

Level 1 Vertebrate Fauna Survey for the Albany Wind Farm, Albany, Western Australia.



Report by Invertebrate Solutions Pty
Ltd for Eco Logical Australia Pty Ltd on
behalf of Synergy Pty Ltd

February 2020

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Frontispiece: Albany Wind Farm Turbine.

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Executive Summary

Synergy plans to undertake clearing surrounding wind turbines at the Albany Wind Farm, west of Albany in the south west of Western Australia, to enable ongoing maintenance of turbines. The Albany Wind Farm is situated in coastal peppermint (*Agonis sp.*) and heathland that is known to provide habitat for various vertebrate fauna species.

Invertebrate Solutions Pty Ltd (invertebrate Solutions) has been requested by Eco Logical Australia Pty Ltd (Eco Logical) on behalf of Synergy to undertake a Level 1 vertebrate fauna survey for the Albany wind farm project area. The results of the survey will be used to support a native vegetation clearing permit application to allow ongoing maintenance of the facility.

A total of 67 conservation significant vertebrate species (including Priority species) from 23 families were identified during the desktop review of the database searches (These were comprised of 59 bird species from 17 families, and eight mammal species from six families. A total of 11 conservation significant species retrieved from the database searches are considered as either Likely, Possibly or Unlikely to occur in the Survey Area. Of these nine conservation significant species, one species was recorded during the survey, three species are considered Likely to occur, two species are considered as Possibly occurring and five species are considered Unlikely to occur in the survey area.

During the field survey, three reptile species were recorded, the King Skink (*Egernia kingii*), Tiger Snake (*Notechis scutatus*) and Dugite (*Pseudonaja affinis*), 20 bird species from 14 families were recorded, and three mammal species were recorded, the Southern Brown Bandicoot (*Isodon fusciventer*), Western Grey Kangaroo (*Macropus fuliginosus*) and a bat species, thought possibly to be the White-striped Freetail Bat (*Austronomus australis*).

A single species of conservation interest was recorded in the Survey Area during the fauna survey – the Southern Brown Bandicoot.

It is important to note, that although the survey area does provide potential habitat for a number of species, including a number of conservation significant species, the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation that is required to be cleared on an as needs basis, for turbine maintenance will have limited effect on these fauna species.

1. Introduction

Synergy plans to undertake clearing surrounding wind turbines at the Albany Wind Farm, west of Albany in the south west of Western Australia, to enable ongoing maintenance of turbines. The Albany Wind Farm is situated in coastal peppermint (*Agonis sp.*) and heathland that is known to provide habitat for various vertebrate fauna species.

Invertebrate Solutions Pty Ltd (invertebrate Solutions) has been requested by Eco Logical Australia Pty Ltd (Eco Logical) on behalf of Synergy to undertake a Level 1 vertebrate fauna survey for the Albany wind farm project area. The results of the survey will be used to support a native vegetation clearing permit application to allow ongoing maintenance of the facility.

1.1 Purpose of this report

Invertebrate Solutions has been requested by Eco Logical on behalf of Synergy to undertake the following scope of works within the Albany wind farm project area, Albany, Western Australia:

- Undertake a desktop assessment for vertebrates in the survey area and surrounds
- Preliminary vertebrate fauna field assessment (Level 1 survey) at 15 wind turbine sites
- Record opportunistic observations of fauna, with a particular focus on conservation significant species (terrestrial vertebrates)
- Provide a written report (including maps) containing the above items.

1.2 Project area

The Albany Wind Farm is located at Sandpatch to the west of the Albany townsite, on the south coast of Western Australia and is shown in Figure 1. The survey area consists of 15 separate proposed clearing envelopes around existing wind turbines.

1.3 Conservation Legislation and Guidance Statements

Fauna are protected formally and informally by various legislative and non-legislative measures, which are outlined below:

- Legislative Protection:
 - Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
 - Biodiversity Conservation Act 2016 (BC Act)
 - WA Environmental Protection Act 1986 (EP Act).
- Non-Legislative Protection:
 - WA Department of Biodiversity, Conservation and Attractions (DBCA) Priority lists for flora, ecological communities and fauna
 - Recognition of locally significant populations by DBCA.

A short description of each is given below. Other definitions, including species conservation categories, are provided in Appendix 1.

The Biodiversity Conservation Act 2016 replaced both the Wildlife Conservation Act and the Sandalwood Act and came into effect on 1st January 2019. The aim of the new Act is to conserve and protect biodiversity and to promote the ecologically sustainable use of biodiversity components in the State, and will bring more activities within the scope of biodiversity laws.

Taxa listed as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1a, 1b, and 1c), or is a rediscovered species to be regarded as threatened species under section 26(2) of the Biodiversity Conservation Act 2016 (BC Act). Other categories include extinct or extinct in the wild and they are listed under section 23 (1) of the BC Act (Appendix 1).

If species meet one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection, they are covered under section 13(1) of the BC Act and are called specially protected species. Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act can't also be listed as Specially Protected species (see Appendix 1 for a more detailed description of each threat category).

Threatened Ecological Communities (TECs) are also covered under the Biodiversity Conservation Act 2016 (BC Act) and are placed into three categories of critically endangered, endangered or vulnerable under section 27(1a, 1b, and 1c) of the BC Act depending on their threat status.

DBCA lists species that are possibly threatened but that do not meet criteria for listing under the BC Act, or are otherwise data deficient, and adds them to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora. Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. Consideration of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations (see Appendix 1 for more detail of the priority codes).

The EPBC Act aims to protect matters of national environmental significance, which are detailed in Appendix 1. Under the EPBC Act, the Commonwealth Department of Agriculture, Water and the Environment (DAWE) lists protected species and Threatened Ecological Communities (TECs) by criteria set out in the Act. Species are conservation significant if they are listed as Threatened (i.e. Critically Endangered, Endangered and Vulnerable) or Migratory.

Bird species protected as Migratory under the EPBC Act include those listed under international migratory bird agreements relating to the protection of birds, which migrate between Australia and other countries, for which Australia has agreed. This includes the Japan-Australia Migratory Bird Agreement (JAMBA), the China-Australia Migratory Bird Agreement (CAMBA), the Republic of Korea-

Australia Migratory Bird Agreement (ROKAMBA) and the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention).

Some marine fauna or terrestrial fauna that use marine habitats are listed as Marine under the EPBC Act. These species are only considered conservation significant when a proposed development occurs in a Commonwealth marine area (i.e. any Commonwealth Waters or Commonwealth Marine Protected Area). Outside of such areas, the EPBC Act does not consider these species to be matters of national environmental significance, so are not protected under the Act.

1.4 Survey Staff Qualifications

The field survey and observations for vertebrate fauna were undertaken by an experienced ecologist:

- Dr Timothy Moulds *BSc (Hons) Geol., PhD. Invert. Ecol.* (Invertebrate Solutions)

1.5 Report Limitations and Exclusions

This study was limited to the written scope provided to the client by Invertebrate Solutions (15th August 2019) and in Section 1.1. This study was limited to the extent of information made available to Invertebrate Solutions at the time of undertaking the work. Information not made available to this study, or which subsequently becomes available may alter the conclusions made herein. Assessment of potential impacts to SRE fauna was based on proposed development plans provided by the client.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. Invertebrate Solutions has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by Invertebrate Solutions described in this report (this section and throughout this report). Invertebrate Solutions disclaims liability arising from any of the assumptions being incorrect.

Invertebrate Solutions has prepared this report on the basis of information provided by Synergy, Eco Logical Australia Pty Ltd and others (including Government authorities), which Invertebrate Solutions has not independently verified or checked beyond the agreed scope of work. Invertebrate Solutions does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

Site conditions may change after the date of this report. Invertebrate Solutions does not accept responsibility arising from, or in connection with, any change to the site conditions. Invertebrate Solutions is also not responsible for updating this report if the site conditions change.

Field surveys for invertebrates require multiple seasonal surveys to fully record all species that may be present in an area, and in varying weather conditions. The current survey was undertaken in a single season and additional surveys at different times of the year may record additional species.

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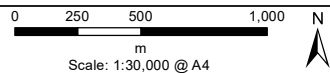
SOUTHERN OCEAN

570000

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Legend

- Level 1 Survey Area
- Cadastre
- Road
- Watercourse



- NOTE THAT POSITION ERRORS CAN BE >5M IN SOME AREAS

LOCALITY MAP



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PROJECT ID Albany Wind Farm		DATE 28/02/2020	
HORIZONTAL DATUM AND PROJECTION GDA 1994 MGA Zone 50			
CREATED ENVIRONMAPS	CHECKED TM	APPROVED TM	REVISION 0

Client: Synergy

Figure 1
Location of Level 1
Vertebrate Fauna Field Survey

- LOCALITY MAP SOURCED FROM LANDGATE 2006
- NATGEO WORLD MAP FROM OPEN SOURCE

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2. Methods

Invertebrate Solutions undertook The fauna survey was completed in accordance with the following EPA and DAWE requirements for the environmental surveying and reporting of fauna surveys in WA, where relevant and practical, and as documented in:

- EPA Statement of Environmental Principles, Factors and Objectives (EPA 2018)
- EPA Environmental Factor Guideline: Terrestrial Fauna (EPA 2016)
- EPA Technical Guidance: Terrestrial Fauna Surveys (EPA 2016)
- EPBC Act referral guidelines for three threatened black cockatoo species (Department of Sustainability, Environment, Water, Population and Communities, 2012)

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

Please note that the two EPA Technical Guidance documents (Sampling methods for Terrestrial vertebrate fauna and Terrestrial Fauna Surveys) above from 2016 have not been updated and are respectively the same as the following documents:

- Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA-DEC 2010)
- Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia. Guidance Statement No. 56 (EPA 2004).

In addition, the 2017 Black Cockatoo referral guidelines above are draft and currently under review following the public consultation period.

2.1 Desktop Assessment Methods

A desktop assessment was undertaken using a NatureMap search and the EPBC Protected Matters Search Tool (EPBC PMST) to identify fauna species of conservation significance potentially occurring in and near the survey area (DBCA 2020, DAWE 2020) (Appendix 2). The database searches were line searches with a buffer either side of 2.5 km, using the following co-ordinates:

- 35° 03' 48"S and 117°47' 50"E
- 35° 02' 50"S and 117°44' 55"E

A DBCA Threatened Fauna database, requested by Eco Logical was provided (NW corner: -35.044081° S, 117.749513° E, SE corner: -35.064923° S; 117.797106° E with a 7 km buffer [DBCA 2019]) (Appendix 2). Collectively, these sources were used to compile a list of species that have been previously recorded in the vicinity of the survey area. This list invariably includes some species that do not occur in the survey area, as some fauna have a limited or patchy distribution or a high level of habitat specificity for habitats which are not located in the survey area e.g. marine mammals and sea turtles which require ocean habitat. Some fauna may also have become locally extinct or were erroneously identified in previous surveys. This fauna was examined and then excluded from further consideration (Appendix 3).

2.2 Survey Effort and Timing

Invertebrate Solutions completed the level 1 Vertebrate fauna survey from 20-21st December 2019. The following survey methods were undertaken: (Table 1, Appendix 3). All coordinates in UTM are using datum GDA and located in Zone 50H.

Table 1 Locations of vertebrate fauna survey

Sample Site	UTM (GDA)	Habitat	Active search effort	Sample Date
WEC02	572690 6119659	<i>Agonis flexuosa</i> and coastal heath	75 minutes	20 Dec 2019
WEC04	572243 6119935	<i>Agonis flexuosa</i> and coastal heath	75 minutes	20 Dec 2019
WEC05	572112 6120063	<i>Agonis flexuosa</i> and coastal heath	75 minutes	20 Dec 2019
WEC06	571771 6120105	<i>Agonis flexuosa</i> and coastal heath	75 minutes	20 Dec 2019
WEC07	571559 6120162	<i>Agonis flexuosa</i> and coastal heath	75 minutes	20 Dec 2019
WEC08	571340 6120245	<i>Agonis flexuosa</i> and coastal heath	75 minutes	20 Dec 2019
WEC09	571205 6120467	<i>Agonis flexuosa</i> and coastal heath	75 minutes	20 Dec 2019
WEC10	570925 6120431	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019
WEC12	570688 6120710	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019
WEC13	570006 6120829	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019
WEC14	569639 6121083	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019
WEC15	569219 6121246	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019
WEC16	568942 6121282	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019
WEC17	568605 6121526	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019
WEC18	568301 6121482	<i>Agonis flexuosa</i> and coastal heath	75 minutes	21 Dec 2019

2.2.1 Habitat Assessment

Habitat assessments were undertaken at each of the 15 wind turbine sites. The fauna habitats were assessed for their potential to support species of conservation significance and the quality of habitat they provide to a wider suite of fauna. Fauna habitat assessments were undertaken to define and delineate the main broad fauna habitat types present. The habitat assessments were documented systematically for each habitat type on standardised field sheets. The habitat assessments consisted of the following:

- location of the broad habitat type within the Survey Area (GPS co-ordinate) and its relative percentage
- habitat condition was assessed at each assessment site as ‘completely degraded’ through to ‘pristine’, based on the scale given in Keighery (1994)
- landscape position
- dominant vegetation and structure (e.g. number of vegetation strata)
- hollow-bearing trees and dead stags (e.g. average size and abundance of hollows)
- description of any rock and rocky outcrops
- logs (e.g. abundance and size)
- substrate (e.g. leaf litter)
- wetlands, creeks, rivers, dams and other water bodies
- description of any observed nests and roosts (if present)

- subterranean roosts (e.g. caves, disused mineshafts and/or adits)
- associated fauna species observed using the habitat
- disturbance (e.g. cattle grazing, fire)
- photo showing a typical example of the broad habitat type.

A total of 15 habitat assessments were undertaken in the survey area. The location of the habitat assessments can be seen in Figure 1.

2.2.2 Opportunistic Searches

Fauna observations were recorded opportunistically during the survey. The survey included looking through leaf litter, overturning rocks, and looking under decorticated bark (where present). Other recordings included visual sightings of active fauna such as reptiles and birds, signs of species presence such as burrows and scats of mammals and reptiles, and aural observations of amphibian and bird species. Observation (visual or heard) of species considered of conservation significance were recorded by means of a hand-held GPS.

2.2.3 Opportunistic Searches

For species identified in the desktop assessment, where there is doubt to their true taxonomy (through subsequent name changes or taxonomic reviews), an effort was made to determine the current scientific name for each taxon. In some cases, old scientific names were presented where correct nomenclature could not be determined due to name changes. Some taxon names may be followed by 'sp.', meaning that the species name was not given in the data source or the identification is in doubt. Where there are previously recorded taxa such as this that have the potential to be a conservation significant species, they are discussed specifically in the results and discussion sections.

2.2.4 Taxonomy

Taxonomy and nomenclature in this report follows the accepted listing of published terrestrial vertebrate species, primarily the West Australian Museum (WAM 2019). In addition, the following are also considered where relevant; the listing for amphibians and reptiles is consistent with Wilson & Swan (2017) and (to a lesser extent) Cogger (2014); bird listings are consistent with Christidis & Boles (2008) and mammal listings are consistent with Woinarski *et. al.* (2014).

2.2.5 Limitations

The following specific comments are made with regard to project specific limitations for the Project:

- **Sampling effort** – The level 1 vertebrate fauna survey included a total of 1,125 minutes of active searching split amongst 75 different sites at 15 different proposed clearing locations. This survey effort provides a high degree of certainty that the majority of species would be recorded if present during the survey.
- **Timing** – The survey was undertaken in December when many reptile, mammal and bird species are active in the area.

- **Methods** – The use of visual inspection, active searching of habitats for potential vertebrate species and use of tracks, scats and diggings associated with specific species enables a wide variety of species and to be detected without direct observation in the field.
- **Habitats sampled** – All significant potential habitats within the Survey Area were sampled.
- **Access to areas** – No access issues were encountered in the survey with all areas able to be fully accessed.

3. Results

3.1 Database Search Results

Results of the databases searches outlined a total of 169 vertebrate species from 61 families (Appendix 2). These were comprised of seven reptile species from three families, 156 bird species from 47 families, and 17 mammal species from 11 families (Appendix 2).

A total of 67 conservation significant vertebrate species (including Priority species) from 23 families were identified during the desktop review of the database searches. These were comprised of 59 bird species from 17 families, and eight mammal species from six families (Appendix 3).

Waterbirds

A total of 51 wetland bird species were returned in the database searches. These were a combination of waders, waterbirds, seabirds and migratory marine birds. Wetland avifauna such as wading birds, including Plovers and Sandpipers, Stints and Shanks inhabit estuaries, mudflats, saltmarshes, sandflats and beaches, with shallow water edges, where they feed on invertebrates such as worms, molluscs, insects and crustaceans (Garnett *et al.* 2011). Although the coastline is approximately 300 m to the south of the survey area, suitable coastal or wetland habitat for these species is not present in the survey area itself and therefore, these species have been omitted from any further discussion.

The seabirds and migratory marine birds returned from the database searches, including Albatross, Petrels and Shearwaters are oceanic birds, some of which are capable of remaining at sea for years, or circumnavigating the globe. These seabirds feed at sea, generally nest on islands and so are rarely seen (Slater *et al.* 2009). Suitable habitat for these species is not present in the survey area and therefore, these species have been omitted from any further discussion.

Now regionally extinct

A number of species in the database searches were also known to be historical records of species now locally extinct, for example the Dibbler (*Parantechinus apicalis*). These species have therefore been omitted from any further discussion. In addition, those species with two or less DBCA records have also been omitted from further discussion.

Database errors and anomalies

Occasionally there are errors and/or anomalies in the database searches that are sourced from the various government departments, for example, the Grey Wagtail (*Motacilla cinerea*), which is a rare visitor (Johnstone & Storr 1998). These species have been omitted from any further discussion.

It is important to note, that the EPBC PMST is not entirely based on point records, but also on broader information, including bioclimatic distribution models, whereas NatureMap is. Consequently, the results of the EPBC PMST are in some cases less accurate, particularly at a local scale (e.g. the Woylie *Bettongia penicillata ogilbyi*). As a result, the EPBC PMST can include species that do not occur in the Survey Area because, for example, there is no habitat available or they are

now known to be locally extinct. These species have therefore been omitted from any further discussion.

In addition, many fauna are not distributed evenly across the landscape, are more abundant in some places than others, and consequently more detectable (Currie 2007). Furthermore, some small, common ground-dwelling reptile and mammal species tend to be habitat specific, and many bird species can occur as regular migrants, occasional visitors or vagrants. Therefore, all these species have been excluded from any further discussion.

Conservation Significant Fauna

With the aforementioned waterbirds and locally/regionally extinct and database errors species removed, a total of 11 conservation significant species retrieved from the database searches are considered as either likely, possibly or unlikely to occur in the Survey Area. Of these 11 conservation significant species, one species was recorded during the assessment, three species are considered Likely to occur in the Survey Area, two species are considered Possible and five species are considered Unlikely to occur (Table 2). All 11 conservation significant species will be discussed in section 4.1.

The Likelihood of each species is based on the following criteria:

- Recorded: Recorded during the field survey or site reconnaissance
- Likely: Suitable habitat is present in the Survey Area and the Survey Area is in the species' known distribution
- Possible: Limited or no suitable habitat is present in Survey Area, but is nearby. The species has good dispersal abilities and is known from the general area
- Unlikely: No suitable habitat is present in Survey Area but is nearby, the species has poor dispersal abilities, but is known from the general area; or suitable habitat is present, however the Survey Area is outside of the species' known distribution.

Table 2 Conservation significant fauna potentially occurring in the Survey Area

Common Name	Taxa	Conservation Status BC Act	Conservation Status EPBC Act	Likelihood of occurrence in Survey Area
Birds				
Osprey	<i>Pandion haliaetus</i>	-	MiMa	Unlikely
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	-	Ma	Unlikely
Fork-tailed Swift	<i>Apus pacificus</i>	-	MiMa	Unlikely
Rainbow Bee-eater	<i>Merops ornatus</i>	-	Ma	Unlikely
Forest Red-tailed Black Cockatoo	<i>Calyptorhynchus banksii naso</i>	Vu	Vu	Likely
Baudin's Black Cockatoo	<i>Calyptorhynchus baudinii</i>	En	En	Likely
Carnaby's Black Cockatoo	<i>Calyptorhynchus latirostris</i>	En	En	Likely
Western Bristlebird	<i>Dasyornis longirostris</i>	En	En	Unlikely
Mammals				
Southern Brown Bandicoot	<i>Isodon fusciventer</i>	P4	-	Recorded
Western Ringtail Possum	<i>Pseudocheirus occidentalis</i>	CR	CR	Possible
Western Brush Wallaby	<i>Notamacropus irma</i>	P4	-	Possible

En = Listed as Endangered under the EBPC Act, Vu = Listed as Vulnerable under the EBPC Act, Mi = Listed as Migratory under the EBPC Act, Ma = Listed as Marine under the EBPC Act, MI = Migratory, OS = Other specially protected species, VU = Vulnerable, EN = Endangered, CR = Critically Endangered, CD = Conservation Dependent, NT = Near Threatened. IUCN Threat categories (BC Act) , P = Listed as Priority by the DBCA.

3.2 Field Assessment Results

Amphibians

From the database searches, no amphibian species have been recorded in the surrounding area and no amphibian species were recorded during the field assessment.

Reptiles

From the database searches, a total of seven reptile species from three families have been previously recorded in the surrounding area. During the field survey, three reptile species were recorded, the King Skink (*Egernia kingii*), Tiger Snake (*Notechis scutatus*) and Dugite (*Pseudonaja affinis*) were recorded (Appendix 3).

Birds

From the database searches, a total of 145 bird species from 47 families have been previously recorded in the surrounding area (including earlier dismissed species). During the field survey, 20 bird species from 14 families were recorded (Appendix 3).

Mammals

From the database searches, a total of 17 mammal species from 11 families have been previously recorded in the surrounding area. During the field survey three mammal species were recorded, the Southern Brown Bandicoot (*Isodon fusciventer*), Western Grey Kangaroo (*Macropus fuliginosus*)

and a bat species, thought possibly to be the White-striped Freetail Bat (*Austronomus australis*) (Appendix 3).

3.3 Fauna Habitats

A total of 15 habitat assessments were undertaken in the Survey Area (Figure 1, Appendix 4). The entire Proposal Area (14.34 ha) consists of coastal heathland, consisting of species including scattered Bullich (*Eucalyptus megacarpa*), Peppermint, Banksia, Acacia and Allocasuarina (Plate 1).

With the exception of the cleared areas at each of the wind turbines, habitat condition was considered to be in Very Good to Excellent condition throughout the Survey Area.



Plate 1 Example of typical Coastal heathland in the survey area

4. Discussion

4.1 Fauna of Conservation Significance

A total of 11 conservation significant species retrieved from the database searches are considered as either Likely, Possibly or Unlikely to occur in the Survey Area. Of these nine conservation significant species, one species was recorded during the survey, three species are considered Likely to occur, two species are considered as Possibly occurring and five species are considered Unlikely to occur in the survey area. All 11 conservation significant species will be discussed below.

4.1.1 Species Recorded

A single species of conservation interest was recorded in the Survey Area during the fauna survey – the Southern Brown Bandicoot.

Southern Brown Bandicoot (*Isoodon fusciventer*)

The Bandicoot is listed as P4 under the DBCA Priority List. This species once occurred throughout south-west WA; it now occurs from Guilderton southwards on the Swan Coastal Plain, (including the Perth Metropolitan area), in Jarrah and Karri (*E. diversicolor*) forests and adjacent coastal vegetation complexes, east along the south coast to Cape arid National Park. The species inhabits scrubby, often swampy, vegetation with dense cover up to about 1 m high.

The Southern Brown Bandicoot is patchily distributed in suitable habitat, with populations inhabiting Jarrah and Wandoo forests usually associated with watercourses. The Southern Brown Bandicoot constructs nests under plants on the ground. They do not create burrows, but occasionally use the burrows of other species. It feeds in adjacent forest and woodland that is burnt on a regular basis and in areas of pasture and cropland lying close to dense cover. It is often associated with wetlands with dense vegetation where they feed on fruit, seeds and insects. They forage for food mainly by digging in the leaf-litter and soil to find insects, fungi, plant root nodules and bulbs (Woinarski *et al.* 2014).

Suitable habitat is present and diggings were recorded at various locations. In addition the DBCA threatened fauna database returned 28 records of the Southern Brown bandicoot in the vicinity of the survey area. The Southern Brown Bandicoot was also recorded in the fauna survey (via diggings) undertaken by Bio Diverse Solutions (BDS) in 2018, which addressed turbines 3 and 11 (BDS 2018).

It is important to note that although the survey area does provide potential habitat for the Southern Brown Bandicoot, the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation that is required to be cleared on an as needs basis, for turbine maintenance will have little to near no impact on the species locally, but particularly not as a regional level.

4.1.2 Species Considered Likely to Occur

A total of three conservation significant species are considered Likely to occur in the survey area.

Black Cockatoos

All three species of Black Cockatoo (Carnaby's Cockatoo, Baudin's Cockatoo and FRTBC) could potentially occur in the survey area. The distribution of all three species can be seen in the 2017 DAWE distribution maps in Appendix 5.

Carnaby's Cockatoo

Carnaby's Cockatoo is listed as Endangered under the EPBC Act and the BC Act. is endemic to south-west WA, and is distributed from the Murchison River to Esperance and inland to Coorow, Kellerberrin and Lake Cronin (Cale 2003). The species was once common, but the population has declined significantly in the last half century, and is now locally extinct in some areas (Johnstone & Storr 1998; Shah 2006). In the last 45 years (prior to Cale 2003) the species has suffered a 50% reduction in its abundance (Cale 2003). More recent information suggests this decline has continued. This reduction is due to the clearing of core breeding habitat in the wheatbelt, the deterioration of nesting hollows, and clearing of food resources on the Swan Coastal Plain (SCP) (Cale 2003). The total population of Carnaby's Cockatoo was estimated to be 40,000 in 2008 (Johnstone & Kirkby 2008). Since then, trend analyses of the seven Great Cocky Counts 2010 – 2017 identified strong indications that the population of Carnaby's Black-Cockatoo inhabiting the Perth-Peel Coastal Plain continues to decline.

Carnaby's Cockatoos feed on seeds, nuts and flowers of a variety of native and exotic plants. Food plants include a variety of Eucalyptus species, such as Marri, Jarrah, Swan River Blackbutt (*Eucalyptus patens*), Coastal Blackbutt (*Eucalyptus todtiana*), Caesia (*Eucalyptus caesia*) and Salmon Gum, as well as Pine trees (*Pinus* sp.), Grevillea, Allocasuarina, and Hakea species (Shah 2006). Marri nuts that are damaged extensively, especially on the main body of the nut, are likely to have been chewed by Carnaby's Cockatoo. The 'levering' of Marri nuts by Carnaby's Cockatoos tends to leave different marks on the fruit casings, particularly in the location of indentations by the lower mandible and in the amount of damage caused to the rim of the fruit casing. Carnaby's Cockatoos also generally feed on green Marri nuts that are soft enough for their beaks to manipulate. The seeds from a variety of Banksia species and the cones of Pine trees provide the highest energetic yield (Cooper *et al.* 2002).

Breeding has been recorded from early July to mid-December, and primarily occurs in the wheatbelt in the semi-arid and subhumid interior (Johnstone & Storr 1998). However, this species is currently expanding its breeding range westward and south into the Jarrah-Marri forests of the Darling Scarp (e.g. Wungong Dam Catchment) and into the Tuart forests of the SCP including Yanchep, Baldvis, Lake Clifton and near Bunbury (Johnstone & Kirkby 2011).

Carnaby's Cockatoo display strong pair bonds and mate for life. They nest in hollows of smooth-barked eucalypts particularly Salmon Gum and Wandoo but nests have also been found in other Eucalypt species including York Gum (*Eucalyptus loxophleba*), Flooded Gum (*Eucalyptus rudis*), the rough-barked Marri and Tuart (Johnstone & Kirkby 2011). In most nests in Tuart, eggs are laid on a mat of wood chips at the bottom of a large hollow (mostly top entry hollows) ranging from a few cm's to five m deep (Johnstone & Kirkby 2011). Clutch size is 1–2 eggs, more typically two; only one

young is reared (Saunders 1986). Incubation lasts for 29 days and only the female incubates and broods. The nestling is brooded by the female during which time both rely on food from the male. Once brooding is complete, the female then leaves the nest each day at dawn, sometimes returning mid-morning (with the male) to feed the chick (Johnstone & Kirkby 2011). After approximately three weeks she ceases to brood and the chick is fed by one or both parents in the morning and in the late evening (Johnstone & Kirkby 2011).

Approximately 87% (525,732 ha) of potential Carnaby's Cockatoo habitat (i.e. areas of vegetation that contain flora species and vegetation types that could support the species' breeding, feeding and night roosting activities) has been cleared in the wheatbelt since European settlement. The south-west region is now a severely fragmented landscape and the further loss of foraging habitat, the lack of suitable breeding sites, climate change, alterations in the landscape, changing forest structure with almost every part of the Jarrah-Marri forest logged in the past and with most trees too young to form hollows, and competition with exotic species, exacerbate the future conservation of Carnaby's Cockatoo (Johnstone & Kirkby 2011).

Baudin's Cockatoo

Baudin's Cockatoo is listed as Endangered under the EPBC Act and the BC Act. This species is distributed through the south-western humid and subhumid zones, from the northern Darling Range and adjacent far east of the SCP (south of the Swan River), south to Bunbury and across to Albany (Johnstone & Kirkby 2011). Baudin's Cockatoo rarely occurs near the coast north of Mandurah, and rarely occurs north of the Swan River (Johnstone & Kirkby 2008, Johnstone & Storr 1998). Baudin's Cockatoo usually occur in small flocks of up to 30, or occasionally up to 50 and rarely in aggregations of up to 1200 (Johnstone & Kirkby 2008). Baudin's Cockatoo is distinguished from Carnaby's Cockatoo by its longer bill and slightly different call.

This species forages primarily in Eucalypt forest, where it feeds on Marri seeds, flowers, nectar and buds. They also feed on a wide range of seeds of Eucalyptus, Banksia, Hakea and Pines (*Pinus* sp.) as well as fruiting apples and pears and beetle larvae from under the bark of trees (Johnstone & Kirkby 2008, Johnstone & Storr 1998). Baudin's Cockatoo forages at all levels of the forest, from the canopy to the ground, often feeding in the understorey on proteaceous trees and shrubs, especially Banksia, and in orchards both in trees and on dropped or fallen fruit on the ground.

The breeding biology of this species is poorly known. It has been recorded breeding in the deep south-west, north to the Whicher Range and Lowden and also isolated records at Wungong Catchment, Serpentine (hills area) and east to Kojonup and near Albany (Johnstone & Kirkby 2008). They nest in large, mostly vertical, hollows of Karri, Marriand Wandoo. Baudin's Cockatoos display strong pair bonds are monogamous and most likely mate for life (Johnstone & Kirkby 2008). The pair remains together all year round except when the female is incubating and brooding. Both adults play a part in selecting the nest hollow, but only the female is responsible for renovation and preparing the hollow for breeding. Preparation of the hollow consists of chewing around the entrance of the hollow and down one part of the interior wall. Pairs have also been recorded prospecting for hollows in most months and outside the breeding range (Johnstone & Kirkby 2008).

Forest Red-tailed Black Cockatoo

The FRTBC is listed as Vulnerable under the EPBC Act and the BC Act. It is distributed through the humid and subhumid south-west of WA from Gingin through the Darling Ranges to the south-west from Bunbury to Albany (primarily in the hilly interior) (Johnstone & Storr 1998, Johnstone *et al.* 2013a). In these areas, the FRTBC inhabits dense Jarrah, Karri, and Marri forests that receive more than 600 mm average annual rainfall (Johnstone & Storr 1998). However, in recent years the FRTBC has moved on to the SCP to forage in the Perth metropolitan area (Johnstone & Kirkby 2011). The FRTBC occurs in pairs or small flocks, or occasionally large flocks of up to 200 birds (Johnstone & Storr 1998).

The FRTBC feeds primarily on Marri and Jarrah fruit, but also Tuart and to a lesser extent on Blackbutt, Albany Blackbutt (*Eucalyptus staeri*), Karri, Sheoak (*Allocasuarina fraseriana*) and Snottygobble (*Persoonia longifolia*) (Johnstone *et al.* 2013b). The FRTBC can obtain energy faster when feeding on Marri and Jarrah than other food sources (Cooper *et al.* 2002), and these two-plant species make up most of their diet (Johnstone *et al.* 2013b).

FRTBC shear the base of Marri nuts at a 45° angle to remove seeds (the 'bottom slice' method), while Baudin's Cockatoos use their elongated upper mandible to pry seeds out, leaving the nut intact (the 'lever') (Johnstone & Kirkby 1999, Cooper *et al.* 2002). Carnaby's Cockatoos may use either technique to feed on Marri nuts, but generally with some modification, e.g. the 'slicing' of fruits may occur along the side of the fruit casing.

The FRTBC is monogamous and pairs nest in tree hollows from 6.5 – 33 m above ground and most nests are in large and old mature Marri, and these trees are the most important nesting tree throughout the FRTBC range (Johnstone *et al.* 2013a). Nest trees of the FRTBC have a mean circumference at breast height of 2.79 m, a mean estimated age of 222 years and a mean overall height of 20.24 m (Johnstone *et al.* 2013a).

Breeding has been recorded in all months, with peaks in April-June and August-October. Only one egg is laid, which the female incubates for 29 to 31 days, before a nestling hatches and weighs between 27 and 32 g. The female remains in the hollow during incubation and only leaves for a short period in the evening to be fed by the male, usually at dusk (Johnstone *et al.* 2013b). Brooding is for up to 10 days, after which the female leaves the nest between dawn and dusk. Pairs of birds appear to recognise each other by calls, not responding to calls by others in the area. Chicks only respond when the parent is heard and are fully feathered at 48 days (Johnstone *et al.* 2013b).

The survey area consisted of Peppermint (*Agonis flexuosa*) and Parrot Bush (*Banksia sessilis*), both known foraging items of all three species of Black Cockatoo, however, no Black Cockatoos were observed (visually or audibly) during the survey and no foraging evidence was recorded. It is important to note, that although these are known dietary items for all three Black Cockatoo species, they are not their preferred foraging items (DSEPaC 2012).

The survey area is within the known distribution of all three Black Cockatoo species and suitable foraging habitat is present. Breeding habitat, however, was not present in the survey area. None of the species recorded were large Eucalyptus trees that are known breeding habitat for Black Cockatoos. The vegetation present is coastal heathland and as such does not form the necessary large hollows required by Black Cockatoos to breed in (DSEWPaC 2012).

The DBCA threatened fauna database returned six records of the FRTBC, 57 records of Baudin's Black Cockatoo, 92 records of Carnaby's Black Cockatoo (as well as 34 records of White-tailed Black Cockatoo, which could be Carnaby's or Baudin's because as they look very similar, they can be confused by those unfamiliar with the species). Consequently, all three Black Cockatoo species are considered as Likely to occur in the survey area.

It is important to note that although the survey area does provide some potential foraging habitat for all three species of Black Cockatoo, the clearing for the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation, that is required to be cleared on an as needs basis, for turbine maintenance will have little to near no impact on the species locally, but particularly not as a regional level.

4.1.3 Species Considered as Possibly Occurring

A total of two conservation significant species are considered as Possibly occurring in the survey area.

Western Ringtail Possum (*Pseudocheirus occidentalis*)

Western Ringtail Possum is listed as Critically Endangered (CR) under the EPBC Act and the BC Act. Western Ringtail Possum (WRP) populations have declined or become locally extinct over much of their former range in the south-west as a result of clearing and fragmentation of habitat associated with agricultural development (Jones *et al.* 1994; Shedley & Williams 2014). However, even in the relatively intact forested regions of the south-west, populations have declined significantly, particularly since 1998 (Shedley & Williams 2014; Woinarski *et al.* 2014). Threatening processes include logging intensity, inappropriate fire regimes, dieback, and a drying climate may have all contributed to the degradation of WRP habitat, and increased the exposure of WRP to predation by foxes (*Vulpes vulpes*) and cats (*Felis catus*) or to heat stress (Jones *et al.* 1994; Wayne *et al.* 2005; Woinarski *et al.* 2014).

The highest population densities of WRP are now found around the Bunbury (Binningup) to Dunsborough coastal strip, which coincides with an area of urban development and loss of prime habitat (Shedley & Williams 2014). This coastal strip is considered to be a stronghold for the WRP and is therefore a focus for recovery and conservation of the species. High WRP population densities have been recorded in some urban areas, particularly where mature Peppermint trees (*Agonis flexuosa*) with large, dense and overlapping canopies have been retained (Harewood 2008). This habitat type is thought to provide high quality shelter and food. High population densities may indicate that WRP have benefited from some forms of urbanisation, or alternatively have been displaced from the broader setting by vegetation clearing and are confined to smaller pockets of remnant habitat.

The main component of suitable habitat for WRP is the Peppermint tree either as a dominant woodland species or as an understory component of Eucalypt woodland (Jones *et al.* 1994). In coastal areas, the WRP diet is largely dominated by Peppermint leaves (Jones *et al.* 1994; De Torres 2008). Additional woodland species known as WRP habitat include Jarrah, Marri, Tuart and various species of Melaleuca.

WRP populations in the south coast management zone (which stretches from [approximately 15 km] west of Walpole to [approximately 60 km] east of Albany) are associated with a diverse range of

habitats including coastal heath, Jarrah/Marri woodland and forest, peppermint woodlands, myrtaceous heaths and shrublands, Bullich dominated riparian zones and Karri forest. (DPaW 2017). In the vegetation associations mapped in the Albany urban area by Sandiford & Barrett (2010), most records were from coastal limestone heath vegetation (unit 5b). Little is known of the relative abundance of the WRP within and between vegetation types, including the vegetation types where they have been recorded in the broader Denmark to Mt Manypeaks area. As such the habitat critical to survival in the south coast management zone cannot currently be clearly defined so all remnant habitat is considered important. The milder climate of the South Coast is likely to become increasingly important or critical to the survival of the species in a warming and drying climate trend and the sensitivities this species has to drought and heat and the anticipated climate change effects on the forage and shelter quality of vegetation upon which this species depends (Molloy *et al.* 2014).

The survey area does contain suitable habitat in the way of scattered Bullich, as well as Peppermint, however, no dreys or scats were recorded in the survey area. The DBCA threatened fauna database returned 69 records of the WRP and consequently the WRP is considered as Possibly occurring in the vicinity of the survey area.

It is important to note that although the survey area does provide potential foraging habitat for the WRP, the very limited clearing that is due to take place at each of the 15 wind turbine sites (total area of 0.73 ha) will have little to near no impact on the species locally, but particularly not as a regional level.

Western Bush Wallaby (*Notamacropus irma*)

The Western Bush Wallaby is listed as Priority 4 under the DBCA priority list. The range of the Western Bush Wallaby has declined in the past due to land clearance and they are absent from developed areas around Perth; however, in much of its remaining extensive habitat, its numbers have increased following widespread fox control. The species is now considered relatively common, particularly where fox control is taking place (Woinarski *et al.* 2014). They are primarily grazers, but little is known of their food preferences.

The Western Bush Wallaby inhabits a wide range of habitats, but favours open, grassy areas and are absent in Karri forests where there is dense understorey. The DBCA threatened fauna database returned a single record of the Western brush Wallaby from 1999 from the Albany Wind Farm. Consequently, the Western Bush Wallaby is considered as Possibly occurring in the survey area. The species would require a much larger home range than the small areas of vegetation surrounding the turbines and therefore would not be entirely dependent on these small areas. In addition, given the small amount of vegetation to be cleared at each of the 15 wind turbine sites, the impact on the species is considered to be little to no impact at a local scale, but particularly at a regional scale

4.1.4 Species Considered Unlikely to Occur

A total of five conservation significant species are considered as Unlikely to occur in the survey area.

Osprey (*Pandion haliaetus*) and White-bellied Sea Eagle (*Haliaeetus leucogaster*)

The Osprey is listed as Migratory and Marine under the EPBC Act and the White-bellied Sea-eagle is listed as Marine under the EPBC Act. Both these birds require coasts and near-coastal wetland habitat, where they feed mainly on fish, sea snakes and nesting seabirds (Johnstone & Storr 1998).

These two species were both present in the NatureMap and EPBC PMST databases. The DBCA threatened fauna database returned 14 records of the Osprey, however, the most recent record was from 2004. The White-bellied Sea-eagle was not present in the DBCA search.

Although both these species may fly overhead, all 15 sites are situated in coastal shrub habitat that is not suitable for foraging, roosting or breeding as there are no tall trees or rocky cliff faces where they can perch or build nests. As such the Osprey and the White-bellied Sea Eagle are both considered Unlikely to occur in the survey area.

Additionally the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation that is required to be cleared on an as needs basis, for turbine maintenance will have little to near no impact on the species locally, but particularly regionally.

Fork-tailed Swift (*Apus pacificus*)

The Fork-tailed Swift is listed as migratory under the EPBC Act. It is a non-breeding visitor to all states and territories of Australia (Higgins 1999). The Fork-tailed Swift is a summer migrant to Australia usually during the months of October-April. The Fork-tailed Swift is an aerial species which forages high above the tree canopy and is independent of terrestrial habitats. It occurs in flocks of up to 2,000 birds and is often seen accompanying Tree Martins and Masked Wood swallows (Johnstone & Storr 1998).

The DBCA threatened fauna database returned just two records of the species and it was absent from the NatureMap search. Limited habitat and limited records result in the Fork-tailed Swift being considered as Unlikely to occur in the survey area.

Additionally, the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation that is required to be cleared on an as needs basis, for turbine maintenance will have little to near no impact on the species locally, but particularly regionally.

Rainbow Bee-eater (*Merops ornatus*)

The Rainbow Bee-eater is listed as Marine under the EPBC Act and was only present in the EPBC PMST. This species is one of the most common and widespread birds in Australia with a distribution that covers the majority of Australia (Barrett *et al.* 2003). It occurs in lightly wooded, often sandy country, preferring areas near water. It feeds on airborne insects, and nests throughout its range in WA in burrows excavated in sandy ground or banks, often at the margins of roads and tracks. In WA this species can occur as a 'resident, breeding visitor, postnuptial nomad, passage migrant and winter visitor' (Johnstone & Storr 1998).

Suitable habitat in the way of open water, or lightly wooded areas, is not present in or near the survey area and consequently the species is considered as Unlikely to occur in the survey area.

Additionally, the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation that is required to be cleared on an as needs basis, for turbine maintenance will have little to near no impact on the species locally, but particularly regionally

Western Bristlebird (*Dasyornis longirostris*)

The Western Bristlebird is listed as Endangered under the EPBC Act and the BC Act and was only present in the EPBC PMST. The species is found in coastal heaths on the south coast of WA, where it is a scarce resident in few suitable remaining coast heaths between Two People's Bay (approximately 35 km to the north east of the survey area) and Fitzgerald River National Park (approximately 200 km to the north east of the survey area). As such the Western Bristlebird is considered Unlikely to occur in the survey area.

Additionally, the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation that is required to be cleared on an as needs basis, for turbine maintenance will have little to near no impact on the species locally, but particularly regionally

4.2 Fauna Habitat

A total of 15 fauna habitat assessments were undertaken (Appendix 4) and one broad fauna habitat type was defined and mapped for the survey area based on the results of the field assessment (Figure 1). This habitat is described as follows:

Coastal Heathland

The entire total proposal area 14.34 ha, consists of coastal heathland. This habitat consists of an overstorey of (scattered) Bullich and Peppermint, a midstorey of *Parrot Bush* and *Acacia*, over a groundstorey of sedges.

This habitat provides vegetation in multiple strata (canopy, midstorey and understorey) and so provides habitat for a suite of fauna, particularly for small reptiles, birds and mammals.

The Peppermint provides potential habitat for the WRP, while the Peppermint and *Banksia sessilis* also provide potential foraging habitat for all three species of Black Cockatoo. Again, it is important to note that these are not the preferred foraging items of the three species of Black Cockatoo (DSEWPac 2012).

It is important to note however, that although the survey area does provide potential habitat for a number of species, including a number of conservation significant species (section 5.1), the total proposal area is 14.34 ha, of which 11.1 ha comprises native vegetation that is required to be cleared on an as needs basis, for turbine maintenance will have limited effect on these fauna species.

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Appendix 1

Conservation Categories

Categories of Threatened Fauna Species under the EPBC Act

Conservation Code	Description
Ex	Extinct Taxa which at a particular time if, at the time, there is no reasonable doubt that the last member of the species has died.
ExW	Extinct in the Wild Taxa which is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
CE	Critically Endangered Taxa which at a particular time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
En	Endangered Taxa which is not critically endangered and it is facing a very high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
Vu	Vulnerable Taxa which is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

Source: Environment Protection and Biodiversity Conservation Act 1999.

DBCA Fauna Priority Codes

Category	Code	Description
Poorly-known species	Priority 1 (P1)	Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
Poorly-known species	Priority 2 (P2)	Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
Poorly-known species	Priority 3 (P3)	Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
Poorly-known species	Priority 4 (P4)	<p>(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.</p> <p>(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.</p> <p>(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>



CONSERVATION CODES

For Western Australian Flora and Fauna

Threatened, Extinct and Specially Protected fauna or flora¹ are species² which have been adequately searched for and are deemed to be, in the wild, threatened, extinct or in need of special protection, and have been gazetted as such.

The *Wildlife Conservation (Specially Protected Fauna) Notice 2018* and the *Wildlife Conservation (Rare Flora) Notice 2018* have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018* to be the lists of Threatened, Extinct and Specially Protected species under Part 2 of the *Biodiversity Conservation Act 2016*.

Categories of Threatened, Extinct and Specially Protected fauna and flora are:

T **Threatened species**

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

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

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

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

CR **Critically endangered species**

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

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

EN **Endangered species**

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

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

EX Extinct species

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

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

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

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

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

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

CD Species of special conservation interest (conservation dependent fauna)

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

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

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

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

P **Priority species**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

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

1 **Priority 1: Poorly-known species**

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

2 **Priority 2: Poorly-known species**

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

3 **Priority 3: Poorly-known species**

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

4 **Priority 4: Rare, Near Threatened and other species in need of monitoring**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

¹ The definition of flora includes algae, fungi and lichens

² Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies or variety, or a distinct population).

Appendix 2

Database Searches

NatureMap Species Report

Created By Guest user on 11/02/2020

Kingdom Animalia
Current Names Only Yes
Core Datasets Only Yes
Method 'By Line'
Vertices 35° 03' 48" S, 117° 47' 50" E 35° 02' 50" S, 117° 44' 55" E
Group By Family

Family	Species	Records
Acanthizidae	4	114
Accipitridae	8	55
Aegothelidae	1	4
Anapidae	1	1
Anatidae	8	110
Anhingidae	1	2
Araneidae	2	2
Archaeidae	1	15
Ardeidae	3	28
Artamidae	1	3
Atherinidae	1	1
Boidae	1	2
Cacatuidae	1	21
Campephagidae	1	19
Charadriidae	2	5
Chernitidae	1	2
Columbidae	2	31
Corvidae	1	29
Cracticidae	3	68
Cuculidae	1	21
Delphinidae	1	1
Desidae	1	2
Dicruridae	3	64
Diomedidae	2	2
Estrilidae	1	25
Falconidae	1	10
Garypidae	1	1
Gobiidae	1	2
Haematopodidae	1	4
Halcyonidae	2	32
Hirundinidae	2	34
Laridae	4	24
Macropodidae	1	1
Maluridae	3	76
Meliphagidae	7	154
Mimetidae	1	1
Nannoperidae	1	1
Pachycephalidae	2	23
Paradoxosomatidae	1	5
Pardalotidae	2	24
Pelecanidae	1	20
Peramelidae	1	2
Petroicidae	2	34
Phalacrocoracidae	4	8
Phasianidae	2	2
Physeteridae	1	1
Podargidae	1	7
Podicipedidae	2	6
Poeciliidae	1	1
Pseudocheiridae	1	3
Psittacidae	8	125
Pygopodidae	1	2
Rallidae	4	25
Recurvirostridae	2	6
Scincidae	4	10
Scolopacidae	2	3
Scolopendridae	1	1
Sulidae	1	7
Threskiornithidae	2	35
Zodariidae	1	2
Zoridae	1	1
Zosteropidae	1	47
TOTAL	126	1367

Name ID Species Name Naturalised Conservation Code ¹Endemic To Query Area

Acanthizidae

1. 24260 *Acanthiza apicalis* (Broad-tailed Thornbill, Inland Thornbill)
2. 24261 *Acanthiza chrysorrhoa* (Yellow-rumped Thornbill)

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
3.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
4.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
Accipitridae				
5.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
6.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
7.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
8.	24288 <i>Circus approximans</i> (Swamp Harrier)			
9.	<i>Elanus axillaris</i>			
10.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
11.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			
12.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
Aegothelidae				
13.	25544 <i>Aegotheles cristatus</i> (Australian Owlet-nightjar)			
Anapidae				
14.	<i>Taphiassa robertsi</i>			
Anatidae				
15.	24310 <i>Anas castanea</i> (Chestnut Teal)			
16.	24312 <i>Anas gracilis</i> (Grey Teal)			
17.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
18.	24319 <i>Biziura lobata</i> (Musk Duck)			
19.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
20.	24322 <i>Cygnus atratus</i> (Black Swan)			
21.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
22.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
Anhingidae				
23.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
Araneidae				
24.	<i>Arachnura higginsi</i>			
25.	<i>Austracantha minax</i>			
Archaeeidae				
26.	42361 <i>Zephyrarchaea mainae</i> (Main's assassin spider)		T	
Ardeidae				
27.	25558 <i>Ardea ibis</i> (Cattle Egret)			
28.	41324 <i>Ardea modesta</i> (great egret, white egret)			
29.	<i>Egretta novaehollandiae</i>			
Artamidae				
30.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
Atherinidae				
31.	<i>Atherinosoma</i> sp.			
Boidae				
32.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
Cacatuidae				
33.	<i>Eolophus roseicapillus</i>			
Campephagidae				
34.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
Charadriidae				
35.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
36.	47937 <i>Euseyornis melanops</i> (Black-fronted Dotterel)			
Chernetidae				
37.	<i>Nesidiochernes slateri</i>			
Columbidae				
38.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
39.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
Corvidae				
40.	25592 <i>Corvus coronoides</i> (Australian Raven)			
Cracticidae				
41.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
42.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
43.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
Cuculidae				
44.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Delphinidae				
45.	24052 <i>Delphinus delphis</i> (Common Dolphin)			
Desidae				
46.	<i>Baiami torbayensis</i>			
Dicruridae				
47.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
48.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
49.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
Diomedeidae				
50.	34007 <i>Thalassarche chlororhynchos</i> (Atlantic Yellow-nosed Albatross)		T	
51.	44607 <i>Thalassarche melanophris</i> (Black-browed Albatross)		T	
Estrilidae				
52.	24645 <i>Stagonopleura oculata</i> (Red-eared Firetail)			
Falconidae				
53.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
Garypidae				
54.	<i>Synsphyronus callus</i>			
Gobiidae				
55.	<i>Pseudogobius olorum</i>			
Haematopodidae				
56.	25627 <i>Haematopus fuliginosus</i> (Sooty Oystercatcher)			
Halcyonidae				
57.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
58.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
Hirundinidae				
59.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
60.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
Laridae				
61.	<i>Chroicocephalus novaehollandiae</i>			
62.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
63.	25638 <i>Larus pacificus</i> (Pacific Gull)			
64.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
Macropodidae				
65.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
Maluridae				
66.	25650 <i>Malurus elegans</i> (Red-winged Fairy-wren)			
67.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
68.	25655 <i>Stipiturus malachurus</i> (Southern Emu-wren)			
Meliphagidae				
69.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
70.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
71.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
72.	47962 <i>Glyciphila melanops</i> (Tawny-crowned Honeyeater)			
73.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
74.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
75.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
Mimetidae				
76.	<i>Australomimetes diabolicus</i>			
Nannoperidae				
77.	<i>Edelia vittata</i>			
Pachycephalidae				
78.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
79.	25677 <i>Falcunculus frontatus</i> (Crested Shrike-tit)			
Paradoxosomatidae				
80.	<i>Akamptogonus novarae</i>			
Pardalotidae				
81.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
82.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
Pelecanidae				
83.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Peramelidae				
84.	48588 <i>Isoodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
Petroicidae				
85.	24652 <i>Eopsaltria georgiana</i> (White-breasted Robin)			
86.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
Phalacrocoracidae				
87.	<i>Microcarbo melanoleucos</i>			
88.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
89.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
90.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
Phasianidae				
91.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
92.	25701 <i>Coturnix ypsilophora</i> (Brown Quail)			
Physeteridae				
93.	24073 <i>Physeter macrocephalus</i> (Sperm Whale)		T	
Podargidae				
94.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
Podicipedidae				
95.	24681 <i>Poliiocephalus poliocephalus</i> (Hoary-headed Grebe)			
96.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
Poeciliidae				
97.	<i>Gambusia affinis</i>			
Pseudocheiridae				
98.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
Psittacidae				
99.	<i>Barnardius zonarius</i>			
100.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
101.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
102.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
103.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
104.	24739 <i>Neophema petrophila</i> (Rock Parrot)			
105.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
106.	<i>Purpureicephalus spurius</i>			
Pygopodidae				
107.	24994 <i>Aprasia striolata</i> (Lined Worm-lizard)			
Rallidae				
108.	25727 <i>Fulica atra</i> (Eurasian Coot)			
109.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
110.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
111.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
Recurvirostridae				
112.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
113.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
Scincidae				
114.	25031 <i>Ctenotus catenifer</i>			
115.	25049 <i>Ctenotus labillardieri</i>			
116.	30919 <i>Hemiergis gracilipes</i> (skink)			
117.	25192 <i>Morethia obscura</i>			
Scolopacidae				
118.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
119.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
Scolopendridae				
120.	<i>Cormocephalus michaelsoni</i>			
Sulidae				
121.	48008 <i>Morus serrator</i> (Australasian Gannet)			
Threskiornithidae				
122.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
123.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Zodariidae				
124.	<i>Storosa tetrica</i>			
Zoridae				
125.	<i>Argoctenus bidentatus</i>			
Zosteropidae				
126.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silveryeye)			

Conservation Codes
T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ 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.



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 11/02/20 19:13:01

[Summary](#)

[Details](#)

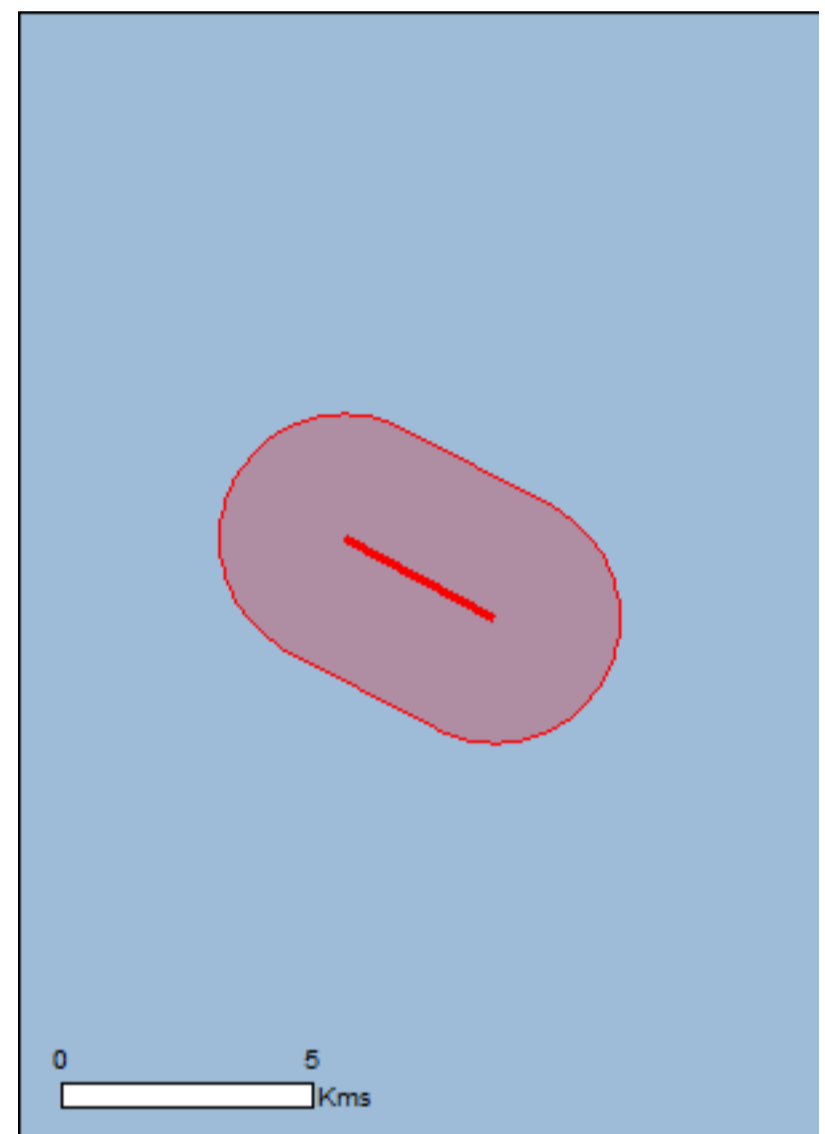
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

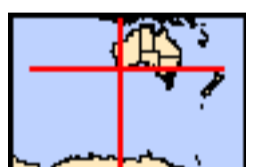
[Acknowledgements](#)



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

[Coordinates](#)

Buffer: 2.5Km



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](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	47
Listed Migratory Species:	42

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	65
Whales and Other Cetaceans:	12
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:	1
Regional Forest Agreements:	None
Invasive Species:	22
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat likely to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Long-billed Black-Cockatoo [769]	Endangered	Breeding known to occur within area
Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Breeding likely to occur within area
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose [25978]	Vulnerable	Species or species habitat may occur within area
Dasyornis longirostris Western Bristlebird [515]	Endangered	Species or species habitat likely to occur within area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may 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

Name	Status	Type of Presence
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica baueri Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may 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
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding likely to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta cauta Shy Albatross [82345]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche cauta steadi White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Insects		
Trioza barrettiae Banksia brownii plant louse [87805]	Endangered	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area

Name	Status	Type of Presence
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Species or species habitat may occur within area
Parantechinus apicalis Dibbler [313]	Endangered	Species or species habitat known to occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat may occur within area

Plants

Banksia brownii Brown's Banksia, Feather-leaved Banksia [8277]	Endangered	Species or species habitat likely to occur within area
Banksia verticillata Granite Banksia, Albany Banksia, River Banksia [8333]	Vulnerable	Species or species habitat likely to occur within area
Calectasia cyanea Blue Tinsel Lily [7669]	Critically Endangered	Species or species habitat known to occur within area
Isopogon uncinatus Albany Cone Bush, Hook-leaf Isopogon [20871]	Endangered	Species or species habitat likely to occur within area
Kennedia glabrata Northcliffe Kennedia [16452]	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
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area

Sharks

Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species

[[Resource Information](#)]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
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Migratory Marine Birds

Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
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Name	Threatened	Type of Presence
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 dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may 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
Hydroprogne caspia Caspian Tern [808]		Foraging, feeding or related behaviour known 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
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	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
Migratory Marine Species		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Breeding known to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely 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	Foraging, feeding or related behaviour known to occur within area
Caretta caretta Loggerhead Turtle [1763]	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 may occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat known to occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species

Name	Threatened	Type of Presence
Limosa lapponica Bar-tailed Godwit [844]		habitat may occur within area Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

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

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat likely to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Catharacta skua Great Skua [59472]		Species or species habitat may occur within area
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose [25978]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may 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
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Larus pacificus Pacific Gull [811]		Foraging, feeding or related behaviour 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
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
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Phoebastria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat likely to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Puffinus assimilis Little Shearwater [59363]		Foraging, feeding or related behaviour 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
Sterna caspia Caspian Tern [59467]		Foraging, feeding or related behaviour known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	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 Hooded Plover [59510]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area
Fish		
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
Leptoichthys fistularius Brushtail Pipefish [66248]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species habitat may occur within area
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat likely to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Species or species habitat may 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	Threatened	Type of Presence
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may 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 known to occur within area
Orcinus orca Killer Whale, Orca [46]		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 may occur within area

Extra Information

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

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

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

Name	Status	Type of Presence
Birds		

Name	Status	Type of Presence
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur 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
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus scandens Asparagus Fern, Climbing Asparagus Fern [23255]		Species or species habitat likely to occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species

Name	Status	Type of Presence
Pinus radiata		habitat likely to occur within area
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
Sagittaria platyphylla		
Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Ulex europaeus		
Gorse, Furze [7693]		Species or species habitat likely to occur within area

Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-35.065683 117.802361,-35.054021 117.775239,-35.054021 117.775239

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- [-Natural history museums of Australia](#)
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- [-Other groups and individuals](#)

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

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

Appendix 3

Fauna Species List

Botaurus poiciloptilus	Australasian bittern	BIRD	EN	13/01/2004	2004	BIRDATLAS2		Moderately certain	Observational	Sighting	1	ELLEKER	Lake Powell		100	117.746200000000	-35.019900000000	24345	Ardeidae	Botaurus poiciloptilus	Animalia
Botaurus poiciloptilus	Australasian bittern	BIRD	EN	1/01/2002	2002	TFAUNA		Certain	Community survi	Sighting	1	ELLEKER			1000	117.743300000000	-35.016700000000	24345	Ardeidae	Botaurus poiciloptilus	Animalia
Botaurus poiciloptilus	Australasian bittern	BIRD	EN			0	TFAUNA	Certain	Historical (writte	Sighting	0	Lake Powell Nature Reserve		1000	117.742000000000	-35.017300000000	24345	Ardeidae	Botaurus poiciloptilus	Animalia	
Calidris acuminata	Sharp-tailed Sandpiper	BIRD	IA	30/09/2005	2005	BIRDATLAS2					0	Rusby Point		100	117.850400000000	-35.057700000000	24779	Scolopacidae	Calidris acuminata	Animalia	
Calidris acuminata	Sharp-tailed Sandpiper	BIRD	IA	31/10/2005	2005	BIRDATLAS2					0	Rusby Point		100	117.850400000000	-35.057700000000	24779	Scolopacidae	Calidris acuminata	Animalia	
Calidris canutus	red knot	BIRD	EN	27/12/1998	1998	BIRDATLAS2					0	Bibbulman Track		100	117.844800000000	-35.063500000000	25738	Scolopacidae	Calidris canutus	Animalia	
Calidris canutus	red knot	BIRD	EN	11/11/1999	1999	BIRDATLAS2		Moderately certain	Observational	Sighting	1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.858200000000	-35.026900000000	25738	Scolopacidae	Calidris canutus	Animalia	
Calidris canutus	red knot	BIRD	EN	21/11/1999	1999	BIRDATLAS2		Moderately certain	Observational	Sighting	1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.858200000000	-35.026900000000	25738	Scolopacidae	Calidris canutus	Animalia	
Calidris canutus	red knot	BIRD	EN	26/01/2001	2001	BIRDATLAS2					0	Rusby Point, Albany		500	117.851500000000	-35.048800000000	25738	Scolopacidae	Calidris canutus	Animalia	
Calidris ferruginea	curlew sandpiper	BIRD	CR	18/07/2004	2004	BIRDATLAS2		Moderately certain	Observational	Sighting	1	ELLEKER	Lake Powell	100	117.746200000000	-35.019900000000	24784	Scolopacidae	Calidris ferruginea	Animalia	
Calidris ferruginea	Curlew Sandpiper	BIRD	CR	31/10/2005	2005	BIRDATLAS2					0	Rusby Point		100	117.850400000000	-35.057700000000	24784	Scolopacidae	Calidris ferruginea	Animalia	
Calidris ruficollis	red-necked stint	BIRD	IA	15/10/1977	1977	BIRDATLAS1		Moderately certain	Observational	Sighting	1	MCKAIL	MCKAIL	36000	117.834800000000	-34.998800000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	Red-necked Stint	BIRD	IA	27/12/1998	1998	BIRDATLAS2					0	Bibbulman Track		100	117.844800000000	-35.063500000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	red-necked stint	BIRD	IA	11/11/1999	1999	BIRDATLAS2		Moderately certain	Observational	Sighting	1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.858200000000	-35.026900000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	red-necked stint	BIRD	IA	21/11/1999	1999	BIRDATLAS2		Moderately certain	Observational	Sighting	1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.858200000000	-35.026900000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	Red-necked Stint	BIRD	IA	26/01/2001	2001	BIRDATLAS2					0	Rusby Point, Albany		500	117.851500000000	-35.048800000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	red-necked stint	BIRD	IA	13/02/2003	2003	BIRDATLAS2		Moderately certain	Observational	Sighting	1	ELLEKER	Lake Powell	500	117.747400000000	-35.026600000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	red-necked stint	BIRD	IA	13/02/2003	2003	BIRDATLAS2		Moderately certain	Observational	Sighting	1	ELLEKER	Lake Powell	500	117.747400000000	-35.026600000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	Red-necked stint	BIRD	IA	18/07/2004	2004	BIRDATLAS2		Moderately certain	Observational	Sighting	1	ELLEKER	Lake Powell	100	117.746200000000	-35.019900000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	red-necked stint	BIRD	IA	31/08/2005	2005	BIRDATLAS2					0	Rusby Point		100	117.850400000000	-35.057700000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	Red-necked Stint	BIRD	IA	30/09/2005	2005	BIRDATLAS2					0	Rusby Point		100	117.850400000000	-35.057700000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris ruficollis	Red-necked Stint	BIRD	IA	31/10/2005	2005	BIRDATLAS2					0	Rusby Point		100	117.850400000000	-35.057700000000	24788	Scolopacidae	Calidris ruficollis	Animalia	
Calidris tenuirostris	Great Knot	BIRD	CR	27/12/1998	1998	BIRDATLAS2					0	Bibbulman Track		100	117.844800000000	-35.063500000000	24790	Scolopacidae	Calidris tenuirostris	Animalia	
Calidris tenuirostris	great knot	BIRD	CR	11/11/1999	1999	BIRDATLAS2		Moderately certain	Observational	Sighting	1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.858200000000	-35.026900000000	24790	Scolopacidae	Calidris tenuirostris	Animalia	
Calidris tenuirostris	great knot	BIRD	CR	21/11/1999	1999	BIRDATLAS2		Moderately certain	Observational	Sighting	1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.858200000000	-35.026900000000	24790	Scolopacidae	Calidris tenuirostris	Animalia	
Calidris tenuirostris	Great Knot	BIRD	CR	26/01/2001	2001	BIRDATLAS2					0	Rusby Point, Albany		500	117.851500000000	-35.048800000000	24790	Scolopacidae	Calidris tenuirostris	Animalia	
Calidris tenuirostris	Great Knot	BIRD	CR	31/10/2005	2005	BIRDATLAS2					0	Rusby Point		100	117.850400000000	-35.057700000000	24790	Scolopacidae	Calidris tenuirostris	Animalia	
Calyptrorhynchus banksii n	forest red-tailed black cockatoo	BIRD	VU	1/03/2005	2005	TFAUNA		Certain	Survey	Day sighting	0	Elleker		1000	117.736800000000	-35.031100000000	24731	Cacatuidae	Calyptrorhynch banksii	Animalia	
Calyptrorhynchus banksii n	forest red-tailed black cockatoo	BIRD	VU	12/01/2007	2007	TFAUNA		Certain	Opportunistic sig	Day sighting	7	Albany		1000	117.805600000000	-35.023100000000	24731	Cacatuidae	Calyptrorhynch banksii	Animalia	
Calyptrorhynchus banksii n	forest red-tailed black cockatoo	BIRD	VU			0	TFAUNA	Certain	Historical (writte	Sighting	0	MARBELLUP		10000	117.783300000000	-35.000000000000	24731	Cacatuidae	Calyptrorhynch banksii	Animalia	
Calyptrorhynchus banksii n	forest red-tailed black cockatoo	BIRD	VU	12/04/2015	2015	TFAUNA		Certain	Community survi	Day sighting	5	Torbay		1000	117.709400000000	-35.003200000000	24731	Cacatuidae	Calyptrorhynch banksii	Animalia	
Calyptrorhynchus banksii n	forest red-tailed black cockatoo	BIRD	VU	1/03/2017	2017	TFAUNA		Certain	Opportunistic sig	Day sighting	20	Gledhow		1000	117.827200000000	-35.009600000000	24731	Cacatuidae	Calyptrorhynch banksii	Animalia	
Calyptrorhynchus banksii n	forest red-tailed black cockatoo	BIRD	VU	9/04/2017	2017	TFAUNA		Moderately certain	Community survi	Sighting	10	MCKAIL		1000	117.829400000000	-34.994700000000	24731	Cacatuidae	Calyptrorhynch banksii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	14/03/1999	1999	TFAUNA		Moderately certain	Survey	Day sighting	1	Albany Wind Farm		10000	117.774000000000	-35.050200000000	24733	Cacatuidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	5/09/1977	1977	BIRDATLAS1					0			18000	117.751500000000	-35.082100000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	30/09/1977	1977	BIRDATLAS1					0			18000	117.751500000000	-35.082100000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	28/02/1978	1978	BIRDATLAS1					0			18000	117.751500000000	-35.082100000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/12/1999	1999	BIRDATLAS2					0	Lot 140 Opal Street, Little Grove, Albany		100	117.857600000000	-35.072700000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	6/01/2000	2000	BIRDATLAS2					0	North Road		100	117.707900000000	-35.030700000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	29/02/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	29/02/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	29/02/2000	2000	BIRDATLAS2					0	Lot 140 Opal Street, Little Grove, Albany		100	117.857600000000	-35.072700000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/03/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	30/04/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	30/04/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	27/05/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/05/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	19/06/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	30/06/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/07/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	30/09/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	20/10/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	30/11/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	30/11/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/12/2000	2000	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/12/2000	2000	BIRDATLAS2					0	Lot 140 Opal Street, Little Grove, Albany		100	117.858500000000	-35.072400000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/12/2000	2000	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/01/2001	2001	BIRDATLAS2					0	Elleker Road, Elleker		100	117.732600000000	-35.031600000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	31/01/2001	2001	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727300000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	28/02/2001	2001	BIRDATLAS2					0	Lot 140 Opal Street, Little Grove, Albany		100	117.858500000000	-35.072400000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Calyptrorhynchus baudinii	Baudin's cockatoo	BIRD	EN	28/02/2001	2001	BIRDATLAS2					0	'Riverslea', Lot 2734 Elleker Road, Grasmere		100	117.727900000000	-35.029900000000	24733	Pittidae	Calyptrorhynch baudinii	Animalia	
Cal																					

Pandion cristatus	eastern osprey	BIRD	IA	29/01/2001	2001	BIRDATLAS2					0	laoke Poeell, Elleker		500	117.7518000000	-35.0188000000	48591	Acciptridae	Pandion	cristatus	Animalia
Pandion cristatus	eastern osprey	BIRD	IA	27/01/2003	2003	BIRDATLAS2					0	Lake Manarup		100	117.6982000000	-35.0294000000	48591	Acciptridae	Pandion	cristatus	Animalia
Pandion cristatus	eastern osprey	BIRD	IA	27/01/2003	2003	BIRDATLAS2					0	Lake Manarup		100	117.6982000000	-35.0294000000	48591	Acciptridae	Pandion	cristatus	Animalia
Pandion cristatus	eastern osprey	BIRD	IA	25/05/2004	2004	BIRDATLAS2					0	Rushy Point		100	117.8515000000	-35.0577000000	48591	Acciptridae	Pandion	cristatus	Animalia
Phycodurus eques	leafy sea dragon	FISH	P2	17/11/2006	2006	WAM_FISH					0			100000	117.7000000000	-35.0500000000	34039	Syngnathidae	Phycodurus	eques	Animalia
Physeter macrocephalus	sperm whale	MAMMAL	VU	10/09/1985	1985	TFAUNA	Certain	Opportunistic sig	Dead		1	Elleker/Sand Patch		10000	117.7667000000	-35.0500000000	24073	Physeteridae	Physeter	macrocephalus	Animalia
Plegadis falcinellus	glossy ibis	BIRD	IA	9/12/2004	2004	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER Lake Powell		1000	117.7462000000	-35.0199000000	24843	Threskiornithidae	Plegadis	falcinellus	Animalia
Pluvialis fulva	Pacific golden plover	BIRD	IA	7/10/2011	2011	BIRDATA					0	Frenchman Bay / Bramwall rd		0	117.8481000000	-35.0469000000	24382	Charadriidae	Pluvialis	fulva	Animalia
Pluvialis fulva	Pacific golden plover	BIRD	IA	26/01/2001	2001	BIRDATLAS2					0	Rushy Point, Albany		500	117.8515000000	-35.0488000000	24382	Charadriidae	Pluvialis	fulva	Animalia
Pluvialis fulva	Pacific golden plover	BIRD	IA	30/09/2005	2005	BIRDATLAS2					0	Rushy Point		100	117.8504000000	-35.0577000000	24382	Charadriidae	Pluvialis	fulva	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	23/12/1978	1978	BIRDATLAS1	Moderately certain	Observational	Sighting		1	MCKAIL		108000	117.8348000000	-34.9988000000	24382	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	27/12/1998	1998	BIRDATLAS2					0	Bibbulmun Track		100	117.8448000000	-35.0635000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	18/04/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI Woolstores, Albany		100	117.8582000000	-35.0269000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	11/11/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI Bibbulmun Track, Albany		100	117.8582000000	-35.0269000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	21/11/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI Bibbulmun Track, Albany		100	117.8582000000	-35.0269000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	26/01/2001	2001	BIRDATLAS2					0	Rushy Point, Albany		500	117.8515000000	-35.0488000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	9/05/2003	2003	BIRDATLAS2					0	Rushy Point, Albany		100	117.8504000000	-35.0577000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	30/06/2005	2005	BIRDATLAS2					0	Rushy Point		100	117.8504000000	-35.0577000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	31/08/2005	2005	BIRDATLAS2					0	Rushy Point		100	117.8504000000	-35.0577000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	30/09/2005	2005	BIRDATLAS2					0	Rushy Point		100	117.8504000000	-35.0577000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pluvialis squatarola	grey plover	BIRD	IA	31/10/2005	2005	BIRDATLAS2					0	Rushy Point		100	117.8504000000	-35.0577000000	24383	Charadriidae	Pluvialis	squatarola	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	14/03/1999	1999	TFAUNA	Certain	Survey	Day sighting		1	Albany Wind Farm		10000	117.7740000000	-35.0502000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	1/01/2005	2005	TFAUNA	Certain	Survey	Day sighting		2	Cuthbert		1000	117.8066000000	-35.0122000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	25/08/2005	2005	TFAUNA	Certain	Opportunistic sig	Dead		1	Marbelp		500	117.7280000000	-35.0080000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	13/11/2005	2005	TFAUNA	Certain	Survey	Night sighting		1	Gledhow		1000	117.8075000000	-35.0110000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	1/01/1990	1990	TFAUNA	Certain	Survey	Sighting		1	ELLEKER		1000	117.7353000000	-35.0056000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	14/03/1999	1999	TFAUNA	Certain	Survey	Sighting		1	Albany Wind Farm		10000	117.7725000000	-35.0513000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	1/01/1997	1997	TFAUNA	Certain	Survey	Dead		1	Albany		500	117.8487000000	-35.0403000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	12/12/1990	1990	TFAUNA	Certain	Survey	Dead		1	Gledhow		500	117.8449000000	-35.0195000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	1/01/1992	1992	TFAUNA	Certain	Survey	Sighting		1	Elleker		1000	117.7348000000	-35.0085000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR			TFAUNA	Certain	Historical (written)	Sighting		1	Lake Powell Nature Reserve		1000	117.7349000000	-35.0153000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR			TFAUNA	Certain	Historical (written)	Day sighting		1	SANDPATCH		1000	117.7833000000	-35.0443000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	5/05/2008	2008	TFAUNA	Certain	Survey	Dead		1	Albany		500	117.8500000000	-35.0340000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	30/05/2008	2008	TFAUNA	Certain	Opportunistic sig	Dead		1	Albany		500	117.8489000000	-35.0316000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	9/07/2008	2008	TFAUNA	Certain	Opportunistic sig	Dead		1	Albany		500	117.8481000000	-35.0489000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	27/04/2008	2008	TFAUNA	Certain	Survey	Night sighting		2	Elleker		500	117.7295000000	-35.0098000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	23/06/2008	2008	TFAUNA	Certain	Opportunistic sig	Sighting		0	Robinson		1000	117.8245000000	-35.0219000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	29/05/2008	2008	TFAUNA	Certain	Survey	Sighting		1	Gledhow		500	117.8460000000	-35.0030000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	14/08/2008	2008	TFAUNA	Certain	Opportunistic sig	Sighting		3	Albany		500	117.8428000000	-35.0424000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	14/07/2008	2008	TFAUNA	Certain	Opportunistic sig	Sighting		1	Albany		50	117.8245000000	-35.0219000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	22/05/2008	2008	TFAUNA	Certain	Opportunistic sig	Sighting		1	Albany		500	117.8545000000	-35.0545000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	1/01/1963	1963	TFAUNA	Very Certain (photo, sig)	Survey	Dead		1	Grasmere Hill		1000	117.7500000000	-35.0167000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	5/05/2017	2017	TFAUNA	Certain	Opportunistic sig	Dead		1	Robinson		500	117.8261000000	-35.0154000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	26/02/2018	2018	TFAUNA	Certain	Opportunistic sig	Dead		50	Torberr		50	117.7869000000	-35.0165000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	25/06/2018	2018	TFAUNA	Very Certain (photo, sig)	Opportunistic sig	Dead		0	Torrindrup		1000	117.8473000000	-35.0489000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	1/01/1974	1974	TFAUNA	Certain	Survey	Caught or trapped		4	Albany		10000	117.8333000000	-35.0000000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/01/2017	2017	TFAUNA	Certain	Survey			1	Marbelpul reserve		1000	117.7415000000	-34.9885000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	29/07/2010	2010	TFAUNA	Certain	Survey			1	Lower Denmark Road		1000	117.7890000000	-35.0165000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	2/10/2017	2017	TFAUNA	Certain	Survey	Spotlighting		2	Muttonbird rd		1000	117.7074000000	-35.0379000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	2/10/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Muttonbird Rd		1000	117.7100000000	-35.0354000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	13/11/2017	2017	TFAUNA	Certain	Survey	Released		1	Elleker		1000	117.7204000000	-35.0197000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	13/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7202000000	-35.0202000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	13/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7206000000	-35.0182000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7094000000	-35.0030000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		2	Elleker		1000	117.7101000000	-35.0034000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		2	Elleker		1000	117.7106000000	-35.0019000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7115000000	-35.0021000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7098000000	-34.9974000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7098000000	-34.9973000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	28/11/2017	2017	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7098000000	-34.9987000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	21/05/2018	2018	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7325000000	-35.0341000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	21/05/2018	2018	TFAUNA	Certain	Survey	Spotlighting		1	Elleker		1000	117.7331000000	-35.0323000000	24166	Pseudocheiridae	Pseudocheirus	occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	24/04/2018	2018	TFAUNA	Certain	Survey	Sighting		2	Elleker Torbay Rail Trail									

Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	16/07/2018	2018	WL_REG17			Survey		0		Pseudocheirus occidentalis [117.840146553]-35.01712633]16/07/2018	10	117.8401000000	-35.0171000000	24166	Pseudocheiridae	Pseudocheirus occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	13/07/2018	2018	WL_REG17			Survey		0		Pseudocheirus occidentalis [117.810889434]-34.9995616315]13/07/2018	10	117.8109000000	-34.9996000000	24166	Pseudocheiridae	Pseudocheirus occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	25/06/2018	2018	TFAUNA	Certain		Opportunistic sig	Dead	2	Albany		30	117.8473000000	-35.0490000000	24166	Pseudocheiridae	Pseudocheirus occidentalis	Animalia
Pseudocheirus occidentalis	western ringtail possum	MAMMAL	CR	26/02/2018	2018	TFAUNA	Certain		Opportunistic sig	Dead	1	Albany		1000	117.7869000000	-35.0166000000	24166	Pseudocheiridae	Pseudocheirus occidentalis	Animalia
Setonix brachyurus	quokka	MAMMAL	VU	25/03/1905	1905	TFAUNA	Certain		Survey	Caught or trapped	0	Gledhow		10000	117.8333000000	-35.0000000000	24145	Macropodidae	Setonix brachyurus	Animalia
Setonix brachyurus	quokka	MAMMAL	VU	25/03/1905	1905	WAM_MAMMALS					0			10000	117.8500000000	-35.0000000000	24145	Macropodidae	Setonix brachyurus	Animalia
Stercorarius antarcticus	Brown Skua, Subantarctic skua	BIRD	P4	15/10/1977	1977	BIRDATLAS1					0			36000	117.8348000000	-34.9988000000	48116	Laridae	Stercorarius antarcticus	Animalia
Thalassarche chlororhynch	Atlantic yellow-nosed albatross	BIRD	VU	27/04/1999	1999	BIRDATLAS2					0	Mutton Bird		100	117.6937000000	-35.0471000000	34007	Diomedelidae	Thalassarche chlororhynch	Animalia
Thalassarche chlororhynch	Atlantic yellow-nosed albatross	BIRD	VU	29/07/2001	2001	BIRDATLAS2					0	Torndirrup NP		100	117.7998000000	-35.0680000000	34007	Diomedelidae	Thalassarche chlororhynch	Animalia
Thalassarche melanophris	black-browed albatross	BIRD	EN	26/11/2013	2013	BIRDATA					0	Albany Wind Farm		0	117.7992000000	-35.0664000000	48597	Diomedelidae	Thalassarche melanophris	Animalia
Thalassurus bergii	crested tern	BIRD	IA	26/09/2012	2012	BIRDATA					0	Albany Wind Farm		0	117.7992000000	-35.0664000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	26/11/2013	2013	BIRDATA					0	Albany Wind Farm		0	117.7992000000	-35.0664000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	10/12/2014	2014	BIRDATA					0	Princess Royal Harbour Albany		0	117.8517000000	-35.0319000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	15/10/1977	1977	BIRDATLAS1	Moderately certain	Observational	Sighting		1	MCKAIL	MCKAIL	36000	117.8348000000	-34.9988000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	28/02/1978	1978	BIRDATLAS1	Moderately certain	Observational	Sighting		1	SANDPATCH	SANDPATCH	18000	117.7515000000	-35.0821000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	30/11/1979	1979	BIRDATLAS1	Moderately certain	Observational	Sighting		1	SANDPATCH	SANDPATCH	18000	117.7515000000	-35.0821000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	1/01/1981	1981	BIRDATLAS1	Moderately certain	Observational	Sighting		1	MCKAIL	MCKAIL	36000	117.8348000000	-34.9988000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	27/12/1998	1998	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORNDRIRUP	Bibbulman Track	100	117.8448000000	-35.0635000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	18/04/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI	Woolstores, Albany	100	117.8582000000	-35.0269000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	29/04/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	SANDPATCH	Wind farm reserve, via Albany	100	117.7976000000	-35.0666000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	29/04/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	SANDPATCH	Wind farm reserve, via Albany	100	117.7896000000	-35.0627000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	11/11/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.8582000000	-35.0269000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	21/11/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.8582000000	-35.0269000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	24/04/2000	2000	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ROBINSON	Little Grove, Albany	1000	117.8515000000	-35.0321000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	9/07/2000	2000	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER	Mutton Bird Road	100	117.6979000000	-35.0499000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	9/07/2000	2000	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER	Mutton Bird Road	100	117.7026000000	-35.0499000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	26/01/2001	2001	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORBAY	East Torbay Inlet	100	117.6950000000	-35.0289000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	29/07/2001	2001	BIRDATLAS2	Moderately certain	Observational	Sighting		1	SANDPATCH	Torndirrup NP	100	117.7998000000	-35.0680000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	3/05/2002	2002	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ROBINSON	Frenchman Bay Road	100	117.8481000000	-35.0439000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	9/05/2003	2003	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORNDRIRUP	Rushy Point	100	117.8504000000	-35.0577000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	25/05/2004	2004	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORNDRIRUP	Rushy Point	100	117.8515000000	-35.0577000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	30/06/2005	2005	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORNDRIRUP	Rushy Point	100	117.8504000000	-35.0577000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	31/08/2005	2005	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORNDRIRUP	Rushy Point	100	117.8504000000	-35.0577000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	30/09/2005	2005	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORNDRIRUP	Rushy Point	100	117.8504000000	-35.0577000000	48597	Laridae	Thalassurus bergii	Animalia
Thalassurus bergii	crested tern	BIRD	IA	31/10/2005	2005	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORNDRIRUP	Rushy Point	100	117.8504000000	-35.0577000000	48597	Laridae	Thalassurus bergii	Animalia
Thinornis rubricollis	hooded plover	BIRD	P4	22/02/2003	2003	TFAUNA	Certain	Targeted survey	Day sighting		1	Mutton Bird Beach		1000	117.6922000000	-35.0456000000	48135	Charadriidae	Thinornis rubricollis	Animalia
Thinornis rubricollis	hooded plover	BIRD	P4	15/10/1977	1977	BIRDATLAS1					0			36000	117.8348000000	-34.9988000000	48135	Charadriidae	Thinornis rubricollis	Animalia
Thinornis rubricollis	hooded plover	BIRD	P4	30/11/1979	1979	BIRDATLAS1					0			18000	117.7515000000	-35.0821000000	48135	Charadriidae	Thinornis rubricollis	Animalia
Thinornis rubricollis	hooded plover	BIRD	P4	17/12/2000	2000	BIRDATLAS2					0	Mutton-bird Beach		500	117.6932000000	-35.0405000000	48135	Charadriidae	Thinornis rubricollis	Animalia
Thinornis rubricollis	hooded plover	BIRD	P4	22/02/2003	2003	BIRDATLAS2					0	Mutton Bird Beach		100	117.6876000000	-35.0444000000	48135	Charadriidae	Thinornis rubricollis	Animalia
Thinornis rubricollis	hooded plover	BIRD	P4	31/10/2005	2005	BIRDATLAS2					0	Rushy Point	'Riverslea' creek, Lot 2734 Elleker Road, Grasmere	100	117.8504000000	-35.0577000000	48135	Charadriidae	Thinornis rubricollis	Animalia
Tringa nebularia	wood sandpiper	BIRD	IA	10/04/2005	2005	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER		100	117.7285000000	-35.0269000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	16/10/2007	2007	BIRDATA					0			100	117.6872000000	-35.0344000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	24/07/1976	1976	BIRDATLAS1					0			18000	117.7515000000	-35.0821000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	2/05/1977	1977	BIRDATLAS1					0			18000	117.7515000000	-35.0821000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	15/10/1977	1977	BIRDATLAS1	Moderately certain	Observational	Sighting		1	MCKAIL	MCKAIL	36000	117.8348000000	-34.9988000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	31/05/1978	1978	BIRDATLAS1					0			18000	117.7515000000	-35.0821000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	27/12/1998	1998	BIRDATLAS2					0	Bibbulman Track		100	117.8448000000	-35.0635000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	11/11/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.8582000000	-35.0269000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	21/11/1999	1999	BIRDATLAS2	Moderately certain	Observational	Sighting		1	MOUNT ELPHI	Bibbulman Track, Albany	100	117.8582000000	-35.0269000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	26/01/2001	2001	BIRDATLAS2					0	Rushy Point, Albany		500	117.8515000000	-35.0488000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	29/01/2001	2001	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER	laoke Poell, Elleker	500	117.7518000000	-35.0188000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	10/02/2001	2001	BIRDATLAS2	Moderately certain	Observational	Sighting		1	TORBAY	Torbay Inlet	100	117.6890000000	-35.0307000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	25/02/2001	2001	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER	Lake Powell Nature Reserve	100	117.7483000000	-35.0197000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	27/01/2003	2003	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER	Lake Manarup	100	117.6982000000	-35.0294000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	27/01/2003	2003	BIRDATLAS2	Moderately certain	Observational	Sighting		1	ELLEKER	Lake Manarup	100	117.6982000000	-35.0294000000	24808	Scolopacidae	Tringa nebularia	Animalia
Tringa nebularia	common greenshank	BIRD	IA	9/05/2003	2003	BIRDATLAS2					0	Rushy Point		100	117.85040000					

REPTILIAN SPECIES RECORDED IN THE REGION

Key: EPBC = Environmental Protection and Biodiversity Conservation Act 1999, BC = Biodiversity Conservation Act 2016, DBCA = Department of Biodiversity, Conservation and Attractions Priority Code, A = Listed in Naturemap, B = EPBC Protected Matters search, C = DBCA Threatened Fauna Search, D = Invertebrate Solutions Fauna Survey (2019)

Note: For Definitions of Conservation Codes see Appendix A.

Scientific Name	Common Name	Conservation Codes						
		EPBC	BC	DBCA	A	B	C	D
PYGOPODIDAE								
<i>Aprasia striolata</i>	Lined Worm-lizard				X			
SCINCIDAE								
<i>Acritoscincus trilineatus</i>	Chain-striped Heath Ctenotus				X			
<i>Ctenotus catenifer</i>					X			
<i>Ctenotus labillardieri</i>	Red-legged Ctenotus				X			
<i>Egernia kingii</i>	King Skink							X
<i>Hemiergis gracilipes</i>					X			
<i>Morethia obscura</i>	Shrubland Morethia Skink				X			
BOIDAE								
<i>Morelia spilota imbricata</i>	Carpet Python				X			
ELAPIDAE								
<i>Notechis scutatus</i>	Tiger Snake							X
<i>Pseudonaja affinis</i>	Dugite							X

AVIAN SPECIES RECORDED IN THE REGION

Key: EPBC = Environmental Protection and Biodiversity Conservation Act 1999, BC = Biodiversity Conservation Act 2016, DBCA = Department of Biodiversity, Conservation and Attractions Priority Code, A = Listed in Naturemap, B = EPBC Protected Matters search, C = DBCA Threatened Fauna Search, D = Invertebrate Solutions Fauna Survey (2019)

Note: For Definitions of Conservation Codes see Appendix A.

Scientific Name	Common Name	Conservation Codes						
		EPBC	BC	DBCA	A	B	C	D
ANATIDAE								
<i>Cereopsis novaehollandiae grisea</i>	Cape Barren Goose	Vu, Ma	Vu			X		
<i>Cygnus atratus</i>	Black Swan				X			
<i>Tadorna tadornoides</i>	Australian Shelduck				X			
<i>Malacorhynchus membranaceus</i>	Pink-eared Duck				X			
<i>Oxyura australis</i>	Blue-billed Duck			P4			X	
<i>Chenonetta jubata</i>	Australian Wood Duck				X			
<i>Anas superciliosa</i>	Pacific Black Duck				X			
<i>Anas gracillis</i>	Grey Teal				X			
<i>Anas castanea</i>	Chestnut Teal				X			
<i>Anas platyrhynchos</i>	Mallard					X		
<i>Biziura lobata</i>	Musk Duck				X			
PHASIANIDAE								
<i>Coturnix pectoralis</i>	Stubble Quail				X			
<i>Coturnix ypsilophora</i>	Brown Quail				X			
DIOMEDEIDAE								
<i>Diomedea exulans</i>	Wandering Albatross	Vu, MiMa	Vu			X		
<i>Diomedea dabbenena</i>	Tristan Albatross	En, MiMa	CR			X		
<i>Diomedea epomophora</i>	Southern Royal Albatross	Vu, MiMa	Vu			X		
<i>Diomedea sanfordi</i>	Northern Royal Albatross	En, MiMa	En			X		
<i>Phoebastria fusca</i>	Sooty Albatross	Vu, MliMa	En			X		
<i>Thalassarche melanophris</i>	Black-browed Albatross	Vu, MiMa	En		X	X	X	
<i>Thalassarche impavida</i>	Campbell Albatross,	Vu, MiMa	Vu			X		
<i>Thalassarche cauta cauta</i>	Shy Albatross	Vu, MiMa	Vu			X		
<i>Thalassarche cauta steadi</i>	White-capped Albatross	Vu, MiMa	Vu			X		
<i>Thalassarche chlororhynchos</i>	Atlantic yellow-nosed albatross	MiMa	Vu		X		X	
<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross	Vu, MiMa	En			X		
<i>Diomedea antipodensis</i>	Antipodean Albatross	Vu, MiMa				X		
PROCELLARIIDAE								
<i>Macronectes giganteus</i>	Southern Giant-Petrel,	En, MiMa		P4		X	X	
<i>Macronectes halli</i>	Northern Giant Petrel	Vu, MiMa				X		

Scientific Name	Common Name	EPBC	BC	DFCA	A	B	C	D
<i>Halobaena caerulea</i>	Blue Petrel	Vu, Ma				X		
<i>Pachyptila turtur subantarctica</i>	Fairy Prion (southern)	Vu				X		
<i>Pterodroma mollis</i>	Soft-plumaged Petrel	Vu, Ma				X		
<i>Ardenna grisea</i>	Sooty Shearwater	MiMa				X		
<i>Ardenna carneipes</i>	Flesh-footed Shearwater,	MiMa	Vu	P4		X	X	
<i>Arenaria interpres</i>	Ruddy Turnstone	MiMa						
PODICIPEDIDAE								
<i>Tachybaptus novaehollandiae</i>	Australian Grebe				X			
<i>Poliocephalus poliocephalus</i>	Hoary-headed Grebe				X			
THRESKIORNITHIDAE								
<i>Plegadis falcinellus</i>	Glossy Ibis	MiMa					X	
<i>Threskiornis spinicollis</i>	Straw-necked Ibis				X			
<i>Platalea flavipes</i>	Yellow-billed Spoonbill				X			
ARDEIDAE								
<i>Botaurus poiciloptilus</i>	Australasian Bittern	En	En			X	X	
<i>Ardea ibis</i>	Cattle Egret	Ma			X	X		
<i>Ardea modesta</i>	Great Egret	Ma			X	X		
<i>Ardea novaehollandiae</i>	White-faced Heron				X			
PELECANIDAE								
<i>Pelecanus conspicillatus</i>	Australian Pelican				X			
SULIDAE								
<i>Morus serrator</i>	Australasian Gannet				X			
PHALACROCORACIDAE								
<i>Microcarbo melanoleucos</i>	Little Pied Cormorant				X			
<i>Phalacrocorax sulcirostris</i>	Little Black Cormorant				X			
<i>Phalacrocorax varius</i>	Pied Cormorant				X			
<i>Phalacrocorax carbo</i>	Great Cormorant				X			
PANDIONIDAE								
<i>Pandion haliaetus</i>	Osprey	MiMa				X	X	
ACCIPITRIDAE								
<i>Elanus axillaris</i>	Black-shouldered Kite				X			
<i>Haliaeetus morphnoides</i>	Little Eagle				X			
<i>Aquila audax</i>	Wedge-tailed Eagle				X			
<i>Accipiter fasciatus didimus</i>	Brown Goshawk				X			
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk				X			
<i>Circus approximans</i>	Swamp Harrier				X			
<i>Milvus sphenurus</i>	Whistling Kite				X			
<i>Haliaeetus leucogaster</i>	White-bellied Sea Eagle	Ma			X	X		
RALLIDAE								
<i>Porzana tabuensis</i>	Spotless Crake				X			
<i>Porphyrio porphyrio</i>	Purple Swamphen				X			

Scientific Name	Common Name	EPBC	BC	DFCA	A	B	C	D
<i>Gallinula tenebrosa</i>	Dusky Moorhen				X			
<i>Fulica atra</i>	Eurasian Coot				X			
HAEMATOPODIDAE								
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher				X			
RECURVIROSTRIDAE								
<i>Himantopus himantopus</i>	Black-winged Stilt				X			
<i>Recurvirostra novaehollandiae</i>	Red-necked Avocet				X			
CHARADRIIDAE								
<i>Charadrius ruficapillus</i>	Red-capped Plover	Ma			X			
<i>Charadrius leschenaultii</i>	Greater Sand Plover	Vu, MiMa	Vu				X	
<i>Thinornis rubricollis</i>	Hooded Plover	Vu, Ma		P4		X	X	
<i>Pluvialis fulva</i>	Pacific Golden Plover	MiMa					X	
<i>Pluvialis squatarola</i>	Grey Plover	MiMa					X	
<i>Elseya melanops</i>	Black-fronted Dotterel				X			
SCOLOPACIDAE								
<i>Limosa lapponica</i>	Bar-tailed Godwit	MiMa	Vu			X	X	
<i>Limosa lapponica menzibieri</i>	Northern Siberian Bar-tailed Godwit	CR	CR			X		
<i>Numenius madagascariensis</i>	Eastern Curlew	CR, MiMa	CR			X		
<i>Numenius phaeopus</i>	Whimbrel	MiMa	MiMa				X	
<i>Tringa glareola</i>	Wood Sandpiper	MiMa					X	
<i>Tringa nebularia</i>	Common Greenshank	MiMa			X	X	X	
<i>Actitis hypoleucos</i>	Common Sandpiper	MiMa				X	X	
<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	MiMa				X	X	
<i>Calidris canutus</i>	Red Knot	En				X	X	
<i>Calidris ferruginea</i>	Curlew Sandpiper	CR, MiMa	CR			X	X	
<i>Calidris melanotos</i>	Pectoral Sandpiper	MiMa				X		
<i>Calidris ruficollis</i>	Red-necked Stint	MiMa			X		X	
<i>Calidris tenuirostris</i>	Great Knot	CR, MiMa	CR				X	
LARIDAE								
<i>Chroicocephalus novaehollandiae</i>	Silver Gull				X			
<i>Larus pacificus</i>	Pacific Gull	Ma			X	X		
<i>Hydroprogne caspia</i>	Caspian Tern	MiMa			X		X	
<i>Thalasseus bergii</i>	Crested Tern				X		X	
<i>Sternula nereis nereis</i>	Australian Fairy Tern	Vu				X		
STERCORARIIDAE								
<i>Catharacta skua</i>	Great Skua	Ma				X		
<i>Subantarctic skua</i>	Brown Skua			P4			X	
COLUMBIDAE								
<i>Columba livia</i>	Domestic Pigeon					X		
<i>Spilopelia senegalensis</i>	Laughing Dove					X		
<i>Phaps chalcoptera</i>	Common Bronzewing				X			X

Scientific Name	Common Name	EPBC	BC	DBCA	A	B	C	D
<i>Ocyphaps lophotes</i>	Crested Pigeon				X			
CUCULIDAE								
<i>Cacomantis flabelliformis</i>	Fan-tailed Cockoo				X			
PODARGIDAE								
<i>Podargus strigoides</i>	Tawny Frogmouth				X			
AEGOTHELIDAE								
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar				X			
APODIDAE								
<i>Apus pacificus</i>	Fork-tailed Swift	MiMa				X	X	
ALCEDINIDAE								
<i>Dacelo novaeguineae</i>	Laughing Kookaburra				X			
<i>Todiramphus sanctus sanctus</i>	Sacred Kingfisher				X			
MEROPIDAE								
<i>Merops ornatus</i>	Rainbow Bee-eater	Ma				X		
FALCONIDAE								
<i>Falco cenchroides</i>	Australian Kestrel				X			X
<i>Falco peregrinus</i>	Peregrine Falcon	OS					X	
CACATUIDAE								
<i>Calyptorhynchus banksii naso</i>	Forest red-tailed Black Cockatoo	Vu	Vu		X	X	X	
<i>Calyptorhynchus baudinii</i>	Baudin's Cockatoo	En	En		X	X	X	
<i>Calyptorhynchus latirostris</i>	Carnaby's Cockatoo	En	En		X	X	X	
<i>Cacatua roseicapilla</i>	Galah				X			
PSITTACIDAE								
<i>Platycercus spurius</i>	Red-capped Parrot				X			
<i>Platycercus zonarius</i>	Australian Ringneck				X			X
<i>Platycercus icterotis</i>	Western Rosella				X			
<i>Neophema petrophila</i>	Rock Parrot				X			
MALURIDAE								
<i>Malurus elegans</i>	Red-winged Fairy-wren				X			
<i>Malurus splendens</i>	Splendid Fairy-wren				X			X
<i>Stipiturus malachurus</i>	Southern Emu-wren				X			
MELIPHAGIDAE								
<i>Glyciphila melanops</i>	Tawny-crowned Honeyeater				X			
<i>Acanthorhynchus superciliosus</i>	Western Spinebill				X			
<i>Lichmera indistincta</i>	Brown Honeyeater				X			X
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater				X			X
<i>Phylidonyris niger</i>	White-cheeked Honeyeater				X			X
<i>Anthochaera lunulata</i>	Western Little Wattlebird				X			
<i>Anthochaera carunculata</i>	Red Wattlebird				X			X
DASYORNITHIDAE								
<i>Dasyornis longirostris</i>	Western Bristlebird	En	En			X		
PARDALOTIDAE								

Scientific Name	Common Name	EPBC	BC	DBCA	A	B	C	D
<i>Pardalotus punctatus</i>	Spotted Pardalote				X			
<i>Pardalotus striatus</i>	Striated Pardalote				X			X
ACANTHIZIDAE								
<i>Sericornis frontalis</i>	White-browed Scrubwren				X			
<i>Gerygone fusca</i>	Western Gerygone				X			
<i>Acanthiza apicalis</i>	Inland Thornbill				X			X
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill				X			
ARTAMIDAE								
<i>Artamus cyanopterus</i>	Dusky Woodswallow				X			
CRACTICIDAE								
<i>Cracticus torquatus</i>	Grey Butcherbird				X			X
<i>Cracticus tibicen</i>	Australian Magpie				X			X
<i>Strepera versicolour</i>	Grey Currawong				X			
CAMPEPHAGIDAE								
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike				X			
PACHYCEPHALIDAE								
<i>Falcunculus frontatus</i>	Crested Shrike-tit				X			
<i>Colluricincla harmonica</i>	Grey Shrike-thrush				X			X
RHIPIDURIDAE								
<i>Rhipidura leucophrys</i>	Willie Wagtail				X			X
<i>Rhipidura albiscapa</i>	Grey Fantail				X			X
MONARCHIDAE								
<i>Grallina cyanoleuca</i>	Magpie-lark				X			X
CORVIDAE								
<i>Corvus coronoides</i>	Australian Raven				X			X
PETROICIDAE								
<i>Eopsaltria georgiana</i>	White-breasted Robin				X			
<i>Petroica boodang</i>	Scarlet Robin				X			
HIRUNDINIDAE								
<i>Hirundo neoxena</i>	Welcome Swallow				X			X
<i>Petrochelidon nigricans</i>	Tree Martin				X			X
ZOSTEROPIDAE								
<i>Zosterops lateralis</i>	Silvereye				X			X
STURNIDAE								
<i>Sturnus vulgaris</i>	Common Starling					X		
ESTRILDIDAE								
<i>Stagonopleura oculata</i>	Red-eared Firetail				X			
MOTACILLIDAE								
<i>Motacilla cinerea</i>	Grey Wagtail	MiMa				X		

MAMMALIAN SPECIES RECORDED IN THE REGION

Key: EPBC = Environmental Protection and Biodiversity Conservation Act 1999, BC = Biodiversity Conservation Act 2016, DBCA = Department of Biodiversity, Conservation and Attractions Priority Code, A = Listed in Naturemap, B = EPBC Protected Matters search, C = DBCA Threatened Fauna Search, D = Invertebrate Solutions Fauna Survey (2019)

Note: For Definitions of Conservation Codes see Appendix A.

Scientific Name	Common Name	Conservation Codes						
		EPBC	BC	DBCA	A	B	C	D
DASYURIDAE								
<i>Dasyurus geoffroi</i>	Western Quoll	Vu	Vu			X	X	
<i>Parantechinus apicalis</i>	Dibbler	En	En			X		
PERAMELIDAE								
<i>Isodon fusciventer</i>	Southern Brown Bandicoot			P4	X		X	X
PSEUDOCHEIRIDAE								
<i>Pseudocheirus occidentalis</i>	Western Ringtail Possum	En	En		X	X	X	
POTOROIDAE								
<i>Bettongia penicillata</i>	Woylie	En	CR				X	
MACROPODIDAE								
<i>Macropus fuliginosus</i>	Western Grey Kangaroo							X
<i>Notamacropus irma</i>	Western Brush Wallaby			P4	X		X	
<i>Setonix brachyurus</i>	Quokka	Vu	Vu				X	
MURIDAE								
<i>Hydromys chrysogaster</i>	Water Rat			P4			X	
<i>Mus musculus</i>	House Mouse					X		
<i>Rattus rattus</i>	Black Rat					X		
MOLOSSIDAE								
<i>Austronomus australis</i> *	White-striped Freetail Bat							X
CANIDAE								
<i>Canis familiaris</i>	Domestic Dog					X		
<i>Vulpes vulpes</i>	Red Fox					X		
FELIDAE								
<i>Felis catus</i>	Cat					X		
LEPORIDAE								
<i>Oryctolagus cuniculus</i>	European Rabbit					X		
SUIDAE								
<i>Sus scrofa</i>	Pig					X		

Appendix 4

Fauna Habitat Assessments

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany		Site Number: HA WEC02			
Project Name/No: Albany Wind Farm		Aspect	N	NE	NW
Date: 20 December 2019	Easting: 572695		S	SE	SW
Quadrat Size: 25 x 25 M	Northing: 6119654		E	W	N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Description		Average Height (M)	Cover				
	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Hummock Grassland	Other: Coastal Heathland							
Acacia Shrubland	Stratum							
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	6	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>	2.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes					Notes				
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(general) DISTURBANCE (cattle)

	0 heavy	1 medium	2 mild*	3 none		0 heavy	1 medium	2 mild	3 none	
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Notes					Notes				
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*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	50			
<i>Banksia sessilis</i>	<5			

No foraging evidence

FAUNA RECORDED

Birds	Mammals	Reptiles
New Holland Honeyeater	Quenda diggings	Tiger Snake
Common Bronzewing		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC04

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 572159 N NE NW

Quadrat Size: 25 x 25 M Northing: 6119865 S SE SW

E W N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Hummock Grassland	Other: Coastal Heathland		Average Height (M)	Cover				
	Acacia Shrubland	Stratum			Scattered Plants	Sparse	Moderate	Thick	
	Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>		5	0 <5%	1 <20%	2 20-60%	3 60-100%
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>		2.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses		<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes

(general) DISTURBANCE (cattle)

	0 heavy	1 medium	2 mild*	3 none		0 heavy	1 medium	2 mild	3 none	
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Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	30			
<i>Banksia sessilis</i>	<5			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
Grey Fantail	Quenda diggings	Dugite
Brown Honeyeater		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC05

Project Name/No: Albany Wind Farm

Date: 20 December 2019 Easting: 572116

Quadrat Size: 25 x 25 M Northing: 6120072

Aspect	N	NE	NW
	S	SE	SW
	E	W	N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Hummock Grassland								
Acacia Shrubland								
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	6	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>	3	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes

(general) DISTURBANCE (cattle)

	0 heavy	1 medium	2 mild*	3 none		0 heavy	1 medium	2 mild	3 none	
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Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	50			
<i>Banksia sessilis</i>	<10			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
Magpie	Wester Grey Kangaroo/Wallaby scats	
Australian Raven		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC06

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 571767 N NE NW

Quadrat Size: 25 x 25 M Northing: 6120111 S SE SW

E W N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Hummock Grassland								
Acacia Shrubland								
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>	3	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes

(general) DISTURBANCE (cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	50			
<i>Banksia sessilis</i>	<10			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
New Holland Honeyeater	Quenda diggings	

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC07

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 571566 N NE NW

Quadrat Size: 25 x 25 M Northing: 6120206 S SE SW

E W N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Hummock Grassland	Other: Coastal Heathland		Average Height (M)	Cover				
	Acacia Shrubland	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>		4	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>		2	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses		<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes Notes

(general) DISTURBANCE (cattle)

	0 heavy	1 medium	2 mild*	3 none		0 heavy	1 medium	2 mild	3 none	
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Notes Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	50			
<i>Banksia sessilis</i>	<10			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
Australian Ringneck	Wester Grey Kangaroo/Wallaby scats	

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC08

Project Name/No: Albany Wind Farm

Date: 20 December 2019 Easting: 571327

Quadrat Size: 25 x 25 M Northing: 6120238

Aspect	N	NE	NW
	S	SE	SW
	E	W	N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Hummock Grassland								
Acacia Shrubland								
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	4	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>	2	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes

(general) DISTURBANCE (cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	60			
<i>Banksia sessillis</i>	1			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
Australian Kestrel		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC09

Project Name/No: Albany Wind Farm

Date: 20 December 2019 Easting: 571219

Quadrat Size: 25 x 25 M Northing: 6120426

Aspect	N	NE	NW
	S	SE	SW
	E	W	N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Hummock Grassland	Stratum		Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	4	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>	2	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION

5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded
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LAST FIRE

0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5
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Notes

Notes

(general)

DISTURBANCE

(cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	60			
<i>Banksia sessilis</i>	1			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
	Wester Grey Kangaroo/Wallaby scats	

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC10

Project Name/No: Albany Wind Farm

Date: 20 December 2019 Easting: 570913

Quadrat Size: 25 x 25 M Northing: 6120466

Aspect	N	NE	NW
	S	SE	SW
	E	W	N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Hummock Grassland	Stratum		Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia, B. sessillis</i>	2.5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes Notes

(general) DISTURBANCE (cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	20 - 30			
<i>Banksia sessilis</i>	20 - 30			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
Silvereye		King Skink

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC12

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 570715 N NE NW

Quadrat Size: 25 x 25 M Northing: 6120705 S SE SW

E W N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Hummock Grassland	Other: Coastal Heathland	Average Height (M)	Cover			
	Acacia Shrubland	Stratum		Scattered Plants	Sparse	Moderate	Thick
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	5	0 <5%	1 <20%	2 20-60%	3 60-100%
Other Grassland	Midstorey			0 <5%	1 <20%	2 20-60%	3 60-100%
Euc Woodland	Ground Cover			0 <5%	1 <20%	2 20-60%	3 60-100%

CONDITION

LAST FIRE

5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5
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Notes

Notes

(general)

DISTURBANCE

(cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	20 - 30			
<i>Banksia sessilis</i>	20 - 30			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
New Holland Honeyeater	Wester Grey Kangaroo/Wallaby scats	
Striated Pardalote		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC13

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 570042 N NE NW

Quadrat Size: 25 x 25 M Northing: 6120817 S SE SW

E W N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Hummock Grassland	Other: Coastal Heathland	Average Height (M)	Cover				
	Acacia Shrubland	Stratum		Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	Agonis Flexuosa	5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey			0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover			0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION

LAST FIRE

5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5
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Notes

Notes

(general)

DISTURBANCE

(cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	20 - 30			
<i>Banksia sessilis</i>	20 - 30			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
New Holland Honeyeater		
Inland Thornbill		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC14

Project Name/No: Albany Wind Farm

Date: 20 December 2019 Easting: 569632

Quadrat Size: 25 x 25 M Northing: 6121081

Aspect	N	NE	NW
	S	SE	SW
	E	W	N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Hummock Grassland	Stratum		Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	<i>Acacia</i>	3	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover			0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION

LAST FIRE

5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5
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Notes

Notes

(general)

DISTURBANCE

(cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	20 - 30			

No foraging evidence

FAUNA RECORDED

Birds	Mammals	Reptiles
New Holland Honeyeater		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC15

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 569217 N NE NW

Quadrat Size: 25 x 25 M Northing: 6121272 S SE SW

E W N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Stratum			Scattered Plants	Sparse	Moderate	Thick	
Hummock Grassland								
Acacia Shrubland								
Riverine Woodland	Overstorey	Agonis Flexuosa	4	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey	Acacia, B. sessillis	2	0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes Notes

(general) DISTURBANCE (cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	60			
<i>Banksia sessilis</i>	1			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
Grey Fantail		
White-cheeked Honeyeater		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC16

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 568942 N NE NW

Quadrat Size: 25 x 25 M Northing: 6121320 S SE SW

E W N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Hummock Grassland	Stratum		Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	Agonis Flexuosa	3	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey			0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover	Sedges, mixed grasses	<1	0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION					LAST FIRE					
5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5

Notes Notes

(general) DISTURBANCE (cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	60			

No foraging evidence

FAUNA RECORDED

Birds	Mammals	Reptiles
New Holland Honeyeater	Wester Grey Kangaroo/Wallaby scats	
White-cheeked Honey-eater		

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC17

Project Name/No: Albany Wind Farm

Date: 20 December 2019 Easting: 568590

Quadrat Size: 25 x 25 M Northing: 6121530

Aspect	N	NE	NW
	S	SE	SW
	E	W	N/A



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Hummock Grassland	Other: Coastal Heathland		Average Height (M)	Cover					
	Acacia Shrubland	Stratum			Scattered Plants	Sparse	Moderate	Thick		
	Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>		5	0 <5%	1 <20%	2 20-60%	3 60-100%	
	Other Grassland	Midstorey				0 <5%	1 <20%	2 20-60%	3 60-100%	
	Euc Woodland	Ground Cover				0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION

LAST FIRE

5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5
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Notes

Notes

(general)

DISTURBANCE

(cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	60			
No foraging evidence				

FAUNA RECORDED

Birds	Mammals	Reptiles
New Holland Honeyeater	Wester Grey Kangaroo/Wallaby scats	

FAUNA HABITAT ASSESSMENT SHEET

(South West)

Location: Albany Site Number: HA WEC18

Project Name/No: Albany Wind Farm Aspect

Date: 20 December 2019 Easting: 568266 N NE NW

Quadrat Size: 25 x 25 M Northing: 6121445 S SE SW



Soil Texture	sand	sandy-loam	loam	cracking clay	clay
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VEGETATION

Vegetation	Other: Coastal Heathland		Average Height (M)	Cover				
	Hummock Grassland	Stratum		Scattered Plants	Sparse	Moderate	Thick	
Riverine Woodland	Overstorey	<i>Agonis Flexuosa</i>	5	0 <5%	1 <20%	2 20-60%	3 60-100%	
Other Grassland	Midstorey			0 <5%	1 <20%	2 20-60%	3 60-100%	
Euc Woodland	Ground Cover			0 <5%	1 <20%	2 20-60%	3 60-100%	

CONDITION

LAST FIRE

5 Pristine	4 Excellent	3 Very Good	2 Good	1 Degraded	0 Completely Degraded	0 <1 year	1 1-3 Yrs	2 5 Yrs	3 3 Yrs	+ 5
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Notes

Notes

(general)

DISTURBANCE

(cattle)

0 heavy	1 medium	2 mild*	3 none	0 heavy	1 medium	2 mild	3 none
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Notes

Notes

*previous clearing for wind turbine

GROUND COVER

Bare Ground	0 <5%	1 <20%	2 20-60%	3 60-100%	Hummock Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Rock	0 <5%	1 <20%	2 20-60%	3 60-100%	Other Grass	0 <5%	1 <20%	2 20-60%	3 60-100%	
Leaf Litter	0 <5%	1 <20%	2 20-60%	3 60-100%	Herbs	0 <5%	1 <20%	2 20-60%	3 60-100%	
Logs >10cm	0 <5%	1 <20%	2 20-60%	3 60-100%						

MICROHABITATS

Burrowing Suitability	0 Rock	1 Stony	2 Sandy Loam	3 Sand	Peeling Bark	0 none	1 rare	2 moderate	3 common
Pebbles Stones	0 none	1 0-30%	2 30-70%	3 70-100%	Large Hollows	0 none	1 rare	2 moderate	3 common
Exfoliating Slabs	0 none	1 0-30%	2 30-70%	3 70-100%	Small Hollows	0 none	1 rare	2 moderate	3 common
Rock Crevices	0 none	1 0-30%	2 30-70%	3 70-100%	Water Presence	0 none	1 rare	2 moderate	3 common
Boulders	0 none	1 0-30%	2 30-70%	3 70-100%	Distance to Fresh Water	0 >5km	1 2-5km	2 500m - 2km	3 <500m
Suitability for Bats	YES		NO		Termite Mounds	0 none	1 rare	2 moderate	3 common
Caves	Absent	Present			Woody Debris	0 none	1 rare	2 moderate	3 common

BLACK COCKATOOS

Foraging Habitat		Breeding Habitat		
Species:	% cover	Species:	No. > 500 mm DBH	Hollows (>100mm)
<i>Agonis flexuosa</i>	60			
No foraging evidence				

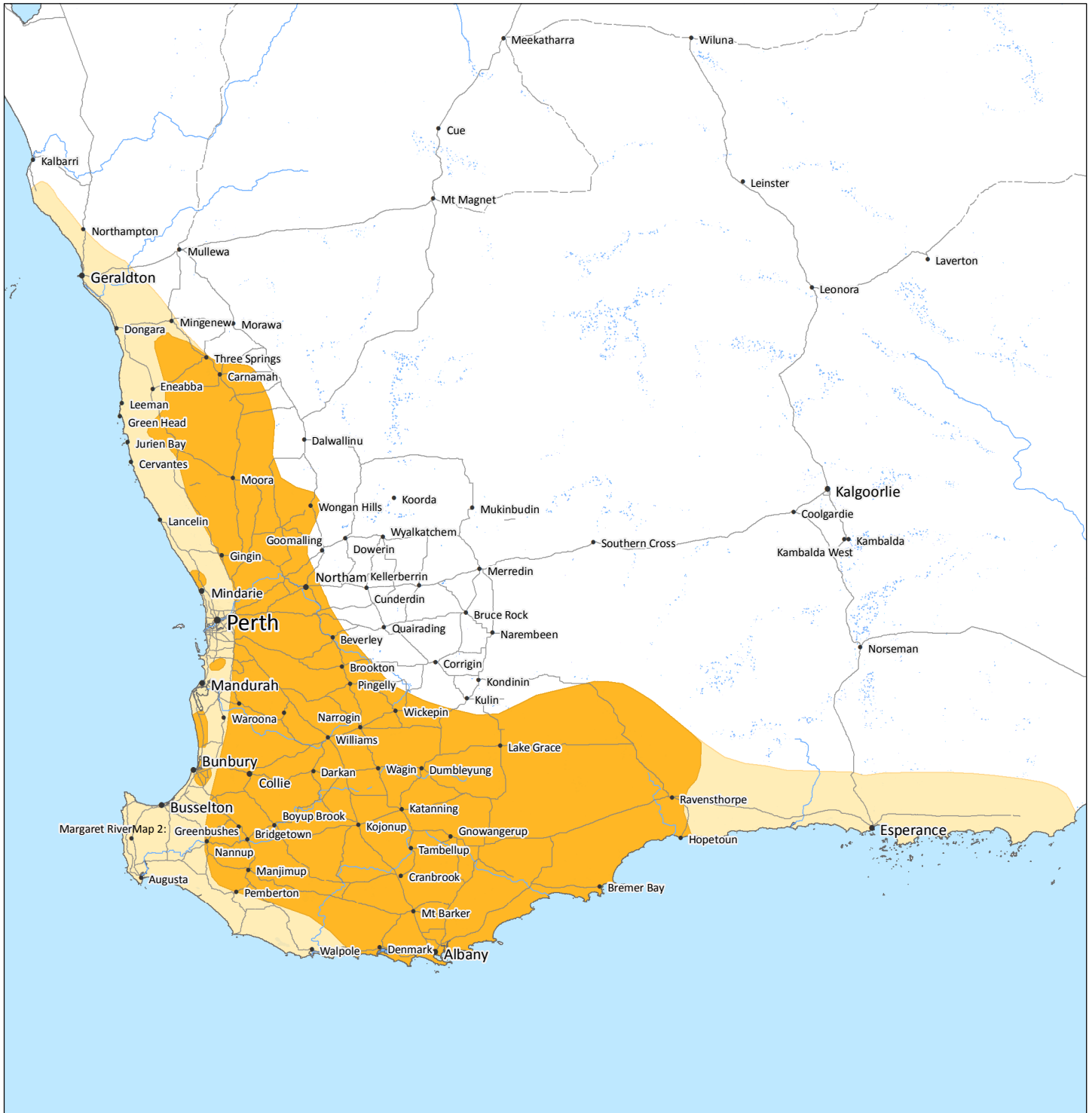
FAUNA RECORDED

Birds	Mammals	Reptiles

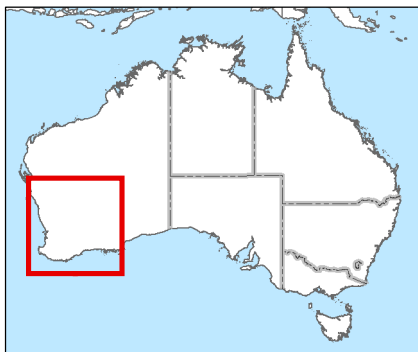
Appendix 5

DEE Black Cockatoo Distribution Maps

Map 2: Modelled distribution of Carnaby's black cockatoo (*Calyptorhynchus latirostris*)



INDICATIVE MAP ONLY: For the latest departmental information, please refer to the Protected Matters Search Tool at www.environment.gov.au/epbc/index.html



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Contextual data sources:
DEWHA (2006), Collaborative Australian Protected Areas Database
Geoscience Australia (2006), Geodata Topo 250K Topographic Data

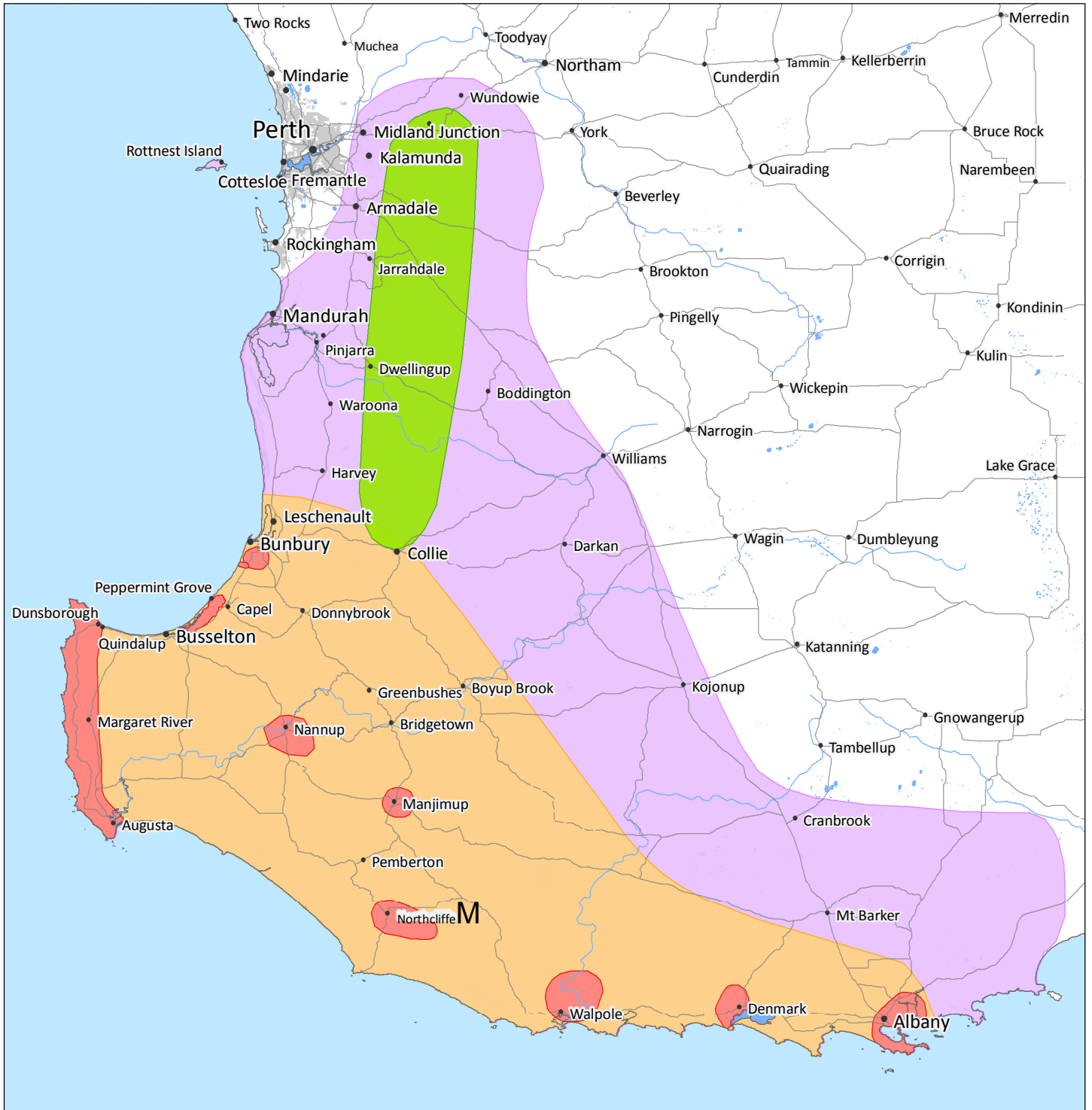
Legend

- Breeding Range
- Non-breeding Range
- Cities & Towns
- Lakes
- Roads
- Major Rivers

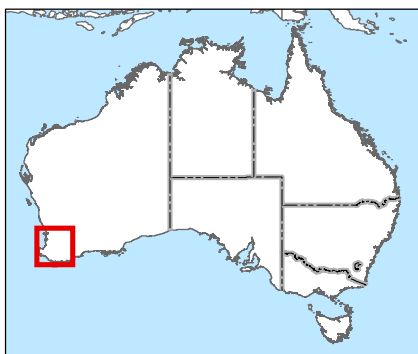
Please Note: The breeding range represents the areas known to be used by birds for breeding as at December 2009. As habitat has been lost in traditional breeding areas, birds have begun breeding at new locations.

CAVEAT: The information presented in this map has been provided by a range of groups and agencies. While every effort has been made to ensure accuracy and completeness, no guarantee is given, nor responsibility taken by the Commonwealth for errors or omissions, and the Commonwealth does not accept responsibility in respect of any information or advice given in relation to, or as a consequence of, anything containing herein.
INDICATIVE MAP ONLY: This map has been compiled from datasets with a range of geographic scales and quality. Species or ecological community distributions are indicative only and not to be used for local assessment. Local knowledge and information should be sought to confirm the presence of the species, or species habitat, at the location of interest.

Map 1: Modelled distribution of Baudin's black cockatoo (*Calyptorhynchus baudinii*)



INDICATIVE MAP ONLY: For the latest departmental information, please refer to the Protected Matters Search Tool at www.environment.gov.au/epbc/index.html



0 20 40 60 80 100 km



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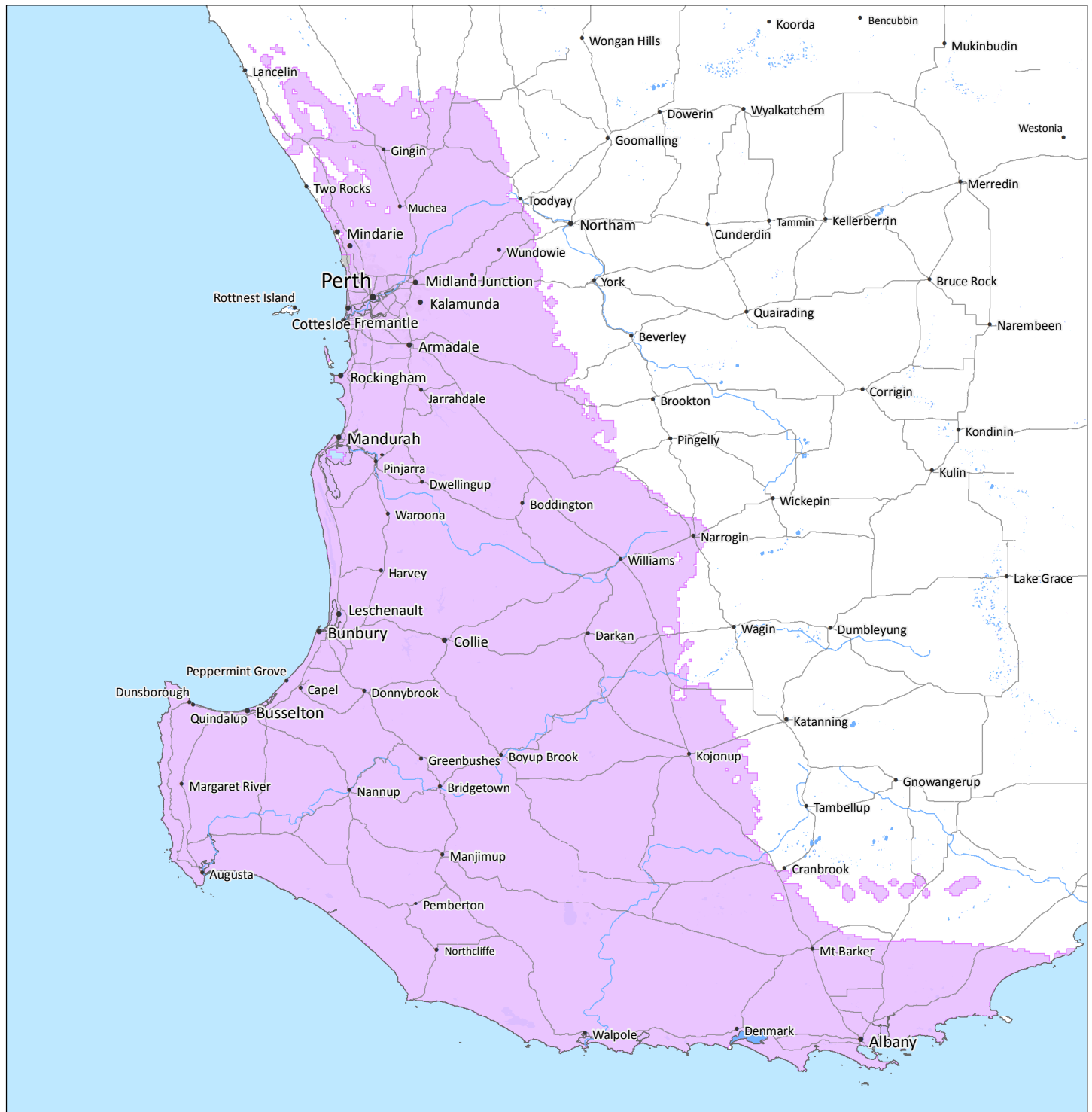
Legend

- Known Breeding Areas
- Predicted Breeding Range
- Main Wintering Area
- Species May Occur
- Cities & Towns
- Roads
- Major Rivers
- Lakes

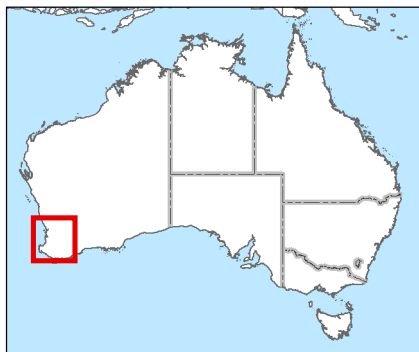
Please Note: Known breeding areas represent locations known to be used by birds for breeding as at December 2009. As habitat has been lost in traditional breeding areas, birds have begun breeding at new locations.

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INDICATIVE MAP ONLY: This map has been compiled from datasets with a range of geographic scales and quality. Species or ecological community distributions are indicative only and not to be used for local assessment. Local knowledge and information should be sought to confirm the presence of the species, or species habitat, at the location of interest.

Map 3: Modelled distribution of forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*)



INDICATIVE MAP ONLY: For the latest departmental information, please refer to the Protected Matters Search Tool at www.environment.gov.au/epbc/index.html



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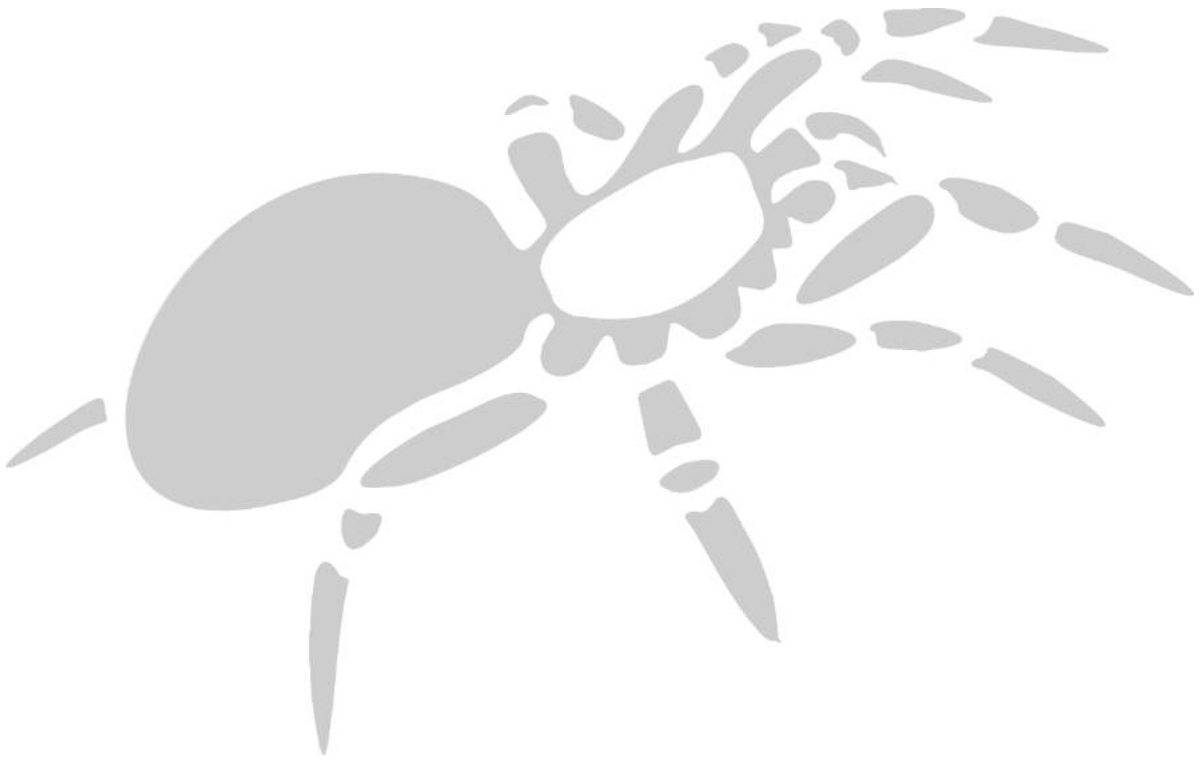
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Contextual data sources:
 DEWHA (2006), Collaborative Australian Protected Areas Database
 Geoscience Australia (2006), Geodata Topo 250K Topographic Data

Legend

- Species May Occur
- Cities & Towns
- Roads
- Major Rivers
- Lakes

CAVEAT: The information presented in this map has been provided by a range of groups and agencies. While every effort has been made to ensure accuracy and completeness, no guarantee is given, nor responsibility taken by the Commonwealth for errors or omissions, and the Commonwealth does not accept responsibility in respect of any information or advice given in relation to, or as a consequence of, anything containing herein.
INDICATIVE MAP ONLY: This map has been compiled from datasets with a range of geographic scales and quality. Species or ecological community distributions are indicative only and not to be used for local assessment. Local knowledge and information should be sought to confirm the presence of the species, or species habitat, at the location of interest.



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