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# Vegetation and Fauna Assessment

## Greenpatch, Dalyellup

30 January 2020

Prepared for:  
RPS West



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# Document Control

RPS West

Greenpatch, Dalyellup

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Report	Rev A	Initial Report	DC	KP/GM	Electronic (email)	14/10/2019
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Report	Rev C	Correct GPS Data	DC	GM	Electronic (email)	30/01/2020

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# 1 Introduction

Ecosystem Solutions were contracted by the developers of part of Lot 9105, Dalyellup, commonly called Greenpatch (hereafter called the “Site”), within the Shire of Capel to carry out a Vegetation and Fauna Assessment to determine suitable sample pit locations and access track to minimise the impact to vegetation and fauna.

It is proposed to conduct sampling of the soils in 24 locations. Each sampling pit requires an area of approximately 3m x 3m to be cleared to allow for the excavation of sampling pits. A track will also be required to access the pits. The proposed locations of the sampling pits are shown in Figure 1.

The purpose of this report is to identify flora and fauna values within the site to determine the final locations of the sample pits and access track to ensure they are located in areas that will cause the least disturbance to the native vegetation and fauna. Indicative locations were provided by RPS West (Figure 1), however these were selected visually at a desktop to ensure full coverage of the site. Some discretion on the final locations of the sample pits and access tracks was given to minimise impact on any mature vegetation or any significant areas. The final locations of the sample pits are shown in Figure 2 and have been marked on Site with metal droppers with the site number marked on them in permanent marker. The indicative access track shown in Figure 3, this track utilised the existing fire breaks and areas of limited vegetation, care should be taken to avoid any *Eucalyptus gomphocephala* that may be regenerating in the area.

This survey focused on the proposed sample pit sites and access track. The flora and fauna assessment was limited to observing species present during the time of the surveys.

## 2 Site Details

The Site is a cluster of 24 proposed sample pit locations, each 3 m x 3 m in size, and a track to access each pit. The site is a currently vacant, revegetation area, that has previously been mined (Figure 1). The area surrounding the site is currently vegetated. The area to the west of the Site has been cleared of all vegetation.

The Site sits approximately 40 m Australian Height Datum (AHD) and slopes down to 30 m AHD to the north, east and west.





<p>Location details: Greenpatch, Dalyellup          Project: 19784          Assessment date: 8th &amp; 9th October 2019          Prepared by: D Cuthbert          Date aerial photo: Aug 2019</p>	<p><b>Proposed Sample Pit Locations</b></p>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li> Lot Boundary</li> <li> Proposed Pit Locations</li> <li> Elevations AHD (m)</li> </ul>	<p>www.ecosystemsolutions.com.au          (08) 9759 1960</p>
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Figure 1 Proposed Sample Pit Sites at Greenpatch, Dalyellup





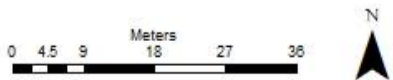

<p>Location details: Greenpatch, Dalyallup          Project: 19784          Assessment date: 8th &amp; 9th October 2019          Prepared by: D Cuthbert          Date aerial photo: Aug 2019</p>	<p><b>Proposed Sample Pit Locations</b></p> 	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="color: green;">+</span> Final Pit Locations</li> <li>— Elevations AHD (m)</li> <li><span style="border: 1px solid blue; display: inline-block; width: 15px; height: 10px;"></span> Lot Boundary</li> </ul>	 <p>www.ecosystemsolutions.com.au          (08) 9759 1960</p>
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Figure 2 Final Sample Pit Locations at Greenpatch, Dalyellup





<p>Location details: Greenpatch, Dalyallup          Project: 19784          Assessment date: 8th &amp; 9th October 2019          Prepared by: D Cuthbert          Date aerial photo: Aug 2019</p>	<p><b>Proposed Access Track</b></p>	<p><b>Legend</b></p> <ul style="list-style-type: none"> <li> Lot Boundary</li> <li> Gate</li> <li> Access Track</li> <li> Final Pit Locations</li> <li> Elevations AHD (m)</li> </ul>	<p>www.ecosystem solutions.com.au          (08) 9759 1960</p>
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Figure 3 Access Track Location at Greenpatch, Dalyellup



# 3 Flora and Vegetation

## 3.1 Methods

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 to determine if records of any rare or threatened flora are known within the boundary or vicinity of the Site. A reconnaissance survey across the site was conducted, with targeted survey within the proposed areas of impact (in line with EPA, 2016).

The Site was surveyed on Tuesday October 8<sup>th</sup> and Wednesday October 9<sup>th</sup>, 2019 by Gary Mc Mahon (B.Sc. M. Env Mgmt, PG Dip Bushfire Protection) from Ecosystem Solutions. The areas proposed for the sample pits were targeted as areas of disturbance. The Site was inspected for flora species of significance and Threatened Ecological Communities, based on the DBCA records.

## 3.2 Conservation Significant Flora

Species of flora are protected as defined in Table 1, these have been determined as their populations are restricted geographically or threatened by local processes. DBCA recognizes these threats of extinction and consequently applies regulations towards population and species protection. Protected species are gazetted under the *Biodiversity Conservation Act (2016)* and therefore it is an offence to “take” or damage rare flora without Ministerial approval. The act defines “to take” as “... to gather, pick, cut, pull up, destroy, dig up, remove or injure the flora or to cause or permit the same to be done by any means” (Government of Western Australia, 2010).

Table 1 presents the definitions for conservation codes under the *Biodiversity Conservation Act (2016)* which supersedes the previous *Wildlife Conservation Act 1950*.

Table 1 Western Australian Flora Conservation Codes (DPAW 2017)

CONSERVATION CODE	CATEGORY
<b>Threatened species (T) or Declared Rare Flora (DRF)</b>	Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , and listed under Schedules 1 to 4, Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora) Threatened flora is flora that has been declared to be ‘likely to become extinct or is rare, or otherwise in need of special protection’, pursuant to section 23F(2) of the Wildlife Conservation Act.
<b>Critically endangered species (CR)</b>	Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 1 of the Wildlife Conservation (Rare Flora) Notice.
<b>Endangered species (EN)</b>	Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 2 of the Wildlife Conservation (Rare Flora) Notice.
<b>Vulnerable species (VU)</b>	Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 3 of the Wildlife Conservation (Rare Flora) Notice.
<b>Priority species (P)</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 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.

### 3.3 Threatened and Priority Ecological Communities

An ecological community is a naturally occurring biological assemblage that occurs in a particular type of habitat. A Threatened Ecological Community (TEC) is one which is found to fit into one of the following categories: Presumed Totally Destroyed; Critically Endangered; Endangers, 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 the definition of the community and evaluation of its conservation status.

## 3.4 Results and Discussion

### 3.4.1 Desktop Flora Results

The NatureMap Database (Appendix A) identified one Threatened species that is rare or likely to become extinct and four priority species within a 5 km radius of the Site.

The Protected Matters Search Tool identified three Critically Endangered species, seven Endangered species and two Vulnerable species, within a 5 km radius of the Site (Appendix B), summarised in Table 2.

*Table 2 Conservation significant flora species recorded within 5km of the Site*

Species	DBCA Conservation Code	EPBC Act Status
<i>Acacia flagelliformis</i>	P4	
<i>Andersonia gracilis</i>		Endangered
<i>Austrostipa bronwenae</i>		Endangered
<i>Austrostipa jacobiana</i>	T	Critically Endangered
<i>Caladenia huegelii</i>		Endangered
<i>Caladenia speciosa</i>	P4	
<i>Drakaea elastica</i>		Endangered
<i>Drakaea micrantha</i>	Threatened	Vulnerable
<i>Diuris micrantha</i>		Endangered
<i>Diuris purdiei</i>		Endangered
<i>Lambertia echinata subsp. occidentalis</i>		Endangered
<i>Lasiopetalum membranaceum</i>	P3	
<i>Petrophile latericola</i>		Endangered
<i>Schoenus benthamii</i>	P3	
<i>Synaphea sp. Fairbridge Farm</i>		Critically Endangered
<i>Synaphea sp. Serpentine</i>		Critically Endangered

There were no Declared Rare Flora species observed on Site.

The Protected Matters Search Tool identified three Threatened Ecological Communities. Banksia Woodlands of the Swan Coastal Plain ecological community, Clay Pans of the Swan Coastal Plain ecological community and Tuart (*Eucalyptus gomphocephala*) Woodlands and Forests of the Swan Coastal Plain ecological community are likely to occur within the area. The Site does not have the characteristics of any listed TEC.

### 3.4.2 Survey Results

Relevés were completed within each of the determined survey pit Sites, with locations noted in Figure 2 and data collected presented below. The targeted field survey of the proposed locations was conducted on October 8<sup>th</sup> and 9<sup>th</sup>, 2019, with the findings of survey below.

<b>Test Pit Number</b>	TP01	
<b>Proposed Location</b>	370804 E	6304362 N
<b>Determined Location</b>	370803.8 E	6304355.6 N
<b>Layer</b>	<b>Percentage Cover</b>	<b>Species</b>

< 1 m                      < 2 %                      *\*Trachyandra divaricata, Dodonaea aptera*



<b>Test Pit Number</b>	TP02	
<b>Proposed Location</b>	370801 E	6304326 N
<b>Determined Location</b>	370802.4 E	6304326.1 N
<b>Layer</b>	<b>Percentage Cover</b>	<b>Species</b>

< 1 m                      < 2 %                      *\*Trachyandra divaricata, \*Medicago polymorpha*



Test Pit Number	TP03	
Proposed Location	370794 E	6304299 N
Determined Location	370794.7 E	6304299.8 N
Layer	Percentage Cover	Species



< 1 m                      < 2 %                      *\*Trachyandra divaricata, Olearia axillaris*

Test Pit Number	TP04	
Proposed Location	370789 E	6304278 N
Determined Location	370792.1 E	6304275.6 N
Layer	Percentage Cover	Species



< 1 m                      < 2 %                      *\*Trachyandra divaricata, Rhagodia baccata*

Test Pit Number	TP05	
Proposed Location	370781 E	6304245 N
Determined Location	370778.7 E	6304245.8 N
Layer	Percentage Cover	Species



< 1 m                      < 10 -30 %                      *Rhagodia baccata, Olearia axillaris, Diplolaena dampieri, Dodonaea aptera, Lepidosperma sp. Acacia rostellifera, \*Watsonia sp., \*Briza maxima*

Test Pit Number	TP06	
Proposed Location	370777 E	6304216 N
Determined Location	370777.8 E	6304211.9 N
Layer	Percentage Cover	Species



> 3 m	< 2 %	<i>Acacia rostellifera</i>
1 - 2 m	< 2 %	<i>Olearia axillaris</i>
< 1 m	< 2 %	<i>Diplolaena dampieri</i> , <i>Dodonaea aptera</i> , * <i>Trachyandra divaricata</i> , * <i>Ehrharta longiflora</i> , <i>Acanthocarpus preissii</i>

Test Pit Number	TP07	
Proposed Location	370762 E	6304191 N
Determined Location	370774.7 E	6304197.0 N
Layer	Percentage Cover	Species



< 1 m	< 2 %	<i>Diplolaena dampieri</i> (1 Plant, 0.3m in height), * <i>Trachyandra divaricata</i> , * <i>Avena barbata</i>
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Test Pit Number	TP08	
Proposed Location	370731 E	6304185 N
Determined Location	370742.6 E	6304182.0 N
Layer	Percentage Cover	Species
> 2 m	< 2%	<i>Acacia saligna</i>
1-2 m	< 2 %	<i>Acacia saligna</i>
< 1 m	2 - 10%	<i>Diplolaena dampieri</i> , <i>*Trachyandra divaricata</i> , <i>Olearia axillaris</i> , <i>Acanthocarpus preissi</i> , <i>*Ehrhata longifora</i> , <i>*Euphorbia paralias</i> , <i>Dodonaea aptera</i>



Test Pit Number	TP09	
Proposed Location	370724 E	6304213 N
Determined Location	370729.0 E	6304214.7 N
Layer	Percentage Cover	Species
Nil	Nil	Nil



Notes - No vegetation present within the Site, species including *Diplolaena dampieri*, *Eucalyptus gomphocephala*, *Olearia axillaris*, *Acacia saligna* are located in close proximity to the Site.

Test Pit Number	TP10	
Proposed Location	370737 E	6304247 N
Determined Location	370741.3 E	6304246.5 N
Layer	Percentage Cover	Species
< 1 m	< 2 %	<i>*Trachyandra divaricata, Diplolaena dampieri, Olearia axillaris, *Ehrharta longiflora, Acanthocarpus preissii</i>

Notes - Determined Location is west of the proposed location due to extreme slopes (>25 % east)

Test Pit Number	TP11	
Proposed Location	370755 E	6304269 N
Determined Location	370746.9 E	6304276.7 N
Layer	Percentage Cover	Species
< 1 - 2 m	< 2 %	<i>Spyridium globulosum</i>
< 1 m	< 2 %	<i>*Trachyandra divaricata, Phyllanthus calycinus, Acacia cyclops, Acanthocarpus preissii, *Cuscuta epithymum.</i>

Notes - Determined Location is west of the proposed located due to extreme slopes (>25 % east)

Test Pit Number	TP12	
Proposed Location	370774 E	6304297 N
Determined Location	370756.9 E	6304295.5 N
Layer	Percentage Cover	Species
< 1 m	< 2 %	<i>Acacia cyclops, *Trachyandra divaricata, Acanthocarpus preissii, *Poaceae sp.</i>



Notes - Determined Location is west of the proposed located due to extreme slopes (>25 % east)





Test Pit Number	TP15	
Proposed Location	370820 E	6304349 N
Determined Location	370831.0 E	6304345.9 N
Layer	Percentage Cover	Species



< 1 m                      < 2 %                      *Acacia cyclops*, *Acanthocarpus preissii*, *Olearia axillaris*, *Rhagodia baccata*, *Dodonaea aptera*

Notes - *Spyridium globulosum* and *Agonis flexuosa* are located in close proximity, but not within the Site.

Test Pit Number	TP16	
Proposed Location	370815 E	6304324 N
Determined Location	370816.8 E	6304329.3 N
Layer	Percentage Cover	Species



1-2 m                      < 2 %                      *Olearia axillaris*, *Dodonaea aptera*, *Acacia cyclops*

< 1 m                      < 2 %                      *Phyllanthus calycinus*, *\*Ehrharta longiflora*, *\*Avena barbata*, *\*Trachyandra divaricata*, *Rhagodia baccata*, *Olearia axillaris*

Notes - On Slope with western aspect

Test Pit Number	TP17	
Proposed Location	370762 E	6304245 N
Determined Location	370763.9 E	6304246.1 N
Layer	Percentage Cover	Species
> 1-2 m	< 2 %	<i>Olearia axillaris</i>
< 1 m	< 2 %	<i>Agonis flexuosa</i> , * <i>Medicago polymorpha</i> , * <i>Briza maxima</i> , * <i>Cynodon dactylon</i>

Notes - One *Eucalyptus gomphocephala* located in close proximity to the determined location.

Test Pit Number	TP18	
Proposed Location	370753 E	6304219 N
Determined Location	370748.6 E	6304216.5 N
Layer	Percentage Cover	Species



> 1 m	2 - 10 %	<i>Diplolaena dampieri</i> , * <i>Trachyandra divaricata</i> , <i>Acacia saligna</i> , * <i>Cynodon dactylon</i> , * <i>Medicago polymorpha</i> , * <i>Anagallis arvensis</i> , <i>Acanthocarpus preissii</i>
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Test Pit Number	TP19	
Proposed Location	370740 E	6304162 N
Determined Location	370736.8 E	6304163.3 N
Layer	Percentage Cover	Species

1 -2 m	< 2 %	<i>Olearia axillaris</i> , <i>Diplolaena dampieri</i> , <i>Dodonaea aptera</i> , <i>Acacia rostellifera</i>
> 1 m	2 - 10 %	<i>Diplolaena dampieri</i> , * <i>Trachyandra divaricata</i> , * <i>Watsonia sp.</i> , * <i>Euphorbia paralias</i> , * <i>Trifolium sp.</i>

Test Pit Number	TP20	
Proposed Location	3707715 E	6304174 N
Determined Location	370719.4 E	6304162.9 N
Layer	Percentage Cover	Species



> 2 m	< 2%	<i>Acacia rostellifera</i>
1-2 m	2 - 10 %	<i>Diplolaena dampieri</i>
< 1 m	2 - 10%	<i>Diplolaena dampieri</i> , * <i>Trachyandra divaricata</i> , <i>Olearia axillaris</i> , * <i>Euphorbia paralias</i> , <i>Acanthocarpus preissii</i>

Test Pit Number	TP21	
Proposed Location	370708 E	6304137 N
Determined Location	370715.9 E	6304138.8 N
Layer	Percentage Cover	Species

< 1 m	10 - 30%	* <i>Trachyandra divaricata</i> , * <i>Euphorbia paralias</i> , * <i>Medicago polymorpha</i>
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Notes - *Agonis flexuosa* is located nearby, but can be avoided

Test Pit Number	TP22	
Proposed Location	370700 E	6304122 N
Determined Location	370690.8 E	6304118.3 N
Layer	Percentage Cover	Species



< 1 m                      30 - 70%                      \**Trachyandra divaricata*, \**Ehrharta longiflora*, *Diplolaena dampieri*, \**Euphorbia paralias*, *Olearia axillaris*

Notes - Determined location is to the west of the proposed location to avoid large *Agonis flexuosa* and *Eucalyptus gomphocephala* > 5m in height.

Test Pit Number	TP23	
Proposed Location	370717 E	6304109 N
Determined Location	370715.4 E	6304110.6 N
Layer	Percentage Cover	Species



30 - 70 %                      *Agonis flexuosa*, *Acacia rostellifera*

> 70 %                      \**Trachyandra divaricata*, *Diplolaena dampieri*, \**Ehrharta longiflora*, \**Trifolium* sp.

Test Pit Number	TP24	
Proposed Location	370727 E	6304124 N
Determined Location	370728.4 E	6304129.0 N
Layer	Percentage Cover	Species
< 1 m	< 2 %	* <i>Trachyandra divaricata</i> , * <i>Euphorbia paralias</i> , * <i>Brassica</i> spp.

Notes - Some overhanging *Acacia rostellifera*, not within the 3m x 3 m assessment area, and can be avoided.

## 4 Fauna

### 4.1 Methods

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).

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 day time 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).
- Field observations were analysed and mapped with ArcGis (ArcMap V10.3©).

The Site was inspected via a walked transect and the trees were inspected via a physical inspection for hollows or signs of fauna usage.

All trees with large hollows were inspected for any signs of use by cockatoos. These include wear around



the hollow, chewing, scarring and scratch marks on the trunks or branches. Old or recent evidence of cockatoo’s feeding or roosting sites (feathers, droppings etc.) were also searched for.

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 Guide: Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (2010) which specifies a minimum requirement of a background research or 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).

Guidelines for the three Black Cockatoo species (Department of Sustainability, Environment, Water, Populations and Communities, 2011) outline requirements for appropriate level of surveys for these species. This survey’s intensity and design comply with these guidelines.

## 4.2 Conservation Significant Fauna

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).

Table 5 presents the definitions for fauna under the *Biodiversity Conservation Act (2016)* which was previously the *Wildlife Conservation Act 1950*.

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.

*Table 3 Western Australian Fauna Conservation Codes (DPAW 2017)*

CONSERVATION CODE	CATEGORY
<b>Threatened species (T)</b>	Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , and listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna  Threatened fauna is that subset of ‘Specially Protected Fauna’ declared to be ‘likely to become extinct’ pursuant to section 14(4) of the Wildlife Conservation Act.

CONSERVATION CODE	CATEGORY
<b>Critically endangered species (CR)</b>	Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>Endangered species (EN)</b>	Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>Vulnerable species (VU)</b>	Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>Migratory birds protected under an International Agreement (IA)</b>	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 the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>Conservation dependent fauna (CD)</b>	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>Other specially protected fauna (OS / S)</b>	Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the <i>Wildlife Conservation Act 1950</i> , in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>Priority species (P)</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. 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.

## 4.3 Expected Fauna

A list of fauna expected to occur within a 5-kilometre radius of the study site was compiled from searches conducted on the DBCA database (NatureMap) and the Commonwealth EPBC Protected Matters Search Tool and summarised in Table 4. Marine and freshwater species have been excluded due to the location of the Site.

The results of the fauna database search for Threatened species likely to be within or utilise the Site include *Pseudocheirus occidentalis* (Western Ringtail Possum) and *Setonix brachyurus* (Quokka). The *Isoodon fusciventer* (Quenda), *Notamacropus irma* (Western Brush Wallaby), *Idiosoma sigillatum* (Swan Coastal Plain shielded-backed trapdoor spider) Priority species and the *Phascogale tapoatafa subsp. wambenger* (South-western Brush-tailed Phascogale), specially protected species, have also been identified as potentially being within a 5 km radius of the Site.

The three Black Cockatoo species, *Calyptorhynchus banksii naso* (Forest Red-tailed Black Cockatoo), *Calyptorhynchus baudinii* (Baudin's Cockatoo) and *Calyptorhynchus latirostris* (Carnaby's Cockatoo) species or species habitat may occur within the area.

Other fauna of conservation significance may use the site infrequently or as part of a larger patch, such as birds listed on International Agreements. Impacts to these species are considered negligible due to the small area of vegetation to be managed, so have not been considered further.

Table 4 Conservation significant fauna species recorded within 5 km of the Site

Species	DBCA Conservation Code	EPBC Act Status
<i>Calyptorhynchus banksii naso</i> Forest Red-tailed Black Cockatoo	Threatened	Vulnerable
<i>Calyptorhynchus baudinii</i> Baudin's Cockatoo	Threatened	Endangered
<i>Calyptorhynchus latirostris</i> Carnaby's Cockatoo	Threatened	Endangered
<i>Idiosoma sigillatum</i> Swan Coastal Plain shield-backed trap door spider	P3	
<i>Dasyurus geoffroii</i> Chuditch	Threatened	Vulnerable
<i>Isodon fusciventer</i> Quenda, southwestern brown bandicoot	P4	
<i>Notamacropus Irma</i> Western Brush Wallaby	P4	
<i>Phascogale tapoatafa subsp. wambenger</i> South-western Brush-tailed Phascogale	S	
<i>Pseudocheirus occidentalis</i> Western Ringtail Possum	Threatened	Critically Endangered
<i>Setonix Brachyurus</i> Quokka	Threatened	

## 4.4 Results and Discussion

### 4.4.1 Fauna Results

The Site was surveyed for fauna on 8<sup>th</sup> and 9<sup>th</sup> October by Gary McMahon (B.Sc. M. Env Mgmt) from Ecosystem Solutions. The site was walked in a systematic manner, focusing on the proposed areas of impact around the sample pit sites and access track.

There are no trees within the Site with a diameter at breast height (DBH) over 500 mm that can support nesting of any Black Cockatoo species. There were no Black Cockatoo species observed during

the survey.

The canopy of the vegetation within the Site was thoroughly inspected and there were no dreys observed.

#### 4.4.2 Discussion

No trees with a DBH over 500 mm were observed within the Site. There was no evidence of Black Cockatoos utilising the Site.

All local species of Black cockatoos can forage over extensive areas (up to 15-20 kms from their nesting sites (Saunders, 1980)) and given that there are large areas of habitat within their range, it could be assumed that Black Cockatoo species are not relying on the Site for habitat or food source.

The survey did not identify a population of WRP or any other fauna of significance within 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.

Table 5 summarises the likely presence of the species based on habitat availability for mammals. Table 6 and Table 7 discuss the likely presence and impact on Western Ringtail Possums and Black Cockatoos.

The bird species protected under international agreements were not seen during the surveys.

*Table 5 Significant Mammals Likelihood and Impact*

Species	Potential impact in the Site
Chuditch	This species is listed as being found within 5 km of the Site, however these are historical records and/or the habitat within the Site is not considered suitable. It is listed here for completeness and no signs of this species were found within the Site.
Phascogale	Given their large home range required (20-70 ha) and minimal vegetation to be cleared on Site with no evidence of the species found, there is no impact anticipated.
Quenda	Quenda will thrive in more open habitat subject to introduced predator control. The vegetation within the Site contained an open understory with limited protection from predators. It is highly unlikely that Quenda's would be located within the Site however they may be present in the bushland to the east of the site.

Species	Potential impact in the Site
Quokka	This species is listed as being found within 5 km of the Site, however these are historical records and/or the habitat within the Site is not considered suitable. It is listed here for completeness and no signs of this species were found within the Site.
Western Brush Wallaby	This species is listed as being found within 5 km of the Site, however these are historical records and/or the habitat within the Site is not considered suitable. It is listed here for completeness and were not found within the Site.
Western Ringtail Possum	No dreys or animals were observed during the surveys. The area of remnant vegetation within the proposed sample pit sites is less than 0.15 ha. No impact is anticipated; however a fauna spotter should be used to monitor any tree removal to ensure no animals are present at the time of any clearing.



## 5 Survey Constraints

Field surveys were confined to two day time flora/fauna surveys. These were conducted to assess for Black Cockatoo and Western Ringtail Possum activity, along with another conservation significant fauna. All surveys were conducted using an experienced ecologist.

The site was traversed by foot in a systematic way, with a focus placed on the proposed located on the sample pits.

Guidelines for the survey techniques for Black Cockatoo species (Dept. of Sustainability, Environment, Water Populations and Communities, 2011) state that all trees with a DBH of over 500 m should be inspected. It should be noted however, that all of the prerequisites that determine the suitability of a hollow for use by cockatoos is difficult to assess. In addition to entrance size, the depth, floor and orientation of the hollow are important factors. The presence of suitable hollows, even in breeding areas, does not make them available for breeding as hollows must be spatially, structurally and temporally correct (Johnstone and Johnston, 2004). There were no large trees of suitable size to support hollows.

Western Ringtail Possums are arboreal nocturnal species (Dept of BCA, 2017). They use up to 2-7 rest sites and up to 20 throughout the year. Rest sites can be within a tree hollow or drey, built in various tree canopies. In suburban areas, they may also rest in roof spaces and other dark cavities. Their home range is less than 5 ha. There are constraints in surveying Western Ringtail Possums due to the time they may arise from their rest site. There were no signs of WRP observed during the survey, however a home range may overlap the survey area, with a rest site being used outside the Site during the survey times.

There are constraints in monitoring flora which include some annual species that do not appear every season, with the survey limited to identifying only those flora that appear during the survey times. The survey was completed in October, which is during the predominate flowering season in the south west.

## 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 a 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 6 and Table 7 discuss the referral triggers and the likely presence and impact on Black Cockatoos and Western Ringtail Possums.

Table 6 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	No signs of the species are present in the Site. No trees with a DBH over 500mm were observed within the Site.	No signs of the species are present in the Site.	No
Reduce the area of occupancy of an important population	No population was observed within the site. A slight reduction in area of remnant vegetation will occur, however trees no trees with a DBH over 500mm were observed within the proposed sample pits.	No population was observed within the site. A slight reduction in area of remnant vegetation will occur, however trees no large trees that would provide preferential habitat were observed within the proposed sample pits.	No
Fragment an existing important population into two or more populations	Will not fragment current population. The clearing of remnant vegetation required for the proposed sample pits and access track is less than 0.15 ha.	Will not fragment current population. The clearing of remnant vegetation required for the proposed sample pits and access track is less than 0.15 ha.	No
Adversely affect habitat critical to the survival of a species	None of the trees were observed being utilised by Black Cockatoos. No trees with a DHB of over 500mm were observed within the Site. Will not affect critical habitat.	No WRPs were observed within the Site. Will not affect critical habitat.	No

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

Disrupt the breeding cycle of an important population	Will not affect critical habitat as no trees with a DBH over 500 mm were observed within the Site.	No signs of the species are present in the Site.	No
Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	No trees above 500 mm DBH were observed within the Site. No impact is anticipated.	The species was not observed within the Site. No impact is anticipated.	No
Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat	Introductions are unlikely to occur. Any introductions are highly unlikely to have any impact on species.	Introductions are unlikely to occur. Any introductions are highly unlikely to have any impact on 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.	Development will not impact on the recovery of the species.	Development will not impact on the recovery of the species.	No

Using these criteria, the proposed development will not significantly impact on any significant species to a point where a referral is required under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

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 7, based on the details of the development and the data obtained from the surveys. Notes on the flow chart follow.

*Table 7 Assessment of Significant Impact to Black Cockatoo*

Question	Answer	High Risk of Significance - Referral Recommended
1. Could the impacts of your action occur within the modelled distribution of the Black Cockatoos?	No cockatoos observed utilizing the Site. No areas showing signs of foraging were observed within the Site. There were no trees with a DBH greater than 500 mm within the Site.	Low risk of significant impacts - referral may not be required.
2. Could the impacts of your action affect any Black Cockatoo habitat or individuals?	No cockatoos observed utilizing the Site. No areas showing signs of foraging were observed within the Site. There were no trees with a DBH greater than 500 mm within the Site.	Low risk of significant impacts - referral may not be required.
3. Have you surveyed for Black Cockatoos using the recommended methods?	Yes, no evidence was found of cockatoos utilising the site.	Low risk of significant impacts - referral may not be required.
4. Could your actions have an impact on Black Cockatoos or their habitats?	Unlikely impact. No animals were observed within the Site. No evidence of foraging was observed within the Site.	Low risk of significant impacts - referral may not be required.
5. Is your impact mitigation best practice so that it may reduce the significance of your impacts on Black Cockatoos?	Yes, there is no significant impact anticipated due to lack of evidence of animals within the proposed areas of impact within Site. No trees with a DBH greater than 500 mm were located within the Site.	There are no areas of suitable habitat within the site for this species.

Question	Answer	High Risk of Significance - Referral Recommended
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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 any of the three species present within the areas of proposed impact. It is unlikely that the species is dependent on the Site.	
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The summary of these responses are:

- The development is within the area of modelled distribution of Black Cockatoo and Western Ringtail Possum species.
- The Site has been surveyed using the recommended methods.
- There was no evidence of foraging by Black Cockatoo Species within the Site. There was no evidence of use or visitation by Western Ringtail Possums.
- There were no areas of good quality foraging vegetation within the proposed sample pit sites. The final locations of the sample pit sites have been selected to minimise the impact of vegetation.

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 the components of the development within the Site, as actions involved do not constitute



# 7 Summary and Recommendations

Based on the results of field survey, the following conclusions and recommendations are made.

- There were no Threatened or Priority Flora observed in the Final Sample Pit sites, the access track, nor any area of the Site.
- Given there were no signs of any flora of significance, a referral under the EPBC Act is not considered as required as any proposed actions are highly unlikely to significantly impact on the species or the local populations.
- The final location of the Sample pits and access track has been based on limiting the impact to the vegetation. Care should be taken to avoid any juvenile *Eucalyptus gomphocephala* that may be regenerating in areas of the access track.
- To minimise clearing, trees should be under pruned to allow access to the sample pits (Pits 21 to 24).
- There were no trees with a DBH greater than 500 mm within the final location of the Sample Pits and access track, and there were no evidence of Black Cockatoos utilising the Site.
- There was no evidence of the Western Ringtail Possum within 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 Fauna Spotter should be used to monitor any vegetation removal to ensure no animals are present, particularly the Western Ringtail Possum, at the time of any vegetation modification.
- Given there were no signs of threatened flora and the area to be managed is considerable small, less than 0.15 ha, a referral under the EPBC Act is not considered as required as any proposed actions are unlikely to significantly impact on the species or the local populations.

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## Appendix A NatureMap Extract

# NatureMap Species Report

Created By Guest user on 11/10/2019

**Conservation Status** Conservation Taxon (T, X, IA, S, P1-P5)  
**Current Names Only** Yes  
**Core Datasets Only** Yes  
**Method** 'By Circle'  
**Centre** 115° 36' 37" E, 33° 23' 34" S  
**Buffer** 5km  
**Group By** Kingdom

Kingdom	Species	Records
Animalia	17	1218
Plantae	5	30
<b>TOTAL</b>	<b>22</b>	<b>1248</b>

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
<b>Animalia</b>				
1.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
2.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
3.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
4.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
5.	25335 <i>Caretta caretta</i> (Loggerhead Turtle)		T	
6.	24043 <i>Eubalaena australis</i> (Southern Right Whale)		T	
7.	48935 <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)		P3	
8.	48588 <i>Iscoodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
9.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
10.	24051 <i>Megaptera novaeangliae</i> (Humpback Whale)		S	
11.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
12.	25508 <i>Phascogale tapoatafa</i> (Brush-tailed Phascogale)		S	
13.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
14.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
15.	24145 <i>Setonix brachyurus</i> (Quokka)		T	
16.	34134 <i>Thalassarche carteri</i> (Indian Yellow-nosed Albatross)		T	
17.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
<b>Plantae</b>				
18.	3339 <i>Acacia flagelliformis</i>		P4	
19.	38481 <i>Austrostipa jacobsoniana</i>		T	
20.	13862 <i>Caladenia speciosa</i>		P4	
21.	5038 <i>Lasiopetalum membranaceum</i>		P3	
22.	974 <i>Schoenus benthamii</i>		P3	

**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    EPBC Act Protected  
Matters Report



## 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: 11/10/19 15:48:07

[Summary](#)

[Details](#)

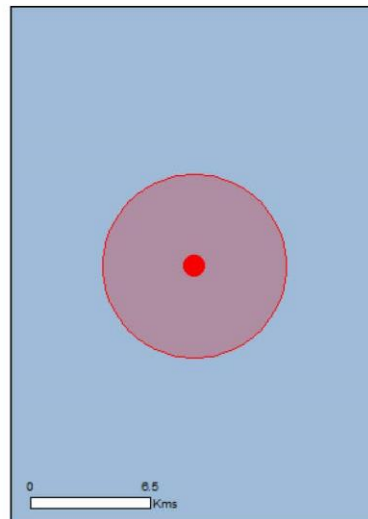
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

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Buffer: 5.0Km



## Summary

### Matters of National Environmental Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance:</a>	None
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	3
<a href="#">Listed Threatened Species:</a>	53
<a href="#">Listed Migratory Species:</a>	42

### 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>	67
<a href="#">Whales and Other Cetaceans:</a>	13
<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>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Invasive Species:</a>	29
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">Key Ecological Features (Marine)</a>	None

## Details

### Matters of National Environmental Significance

#### Listed Threatened Ecological Communities [\[ Resource Information \]](#)

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

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

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

Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Anous tenuirostris melanops</a> Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
<a href="#">Botaurus poiciloptilus</a> Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat 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="#">Diomedea amsterdamensis</a> Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
<a href="#">Diomedea dabbenena</a> Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely

Name	Status	Type of Presence
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	to occur within area Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Halobaena caerulea</a> Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
<a href="#">Limosa lapponica baueri</a> Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Limosa lapponica menzbieri</a> Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Pachyptila turtur subantarctica</a> Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Phoebastria fusca</a> Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pterodroma mollis</a> Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
<a href="#">Thalassarche cauta cauta</a> Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche cauta steady</a> White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
<b>Mammals</b>		
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur



Name	Status	Type of Presence
<a href="#">Dasyurus geoffroii</a> Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Breeding known to occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
<a href="#">Neophoca cinerea</a> Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pseudocheirus occidentalis</a> Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Breeding known to occur within area
<a href="#">Setonix brachyurus</a> Quokka [229]	Vulnerable	Species or species habitat known to occur within area
<b>Plants</b>		
<a href="#">Andersonia gracilis</a> Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
<a href="#">Austrostipa bronwenae</a> [87808]	Endangered	Species or species habitat may occur within area
<a href="#">Austrostipa jacobiana</a> [87809]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Caladenia huegelii</a> King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area
<a href="#">Diuris micrantha</a> Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Diuris purdiei</a> Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
<a href="#">Drakaea elastica</a> Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
<a href="#">Drakaea micrantha</a> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Lambertia echinata subsp. occidentalis</a> Western Prickly Honeysuckle [64528]	Endangered	Species or species habitat may occur within area
<a href="#">Petrophile latericola</a> Laterite Petrophile [64532]	Endangered	Species or species habitat may occur within area
<a href="#">Synaphea sp. Fairbridge Farm (D. Papenfus 696)</a> Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Synaphea sp. Serpentine (G.R. Brand 103)</a> [86879]	Critically Endangered	Species or species habitat may occur within area
<b>Reptiles</b>		



Name	Status	Type of Presence
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<b>Sharks</b>		
<a href="#">Carcharias taurus (west coast population)</a> Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Rhincodon typus</a> Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
<b>Listed Migratory Species</b>		<a href="#">[ Resource Information ]</a>
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
<b>Migratory Marine Birds</b>		
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardenna carneipes</a> Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
<a href="#">Diomedea amsterdamensis</a> Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
<a href="#">Diomedea dabbenena</a> Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Hydroprogne caspia</a> Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
<a href="#">Onychoprion anaethetus</a> Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area
<a href="#">Phoebastria fusca</a> Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
<a href="#">Thalassarche cauta</a> Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<b>Migratory Marine Species</b>		
<a href="#">Balaena glacialis australis</a> Southern Right Whale [75529]	Endangered*	Breeding known to occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat may occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caperea marginata</a> Pygmy Right Whale [39]		Species or species habitat may occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
<a href="#">Lagenorhynchus obscurus</a> Dusky Dolphin [43]		Species or species habitat may occur within area
<a href="#">Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
<a href="#">Manta birostris</a> Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Congregation or

Name	Threatened	Type of Presence
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	aggregation known to occur within area Foraging, feeding or related behaviour known to occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Rhincodon typus</a> Whale Shark [66680]	Vulnerable	Species or species habitat may 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 likely 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 known to 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 known to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat 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 likely to occur within area
<a href="#">Anous tenuirostris melanops</a> Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<a href="#">Ardea alba</a> Great Egret, White Egret [59541]		Breeding known to occur within area
<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 known to 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="#">Catharacta skua</a> Great Skua [59472]		Species or species habitat may occur within area
<a href="#">Diomedea amsterdamensis</a> Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
<a href="#">Diomedea dabbenena</a> Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
<a href="#">Halobaena caerulea</a> Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area



Name	Threatened	Type of Presence
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	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 likely to occur within area
<a href="#">Pachyptila turtur</a> Fairy Prion [1066]		Species or species habitat likely to occur within area
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat known to occur within area
<a href="#">Phoebastria fusca</a> Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
<a href="#">Pterodroma mollis</a> Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
<a href="#">Puffinus assimilis</a> Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area
<a href="#">Puffinus carneipes</a> Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
<a href="#">Sterna anaethetus</a> Bridled Tern [814]		Foraging, feeding or related behaviour likely to occur within area
<a href="#">Sterna caspia</a> Caspian Tern [59467]		Foraging, feeding or related behaviour known to occur within area
<a href="#">Thalassarche carteri</a> Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
<a href="#">Thalassarche cauta</a> Tasmanian Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
<a href="#">Thinornis rubricollis</a> Hooded Plover [59510]		Species or species habitat may occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
<b>Fish</b>		
<a href="#">Acentronura australe</a> Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
<a href="#">Campichthys galei</a> Gale's Pipefish [66191]		Species or species habitat may occur within area
<a href="#">Heraldia nocturna</a> Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
<a href="#">Hippocampus angustus</a> Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
<a href="#">Hippocampus breviceps</a> Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
<a href="#">Hippocampus subelongatus</a> West Australian Seahorse [66722]		Species or species habitat may occur within area
<a href="#">Histiogamphelus cristatus</a> Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
<a href="#">Lissocampus caudalis</a> Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
<a href="#">Lissocampus fatiloquus</a> Prophet's Pipefish [66250]		Species or species habitat may occur within area
<a href="#">Lissocampus runa</a> Javelin Pipefish [66251]		Species or species habitat may occur within area
<a href="#">Maroubra perserrata</a> Sawtooth Pipefish [66252]		Species or species habitat may occur within area
<a href="#">Mitotichthys meraculus</a> Western Crested Pipefish [66259]		Species or species habitat may occur within area
<a href="#">Nannocampus subosseus</a> Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
<a href="#">Phycodurus eques</a> Leafy Seadragon [66267]		Species or species habitat may occur within area
<a href="#">Phyllopteryx taeniolatus</a> Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
<a href="#">Pugnaso curtirostris</a> Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
<a href="#">Solegnathus lettiensis</a> Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
<a href="#">Stigmatopora argus</a> Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
<a href="#">Stigmatopora nigra</a> Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
<a href="#">Urocampus carinirostris</a> Hairy Pipefish [66282]		Species or species habitat may occur within area
<a href="#">Vanacampus margaritifer</a> Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
<a href="#">Vanacampus phillipi</a> Port Phillip Pipefish [66284]		Species or species habitat may occur within area
<a href="#">Vanacampus poecilolaemus</a> Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
<b>Mammals</b>		
<a href="#">Arctocephalus forsteri</a> Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
<a href="#">Neophoca cinerea</a> Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Species or species habitat may occur within area
<b>Reptiles</b>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<b>Whales and other Cetaceans</b>		<a href="#">[ Resource Information ]</a>
<b>Name</b>	<b>Status</b>	<b>Type of Presence</b>
<b>Mammals</b>		
<a href="#">Balaenoptera acutorostrata</a> Minke Whale [33]		Species or species habitat may occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat may occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caperea marginata</a> Pygmy Right Whale [39]		Species or species habitat may occur within area

Name	Status	Type of Presence
<a href="#">Delphinus delphis</a> Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Breeding known to occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
<a href="#">Lagenorhynchus obscurus</a> Dusky Dolphin [43]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
<a href="#">Tursiops aduncus</a> Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area

## Extra Information

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

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

Name	Status	Type of Presence
<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
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species



Name	Status	Type of Presence
<b>Mammals</b>		
Canis lupus familiaris Domestic Dog [82654]		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
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus declinatus Bridal Veil, Bridal Veil Creeper, Pale Berry Asparagus Fern, Asparagus Fern, South African Creeper [66908]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area

Name	Status	Type of Presence
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323]		Species or species habitat likely to occur within area

## Caveat

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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.

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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.

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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

-33.39278 115.61028

## 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](#)
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- [Australian Government – Australian Antarctic Data Centre](#)
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- [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.

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Name	Threatened	Type of Presence
<b>Mammals</b>		
<a href="#">Stigmatopora argus</a> Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		habitat may occur within area  Species or species habitat may occur within area
<a href="#">Stigmatopora nigra</a> Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
<a href="#">Urocampus carinirostris</a> Hairy Pipefish [66282]		Species or species habitat may occur within area
<a href="#">Vanacampus margaritifer</a> Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
<a href="#">Vanacampus phillipi</a> Port Phillip Pipefish [66284]		Species or species habitat may occur within area
<a href="#">Vanacampus poecilolaemus</a> Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
<b>Mammals</b>		
<a href="#">Arctocephalus forsteri</a> Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
<a href="#">Neophoca cinerea</a> Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Species or species habitat may occur within area
<b>Reptiles</b>		
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Breeding likely to occur within area
<b>Whales and other Cetaceans</b>		
		<a href="#">[ Resource Information ]</a>
Name	Status	Type of Presence
<b>Mammals</b>		
<a href="#">Balaenoptera acutorostrata</a> Minke Whale [33]		Species or species habitat may occur within area
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat may occur within area
<a href="#">Balaenoptera musculus</a> Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
<a href="#">Caperea marginata</a> Pygmy Right Whale [39]		Species or species habitat may occur within area
<a href="#">Delphinus delphis</a> Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area

Name	Status	Type of Presence
<a href="#">Eubalaena australis</a> Southern Right Whale [40]	Endangered	Breeding known to occur within area
<a href="#">Grampus griseus</a> Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
<a href="#">Lagenorhynchus obscurus</a> Dusky Dolphin [43]		Species or species habitat may occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
<a href="#">Orcinus orca</a> Killer Whale, Orca [46]		Species or species habitat may occur within area
<a href="#">Stenella attenuata</a> Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
<a href="#">Tursiops aduncus</a> Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
<a href="#">Tursiops truncatus s. str.</a> Bottlenose Dolphin [68417]		Species or species habitat may occur within area

#### Extra Information

State and Territory Reserves	[ Resource Information ]
Name	State
Leeuwin-Naturaliste	WA
NTWA Bushland covenant (0085A)	WA
NTWA Bushland covenant (0085B)	WA
NTWA Bushland covenant (0102)	WA
Unnamed WA26065	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 ]

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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 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

Name	Status	Type of Presence 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
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Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
<b>Plants</b>		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species

Name	Status	Type of Presence
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		habitat may occur within area  Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area



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