Gymnoschoenus anceps</i>	N/A
<i>Lobelia anceps</i>	Angled Lobelia
<i>Lomandra pauciflora</i>	N/A

## Species surrounding the Site

Scientific name	Common Name
<i>Typha domingensis</i>	Southern Cattail

() tentative inhouse identification, not a conservation significant species.