

**CITY OF BUNBURY – PELICAN POINT**

SAN MARCO PROMENADE, PELICAN POINT

CLEARING PERMIT SUPPORTING DOCUMENTATION

MAY 2021

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# 1. Introduction

## 1.1 Project description

City of Bunbury (the City) is proposing to improve the natural vegetation along a section of reserve at San Marco Promenade, Pelican Point, Bunbury, Western Australia (R45799). There is limited native flora and fauna species present in the project area. Mainly consisting of *Jacksonia furcellata*, *Melaleuca raphiophylla* and *Casuarina obesa* (Harewood 2021). Many of the *Jacksonia furcellata* has died and the City proposes to remove the dead vegetation and replace it with *Casuarina obesa*. The planting will improve the amenity of the reserve and furthermore, increase the reserve's environmental value. The project area and clearing area are shown in Appendix A.

This project will include:

- Removal of dead *Jacksonia furcellata* (0.07 hectares of proposed clearing)
- Pruning of dead limbs from live *Jacksonia furcellata*
- Site preparation for planting (ground preparation- spraying of any weeds)
- Partial revegetation of project area with *Casuarina obesa* to maintain viewshafts (Appendix A)
- Mulching around bases of vegetation to reduce weed impact and water evaporation rate.

## 1.2 Purpose of this report

This report has been written to support a clearing permit under Part V of the *Environmental Protection Act 1986* (EP Act) to remove the vegetation required for the planting and revitalisation of San Marco Promenade, Pelican Point.

# 2. Clearing Permit Assessment

## 2.1 Measures to reduce clearing

The City has minimised the clearing area to only include *Jacksonia furcellata* that has reached the end of its lifespan. Any tree species other than *Jacksonia furcellata* will be retained.

## 2.2 Assessment against the Ten Clearing Principles

This project will require the clearing of 0.07 ha of native vegetation. The *Jacksonia furcellata* proposed to be cleared falls within the buffer zone of an Environmentally Sensitive Area (ESA) and is subject to a clearing permit.

A clearing permit under Part V of the EP Act requires an assessment against the Ten Clearing Principles. Projects that are 'At Variance', and have residual impact are required to provide an offset for project impacts.

The Pelican Point project is likely to be 'Not At Variance' to any of the Ten Clearing Principles. The assessment for this project is detailed in Table 1.



Table 1: Assessment against the Ten Clearing Principles

Principle No	Principle	Assessment	Outcome
a)	Native vegetation should not be cleared if it comprises a high level of biological diversity.	<p>The project area is an area that has been significantly altered for landscaping purposes. The City considers the area to be of low biological diversity. The proposed clearing is of already dead vegetation and is unlikely to pose a risk to the level of biological diversity.</p> <p>0.07 ha of native vegetation will be cleared under a clearing permit, comprising of only dead <i>Jacksonia furcellata</i>.</p> <p>Desktop searches of the <i>Environmental Protection and Biodiversity Conservation 1999 Act</i> (EPBC Act) Protected Matters Search Tool (PMST), Department of Biodiversity, Conservation and Attractions (DBCA) Threatened and Priority Flora List, NatureMap database, and WA Herbarium databases identified the presence/potential presence of 49 conservation significant taxa within 0.5km of the project area. The desktop searches recorded:</p> <ul style="list-style-type: none"> <li>• Four Critically Endangered Species (CR) (EPBC Act).</li> <li>• 13 Endangered species (EN) (EPBC Act)</li> <li>• 15 Vulnerable Species (VU) (EPBC Act)</li> <li>• Six registered Threatened Species (T) (BC Act)</li> <li>• One Priority 3 Flora species (BC Act)</li> <li>• Two Priority 4 Fauna species (BC Act)</li> <li>• 15 Migratory birds protected under an international agreement (IA) (BC Act)</li> <li>• One Other Specially Protected Fauna (S) (BC Act)</li> </ul> <p>No priority fauna were sighted during the fauna survey and the project area would not be considered as foraging or core habitat for the fauna indicated in the desktop study (Harewood 2021).</p>	The proposed action is likely 'Not At Variance' to this principle.

Of the six conservation significant flora species potentially found in the area, it is highly unlikely that these species are present within the project area. The project area is part of a highly modified, landscaped reserve. There is a high level of anthropogenic impact (turf management, mowing and footpath maintenance) throughout the reserve including areas within and surrounding the project area.

Name	Status	Type of Presence
<i>Andersonia gracilis</i>	Endangered	Species or species habitat may occur within area
<i>Diuris drummondii</i>	Vulnerable	Species or species habitat likely to occur within area
<i>Diuris micrantha</i>	Vulnerable	Species or species habitat likely to occur within area
<i>Diuris purdiei</i>	Endangered	Species or species habitat may occur within area
<i>Drakaea micrantha</i>	Vulnerable	Species or species habitat likely to occur within area

The PMST indicated the potential for the presence of up to 20 Weeds of National Significance (WoNS). The project area is included on the City program of works for weed management as it is known that there is a weed presence in this area.

No DBCA-managed lands are within or intersect the proposed clearing area.

b)	Native vegetation should not be cleared if it compromises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.	<p>The project area was assessed for fauna foraging, breeding and roosting habitat (Harewood 2021). No evidence of conservation significant fauna species were identified during the survey period. The habitat representation suggests that the area is unlikely to be habitat for any other fauna of concern (Harewood 2021).</p> <p>Western Ringtail Possum: Both a day and a night-time survey indicated that there was no Western Ringtail Possum activity present at the project area Overall, the vegetation present represents very poor-quality Western Ringtail Possum habitat given it's very sparse nature and with the expectation of a few paperbarks, a lack of quality refuge (Harewood 2021). It is unlikely for the project area to be considered Western Ringtail Possum habitat.</p> <p>Black Cockatoo: The fauna assessment identified <i>Casuarina obesa</i> (Swamp Sheoak) as the only potentially suitable foraging habitat for the Black Cockatoo (Harewood 2021). These trees are to be retained in the project area. The proposed clearing area contains no trees meeting the referral requirements for Black Cockatoos (Harewood 2021). It is also considered unlikely that roosting will occur within the project area. The fauna survey also indicated no evidence of black cockatoos roosting within the project area and it has been considered very unlikely that vegetation in or near the project area would ever be used for this purpose (Harewood 2021).</p>	The proposed action is likely 'Not At Variance' to this principle.
c)	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	<p>The PMST database indicated that three Vulnerable species under the EPBC Act are likely to occur with a 0.5km radius of the project area and two Endangered species may occur within a 0.5km radius of the area. However, with the highly modified nature of the project area it is considered unlikely that any of the EPBC Act listed flora would occur.</p> <p>NatureMap Database indicated one Priority 3 flora species under the BC Act (<i>Stylidium paludicola</i>) may be present within the 0.5km radius. However, the City considers <i>Stylidium paludicola</i> unlikely to be present within the project</p>	The proposed action is 'Not At Variance' to this principle.

		area as the nature of <i>Stylidium paludicola</i> indicates prominent growth in dense vegetation (Wege 2014).	
d)	Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a threatened ecological community.	The PMST identified the potential for two Threatened Ecological Communities (TECs) to exist within a 0.5km radius of the project area. These were Banksia Woodlands of the Swan Coastal Plain ecological community and Tuart ( <i>Eucalyptus gomphocephala</i> ) Woodlands and Forests of the Swan Coastal Plain ecological community. However, as there is no presence of either Banksia or Tuart species within the project area, there is no understorey and the vegetation is very sparse, the City considers that the presence of a TEC within the project area would be highly unlikely.	The proposed action is 'Not At Variance' to this principle.
e)	Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	The proposed area of native vegetation to be cleared is unlikely to meet the definition of remnant of native vegetation. A review of aerial imagery indicated the initial growth of the native vegetation first established in 2002, with sparse vegetation visible and the denser vegetation was not visible until 2010. This is in line with the residential development of Pelican Point.	The proposed action is 'Not At Variance' to this principle.
f)	Native vegetation should not be cleared if it is growing in or in association with a watercourse or wetland.	<p>The vegetation proposed to be cleared is adjacent to the Leschenault Estuary, mapped as a 'Multiple Use' wetland (DBCA 2018). This is characterised as wetlands with few remaining important attributes and functions.</p> <p>The geomorphic wetland mapping indicates that the 'Multiple Use' wetland incorporates the sparsely vegetated reserve, the canals, and the Leschenault Estuary. However, the project area is located above the high tide line and the vegetation is unlikely to grow in or in association with the estuary. The vegetation within the project area is approximately 20m from the water's edge.</p> <p>It is considered that a Bed and Banks Permit is not required for this project.</p>	The proposed action is 'Not At Variance' to this principle.

g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	<p>The project aims to improve the amenity of the reserve and increase the reserve’s environmental value. The proposed clearing of dead vegetation within the project area is unlikely to cause appreciable land degradation.</p> <p>Department of Primary Industries and Regional Development (DPIRD) Land Degradation Risk Mapping was accessed for the project area, which identified the following:</p> <table border="1" data-bbox="645 483 1568 1066"> <thead> <tr> <th data-bbox="645 483 840 555">Degradation Risk</th> <th data-bbox="840 483 1568 555">Degradation Risk</th> </tr> </thead> <tbody> <tr> <td data-bbox="645 555 840 735">Flooding</td> <td data-bbox="840 555 1568 735">The project area along Leschenault Estuary has a high flood risk. The project area is located to the east of the Leschenault Estuary and the close proximity to the water indicates that the high flood risk comes from the west. The entire project site is considered high risk.</td> </tr> <tr> <td data-bbox="645 735 840 810">Land Instability</td> <td data-bbox="840 735 1568 810">The project area is considered low risk of land instability.</td> </tr> <tr> <td data-bbox="645 810 840 847">Salinity</td> <td data-bbox="840 810 1568 847">The project area has a 0% moderate salinity hazard.</td> </tr> <tr> <td data-bbox="645 847 840 922">Water Erosion</td> <td data-bbox="840 847 1568 922">The project area has a low risk of water erosion.</td> </tr> <tr> <td data-bbox="645 922 840 959">Waterlogging</td> <td data-bbox="840 922 1568 959">The project area is considered a low risk of waterlogging.</td> </tr> <tr> <td data-bbox="645 959 840 1066">Wind Erosion</td> <td data-bbox="840 959 1568 1066">The project area has a medium risk of wind erosion. The coastal nature of the project area leaves large open areas that are exposed to storms.</td> </tr> </tbody> </table>	Degradation Risk	Degradation Risk	Flooding	The project area along Leschenault Estuary has a high flood risk. The project area is located to the east of the Leschenault Estuary and the close proximity to the water indicates that the high flood risk comes from the west. The entire project site is considered high risk.	Land Instability	The project area is considered low risk of land instability.	Salinity	The project area has a 0% moderate salinity hazard.	Water Erosion	The project area has a low risk of water erosion.	Waterlogging	The project area is considered a low risk of waterlogging.	Wind Erosion	The project area has a medium risk of wind erosion. The coastal nature of the project area leaves large open areas that are exposed to storms.	The proposed action is ‘Not At Variance’ to this principle.
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h)	Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental	<p>No DBCA-managed lands are within or intersect the project area. The closest DBCA-managed land is the Leschenault Peninsula Conservation Park, located 1.6km west of the project area.</p> <p>Although the project area falls within a buffered area of an ESA and is part of a Geomorphic Wetland – mapped as a ‘Multiple Use’ wetland, it is considered unlikely that the small scale of the proposed native vegetation clearing will</p>	The proposed action is ‘Not At Variance’ to this principle.														

	values of any adjacent or nearby conservation area.	have an impact on the environmental value of any adjacent or nearby conservation areas.	
i)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	<p>The proposed clearing is unlikely to cause deterioration in the quality of the surface water given the small-scale extent of the clearing and revegetation which is 20 m from the water's edge.</p> <p>Moderate to High Acid Sulphate Soils (ASS) are found within the project area. The close proximity to the Leschenault Estuary would indicate saline water conditions. The proposed clearing is unlikely to cause deterioration in underground water quality as there is no proposed interaction with the groundwater.</p>	The proposed action is 'Not At Variance' to this principle.
j)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the intensity of flooding.	The likelihood of flooding in this project area is high given its proximity to the Leschenault Estuary. The proposed clearing is unlikely to change the flood risk.	The proposed action is 'Not At Variance' to this principle.

### 3. References

Commonwealth of Australia (2008). Background Paper to the *EPBC Act* Policy Statement 3.10 – Nationally Threatened Species and Ecological Communities. “Significant Impact Guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia”.

Commonwealth of Australia (2009). *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* Policy Statement 3.10 “Significant Impact Guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia.

Commonwealth of Australia (2012). *EPBC Act* Referral guidelines for three threatened black cockatoo species: Carnaby’s cockatoo (endangered) *Calyptorhynchus latirostris*, Baudin’s cockatoo (vulnerable) *Calyptorhynchus baudinii*, Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*.

Commonwealth of Australia (2013). Matters of National Environmental Significance. Significant Impact Guidelines 1.1, *EPBC Act 1999*.

Department of Biodiversity, Conservation and Attractions (DBCA) (2018). Geomorphic Wetlands, Swan Coastal Plain. Western Australia.

Harewood, G. (2021) Fauna Survey – Pelican Point. Prepared for the City of Bunbury.

Wege, JA. (2014). An account of the reed triggerplants (*Stylidium* sect. *Junceae*: Stylidiaceae). Department of Parks and Wildlife.

## Appendices

Appendix A – Plan for Pelican Point Revegetation

Appendix B – Pelican Point Fauna Survey

Appendix C – Nature Map Report

Appendix D – PMST Report



## Appendix A





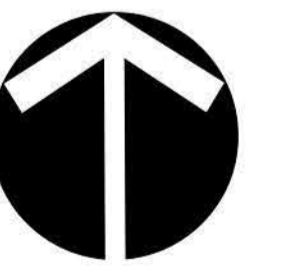
PROPOSED CASUARINA OBESA



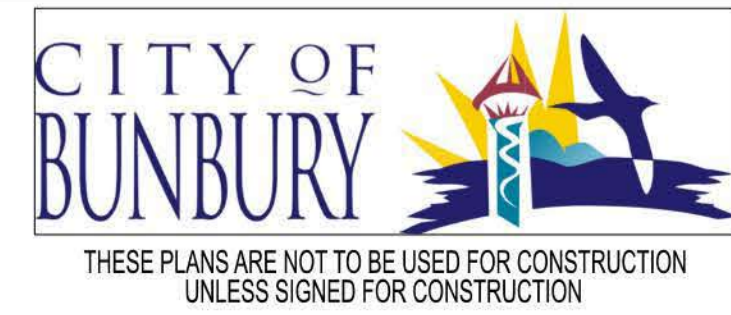
EXISTING CASUARINA OBESA



INDICATIVE AREA TO BE CLEARED



AMENDMENTS									
No.	DATE	DESCRIPTION	DRAWN	APPROVED SETO	DATE	Q.C. CHECKED	DATE	APPROVED CITY ENG.	DATE
A	18/05/21	ISSUED FOR CONCEPT							



DESIGN: CAROL MARTER DATE: 12/05/21  
 DRAWN: CAROL MARTER DATE: 12/05/21

ORIGIN OF RLs:  
 R.L. DATUM. AHD  
 FIELD BOOK/ SURVEY FILES: DESIGN FILES:

SCALES: 1:250  
 HORIZONTAL  
 VERTICAL  
 DRAWING FILENAME:

DRAWING NO.  
 SHEET: 1 OF 1

CITY OF BUNBURY  
 PELICAN POINT  
 PROPOSED TREE  
 PLANTING PLAN

A1  
 REV. A



## Appendix B

Greg Harewood  
Zoologist  
PO Box 755  
BUNBURY WA 6231  
18 May 2021

City of Bunbury  
PO Box 21  
BUNBURY WA 6231

Attention: Alex Gorman

Dear Alex

RE: Fauna Survey – Pelican Point.

## 1. BACKGROUND

The City of Bunbury (the City) are proposing to remove some dead vegetation from the foreshore reserved in Pelican Point (the project area). The City have identified six areas located within the project area from which the dead vegetation will be removed. The overall project area and the locations of proposed clearing are shown on the attached plan.

The City will be applying for a clearing permit from the state Department of Water and Environmental Regulation (DWER) and are also in the process of determining if any Matters of National Environmental Significance (MNES) as defined under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* will be compromised by the action proceeding.

The City has requested information be gathered on the significance of the fauna habitat present so that informed decisions on the proposed clearing can be made. This letter report summarises the findings of this assessment.

## 2. SCOPE

The scope of work was defined by the City of Bunbury as:

1. Carry out a “fauna survey” of the proposed clearing area with a focus upon but not limited to black cockatoo and western ringtail possum habitat.

This has involved:

A day time survey to record any evidence of black cockatoo and western ringtail possum habitat onsite (e.g. observed individuals, evidence of their presence onsite such as dreys, scats, chewed fruits, nest hollow bite marks etc.) and their habitat (e.g. breeding, roosting/denning, foraging habitat), consistent with available literature in addition to

noting the presence of other species of conservations significance and/or their habitat; and

One nocturnal survey to determine the distribution and abundance of western ringtail possums within the project area.

2. Preparation of a concise report documenting methods, results and anticipated state and federal legislative requirements.

### **3. METHODS**

Vegetation within and adjacent to the project area was examined by the Author on 12 May 2021. A nocturnal survey aimed at detecting WRP activity was also undertaken on the 14 May 2021.

#### **3.1 FAUNA HABITATS**

Descriptions of broad scale fauna habitats present within the project area are provided. These are based on the vegetation communities, soils and landforms observed during the site survey.

#### **3.2 BLACK COCKATOO HABITAT ASSESSMENT**

The following methods were employed to comply with the defined scope of works and are based on guidelines published by the federal Department of Agriculture, Water and the Environment (DAWE) (Commonwealth of Australia 2012) which states that surveys for Carnaby's, Baudin's and forest red-tailed black cockatoo habitat should:

- be done by a suitably qualified person with experience in vegetation or cockatoo surveys, depending on the type of survey being undertaken;
- maximise the chance of detecting the species' habitat and/or signs of use;
- determine the context of the site within the broader landscape—for example, the amount and quality of habitat nearby and in the local region (for example, within 10 km);
- account for uncertainty and error (false presence and absences); and
- include collation of existing data on known locations of breeding and feeding birds and night roost locations.

Habitat used by black cockatoos has been placed into three categories by the DAWE (Commonwealth of Australia 2012) these being:

- Breeding Habitat;
- Foraging Habitat; and

- Night Roosting Habitat.

So as to comply with the request scope of works and in line with the published guidelines the following will be carried out.

### **3.2.1 Breeding Habitat Assessment**

The black cockatoo breeding habitat assessment has involved the identification of all suitable breeding trees species within the proposed clearing areas that have a Diameter at Breast Height (DBH) of over 50cm. The DBH of each tree was estimated using a pre-made 50 cm “caliper”.

The location of each tree identified as being over the threshold DBH was recorded with a GPS and details on tree species, number and size of hollows (if any) noted. Trees observed to contain hollows (of any size/type) were marked with “H” using spray paint.

Target tree species included tuart, marri and jarrah or any other *Corymbia/Eucalyptus* species of a suitable size that may have been present. Peppermints, banksia, sheoak and melaleuca tree species (for example) were not assessed as they typically do not develop hollows that are used by black cockatoos.

For the purposes of this study a tree containing a potential cockatoo nest hollow has been defined as:

*Generally, any tree which is alive or dead that contains one or more visible/possible hollows (cavities within the trunk or branches) potentially suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows/possible hollows that had an entrance greater than about 10cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk, will be recorded as a “potential nest hollow”.*

Identified hollows (if any) were examined using binoculars for evidence of actual use by black cockatoos (e.g. chewing around hollow entrance, scarring and scratch marks on trunks and branches). Trees with possible nest hollows (if any) were also scratched and raked with a large stick/pole in attempt to flush any sitting birds from hollows and calls of chicks were listened for (though it should be noted that the survey may be conducted outside of the main breeding season of all three species of black cockatoo).

### **3.2.2 Foraging Habitat Assessment**

The location and nature of black cockatoo foraging evidence (e.g., chewed fruits around base of trees) observed during the field survey was recorded. The nature and extent of potential foraging habitat present was also documented irrespective of the presence of any actual foraging evidence.

### **3.2.3 Night Roosting Habitat Assessment**

Direct and indirect evidence of black cockatoos roosting within trees on site was noted if observed (e.g. branch clippings, droppings or moulted feathers).

### **3.3 WESTERN RINGTAIL POSSUM HABITAT ASSESSMENT**

#### **3.3.1 Daytime Survey**

A single day time surveys to locate and record dreys, obvious tree hollows, scats and individual WRPs was carried out and involved the examination of potential habitat within and near the project area.

#### **3.3.2 Night Time Survey**

A single nocturnal survey was carried out to provide an estimate of the distribution and abundance of WRPs in areas of potential habitat identified during the day time survey. Survey work was carried out on foot using an LED head torch.

#### **3.3.3 Habitat Assessment**

Description and comments on the amount and quality of WRP habitat within the project area is provided based on observations made during the site surveys.

### **3.4 OTHER FAUNA SPECIES OF CONSERVATION SIGNIFICANCE**

Any evidence of use of each site by other fauna species of conservation significance will be recorded during the course of all day and night time survey work.

## **4. RESULTS**




### **4.1 Fauna Habitats**

Vegetation within the project area is comprised of a combination of remnant native vegetation and some planted non-endemic trees. The native vegetation present includes swamp paperbark (*Melaleuca raphiophylla*), swamp sheoak (*Casuarina obesa*), and grey stinkwood (*Jacksonia furcellata*). The planted vegetation is mainly represented by unknown non-endemic eucalypts. The vegetation present within the project area is very sparse and separated by areas of grass or bare sand.


The areas of vegetation proposed to be removed are generally comprised of dead specimens of grey stinkwood (*Jacksonia furcellata*).

Example images of vegetation present within the proposed clearing areas are shown in Table 1.

**Table 1: Example Images of Vegetation within the Project Area**

Vegetation Description	Example Images
<p>Remnant native vegetation (swamp paperbark) – to be retained.</p>	
<p>Remnant native vegetation (swamp sheoak and grey stinkwood) – to be retained.</p>	
<p>Planted vegetation non-endemic eucalypts - to be retained.</p>	



Vegetation Description	Example Images
<p>Remnant native vegetation (dead grey stinkwood) – to be removed.</p>	

## 4.2 BLACK COCKATOO HABITAT ASSESSMENT

### 4.2.1 Breeding Habitat Assessment

The proposed clearing areas contains no black cockatoo “habitat trees” (i.e. suitable tree species with a DBH of  $\geq 50$ cm).

### 4.2.2 Foraging Habitat Assessment

The project area contains only a few specimens of what may represent suitable foraging habitat for black cockatoos (swamp sheoak). These trees are to be retained. No evidence of foraging by black cockatoos was observed.

### 4.2.3 Night Roosting Habitat Assessment

No evidence of cockatoos roosting within the survey area was observed and it is considered unlikely that vegetation in or near the site would ever be used for this purpose.

## 4.3 WESTERN RINGTAIL POSSUM HABITAT ASSESSMENT

### 4.3.1 Daytime Survey

No evidence of western ringtail possums was observed within the project area during the day survey.

### 4.3.2 Night Time Survey

No western ringtail possums were observed within the project area during the night survey.

### 4.3.3 Habitat Assessment

Overall, the vegetation present represents very poor quality WRP habitat given its very sparse nature and with the exception of a few paperbacks, a lack of quality refuge habitat.

It is considered very unlikely that WRP's would ever frequent the project area except for short periods on very rare occasions (i.e. transient individuals). The proposed clearing will have no impact on the species.

#### **4.4 OTHER FAUNA SPECIES OF CONSERVATION SIGNIFICANCE**

No evidence of any other fauna species of conservation significance was observed during the survey period. The nature of the habitats present and their limited extent would suggest that the area is unlikely to represent habitat for any other that fauna species of concern.

### **5. ENVIRONMENTAL APPROVALS AND REFERRALS**

#### **5.1 ENVIRONMENT PROTECTION ACT 1986**

The purpose of the Environmental Protection Act (1986) (*EP Act*) is “...to provide for an Environmental Protection Authority, for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection enhancement and management of the environment and for matters incidental to or connected with the foregoing”.

The powers of the *Environmental Protection Act 1986* are administered by the Department of Biodiversity, Conservation and Attractions (DBCA), which in relevant cases advises to the DWER and other government departments.

Legislation proclaimed on 8 July 2004 protects all native vegetation in Western Australia. Under the law, clearing native vegetation for mining is prohibited, unless a clearing permit is granted by DWER, or the clearing is for an exempt purpose. These exemptions ensure that low impact day to day activities involving clearing can be undertaken. People that wish to clear are required to submit an application if an exemption does not apply.

It is understood that the City will be applying for a clearing permit to ensure compliance with the *EP Act*. It is considered highly unlike that the proposed clearing will compromise any of the 10 clearing principles used to assess the impact of any proposals.

#### **5.2 ENVIRONMENT PROTECTION & BIODIVERSITY CONSERVATION ACT 1999**

If an action (i.e., the proposed clearing within the project area) is deemed to have a potential “significant impact” on listed species a referral to the Department of Agriculture, Water and the Environment (DAWE) is required to ensure compliance with the *EPBC Act*. Currently, “significant impact” is defined within one document, this being:

- Commonwealth of Australia (2013). Matters of National Environmental Significance. Significant Impact Guidelines 1.1, *EPBC Act 1999*.

DAWE have also released referral guidelines for black cockatoos and western ringtail possums which detail what scale of actions potentially constitute “significant impact” and therefore require referral, these being:

- Commonwealth of Australia (2012). *EPBC Act Referral guidelines for three threatened black cockatoo species: Carnaby's cockatoo (endangered) *Calyptorhynchus latirostris*, Baudin's cockatoo (vulnerable) *Calyptorhynchus baudinii*, Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*.*
- Commonwealth of Australia (2008). Background Paper to the *EPBC Act Policy Statement 3.10 – Nationally Threatened Species and Ecological Communities*. “Significant Impact Guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia”; and
- Commonwealth of Australia (2009). *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Policy Statement 3.10 “Significant Impact Guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia*.

An assessment of the need to refer the project to DAWE using criteria within the relevant referral guidelines are provided below.

### 5.2.1 Black Cockatoos

The following points provide general guidance on what, in DAWE's view, may constitute a high or low risk of “significant impact” on black cockatoos as well as providing some guidance on uncertainty.

#### Actions that have a high risk of significant impacts

- Clearing of any known nesting tree.
- Clearing or degradation of any part of a vegetation community known to contain breeding habitat.
- Clearing of more than 1 ha of quality foraging habitat.
- Clearing or degradation (including pruning the top canopy) of a known night roosting site.
- Creating a gap of greater than 4 km between patches of black cockatoo habitat (breeding, foraging or roosting).

#### Actions that have and uncertain risk of significant impacts

- Degradation (such as through altered hydrology or fire regimes) of more than 1 ha of foraging habitat. Significance will depend on the level and extent of degradation and the quality of the habitat.
- Clearing or disturbance in areas surrounding black cockatoo habitat that has the potential to degrade habitat through introduction of invasive species, edge effects, hydrological changes, increased human visitation or fire.

- Actions that do not directly affect the listed species but that have the potential for indirect impacts such as increasing competitors for nest hollows.
- Actions with the potential to introduce known plant diseases such as *Phytophthora* spp. to an area where the pathogen was not previously known.

Actions that have a low risk of significant impacts

- Actions that do not affect black cockatoo habitat or individuals.
- Actions whose impacts occur outside the modelled distribution of the three black cockatoos

The project area contains no black cockatoo “habitat trees”, no existing foraging habitat and doesn’t not represent roosting habitat. Clearing of the vegetation in question will therefore have no “significant impact” on the status of any species of black cockatoo frequenting the area.

### 5.2.2 Western Ringtail Possums

The DAWE document titled “Significant Impact Guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia” (Commonwealth of Australia 2009) summarises what scale of actions would be considered likely to have a significant impact on WRPs in the Bunbury area.

Within the policy statement an action is deemed likely to have a significant impact on the WRP in the southern Swan Coastal Plain Region if it:

- reduces the ability of the region to support the persistence of the western ringtail possum; or
- modifies, destroys, removes or isolates important remnant habitat patches, or decreases the availability or quality of remnant habitat patches; or
- adversely affects connections between important areas; or
- interferes substantially with the ability of the area to effectively contribute to the recovery of the species.

The guidelines have also categorised certain areas between Bunbury and Dunsborough as “Core Habitat”, “Primary Corridors” or “Supporting Habitat”. The project area is situated near the zone defined as “Supporting Habitat” (also referred to as Area 3). As defined in the guidelines a significant impact on WRPs is deemed as “likely” if there is a real chance or possibility that an action within in the defined Area 3 will result in:

- any clearing of a remnant habitat patch that is greater than 0.5 hectares in size;
- the clearing of more than 50% of a remnant habitat patch that is between 0.2 and 0.5 hectares in size;

- the fragmentation of any existing habitat linkages.

The vegetation proposed to be cleared does not represent a “remnant habitat patch” and therefore its removal does not compromise any of the above-mentioned criteria.

Based on available information, it is therefore the Authors opinion, that the DAWE would not consider the proposal to be a “controlled action” with respect to impact on the western ringtail possum or its habitat as the likelihood of “significant impact” as defined within the DAWE guidelines can be regarded as being non-existent.

### 5.2.3 Other Species of Conservation Significance

No other fauna species of conservations significance are considered likely to utilise the project area and therefore no significant impact is considered likely.

## 6. CONCLUSION AND RECOMMENDATIONS

Based on the results of this assessment it is the Authors opinion that the proposed clearing will be unlikely to compromise any of the 10 clearing principles used by DWER when assessing clearing permit applications. It is therefore considered likely that DWER will approve a clearing permit for the proposed clearing without issue.

No significant impact on threatened fauna species listed under the *EPBC Act* is considered likely to occur as a consequence of clearing of vegetation from within the project area. This would suggest that, if the proponent were to refer the proposed development to the DAWE for review, clearing of the vegetation in question would be assessed as “not a controlled action” and therefore would not require further assessment or approval under the *EPBC Act* before it could proceed. Given that the proposal is very unlikely to have any significant impact on any *EPBC Act* listed threatened species a referral to the DAWE is therefore considered unnecessary

If you have any questions or queries relating the information provided here, please contact the undersigned on 0402 141 197 / gharewood@inet.net.au



Greg Harewood  
Zoologist

### References Cited:

Commonwealth of Australia (2008). Background Paper to the *EPBC Act* Policy Statement 3.10 – Nationally Threatened Species and Ecological Communities. “Significant Impact Guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia”.

Commonwealth of Australia (2009). *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* Policy Statement 3.10 “Significant Impact Guidelines for the vulnerable western ringtail possum (*Pseudocheirus occidentalis*) in the southern Swan Coastal Plain, Western Australia.



Commonwealth of Australia (2012). *EPBC Act* Referral guidelines for three threatened black cockatoo species: Carnaby’s cockatoo (endangered) *Calyptorhynchus latirostris*, Baudin’s cockatoo (vulnerable) *Calyptorhynchus baudinii*, Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*.

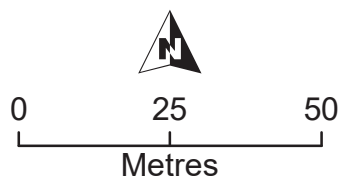
Commonwealth of Australia (2013). Matters of National Environmental Significance. Significant Impact Guidelines 1.1, *EPBC Act 1999*.





**Legend**

-  Pelican Point Survey Area
-  Approximate locations from which dead vegetation will be removed



Fauna Survey

Drawn: G Harewood

Date: May 2021

Scale: 1:1,250

Projection/Coordinate System: UTM/MGA Zone 50

Pelican Point

**Aerial Photograph**

## Appendix C



# NatureMap Species Report

Created By Guest user on 25/05/2021

**Current Names Only** Yes  
**Core Datasets Only** Yes  
**Method** 'By Circle'  
**Centre** 115° 41' 28" E, 33° 18' 29" S  
**Buffer** 1km

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
1.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
2.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
3.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
4.	24312 <i>Anas gracilis</i> (Grey Teal)			
5.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
6.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
7.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
8.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
9.	41324 <i>Ardea modesta</i> (great egret, white egret)			
10.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
11.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
12.	25736 <i>Arenaria interpres</i> (Ruddy Turnstone)		IA	
13.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
14.	24318 <i>Aythya australis</i> (Hardhead)			
15.	<i>Barnardius zonarius</i>			
16.	24319 <i>Biziura lobata</i> (Musk Duck)			
17.	4417 <i>Boronia dichotoma</i>			
18.	12770 <i>Burchardia congesta</i>			
19.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
20.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
21.	25738 <i>Calidris canutus</i> (Red Knot, knot)		IA	
22.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
23.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
24.	24790 <i>Calidris tenuirostris</i> (Great Knot)		T	
25.	25575 <i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	
26.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
27.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
28.	<i>Chroicocephalus novaehollandiae</i>			
29.	24288 <i>Circus approximans</i> (Swamp Harrier)			
30.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
31.	4564 <i>Comesperma virgatum</i> (Milkwort)			
32.	11826 <i>Conostylis aculeata</i> subsp. <i>aculeata</i>			
33.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
34.	25592 <i>Corvus coronoides</i> (Australian Raven)			
35.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
36.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
37.	24322 <i>Cygnus atratus</i> (Black Swan)			
38.	24092 <i>Dasyurus geoffroii</i> (Chuditch, Western Quoll)		T	
39.	<i>Egretta garzetta</i>			
40.	<i>Egretta novaehollandiae</i>			
41.	<i>Elanus axillaris</i>			
42.	<i>Eolophus roseicapillus</i>			
43.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
44.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
45.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
46.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
47.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
48.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
49.	3948 <i>Gompholobium capitatum</i>			
50.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
51.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
52.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
53.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
54.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
55.	5172 <i>Hibbertia stellaris</i> (Orange Stars)			
56.	48381 <i>Hibbertia striata</i>			
57.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
58.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
59.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
60.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
61.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
62.	4037 <i>Kennedia coccinea</i> (Coral Vine)			
63.	4044 <i>Kennedia prostrata</i> (Scarlet Runner)			
64.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
65.	25638 <i>Larus pacificus</i> (Pacific Gull)			
66.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
67.	30932 <i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
68.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
69.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
70.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
71.	5980 <i>Melaleuca thymoides</i>			
72.	<i>Microcarbo melanoleucos</i>			
73.	19179 <i>Moraea flaccida</i> (One-leaf Cape Tulip)	Y		
74.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
75.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
76.	25742 <i>Numenius phaeopus</i> (Whimbrel)		IA	
77.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
78.	46316 <i>Orianthera serpyllifolia</i> subsp. <i>angustifolia</i>			
79.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
80.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
81.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
82.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
83.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
84.	16478 <i>Pericalymma ellipticum</i> var. <i>floridum</i>			
85.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
86.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
87.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
88.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
89.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
90.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
91.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
92.	1478 <i>Phlebocarya ciliata</i>			
93.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
94.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
95.	24382 <i>Pluvialis fulva</i> (Pacific Golden Plover)		IA	
96.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
97.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
98.	24681 <i>Poliiocephalus poliocephalus</i> (Hoary-headed Grebe)			
99.	24767 <i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			
100.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
101.	<i>Purpureicephalus spurius</i>			
102.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
103.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
104.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
105.	13300 <i>Rhodanthe citrina</i>			
106.	48594 <i>Sternula nereis</i> (Fairy Tern)			
107.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
108.	25800 <i>Stylidium paludicola</i>		P3	
109.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
110.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
111.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
112.	11053 <i>Thelymitra macrophylla</i>			
113.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
114.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
115.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
116.	30954 <i>Tursiops aduncus</i> (Indo-Pacific Bottlenose Dolphin)			
117.	41351 <i>Xenus cinereus</i> (Terek Sandpiper)		IA	
118.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereeye)			

**Conservation Codes**  
T - Rare or likely to become extinct

Name	ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
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 D



# 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: 20/05/21 12:17:12

## [Summary](#)

## [Details](#)

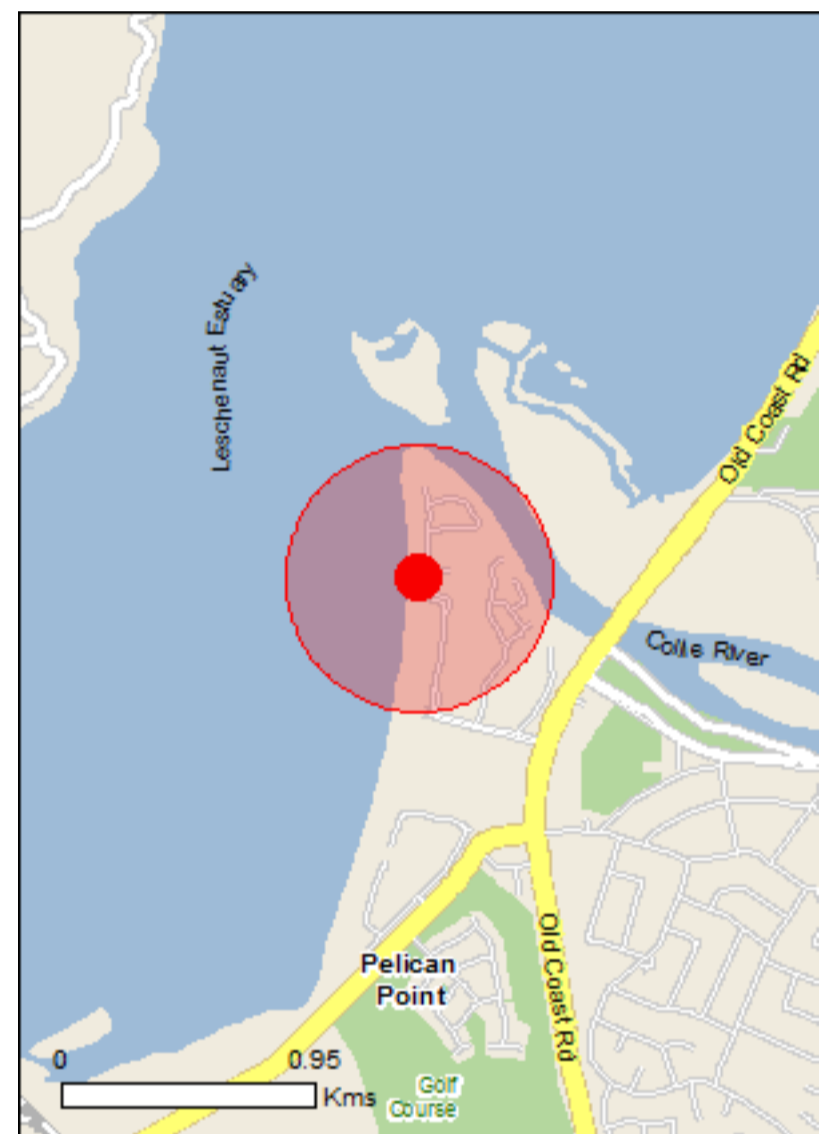
[Matters of NES](#)

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

[Extra Information](#)

## [Caveat](#)

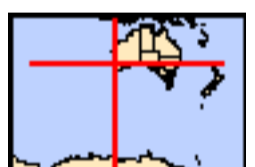
## [Acknowledgements](#)



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

Buffer: 0.5Km



# 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>	2
<a href="#">Listed Threatened Species:</a>	39
<a href="#">Listed Migratory Species:</a>	35

## 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>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	35
<a href="#">Whales and Other Cetaceans:</a>	4
<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>	28
<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 may occur within area
<a href="#">Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community</a>	Critically Endangered	Community likely to occur within area

### Listed Threatened Species

[\[ Resource Information \]](#)

Name	Status	Type of Presence
<b>Birds</b>		
<a href="#">Botaurus poiciloptilus</a> Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calyptorhynchus banksii naso</a> Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat likely 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	Breeding 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	Species or species habitat likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Species or species



Name	Status	Type of Presence
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	habitat likely to occur within area Species or species habitat may occur within area
<a href="#">Limosa lapponica menzbieri</a> Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">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 known to occur within area
<a href="#">Pachyptila turtur subantarctica</a> Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Thalassarche cauta</a> Shy Albatross [89224]	Endangered	Species or species habitat 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	Species or species habitat likely to 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>Mammals</b>		
<a href="#">Dasyurus geoffroii</a> Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Neophoca cinerea</a> Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may 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
<b>Plants</b>		



Name	Status	Type of Presence
<a href="#">Andersonia gracilis</a> Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
<a href="#">Diuris drummondii</a> Tall Donkey Orchid [4365]	Vulnerable	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 micrantha</a> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area

## Reptiles

<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	Foraging, feeding or related behaviour likely to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

## Sharks

<a href="#">Carcharias taurus (west coast population)</a> Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Carcharodon carcharias</a> White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat likely to 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>		
<a href="#">Anous stolidus</a> Common Noddy [825]		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="#">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

Name	Threatened	Type of Presence
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Species or species habitat likely 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
<a href="#">Thalassarche cauta</a> Shy Albatross [89224]	Endangered	Species or species habitat 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	Species or species habitat likely to occur within area
<b>Migratory Marine Species</b>		
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat may 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 likely 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	Foraging, feeding or related behaviour 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

Name	Threatened	Type of Presence
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
<b>Migratory Terrestrial Species</b>		
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat 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 known 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

Listed Marine Species		[ <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>Birds</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area
<a href="#">Anous stolidus</a> Common Noddy [825]		Species or species habitat may occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur

Name	Threatened	Type of Presence 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 known to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat 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	Species or species habitat likely to occur within area
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Species or species habitat likely to occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
<a href="#">Limosa lapponica</a> Bar-tailed Godwit [844]		Species or species habitat known to occur within area
<a href="#">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 known to occur within area
<a href="#">Pachyptila turtur</a> Fairy Prion [1066]		Species or species habitat likely to occur within area



Name	Threatened	Type of Presence
<a href="#">Pandion haliaetus</a> Osprey [952]		Species or species habitat known to occur within area
<a href="#">Puffinus carneipes</a> Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Species or species habitat likely to occur within area
<a href="#">Rostratula benghalensis (sensu lato)</a> Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
<a href="#">Thalassarche cauta</a> Shy Albatross [89224]	Endangered	Species or species habitat 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	Species or species habitat likely to occur within area
<a href="#">Thinornis rubricollis</a> Hooded Plover [59510]		Species or species habitat likely to occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
<b>Mammals</b>		
<a href="#">Neophoca cinerea</a> Australian Sea-lion, Australian Sea Lion [22]	Endangered	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	Foraging, feeding or related behaviour 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>		
		<b>[ Resource Information ]</b>
Name	Status	Type of Presence
<b>Mammals</b>		
<a href="#">Balaenoptera edeni</a> Bryde's Whale [35]		Species or species habitat may occur within area
<a href="#">Caperea marginata</a> Pygmy Right Whale [39]		Species or species habitat may occur within area
<a href="#">Lagenorhynchus obscurus</a> Dusky Dolphin [43]		Species or species habitat may occur within

Name	Status	Type of Presence area
<a href="#">Megaptera novaeangliae</a> Humpback Whale [38]	Vulnerable	Species or species habitat known to 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 habitat likely to occur within area
<b>Mammals</b>		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
<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
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle,		Species or species habitat likely to occur within area



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

# Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

# Coordinates

-33.3079 115.69121

# 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](#)
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- [-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](#)

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

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