# Norris and Schoeffel Ecological Services



**Ecological Features and Constraints** 

Lang Lang Sand Resources 5575 South Gippsland Hwy, Lang Lang

29 August 2022

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# **Summary**

- ➤ The proposed Sand Quarry, Lang Lang Sand Resources, plans to use an existing dairy farm that is likely to have been cleared of original 'Native Vegetation' in the late 19<sup>th</sup> and early 20<sup>th</sup> century
- ➤ The proposed quarry does not contravene or invoke EPBC Act actions
- ➤ One Rare or Threatened species of Flora or Fauna was observed on the site—Musk Duck, regarded as 'near threatened' on the Victorian advisory list
- ➤ Definable Native Vegetation on site consists of one large tree on the eastern boundary that will be avoided in excavation plans
- Large trees along the north and south boundaries have 'Tree Protection Zones' within the Work Authority but all works, including bunds and drains, are situated to avoid them (Appendix 1).
- ➤ Large trees around the farm dwelling and dairy were originally planted for amenity value by the owner's family.



### 1 Introduction

# 1.1 Project Background

Aurora Construction Materials Pty Ltd (ACM Pty Ltd) contracted Norris and Schoeffel to complete a Flora and Fauna review and Native Vegetation assessment of a proposed extraction area within a Work Authority named Lang Lang Sand Resources.

The assessment is to fulfil requirements:

- To explore the possibility that the proposed works might be a referrable action under the Environment Protection and Biodiversity Conservation Act (EPBC).
- To explore and make allowance for any potential liability and resultant Offsets that would apply to the proposed works, consistent with *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017).

### 1.2 Site location

The study site is located about 6 kilometres SSE of Lang Lang, Victoria. The proposed works on the site comprise about 80 ha of 5575 South Gippsland Hwy, Lang Lang. The site is within the Cardinia Local Government area and is situated in the Gippsland Plains Bioregion.

Details:

#### 5575 South Gippsland Hwy, Lang Lang

GWZ1 Green Wedge Zone – Schedule 1

Crown Allotments: 1 LP91815, 1 TP23467, 2 PS312674 and 1 PS312674.

Appendix 1 contains a plan of the site.



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# 1.3 Objectives

The purpose of this assessment is to:

- Interrogate and analyse a range of biological databases and relevant references to provide a list of flora and fauna or their habitat that is or are potentially present on the sites and vicinity including adjoining roadsides;
- Carry out an assessment of the native vegetation quality of the site (Habitat Hectare) if necessary and record and map the location of any significant species;
- Classify and map the native vegetation on the site in accordance with DELWP 2017 i.e. Scattered Tree or Patches of Native Vegetation;
- Prepare an overview of the potential Native Vegetation offsets required for the development of the entire site; and
- Prepare a report and map the findings of this assessment including any recommendations for additional targeted surveys and an assessment of the impact of the proposed development on biodiversity.



### 2 Methods

### 2.1 Literature and Database Review

Databases and reports were interrogated and reviewed, these include:

- Flora and Fauna records within 5 km radius of the study area held in the Victorian Biodiversity Atlas — a state-wide database maintained by the Department of Environment, Land, Water and Planning (DELWP) (DELWP 2018):
- Federal Department of Environment Protected Matters Database (DoE) (DoE 2019), using a 5 km radius search area (Appendix 2):
- Ecological Vegetation Class (EVC) modelling of the study area (both extant and pre-1750) (DELWP 2018)

# 2.2 Field Survey

The study area was assessed on 30 July 2020 and 6 July 2022.

The field survey provides an assessment of the flora and fauna as observed at the time, including the distribution of extant Native Vegetation on the site.





### 3 Results

### 3.1 Historic Land Use

The property was probably cleared of the original vegetation described as Lowland Forest and Swampy Riparian Woodland in the last half of the 19<sup>th</sup> century. Grazing by domestic stock probably continued from that time until the present, at different intensities, but probably no more intensely than its current use as a dedicated dairy farm.



Illustration 1: Proposed extraction area

Roadside vegetation along the South Gippsland Highway attest to the likely swamp character of the original vegetation.



Illustration 2: Roadside vegetation



### 3.2 Flora

#### 3.2.1 Database assessment

The modelled (DELWP 2018) 1750 pre-European Ecological Vegetation Class (EVC) of the proposed extraction site is a combination of EVC 16 Lowland Forest and EVC 83 Swampy Riparian Woodland. Relict vegetation along the South Gippsland Highway is consistent with that presumption.



*Illustration 3: Predicted original distribution of Native Vegetation onsite.* 

### 3.2.2 Site Assessment

Because of the nature of land-use and change in fundamental soil characteristics, few species of native flora occur on the site and other than a single Swamp Gum *Eucalyptus ovata*, near the eastern boundary, none that are naturally occurring and >10 years of age. The Australian native species,

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including the local *Melaleuca ericifolia*, in an area along a fence-line in about the centre of the property were planted by the present owner's family. A single shrub of *Acacia verticillata* is present on a drain in the central north of the property. Neither of these occurrences are actionable under the terms of the Native Vegetation retention regulations. The proposed pit design will avoid the single Swamp Gum in the east by establishing a marked exclusion zone of 20m radius. Proposed works, including bunds, are situated outside the 'Tree Protection Zones' of trees outside the property boundary, but whose dependence and hence vulnerability extends within the property (Appendix 1). Large trees around the farm dwelling and dairy were originally planted for amenity value by the owner's family.

### 3.2.3 Flora Significance

Table 3-1 lists those Significant species of plants or their habitat recorded on the EPBC database or Victorian Biodiversity Atlas (DELWP 2017) within about 5km of the sites and identified by any, some or all of the EPBC Act, the FFG Act or the advisory list of threatened species in Victoria.

Table 3-1 Significant plant species recorded within 5km of the subject sites

Scientific Name	Common Name	<b>Conservation Status</b>	<b>Count of Sightings</b>	Last Record
Acacia leprosa var. uninervia	Large-leaf Cinnamon- wattle	r	1	12/05/05
Allocasuarina media	Prom Sheoak	k	1	22/03/01
Amphibromus fluitans	River Swamp Wallaby- grass	VU X	0	none
Austrostipa rudis subsp. australis	Veined Spear-grass	r	1	01/09/07
Banksia spinulosa var. cunninghamii	Hairpin Banksia	X	26	09/11/17
Billardiera scandens s.s.	Velvet Apple-berry	r	1	01/12/76
Caladenia aurantiaca	Orange-tip Finger-orchid	r	2	06/10/95
Caladenia orientalis	Eastern Spider Orchid	EN en L	0	none
Caladenia tessellata	Thick-lipped Spider- orchid	VU vu	0	none
Campylopus acuminatus var. <i>kirkii</i>	Swamp Swan-neck Moss	k	1	18/01/05
Chiloglottis jeanesii	Mountain Bird-orchid	r	1	09/11/17
Chorizandra australis	Southern Bristle-sedge	k	1	03/07/03
Corybas aconitiflorus	Spurred Helmet-orchid	r	5	20/09/07
Desmodium varians	Slender Tick-trefoil	k	1	08/05/01
Dianella amoena	Matted Flax-lily	EN en L	0	none
Entolasia stricta	Upright Panic	k	5	17/04/07
Eucalyptus strzeleckii	Strzelecki Gum	VU vu L	1	22/03/01
Glycine latrobeana	Clover Glycine	VU vu L	0	none
Hypocreopsis amplectens	Clasping Hypocreopsis	vu L	9	04/07/04

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<b>Ecological Features and</b>	Constraints of 5575	South Gippslan	nd Hwy, Lang Lang

Scientific Name	Common Name	<b>Conservation Status</b>	Count of Sightings	Last Record
Kunzea leptospermoides	Yarra Burgan	k	2	09/11/17
Monotoca glauca	Currant-wood	r	2	20/05/05
Prasophyllum frenchii	Maroon Leek-orchid	EN en L	0	none
Prasophyllum spicatum	Dense Leek-orchid	VU en	0	none
Pterostylis chlorogramma	Green-striped Greenhood	VU vu L	4	08/07/09
Pterostylis cucullata	Leafy Greenhood	VU L	0	none
Pterostylis grandiflora	Cobra Greenhood	r	1	29/07/94
Senecio diaschides	Shingle Fireweed	r	1	09/11/17
Senecio psilocarpus	Swamp Fireweed	VU	0	none
Thelymitra epipactoides	Metallic Sun-orchid	EN en L	0	none
Thelymitra malvina	Mauve-tuft Sun-orchid	vu	1	10/11/95
Xerochrysum palustre	Swamp Everlasting	VU vu L	0	none

Abbreviations: EPBC Act CR—Critically endangered, EN—Endangered, VU—Vulnerable; FFG Act L—Listed, N—Nominated for Listing, X—Rejected for listing; Victorian Advisory List cr—critically endangered, en—endangered, vu—vulnerable, nt—near threatened, dd—data deficient.

None of these species was observed on site or are likely to occur.

### 3.2.4 EPBC Listed Communities

No EPBC listed threatened Ecological communities are recorded as potentially occurring in the area (Appendix 2).

### 3.3 Fauna

#### 3.3.1 Database Assessment

The EPBC search (Appendix 2) and the Victorian Biodiversity Atlas (DELWP 2017) identified those species of animals that have been or might be recorded within the vicinity (~5km) of the site. Of these, the 'Significant fauna' are listed below i.e. those species identified by any, some or all of the EPBC Act, the FFG Act or the advisory list of threatened species in Victoria. Not included in the list below are species with a clear orientation to a marine environment.

Table 3-2 - Significant fauna species recorded within 5km of the subject site

Scientific Name	Common Name	Conservation Status	Count of Sightings	Last Record
Antechinus minimus maritimus	Swamp Antechinus	VU nt L	1	23/10/98
Anthochaera phrygia	Regent Honeyeater	CR	none	
Ardea alba	Great Egret	vu L	4	24/06/06
Ardea alba modesta	Eastern Great Egret	vu L	2	18/06/18
Biziura lobata	Musk Duck	vu	10	30/07/2020
Calidris ferruginea	Curlew Sandpiper	CR en L	9	09/02/08
Dasyurus maculatus	Spot-tailed Quoll	EN	0	none

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Scientific Name	Common Name	Conservation Status	Count of Sightings	Last Record
maculatus				
Falco hypoleucos	Grey Falcon	VU	0	none
Galaxiella pusilla	Eastern Dwarf Galaxias	VU	0	none
Gelochelidon macrotarsa	Australian Gull-billed Tern	en L	1	27/11/04
Grantiella picta	Painted Honeyeater	VU	0	none
Hirundapus caudacutus	White-throated Needletail	VU vu L	2	01/01/81
Hydroprogne caspia	Caspian Tern	nt L	2	27/11/04
Isoodon obesulus obesulus	Southern Brown Bandicoot	EN nt L	67	02/05/19
Lathamus discolor	Swift Parrot	CR en L	2	26/09/08
Limosa lapponica	Bar-tailed Godwit	VU	9	16/06/07
Litoria raniformis	Growling Grass Frog	VU en L	1	01/01/81
Mastacomys fuscus mordicus	Broad-toothed Rat	VU	0	none
Megascolides australis	Giant Gippsland Earthworm	VU	0	none
Neophema chrysogaster	Orange-bellied Parrot	CR cr L	1	01/02/07
Ninox strenua	Powerful Owl	vu L	4	03/05/05
Numenius madagascariensis	Eastern Curlew	CR vu L	10	09/02/18
Oxyura australis	Blue-billed Duck	en L	1	07/07/01
Petauroides volans	Greater Glider	VU	0	none
Potorous tridactylus tridactylus	Long-nosed Potoroo	VU	0	none
Pluvialis fulva	Pacific Golden Plover	vu	1	19/11/05
Prototroctes maraena	Australian Grayling	VU	0	none
Pseudophryne semimarmorata	Southern Toadlet	vu	8	03/05/05
Pteropus poliocephalus	Grey-headed Flying-fox	VU	0	none
Sminthopsis leucopus	White-footed Dunnart	nt L	3	13/04/12
Sternula albifrons	Little Tern	vu L	1	27/11/04
Synemon plana	Golden Sun Moth	CR	0	none
Tringa nebularia	Common Greenshank	vu	5	09/02/08
Varanus varius	Lace Monitor	en	11	25/02/19

Abbreviations for 'Significant fauna': EPBC Act CR—Critically endangered, VU—Vulnerable; FFG Act L—Listed, N—Nominated for Listing, X—Rejected for listing; Victorian Advisory List cr—critically endangered, en—endangered, vu—vulnerable, nt—near threatened, dd—data deficient.

The subject site does not contain habitat suitable for fish except for the artificial dam on site.

The EPBC list of potential Listed fauna includes species that might visit or overfly the site but none for which the site offers an environment for enduring habitat.



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### 3.3.2 Field Assessment

No EPBC or FFG listed fauna species were observed during field investigations. A pair of Musk Duck *Biziura lobata*, considered vulnerable on the Victorian Advisory List, was present on the artificial dam.



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# 4 Legislative Requirements

# **4.1 Environment Protection and Biodiversity Conservation** (EPBC) Act

Appendix 2 contains the EPBC Act search results in entirety. No communities of plant listed under EPBC Act occur on the site or nearby. Wetlands of International Importance (Westernport) occur near to the site but will not be affected by the development proposal.

No EPBC listed nationally significant Flora and Fauna species (or their habitat) as highlighted in the EPBC Report are likely to be present on the subject site. A referral of the development to Department of the Environment for determination of whether the development is a controlled action under the EPBC Act is not required. (Appendix 2—EPBC Report).

# 4.2 Flora & Fauna Guarantee Act 1988 (FFG)

An FFG permit from DELWP will not be required for the removal of native vegetation on the freehold land.

# 4.3 Planning and Environment Act 1987

A planning permit from the Alpine Shire Council is required to remove, destroy or lop any native vegetation as part of any proposed development works in accordance with the Cardinia Shire Planning Scheme. For development variations of usage within quarries, approvals under the Planning and Environment Act to do with Native Vegetation removal are handled by the Department of Economic Development, Jobs, Transport and Resources under the *Mineral Resources (Sustainable Development) Act* 1990.

# 4.4 NV Loss assessment following Guidelines

# 4.4.1 Pathway

Following *The Guidelines* (DELWP 2017a), the assessment does not require the removal of any defined 'Native Vegetation'.

# 4.4.2 Native vegetation present

- No 'Patches' of Native Vegetation occur within the proposed Work Authority.
- One 'Large Tree' remains of what was probably the original forest/woodland type, a specimen of Swamp Gum *Eucalyptus ovata*. The pit design avoids any affect on this remaining tree.
- The proposed pit is beyond the distance at which the remaining Native Vegetation along the roadsides will be affected.

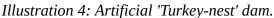
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- No report from DELWP systems and tools is required.
- An aerial image of the proposed Work Authority that shows the position of the remaining Large Tree is in Appendix 1
- Large trees along the north and south boundaries have 'Tree Protection Zones' within the Work Authority but all works, including bunds and drains, are situated to avoid them (Appendix 1).

#### 4.4.3 Wetlands

Following *The Guidelines*, a wetland mapped as such in the *Current wetlands map* is treated as a patch of native vegetation. The artificial turkey-nest dam constructed on-site to provide for the requirements of farming is shown as a wetland on the *Current wetlands map*. This derivative qualification would appear to be anomalous. No 'Native Vegetation' as such occurs on or in the dam (see Illustration 4). The classification of 'wetland' applying to Mapped Wetland 71976 under the terms of Native Vegetation retention was removed by application in a letter from DELWP dated 21-04-2021 (see documentation by BCA in support of the proposal).





#### 4.4.4 Avoidance & minimisation statement

The primary objective of this project is the extraction of quality sand from the proposed area of the Work Authority. No Native Vegetation will be affected.





*Illustration 5: One remaining large native tree on site.* 

One large, indigenous tree occurs within the proposed Work Authority, near the eastern boundary. The pit design avoids the tree by 20 metres. Large trees along the north and south boundaries have 'Tree Protection Zones' within the Work Authority but all works, including bunds and drains, are situated to avoid them (Appendix 1).

# 4.4.5 Property vegetation Plan

No Property Vegetation Plan exists for the site.

# 4.4.6 Defendable space

The removal of Native Vegetation is not to create a defendable space.

#### 4.4.7 Clause 52.16

The application is not under Clause 52.16 of the Planning Scheme.

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### **5 Conclusion**

Except for the occurrence of a pair of Musk Duck on the artificial dam, described as 'near threatened' on the Victorian advisory list, no flora and fauna of conservation significance were recorded on the site and none is expected to utilise the site except as occasional visitors or vagrants. Few native flora species exist on site and the environment for fauna on the site is similar to that provided by farmland throughout this part of Victoria.

To proceed with the proposed development ACM Pty Ltd is not required to provide any 'Offsets' for the removal of Native Vegetation.



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### **6 References**

DSE 2004 Victorian Riverina Bioregion Benchmarks. Published by the Victorian Government Department of Sustainability and Environment May 2004.

DELWP 2017 Nature Kit http://maps.biodiversity.vic.gov.au/viewer/?viewer=NatureKit, Department of Environment, Land, Water &Environment – website

DELWP 2017a Guidelines for the removal, destruction or lopping of native vegetation. Department of Environment, Land, Water & Planning, Melbourne

DEPI 2014b Advisory list of rare or threatened plants in Victoria 2014. http://www.depi.vic.gov.au/\_\_data/assets/pdf\_file/0005/277565/Advisory-List-of-Rare-or-Threatened-Plants-in-Victoria-2014.pdf . Department of Environment & Primary Industries, Melbourne.

DOE 2020 – Protected Matters Search Tool.

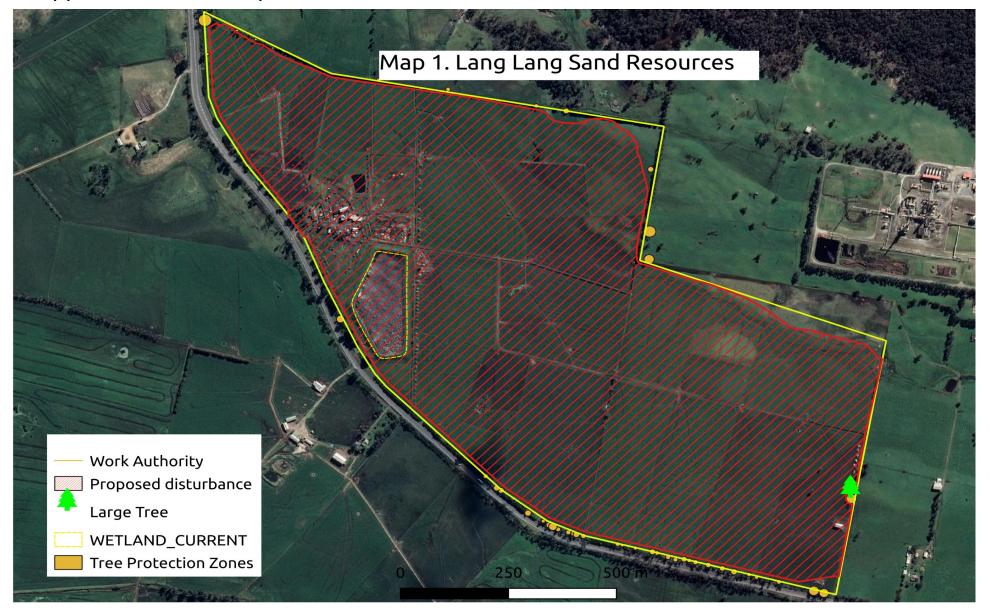
http://www.environment.gov.au/epbc/pmst/index.html. Website - Department of Environment, Canberra.



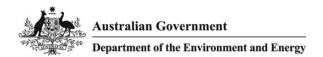
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Appendix 1. Site Map



# **Appendix 2.EPBC 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 <u>Environment Assessments</u> and the EPBC Act including significance guidelines, forms and application process details.

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Summary

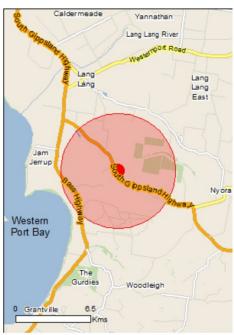
**Details** 

Matters of NES
Other Matters Protected by the EPBC Act
Extra Information

Caveat

<u>Acknowledgements</u>





This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates
Buffer: 5.0Km



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### 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 <u>Administrative Guidelines on Significance</u>.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	66
Listed Migratory Species:	59

#### Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	69
Whales and Other Cetaceans:	7
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

#### Extra Information

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

State and Territory Reserves:	2
Regional Forest Agreements:	None
Invasive Species:	35
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

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#### **Details**

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#### Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)	[ Resource Information ]
Name	Proximity
Western port	Within Ramsar site

#### 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. Status Type of Presence Natural Damp Grassland of the Victorian Coastal Critically Endangered Community may occur **Plains** within area Listed Threatened Species [ Resource Information ] Name Status Type of Presence Birds Anthochaera phrygia Regent Honeyeater [82338] Critically Endangered Species or species habitat likely to occur within area Botaurus poiciloptilus Australasian Bittern [1001] Endangered Species or species habitat likely to occur within area Calidris canutus Red Knot, Knot [855] Endangered Species or species habitat known to occur within area Calidris ferruginea Curlew Sandpiper [856] Critically Endangered Species or species habitat known to occur within area Calidris tenuirostris Great Knot [862] Critically Endangered Roosting known to occur within area Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877] Vulnerable Roosting known to occur within area Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879] Endangered Roosting known to occur within area Diomedea antipodensis Foraging, feeding or related Antipodean Albatross [64458] Vulnerable behaviour likely to occur within area Diomedea antipodensis gibsoni Gibson's Albatross [82270] Vulnerable Foraging, feeding or related behaviour likely to occur within area Diomedea epomophora Southern Royal Albatross [89221] Vulnerable Foraging, feeding or related behaviour likely to occur within area Diomedea exulans Wandering Albatross [89223] Vulnerable Foraging, feeding or related behaviour likely

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Name	Status	Type of Presence
		to occur within area
<u>Diomedea sanfordi</u>		
Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Falco hypoleucos		
Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Fregetta grallaria grallaria		
White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area
Grantiella picta		
Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Hirundapus caudacutus		
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor		
Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
Limosa lapponica baueri		
Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri		
Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus		
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Neophema chrysogaster		
Orange-bellied Parrot [747]	Critically Endangered	Migration route likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Postratula australia		
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis		
Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche bulleri		
Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche bulleri platei		
Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta		
Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area

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Name Thalassarche chrysostoma Grey-headed Albatross [66491]	Status Endangered	Type of Presence  Species or species habitat
•	Endangered	Species or species habitat
		may occur within area
<u>Thalassarche impavida</u> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thinornis cucullatus cucullatus Hooded Plover (eastern), Eastern Hooded Plover [90381]	Vulnerable	Species or species habitat likely to occur within area
Fish		
Galaxiella pusilla Eastern Dwarf Galaxias, Dwarf Galaxias [56790]	Vulnerable	Species or species habitat likely to occur within area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat likely to occur within area
Frogs Litoria raniformis Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828] Insects	Vulnerable	Species or species habitat likely to occur within area
Synemon plana Golden Sun Moth [25234]	Critically Endangered	Species or species habitat may occur within area
Mammals		
Antechinus minimus maritimus Swamp Antechinus (mainland) [83086]	Vulnerable	Species or species habitat likely to occur within area
Dasyurus maculatus maculatus (SE mainland populati Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	on) Endangered	Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Isoodon obesulus obesulus Southern Brown Bandicoot (eastern), Southern Brown Bandicoot (south-eastern) [68050]	Endangered	Species or species habitat known to occur within area
Mastacomys fuscus mordicus Broad-toothed Rat (mainland), Tooarrana [87617]	Vulnerable	Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Petauroides volans Greater Glider [254]	Vulnerable	Species or species habitat

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Nama	Ctatus	Type of Drooppe
Name Potorous tridactylus tridactylus	Status	Type of Presence
Long-nosed Potoroo (SE Mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Other		
Megascolides australis Giant Gippsland Earthworm [64420]	Vulnerable	Species or species habitat likely to occur within area
Plants		
Amphibromus fluitans River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat likely to occur within area
Caladenia orientalis Eastern Spider Orchid [83410]	Endangered	Species or species habitat may occur within area
<u>Caladenia tessellata</u> Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area
Dianella amoena Matted Flax-lily [64886]	Endangered	Species or species habitat may occur within area
<u>Eucalyptus strzeleckii</u> Strzelecki Gum [55400]	Vulnerable	Species or species habitat known to occur within area
Glycine latrobeana Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat likely to occur within area
Prasophyllum frenchii Maroon Leek-orchid, Slaty Leek-orchid, Stout Leek-orchid, French's Leek-orchid, Swamp Leek-orchid [9704]	Endangered	Species or species habitat likely to occur within area
Prasophyllum spicatum  Dense Leek-orchid [55146]	Vulnerable	Species or species habitat likely to occur within area
Pterostylis chlorogramma Green-striped Greenhood [56510]	Vulnerable	Species or species habitat known to occur within area
Pterostylis cucullata Leafy Greenhood [15459]	Vulnerable	Species or species habitat may occur within area
Senecio psilocarpus Swamp Fireweed, Smooth-fruited Groundsel [64976]	Vulnerable	Species or species habitat likely to occur within area
Thelymitra epipactoides Metallic Sun-orchid [11896]	Endangered	Species or species habitat may occur within area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding likely to occur within area



Name	Status	Type of Presence
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur
Sharks		within area
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on t		
Name Migratory Marine Birds	Threatened	Type of Presence
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
Ardenna grisea Sooty Shearwater [82651]		Species or species habitat may occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area
<u>Thalassarche bulleri</u> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche chrysostoma Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area

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Name	Threatened	Type of Presence
Thalassarche salvini	Tilleaterieu	Type of Fresence
Salvin's Albatross [64463]  Thalassarche steadi	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Species or species habitat known to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763] Chelonia mydas	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Lagenorhynchus obscurus  Dusky Dolphin [43]		Species or species habitat may occur within area
Lamna nasus		
Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres Ruddy Turnstone [872]		Roosting known to occur within area

Name	Threatened	Type of Presence
Calidris acuminata Sharp-tailed Sandpiper [874]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Roosting known to occur within area
<u>Charadrius bicinctus</u> Double-banded Plover [895]		Roosting known to occur within area
<u>Charadrius leschenaultii</u> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Roosting known to occur within area
<u>Charadrius mongolus</u> Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Roosting may occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
<u>Limicola falcinellus</u> Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Pacific Golden Plover [25545]	RTISED	Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	LAN	Roosting known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Roosting known to occur within area

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Name	Inreatened	Type of Presence
Tringa incana		
Wandering Tattler [831]		Roosting known to occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis		
Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus		
Terek Sandpiper [59300]		Roosting known to occur within area

### Other Matters Protected by the EPBC Act

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Listed Marine Species		<u> </u>	[Resource Information]
* Species is listed under a different Name	scientific name on the	ne EPBC Act - Threatened Threatened	I Species list.  Type of Presence
Birds		Tilleaterieu	Type of Fresence
Actitis hypoleucos Common Sandpiper [59309]			Species or species habitat known to occur within area
Apus pacificus Fork-tailed Swift [678]	ADVER PL/		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]			Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]			Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]			Roosting known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]			Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]		Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]		Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]			Species or species habitat likely to occur within area
Calidris ruficollis Red-necked Stint [860] Calidris tenuirostris			Roosting known to occur within area
Great Knot [862]		Critically Endangered	Roosting known to occur within area

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Name	Threatened	Type of Presence
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Roosting known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881] Diomedea antipodensis		Roosting known to occur within area
Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<u>Diomedea gibsoni</u> Gibson's Albatross [64466]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Roosting may occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Heteroscelus brevipes Grey-tailed Tattler [59311] Heteroscelus incanus		Roosting known to occur within area
Wandering Tattler [59547] Himantopus himantopus		Roosting known to occur within area
Pied Stilt, Black-winged Stilt [870]  Hirundapus caudacutus		Roosting known to occur within area
White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat known to occur within area
<u>Limicola falcinellus</u> Broad-billed Sandpiper [842]		Roosting known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area

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Name	Threatened	Type of Presence
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat likely to occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Migration route likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]  Numenius phaeopus		Roosting likely to occur within area
Whimbrel [849]		Roosting known to occur within area
Pachyptila turtur Fairy Prion [1066]	RTISED	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]	_AN	Species or species habitat may occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]		Roosting known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Puffinus griseus Sooty Shearwater [1024]		Species or species habitat may occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Sterna albifrons Little Tern [813]		Species or species habitat may occur within area
<u>Thalassarche bulleri</u> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Species or species habitat may occur within

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Name	Threatened	Type of Presence
Name	Tilleateried	area
Thalassarche cauta		
Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur
The leaves of the leaves of the second secon		within area
<u>Thalassarche chrysostoma</u> Grey-headed Albatross [66491]	Endangered	Species or species habitat
	Litarigoroa	may occur within area
Thalassarche impavida		
Campbell Albatross, Campbell Black-browed Albatross	Vulnerable	Foraging, feeding or related
[64459]		behaviour likely to occur within area
Thalassarche melanophris		Within aroa
Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
		may occar warm area
<u>Thalassarche salvini</u> Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related
odivin o Albaticos [o-1400]	Valliciable	behaviour likely to occur
Thalassarche sp. nov.		within area
Pacific Albatross [66511]	Vulnerable*	Species or species habitat
		may occur within area
Thalassarche steadi		
White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur
		within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]	Vulnerable*	Species or species habitat
Hooded Flover (eastern) [00720]	Vullerable	likely to occur within area
Tringa glareola		
Wood Sandpiper [829]		Roosting known to occur
Tringa nebularia		within area
Common Greenshank, Greenshank [832]		Species or species habitat
		known to occur within area
Tringa stagnatilis		
Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Xenus cinereus		Within area
Terek Sandpiper [59300]		Roosting known to occur within area
Mammals		within area
Arctocephalus forsteri		Species or appeies habitat
Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Arctocephalus pusillus		
Ai ctocephalus pusilius		
Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat
Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area
Reptiles Caretta caretta	Endonnound	may occur within area
Reptiles Caretta caretta	Endangered	
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas		may occur within area  Breeding likely to occur within area
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas	Endangered Vulnerable	may occur within area  Breeding likely to occur
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas Green Turtle [1765] Dermochelys coriacea	Vulnerable	Breeding likely to occur within area  Breeding likely to occur within area
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas Green Turtle [1765] Dermochelys coriacea		may occur within area  Breeding likely to occur within area  Breeding likely to occur
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas Green Turtle [1765] Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Vulnerable	Breeding likely to occur within area
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas Green Turtle [1765] Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768] Whales and other Cetaceans	Vulnerable	Breeding likely to occur within area
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas Green Turtle [1765] Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768] Whales and other Cetaceans Name Mammals	Vulnerable Endangered	Breeding likely to occur within area
Australian Fur-seal, Australo-African Fur-seal [21]  Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas Green Turtle [1765]  Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]  Whales and other Cetaceans Name Mammals Caperea marginata Pagenty Right Whale [39]	Vulnerable Endangered	Breeding likely to occur within area  [ Resource Information Type of Presence
Reptiles Caretta caretta Loggerhead Turtle [1763] Chelonia mydas Green Turtle [1765] Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768] Whales and other Cetaceans Name Mammals	Vulnerable Endangered	Breeding likely to occur within area

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Name	Status	Type of Presence
Delphinus delphis		area
Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis		
Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Lagenorhynchus obscurus		
Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae		
Humpback Whale [38]	Vulnerable	Species or species habitat may occur within area
Tursiops aduncus		
Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str.		
Bottlenose Dolphin [68417]		Species or species habitat

#### Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Adams Creek N.C.R.	VIC
Unnamed C1744	VIC

may occur within area

#### 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 Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis		
Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis		
Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos		
Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis		
European Goldfinch [403]		Species or species habitat likely to occur within area
Carduelis chloris		
European Greenfinch [404]		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

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Name	Status	Type of Presence
Passer montanus	Claud	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
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
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Black	kbird [596]	Species or species habitat likely to occur within area
Turdus philomelos Song Thrush [597]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris		
Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [857	733]	Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]	ADVERTISED	Species or species habitat likely to occur within area
Mus musculus House Mouse [120]	PLAN	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 norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper Smilax, Smilax Asparagus [22473]	, Smilax, Florist's	Species or species habitat likely to occur within area
Carrichtera annua Ward's Weed [9511]		Species or species habitat may occur within

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### 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

-38.32232 145.58876



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