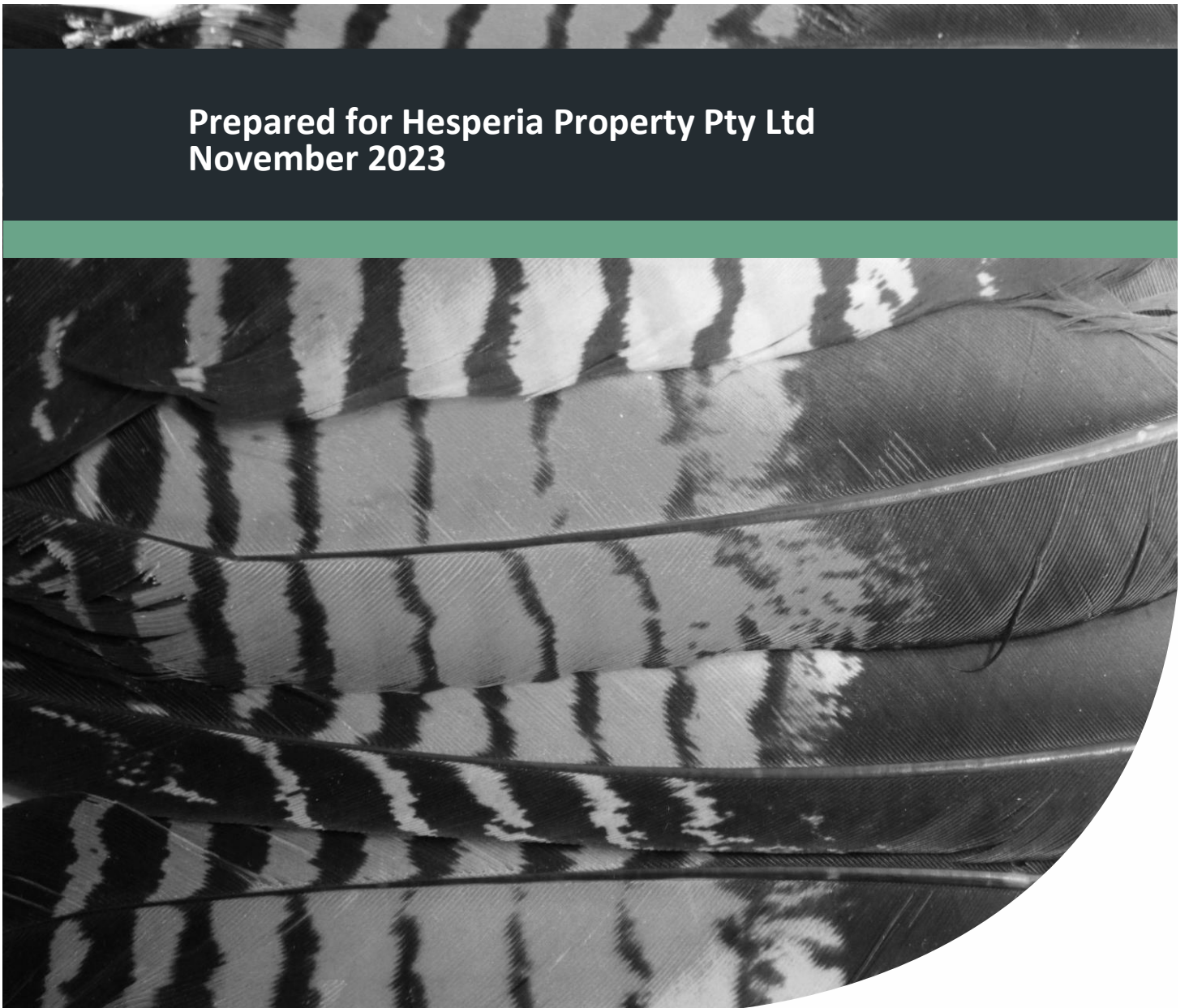


# Basic Fauna and Targeted Black Cockatoo Assessment

Lots 25, 16 and 988 Victoria Rd Kenwick

Project No: EP21-094(05)

Prepared for Hesperia Property Pty Ltd  
November 2023



# Basic Fauna and Targeted Black Cockatoo Assessment

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## Document Control

<b>Doc name:</b>	Basic Fauna and Targeted Black Cockatoo Assessment Lots 25, 16 and 988 Victoria Rd Kenwick				
<b>Doc no.:</b>	EP21-094(05)--010 AJU				
Version	Date	Author		Reviewer	
1	November 2023	Aiden Umbrello	AJU	Tom Atkinson	TAA
	Submitted for client review				

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# Basic Fauna and Targeted Black Cockatoo Assessment

Lots 25, 16 and 988 Victoria Rd Kenwick



## Executive Summary

Hesperia Property Pty Ltd engaged Emerge Associates to conduct a basic fauna and a targeted black cockatoo assessment within Lots 25, 16 and 988 Victoria Rd in Kenwick (referred to herein as the 'site').

As part of the assessment a desktop review of relevant background information was completed and field surveys were conducted on 10 August 2022, 11 August 2022, 18 October 2022 and 23 February 2023. During the field survey opportunistic sightings of fauna were recorded and an assessment was made on the fauna habitat within the site and its suitability to provide habitat for threatened, specially protected and priority fauna. A targeted black cockatoo survey was also undertaken to determine the presence of habitat for threatened black cockatoo species.

Outcomes of the basic fauna assessment include the following:

- The majority of the site (approximately 66.29%) supports highly disturbed **cleared land** habitat which provides limited value to fauna species of conservation significance and is likely to primarily be used by common and widespread native and non-native fauna with non-specific habitat requirements. The remainder of the site consists of **scattered trees and shrubs** habitat (approximately 33.71%).
- A total of 19 native fauna species were recorded within the site.
- A total of three threatened species were recorded during the survey through foraging evidence including: Carnaby's black cockatoo (EN), Baudin's black cockatoo (EN) and forest red-tailed black cockatoo (VU).
- Two specially protected and one priority species not recorded during the field survey are considered to have a high or moderate likelihood of occurring in the site: Pacific swift (MI), Peregrine falcon (OS) and quenda (P4).

Outcomes of the targeted black cockatoo survey include the following:

- Carnaby's black cockatoo, Baudin's black cockatoo and forest red-tailed black cockatoo were all indirectly recorded during the survey through foraging evidence on marri fruit and banksia cones.
- The site occurs within the modelled distribution of Carnaby's black cockatoo and forest red-tailed black cockatoo and on the western border of the modelled distribution of Baudin's black cockatoo.
- The site contains eight habitat trees of which none contain hollows suitable for use by black cockatoos for breeding. Therefore, the site does not currently provide suitable breeding habitat for any species of black cockatoo.
- White-tailed black cockatoo (most likely Carnaby's black cockatoo) and forest red-tailed black cockatoo roosts occur in close proximity to the site (Peck et al. 2019). No roosts or evidence of roosting by any species of black cockatoo was recorded within the site during the field survey.
- A total of 1.18 ha of foraging habitat for Carnaby's black cockatoo was mapped within the site of which 0.38 ha (32.2%) comprises primary native plants, 0.11 ha (9.32%) provides secondary native plants and 0.69 ha (58.47%) provides secondary non-native plants .

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- A total of 1.06 ha of foraging habitat for Baudin’s black cockatoo was mapped within the site of which 0.09 ha (8.49%) comprises primary native plants, 0.34 ha (32.07%) provides secondary native plants and 0.63 ha (59.43%) provides secondary non-native plants .
- A total of 2.84 ha of foraging habitat for Forest red-tailed black cockatoo was mapped within the site of which 0.05 ha (1.76%) comprises primary native plants, 0.06 ha (2.11%) comprises primary non-native plants, 0.33 ha (11.61%) provides secondary native plants and 2.4 ha (84.51%) provides secondary non-native plants .
- Additional areas of foraging habitat of similar or higher value occur adjacent to the site and in the wider local area.

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### Appendix A

Additional Information

### Appendix B

Black cockatoo foraging plants

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## **Appendix D**

Database search results

## **Appendix E**

Conservation Significant Species and Likelihood of Occurrence Assessment

## **Appendix F**

Species list

## **Appendix G**

Black cockatoo habitat tree data

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## Abbreviation Tables

*Table A1: Abbreviations – Organisations*

Organisations	
ALA	Atlas of Living Australia
BoM	Bureau of Meteorology
EPA	Environmental Protection Authority
DAWE	Department of Agriculture, Water and the Environment (now DCCEEW)
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DoEE	Department of the Environment and Energy
DoW	Department of Water (now DWER)
DPaW	Department of Parks and Wildlife (now DBCA)
DPIRD	Department of Primary Industries and Regional Development
DWER	Department of Water and Environmental Regulation
WA Museum	Western Australian Museum
WALGA	Western Australian Local Governments Association

*Table A2: Abbreviations – Conservation codes*

Conservation Codes	
C3	Category 3 (declared pest)
CD	Conservation dependent
CR	Critically endangered
DP	Declared pest
EN	Endangered
MI	Migratory
P1	Priority 1
P2	Priority 2
P3	Priority 3
P4	Priority 4
OS	Other specially protected
VU	Vulnerable

*Table A3: Abbreviations – Legislation*

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Legislation	
BAM Act	<i>Biosecurity and Agriculture Management Act 2007</i>
BC Act	<i>Biodiversity Conservation Act 2016</i>
CALM Act	<i>Conservation and Land Management Act 1984</i>
EBPC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
LA Act	<i>Land Administration Act 1997</i>
SCRM Act	<i>Swan and Canning Rivers Management Act 2006</i>

Table A4: Abbreviations – Units of measurement

Units of measurement	
DBH	Diameter at breast height
cm	Centimetre
ha	Hectare
km	Kilometre
m	Metre
m AHD	m in relation to the Australian height datum
mm	Millimetre

Table A5: Abbreviations - General

General terms	
AFD	Australian Faunal Database
IBRA	Interim Biogeographic Regionalisation for Australia
UFI	Unique Feature Identifier

# Basic Fauna and Targeted Black Cockatoo Assessment

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## 1 Introduction

### 1.1 Purpose

Emerge Associates (Emerge) were engaged by Hesperia Property Pty Ltd to conduct a basic fauna and targeted black cockatoo assessment within lots 25, 16 and 988 of Victoria Road in Kenwick as shown **Figure 1** (referred to herein as the 'site').

Fauna assessments are required to characterise fauna values and, in particular, confirm the presence or absence of values relevant to environmental approvals process, such as 'fauna habitat', 'threatened' fauna, 'specially protected' fauna and 'priority' fauna.

### 1.2 Legislation and policy

Fauna may be listed as threatened, extinct or specially protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the State *Biodiversity Conservation Act 2016* (BC Act). Threatened fauna are classified as either 'critically endangered' (CR), 'endangered' (EN) or 'vulnerable' (VU). Extinct species are classified as 'extinct' (EX) or 'extinct in the wild' (EW)<sup>1</sup>. Specially protected species are classified as 'migratory species' (MI), 'species of special conservation interest' (CD) or 'other specially protected' (OS). Commonwealth and/or State ministerial approval is required to impact threatened and specially protected fauna.

Native fauna that are not listed as threatened or specially protected, but are otherwise rare, under threat or poorly known, may be added to a Department of Biodiversity Conservation and Attractions (DBCA) priority list. Priority fauna are classified as either 'priority 1' (P1), 'priority 2' (P2), 'priority 3' (P3) or 'priority 4' (P4). Priority listing does not afford direct statutory protection. However, the classification of priority species is taken into account during State and Local government approval processes.

Introduced fauna that are regarded as having negative environmental or economic impacts may be listed as a 'declared pest' pursuant to the *State Biosecurity and Agriculture Management Act 2007* (BAM Act). Management of declared pests may be required during government approval processes.

Further information on legislation and policy relevant to fauna assessments is provided in **Appendix A**.

### 1.3 Scope of work

The scope of work was specifically to undertake a terrestrial vertebrate fauna assessment to the standard required of a 'basic' fauna survey and a 'targeted' black cockatoo survey with reference to the Environmental Protection Authority's (EPA's) technical guidance (EPA 2020) and the *Environment Protection and Biodiversity Conservation Act* black cockatoo referral guidelines (DAWE 2022).

As part of this scope of work, the following tasks were undertaken:

---

<sup>1</sup> Currently there are no threatened species listed as extinct in the wild in Western Australia.

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- Desktop study to provide contextual information and determine the likelihood of occurrence of threatened, specially protected and priority fauna.
- Field survey(s) to record fauna and fauna habitats, with a particular focus on habitat for threatened species of black cockatoo.
- Analysis and mapping of contextual information, fauna habitat and black cockatoo breeding, roosting and foraging (if present).
- Documentation of the desktop study, methods, results, discussion and conclusions.

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## 2 Desktop Study

### 2.1 Site context

#### 2.1.1 Location and extent

The site is located in the City of Gosnells in the Perth Metropolitan Area of Western Australia and extends over 8.99 hectares (ha) as shown in **Figure 1**. The site is bounded by Tonkin Highway to the east, Victoria Road to the north and industrial lots to the west and south.

#### 2.1.2 Climate

The South West region of Western Australia experiences a Mediterranean climate of hot dry summers and cool wet winters (BoM 2023). Rainfall preceding the most recent survey at the closest weather station to the site was inconsistent with long term averages **Plate 1** (BoM 2023). Targeted surveys should be undertaken during the season that is most suitable for detection and identification of the targeted species (EPA 2020).

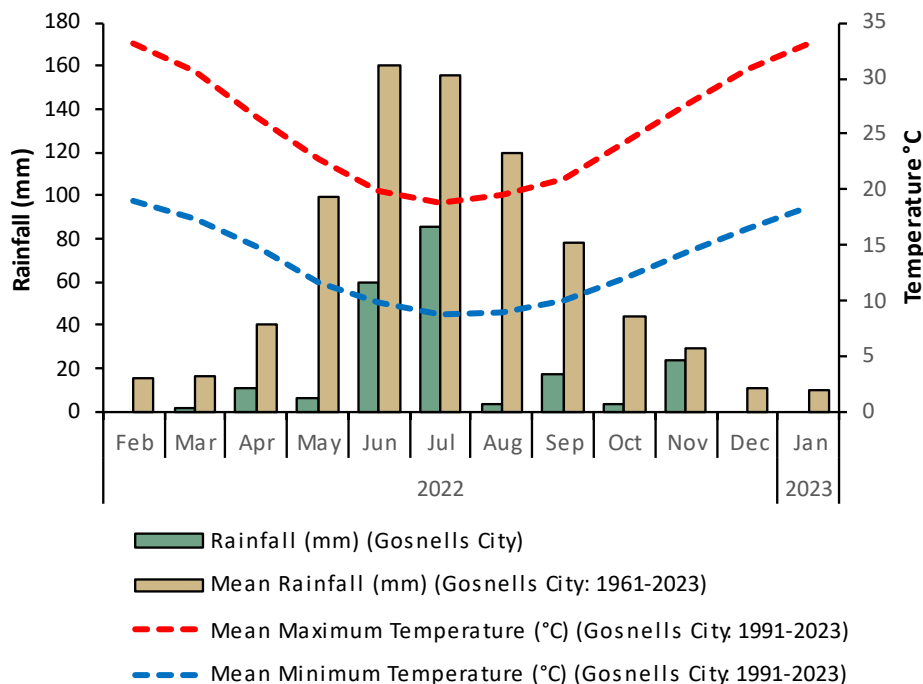


Plate 1: Recent rainfall and long-term mean temperature and rainfall

#### 2.1.3 Geomorphology and soils

Landform and soils influence fauna habitat and species at regional and local scales. The site occurs on the Swan Coastal Plain, which is the geomorphic unit that characterises much of the Perth metropolitan area. The Swan Coastal Plain is approximately 500 km long and 20 to 30 km wide and is roughly bound by the Indian Ocean to the west and the Darling Scarp to the east. Broadly the Swan Coastal Plain consists of two sedimentary belts of different origin. Its eastern side comprises the

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Pinjarra Plain which formed from the deposition of alluvial material washed down from the Darling Scarp, while its western side comprises three dune systems that run roughly parallel to the Indian Ocean coastline (Seddon 2004). These dune systems, referred to as Quindalup, Spearwood and Bassendean associations, represent a succession of coastal deposition that has occurred since the late Quaternary period (approximately two million years ago) (Kendrick *et al.* 1991) and, as a result, they contain soils at different stages of leaching and formation.

Examination of physiographic region mapping by (Gozzard 2011) places the site in the Pinjarra Plain which was later confirmed during the field survey. The Pinjarra Plain consists of grey and brown clays and silts that were deposited from the Darling Scarp as alluvial fans, combined with sands and conglomerates (Churchward and McArthur 1980). The physiographic regions mapped within the site are shown in **Figure 2**.

The site is not known to contain any restricted landforms or unique geological features.

## 2.1.4 Topography

The elevation of the site ranges from 24 m in relation to the Australian height datum (mAHD) on the western side to 28 mAHD on the eastern side (DoW 2008) (**Figure 2**).

## 2.1.5 Hydrology and wetlands

Wetlands are areas of seasonally, intermittently or permanently waterlogged land such as poorly drained soils, ponds, billabongs, lakes, swamps, tidal flats, estuaries, rivers and their tributaries (Wetlands Advisory Committee 1977). Many wetlands provide important fauna habitat and support high levels of fauna biodiversity and endemism.

Wetlands of national or international significance may be afforded special protection under Commonwealth or international agreements. Review of the *Ramsar List of Wetlands of International Importance* (DBCA 2017) and *A Directory of Important Wetlands in Australia – Western Australia* (DBCA 2018) indicates that no Ramsar or listed 'important wetlands' are located within or near the site.

Examination of the Department of Water and Environmental Regulation (DWER) hydrography linear dataset (DWER 2018) shows the following no wetland or water related features occur within the site.

The *Geomorphic Wetlands of the Swan Coastal Plain* dataset maps geomorphic wetland features and classifies them based on their landform shape and water permanence (DBCA 2023a). Each wetland feature is assigned to one of three management categories: 'conservation', 'resource enhancement' and 'multiple use'.

A review of the *Geomorphic Wetlands, Swan Coastal Plain* dataset indicated that no wetland features occurs within the site (DBCA 2021a).

## 2.1.6 Regional vegetation

Vegetation types and resulting fauna habitats strongly influence the diversity and composition of fauna taxa present within an area. Native vegetation is described and mapped at different scales in order to illustrate patterns in its distribution. At a continental scale the *Interim Biogeographic*

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*Regionalisation of Australia* (IBRA) divides the Swan Coastal Plain into two floristic subregions (Environment Australia 2000).

The site is contained within the 'SWA02' or Perth subregion, which is characterised as mainly containing *Banksia* low woodland on leached sands with *Melaleuca* swamps where ill-drained; and woodland of *Eucalyptus gomphocephala* (tuart), *E. marginata* (jarrah) and *Corymbia calophylla* (marri) on less leached soils (Beard 1990). This subregion is recognised as a biodiversity hotspot and contains a wide variety of endemic fauna species.

Variations in native vegetation can be further classified based on regional vegetation mapping.

Hedde *et al.* (1980) mapping shows the site as comprising the 'Guildford complex', which is described as vegetation ranging from open forest to tall open forest of *E. calophylla* - *E. wandoo* - *E. marginata* and woodland of *E. wandoo* (with rare occurrences of *E. lane-poolei*). Minor components include *E. rudis* - *M. raphiophylla*.

## 2.1.7 Historic land use

Review of historical images available from 1953 onwards shows that a portion of the site was cleared of native vegetation prior to 1953, likely for cropping. From 1961 onwards the site was further cleared of native vegetation, during which several warehouses and residential buildings were constructed within the site. In 1995 a significant number of trees were cleared. In 2000 imagery indicates the site was partially revegetated to reflect the state of the site in present day (WALIA 2023).

## 2.1.8 Bush Forever

The Government of Western Australia's Bush Forever policy is a strategic plan for conserving regionally significant bushland within the Swan Coastal Plain portion of the Perth Metropolitan Region. The objective of *Bush Forever* is to protect comprehensive representations of all original ecological communities by targeting a minimum of 10% of each vegetation complex for protection (Government of WA 2000). *Bush Forever* sites are representative of regional ecosystems and habitat and have a key role in the conservation of Perth's biodiversity.

No *Bush Forever* sites occur within the site.

## 2.1.9 DBCA managed or legislated land

DBCA has tenure of or interests in numerous areas of land across the state for a range of purposes. Tenure categories include national parks, nature reserves, conservation parks, marine parks, marine nature reserves, marine management areas, section 5(1)(g) reserves, state forest and timber reserves. These areas are mapped within the *Legislated Lands and Waters* (DBCA 2021c) and *Lands of Interest* (DBCA 2021b) datasets. The *Legislated Lands and Waters* (DBCA 2021c) dataset includes lands subject to the following legislation; the *Conservation and Land Management Act 1984* (CALM Act 1984), *Swan and Canning Rivers Management Act 2006* (SCRM Act) and lands identified under the *Land Administration Act 1997* (LA Act). The *Lands of Interest* (DBCA 2021b) dataset includes all other lands of which DBCA is recognised as the manager but is not vested under any act. These lands

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comprise of crown land and freehold land which DBCA has been acknowledged by the Department of Lands as the responsible agency.

No DBCA managed or legislated lands or lands of interest occur within or adjacent to the site.

### 2.1.10 Ecological linkages

Ecological linkages are linear landscape elements that allow the movement of fauna, flora and genetic material between areas of remnant habitat. This exchange of genetic material between vegetation remnants improves the viability of those remnants by allowing greater access to breeding partners and food sources, refuge from disturbances such as fire and maintenance of genetic diversity of plant communities and populations. Ecological linkages are ideally continuous or near-continuous as the more fractured a linkage is, the less ease flora and fauna have in moving within the corridor (Alan Tingay and Associates 1998).

The Perth Biodiversity Project, supported by the Western Australian Local Government Association (WALGA), identified and mapped regional ecological linkages within the Perth Metropolitan Region (WALGA and PBP 2004).

One ecological linkage (No. 43)<sup>2</sup> occurs in the south west portion of the site, running in a north-west to south-east direction.

Review of aerial imagery indicates that very little of the vegetation in the site that overlaps with the ecological linkage remains intact and connected to vegetation in the surrounding area.

### 2.1.11 Threatened, specially protected and priority fauna

The Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) has compiled various datasets relating to 'matters of national environmental significance' (MNES) (DCCEEW 2023b). The *Protected Matters Search Tool* provides general guidance on threatened and specially protected fauna listed under the EPBC Act that may occur within a location based on validated records and less reliable unvalidated habitat distribution modelling (DCCEEW 2023b).

DBCA's *Threatened and Priority Fauna* database and *NatureMap* database, as well as the spatial portal of the Atlas of Living Australia (ALA) contain records of threatened specially protected and priority fauna in Western Australia (ALA 2023; DBCA 2023c, b). Searches of these databases provide point data for threatened, specially protected and priority fauna within a location, comprising validated and historical unvalidated records.

A search was conducted for fauna species that have been recorded within a 10 km radius of the site using the *Protected Matters Search Tool* (DCCEEW 2023b), *NatureMap* (DBCA 2023b), DBCA's conservation significant fauna database (reference no. FAUNA5915), Atlas of Living Australia (ALA 2023) and literature references.

A total of 555 fauna species were identified from database searches as occurring or potentially occurring within 10 km of the site<sup>2</sup> as listed in **Appendix D**.

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<sup>2</sup> Includes native and non-native species



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### 2.1.12 Pest fauna

The term ‘pest fauna’ can refer to any animal that requires some form of action to reduce its effect on the economy, the environment, human health and amenity. Pest fauna species are generally not native but some Australian or Western Australian fauna may also be considered pests.

A particularly invasive or detrimental pest species may be listed as a ‘declared pest’ pursuant to Western Australia’s *Biosecurity and Agriculture Management Act 2007* (BAM Act), indicating that it warrants special management to limit its spread. Current pest status and control categories for Western Australia are provided in the *Western Australian Organism List* (DPIRD 2022). Further information on categories of declared pests is provided in **Appendix A**.

### 2.1.13 Previous surveys

The site was initially surveyed as a part of an environmental review by Cardno BSD (2005) during initial consultation for the planning of the Maddington Kenwick Strategic Employment Area (MKSEA). The survey found that most of high-quality fauna values in the area were associated with the wetlands, none of which are found within the site.

The site was surveyed by Harewood (2018) as a part of a ‘level 1’ (now ‘basic’) fauna survey of precinct 1 of the MKSEA. The survey found that habitat within the site was marginally suitable for all three threatened species of black cockatoo, in addition to potentially providing habitat for quenda. Impacts on fauna were assessed as unlikely to be significant.

## 2.2 Likelihood of occurrence

The distribution and habitat preferences of the threatened and priority fauna species listed in **Appendix D** was reviewed against site context information described in **Section 2.1**. Likelihood of occurrence of threatened, specially protected and priority fauna species within the site was classified as ‘high’, ‘moderate’, ‘low’, ‘negligible’ or ‘nil’ as outlined in **Table 1**.

Table 1: Likelihood of occurrence assessment categories and definitions

		Reliable record <sup>1</sup>		Unreliable record <sup>2</sup>
		Access to site not impeded	Access to site impeded	
Habitat	Suitable	High	Low	Nil
	Potentially suitable	Moderate		
	Unsuitable	Negligible		

<sup>1</sup>Reliable record defined as DBCA or validated ALA record from the last ~20 years, <sup>2</sup>Unreliable record defined as record >20 years old or PMST prediction.

Three threatened, two specially protected and one priority species were classified as having a ‘high’ or ‘moderate’ likelihood of occurrence. The legislative or policy status and habitat preferences of these species are shown in **Table 2**.

The remainder of the conservation significant fauna species identified in the desktop assessment (61 species) were considered as having a ‘low’, ‘negligible’ or ‘nil’ likelihood of occurrence. Refer to **Table 2** and **Appendix E** for detail on individual species likelihood of occurrence.

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Table 2: Summary of conservation significant fauna species with potential to occur in the site

Species name	Common name	Status		Habitat description
		WA	EPBC Act	
<b>Birds</b>				
<i>Apus pacificus</i>	Pacific swift	MI	MI	Aerial, migratory species that is most often seen over inland plains and sometimes above open areas, foothills or in coastal areas. Sometimes occurs over settled areas, including towns, urban areas and cities
<i>Calyptorhynchus banksii naso</i>	Forest red-tailed black cockatoo	VU	VU	<i>Eucalypt</i> and <i>Corymbia</i> forests, often in hilly interior. More recently also observed in more open agricultural and suburban areas including Perth metropolitan area. Attracted to seeding <i>Corymbia calophylla</i> , <i>Eucalyptus marginata</i> , introduced <i>Melia azedarach</i> and <i>Eucalyptus</i> spp. trees
<i>Falco peregrinus</i>	Peregrine falcon	OS	-	Mainly found around cliffs along coasts, rivers, ranges and around wooded watercourses and lakes
<i>Zanda baudinii</i>	Baudin's black cockatoo	EN	EN	Mainly eucalypt forests. Attracted to seeding <i>Corymbia calophylla</i> , <i>Banksia</i> spp., <i>Hakea</i> spp., and to fruiting apples and pears
<i>Zanda latirostris</i>	Carnaby's black cockatoo	EN	EN	Mainly proteaceous scrubs and heaths and adjacent eucalypt woodlands and forests; also plantations of <i>Pinus</i> spp. Attracted to seeding <i>Banksia</i> spp., <i>Dryandra</i> spp., <i>Hakea</i> spp., <i>Eucalyptus</i> spp., <i>Corymbia calophylla</i> , <i>Grevillea</i> spp., and <i>Allocasuarina</i> spp.
<b>Mammals</b>				
<i>Isoodon fusciventer</i>	Quenda	P4	-	Dense scrubby, often swampy, vegetation with dense cover up to one metre high

## 2.3 Black cockatoos

Three threatened species of black cockatoo occur in the south-west of WA (referred to herein collectively as 'black cockatoos'):

- *Zanda<sup>3</sup> latirostris* (Carnaby's black cockatoo) which is listed as 'endangered' under the EPBC Act and the BC Act.
- *Zanda<sup>3</sup> baudinii* (Baudin's black cockatoo) which is listed as 'endangered' under the EPBC Act and the BC Act.
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) which is listed as 'vulnerable' under the EPBC Act and the BC Act.

Black cockatoo habitat is conventionally separated into breeding, roosting and foraging categories.

**Breeding habitat** refers to 'habitat trees' which consist of native trees of a suitable species that either contain nesting hollows or have a large enough diameter at breast height<sup>4</sup> (DBH) to develop a nesting hollow over time (DAWE 2022). Black cockatoos typically utilise breeding habitat within their defined breeding season: August to March for Baudin's black cockatoo, July to December for Carnaby's black cockatoo breed and throughout the year for forest red-tailed black cockatoo, with

<sup>3</sup> Previously *Calyptorhynchus*

<sup>4</sup> ≥50 cm or ≥30 cm for wandoo or salmon gum

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peaks in April – June and August – October (DAWE 2022). **Roosting habitat** consists of a stand of tall trees (>8 m) within 6 km of water and food resources and 12 km of additional foraging resources where black cockatoos rest overnight (Shah 2006; Glossop *et al.* 2011; Le Roux 2017; DAWE 2022). **Foraging habitat** is vegetation that black cockatoos are known to feed on, which varies between black cockatoo species (Groom 2011; Johnstone *et al.* 2011; DAWE 2022). A full range of foraging plants and their foraging category assigned by Emerge Associates is available in **Appendix B**.

A review of black cockatoo datasets was undertaken as outlined in **Table 3** and shown in **Figure 5**. Further information on black cockatoo habitat is available in **Appendix A**. Counts for all known black cockatoo roosts within 12 km are available in **Appendix C**.

Table 3: Summary of black cockatoo background review

Category	Black cockatoo site context			Source
	Carnaby's	Baudin's	Forest red-tailed	
Site located within species distribution	Yes	Yes	Yes	(DAWE 2022)
Site in known breeding distribution	Yes	N/A	N/A	(DAWE 2022)
Site is located within 12km of a confirmed or possible breeding site	Yes	N/A	N/A	(Glossop <i>et al.</i> 2011)
Site located in important bird area	No	N/A	N/A	(DPaW 2013; BirdLife International 2022)
Known roosts occur within site <sup>^</sup>	N/A		N/A	(Peck <i>et al.</i> 2019)
Known roosts occur within 12 km of site <sup>^</sup>	31		47	
Potential foraging habitat within site	Yes	Yes	Yes	(Forest Products Commission 2020; Emerge Associates 2021)
Potential foraging habitat in local area (including pine plantations)	Yes	Yes	Yes	

<sup>^</sup>White-tailed black cockatoo roosts can be Carnaby's black cockatoo and/or Baudin's black cockatoo.

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## 3 Methods

### 3.1 Field survey

Two ecologists from Emerge visited the site over several visits:

- 10 August 2022
- 11 August 2022
- 18 October 2022
- 23 February 2023

Transects were traversed across the site during the day to evaluate the fauna habitat and record the presence of fauna species. Fauna habitat was assessed based on vegetation condition, the overall disturbances to the area and the microhabitat characteristics such as soil type and leaf litter density as well as the presence of logs, rocks, leaf litter and water. An opportunistic fauna list was compiled which included evidence of species presence such as tracks, scats, skeletal remains, foraging evidence and calls.

#### 3.1.1 Targeted black cockatoo

Transects were traversed across the site and the presence of potential black cockatoo breeding, night roosting and foraging habitat was recorded. If observed, the presence of black cockatoos within or near the site was noted. Active searches for evidence of breeding, roosting and foraging activity such as chew marks, branch clippings, droppings, moulted feathers and chewed marri or banksia fruit were conducted.

##### 3.1.1.1 Breeding habitat

All native eucalypts within the site that met the required DBH were recorded. Occasionally, native eucalypts were encountered that met DBH requirements but did not contain a trunk/branch of a sufficient size to support a hollow suitable for use by black cockatoos. For example, the tree may have been less than 3 m tall or had a trunk that forked between 1.3 m and 3 m in height and after the fork no limbs had a diameter of  $\geq 50$  cm or  $\geq 30$  cm for wandoo or salmon gum. These trees were not recorded as habitat trees as the likelihood they would form a suitable hollow was low.

Habitat trees were individually identified and the attributes outlined in **Table 4** were recorded for each tree.

Table 4: Attributes recorded for each habitat tree in the site

Attribute	Description
GPS location	The location was recorded using a handheld GPS unit
Tree species	Species and common name were identified
Diameter at breast height (DBH) (cm)	DBH was measured at breast height (1.3 m) using a diameter tape
Hollows potentially suitable for breeding by a black cockatoo	Number of hollows potentially suitable for breeding by a black cockatoo recorded (assessed from ground level only)

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Each habitat tree was assigned to a category listed in **Table 5** based on current black cockatoo guidelines (DAWE 2022).

Table 5: Habitat tree categories (DAWE 2022)

Category	Specifications
Known nesting tree	Trees (live or dead but still standing) which contains a hollow where black cockatoo breeding has been recorded or which demonstrates evidence of breeding (i.e. showing evidence of use through scratches, chew marks or feathers).
Suitable nesting tree	Trees with suitable nesting hollows present <sup>^</sup> , although no evidence of use. Note that any species of tree may develop suitable hollows for breeding.
Potential nesting tree	Trees that have a suitable DBH to develop a nest hollow, but do not currently have suitable nesting hollows. Trees suitable to develop a nest hollow in the future are 300-500 mm DBH. Note that many species of eucalypt may develop suitable hollows for breeding.

<sup>^</sup>Hollow determined to be suitable for use as breeding habitat by black cockatoos as listed above in **Section 3.1.1.1**

### 3.1.1.2 Roosting habitat

If present, groups of tall native and non-native trees were assumed to provide roosting habitat. The presence of active or historical roosts in these trees was determined through evidence of roosting activity, such as branch clippings, droppings or moulted feathers.

Tall groups of native and non-native trees in the site within 1000 m of an existing large roost (>150 individuals) or 500 m of an existing small roost (<150 individuals) were assumed to be associated with that roost (Glossop *et al.* 2011).

### 3.1.1.3 Foraging habitat

Foraging habitat was identified by assessing vegetation in the site for plant species known to provide food for black cockatoos (Davies 1966; Saunders 1980; Johnstone and Storr 1998; Johnstone and Kirkby 1999; Groom 2011; Johnstone *et al.* 2011; DAWE 2022).

Foraging habitat was classified as either 'native' or 'non-native' based on the predominant vegetation's naturalised status. It was also classified as either 'primary' or 'secondary' based on black cockatoo foraging preferences. Primary food plants were defined as those with historical and contemporary records of regular consumption by a black cockatoo species. Secondary food plants were defined as plants that black cockatoo species have been recorded consuming occasionally or that, based on their limited extent or agricultural origin, should not be considered a sustaining resource. A list of plant species classified as primary or secondary food plants is provided as **Appendix B**.

Each patch of foraging habitat was assigned a foraging value for each species of black cockatoo likely to occur within the site. As it is not always possible to separate out food plants from non-food plants, mapped foraging habitat may also include vegetation comprising non-food plants. The proportion of non-food plants in mapped foraging habitat was minimised as far as practicable.

Evidence of black cockatoo foraging, such as chewed fruits, was searched for within the site and allocated to a black cockatoo species where possible.

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### 3.2 Data analysis

#### 3.2.1 Fauna identification

Fauna observed during the survey were identified in the field unless unknown. Where fauna was unknown, photographs and/or noted observations were recorded. Unknown fauna was identified through the use of taxonomic keys and field guides.

##### 3.2.1.1 Nomenclature and sources of information

Taxonomy and nomenclature of scientific and common names for mammals, reptiles and amphibians follow *the Western Australian Museum (WAM) Checklist of the Terrestrial Vertebrate Fauna of Western Australia* (WAM 2022). For birds taxonomy and nomenclature of scientific and common names follows the Australian Faunal Directory (AFD) (DCCEEW 2023a). Where common names were not provided by the WAM or the AFD, these have been derived from other sources as noted.

Literature listed in **Appendix A** represent the main publications used to identify fauna species and habitats within the site.

#### 3.2.2 Fauna habitat

Fauna habitats were described according to the dominant flora species and vegetation type present, as determined from observations made during the field survey and information provided in the '*Detailed Flora and Vegetation Assessment*' (Emerge Associates 2018). Significant microhabitat features present in each habitat were also described.

The identified fauna habitats were mapped on aerial photography with the boundaries interpreted from aerial photography, Emerge Associates (2018) plant communities and notes taken in the field.

#### 3.2.3 Black cockatoo habitat

##### 3.2.3.1 Habitat trees

Habitat trees were classified according to the scheme outlined in **Table 5** and mapped on aerial imagery. A complete summary of the recorded attributes of habitat trees was compiled in a tabular format.

##### 3.2.3.2 Foraging habitat value

Foraging habitat was described according to the dominant flora species or vegetation type present and mapped using boundaries interpreted from aerial photography and notes taken in the field. The foraging value of each patch of foraging habitat was attributed separately for each species of black cockatoo likely to occur in the site. Foraging value was assigned as outlined in **3.1.1.3**.

### 3.3 Survey limitations

It is important to note the specific constraints imposed on surveys and the degree to which these may have limited survey outcomes. An evaluation of the survey methodology against standard

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constraints outlined in the EPA's document *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020) is provided in **Table 6**.

Table 6: Evaluation of survey methodology against standard constraints outlined in the EPA's *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020)

Constraint	Degree of limitation	Details
Level of survey	No limitation	A basic survey (desktop study and field survey) in combination with a targeted black cockatoo survey was undertaken. The level of survey and survey effort are considered adequate to assess the fauna and black cockatoo habitat values within the site.
Scope	No limitation	The survey focused on vertebrate fauna and habitat values, with particular focus on black cockatoos and other conservation significant taxa with potential to occur within the site.
Proportion of fauna identified, recorded and/or collected.	No limitation	All observed vertebrate fauna were identified.
Sources of information e.g. previously available information (whether historic or recent) as distinct from new data.	No limitation	Adequate information was available from database searches, previous surveys and literature references.
The proportion of the task achieved and further work which might be needed.	No limitation	The task was achieved in its entirety.
Experience level of personnel	No limitation	This fauna and black cockatoo assessment was undertaken by a qualified zoologist with over three years of zoological experience in Western Australia and an environmental consultants with 20 years of environmental experience. Technical review was undertaken by a senior environmental consultant with over 11 years' experience in environmental science in Western Australia.
Suitability of timing, weather and season	No limitation	Survey timing is not considered to be of great importance for basic fauna assessments but the weather conditions during the survey were ideal for detecting fauna species. Surveys were conducted during both breeding and non-breeding seasons for black cockatoos.
Completeness	No limitation	The desktop assessment, field survey and targeted black cockatoo components of the survey were completed comprehensively.
Spatial coverage and access	No limitation	Site coverage was comprehensive (track logged).
	No limitation	All parts of the site could be accessed as required.
Survey intensity	No limitation	The intensity of the survey was adequate given the size of the site and the relatively low habitat value present.
Influence of disturbance	No limitation	The site is highly modified due to historical disturbance. However, no recent disturbance was noted that may have affected outcomes of the survey.
Adequacy of resources	No limitation	All resources required to perform the survey were available. The guidance currently available from Commonwealth and State agencies on the assessment of black cockatoo habitat is limited and relies heavily on technical experts preparing their own methodology. This assessment applies

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Constraint	Degree of limitation	Details
		an internally developed methodology that is considered to provide a systematic and balanced characterisation of black cockatoo habitat.
Compliance with EPA (2020) guidance	Minor limitation	The EPA guidance requires that a full list of all fauna species with potential to occur within the site is compiled. As part of this assessment a comprehensive list of fauna species of conservation significance was compiled. Non-conservation taxa with potential to occur within the site were not compiled into a list but are provided as raw data in <b>Appendix D</b> . Given that all species with potential to occur within the site are still identified within the relevant appendices this is not considered to affect the outcomes of this assessment.



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## 4 Results

### 4.1 Fauna

#### 4.1.1 Species inventory

A total of 19 native and one introduced fauna species, were directly or indirectly (from foraging evidence) recorded during the field survey.

A complete species list is provided in **Appendix F**.

#### 4.1.2 Threatened, specially protected and priority fauna

Three threatened fauna species were recorded within the site during the field survey: Carnaby's black cockatoo (EN), Baudin's black cockatoo (EN) and forest red-tailed black cockatoos (VU).

All three of these species were recorded through foraging evidence from marri fruits and Banksia cones.

#### 4.1.3 Declared pests

No species listed as a declared pest (C3) pursuant to the BAM Act were identified within the site.

### 4.2 Fauna habitat

Two broad fauna habitats were identified within the site, as listed in in **Table 7**.



A description, the size of the area and a representative photograph of each habitat is provided in **Table 7**. The location of each habitat is shown on **Figure 4**.

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Table 7: Fauna habitats identified within the site

Fauna habitat	Description	Total area (ha)	Proportion of site (%)	Representative photograph
Scattered trees and shrubs	<p>Planted native and non-native trees in amongst degraded patches of <i>Banksia</i> spp. Shrubs with weedy understory. Lacking microhabitats for small ground dwelling fauna.</p> <ul style="list-style-type: none"> <li>• Low microhabitat complexity. Mostly consisting of the occasional fallen log and dense patches of weeds.</li> <li>• Some trees provide foraging habitat for threatened species of black cockatoo.</li> <li>• Other fauna likely to utilise the area are likely all common and widespread species.</li> </ul>	3.03	33.71	
Cleared land	<p>Areas of completely degraded vegetation comprised of either grassy weeds or cleared dirt patches for vehicle or infrastructure use.</p> <ul style="list-style-type: none"> <li>• Low microhabitat complexity. Mostly lacking any microhabitat features at all.</li> <li>• Fauna use is likely to be associated with traversal across the sight.</li> </ul>	5.96	66.29	

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### 4.3 Black cockatoo habitat

#### 4.3.1 Breeding

A total of eight black cockatoo habitat trees were recorded within the site as shown in **Figure 6**.

The habitat trees comprised seven marri and one *Eucalyptus tottdiana*.

All of the habitat trees were classified as potential nesting trees, as none of the hollows inspected from ground level were considered suitable for black cockatoos.

A summary of the habitat trees recorded within the site is provided in **Table 8** and an inventory in **Appendix G**.

Table 8: Habitat trees recorded within the site

Category	No. trees
Known nesting trees	0
Suitable nesting trees	0
Potential nesting trees	8
Total nesting trees	8

#### 4.3.2 Roosting

No roosts or evidence of roosting were observed within the site during the survey.

#### 4.3.3 Foraging

A total of 1.69 ha of foraging habitat for Carnaby's black cockatoo, 1.57 ha for Baudin's black cockatoo and 3.4 ha for forest red-tailed black cockatoo were recorded in the site as shown in **Figure 7** to **Figure 9**.

The extent of foraging habitat by value category is detailed in **Table 9**.

Table 9: Foraging habitat recorded within the site

Foraging habitat	Black cockatoo species and area of foraging habitat (ha)		
	Carnaby's	Baudin's	Forest red-tailed
Primary native	0.38	0.09	0.05
Primary non-native	0	0	0.06
Secondary native	0.11	0.34	0.33
Secondary non-native	0.69	0.63	2.40
Total	1.18	1.06	2.84

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## 5 Discussion

### 5.1 Fauna

The 19 native fauna species recorded within the site are all generally common and widespread across the Swan Coastal Plain and are representative of the fauna assemblage of the Swan-Coastal Plain. The relatively small number fauna species recorded over the course of each site visit is likely indicative of the low value habitat the site provides to native fauna, as well as its lack of connectivity to other areas of bushland.

#### 5.1.1 Threatened, specially protected and priority fauna

Carnaby's black cockatoo, Baudin's black cockatoo and Forest red-tailed black cockatoo were all recorded within the site. All of these species are discussed further in **Section 5.3**.

Two other specially protected species and one priority species were considered to have a moderate likelihood of occurring within the site.

- Pacific swift (MI) and peregrine falcon (OS) are both highly mobile species that may opportunistically fly over or forage in the site for short periods of time as part of a much larger home range. Neither of these species are likely to breed within the site. Any occurrence of pacific swift or peregrine falcon in the site would likely be in the air space and largely independent from terrestrial habitat as they are known to forage across rural and urban areas.
- Quenda (P4) are abundant throughout the Swan Coastal Plain and are commonly present where dense, shrubby vegetation is located. They are known to traverse through remnant, disconnected native vegetation in urban rural areas as they forage. However, the fauna habitats within the site likely lack the understory and microhabitat complexity to provide good quality foraging habitat for quenda, and any occurrence is likely as a part of an individual's wider home range of rural residential areas.

### 5.2 Fauna habitat

The habitat values within the site have been modified by historical clearing for industrial development, which has resulted in the removal of most of the native vegetation. Whilst some replanting has been undertaken according to historical imagery, the site lacks understory, and as such, provides little value to non-avian fauna.

Most of the site comprised of **cleared land** (5.96 ha) which provides little use to fauna. The rest of the site is comprised of **scattered trees and shrubs** habitat (3.03 ha) which consists of native and non-native tree species almost entirely lacking in understory aside from grassy weeds. This habitat is likely only used by fauna as part of a wider range of scattered urban tree habitat for traversal between areas of more intact vegetation, or some foraging in the case of avifauna.

### 5.3 Black cockatoo habitat values

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Foraging evidence of all three species of threatened black cockatoo were found during the survey. Furthermore, the site is within the distribution of all three species, there are many records of the species in the area and therefore their occurrence is not unexpected. The site exists on the western border of the modelled distribution of Baudin's black cockatoo, and as such they are less likely to utilise the site than the other two species, which utilise the region for foraging, breeding and roosting, as well traverse through the site to move between the Swan-Coastal Plain and Darling Range.

### 5.3.1 Breeding

As none of the habitat trees contain hollows suitable for use by black cockatoos for breeding, the site does not currently provide breeding habitat for any of the three species of black cockatoo. The habitat trees within the site have the potential to form suitable hollows in the future. However, it will likely take many decades for hollows to form that are large enough to be suitable for use by black cockatoos for breeding.

### 5.3.2 Roosting

A number of roosts for red-tailed black cockatoos and white-tailed black cockatoos exist in a 12 km radius, with the closest nearby roost being 2.2 km northwest.

According to Peck *et al.* (2019) and Glossop *et al.* (2011), for trees to be considered 'roost trees' or 'potential roost trees', they must be >8 m in height and within 1000 m of a large roost or 500 m of a small roost. As such, none of the large trees in the site are considered roost trees or potential roost trees.

No secondary evidence of roosting such as branch clippings, droppings or feathers were observed within the site. Therefore, there is no reason to suspect that roosting by black cockatoos has recently occurred in the site.

### 5.3.3 Foraging

The site contains native foraging habitat for all species of black cockatoo. The highest value foraging resource in the site for all black cockatoos is associated with the marri trees scattered throughout the site. The scattered section of *Banksia* spp. provides the largest contiguous area (0.38 ha) of primary foraging resource for Carnaby's black cockatoo and is a secondary source for Baudin's black cockatoo. Foraging habitat is marginally increased by the *Melia azedarach* present within the site which is a high value resource for forest red-tailed black cockatoo and a secondary source for Carnaby's black cockatoo.

The secondary foraging habitat for all three species of black cockatoo is predominantly associated with scattered, planted non-native eucalypt trees. While there are records of all three species consuming the fruit of these plants (Groom 2011; DoEE 2017), they are likely to be secondary options that are opportunistically consumed rather than relied upon.

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## 6 Conclusions

Outcomes of the basic fauna assessment include the following:

- The majority of the site (approximately 66.29%) supports highly disturbed **cleared land** habitat which provides limited value to fauna species of conservation significance and is likely to primarily be used by common and widespread native and non-native fauna with non-specific habitat requirements. The remainder of the site consists of **scattered trees and shrubs** habitat (approximately 33.71%).
- A total of 19 native fauna species were recorded within the site.
- A total of three threatened species were recorded during the survey through foraging evidence including: Carnaby's black cockatoo (EN), Baudin's black cockatoo (EN) and forest red-tailed black cockatoo (VU).
- Two specially protected and one priority species not recorded during the field survey are considered to have a high or moderate likelihood of occurring in the site: Pacific swift (MI), Peregrine falcon (OS) and quenda (P4).

Outcomes of the targeted black cockatoo survey include the following:

- Carnaby's black cockatoo, Baudin's black cockatoo and forest red-tailed black cockatoo were all indirectly recorded during the survey through foraging evidence on marri fruit and banksia cones.
- The site occurs within the modelled distribution of Carnaby's black cockatoo and forest red-tailed black cockatoo and on the western border of the modelled distribution of Baudin's black cockatoo.
- The site contains eight habitat trees of which none contain hollows suitable for use by black cockatoos for breeding. Therefore, the site does not currently provide suitable breeding habitat for any species of black cockatoo.
- White-tailed black cockatoo (most likely Carnaby's black cockatoo) and forest red-tailed black cockatoo roosts occur in close proximity to the site (Peck *et al.* 2019). No roosts or evidence of roosting by any species of black cockatoo was recorded within the site during the field survey.
- A total of 1.18 ha of foraging habitat for Carnaby's black cockatoo was mapped within the site of which 0.38 ha (32.2%) comprises primary native plants, 0.11 ha (9.32%) provides secondary native plants and 0.69 ha (58.47%) provides secondary non-native plants .
- A total of 1.06 ha of foraging habitat for Baudin's black cockatoo was mapped within the site of which 0.09 ha (8.49%) comprises primary native plants, 0.34 ha (32.07%) provides secondary native plants and 0.63 ha (59.43%) provides secondary non-native plants .
- A total of 2.84 ha of foraging habitat for Forest red-tailed black cockatoo was mapped within the site of which 0.05 ha (1.76%) comprises primary native plants, 0.06 ha (2.11%) comprises primary non-native plants, 0.33 ha (11.61%) provides secondary native plants and 2.4 ha (84.51%) provides secondary non-native plants .
- Additional areas of foraging habitat of similar or higher value occur adjacent to the site and in the wider local area.



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# Basic Fauna and Targeted Black Cockatoo Assessment

Lots 25, 16 and 988 Victoria Rd Kenwick



## 7.2 Online references

The online resources that have been utilised in the preparation of this report are referenced in **Section 7.1**, with access date information provided in **Table R 1**.

*Table R 1 Access dates for online references*

Reference	Date accessed	Website or dataset name
Atlas of Living Australia	13 November 2023	Atlas of Living Australia – Spatial Portal
BirdLife International (2023)	13 November 2023	Important Bird Areas
BoM (2023)	13 November 2023	Climate Data Online
DAWE (2023)	13 November 2023	Species Profile and Threats Database
DAWE (2023)	13 November 2023	Protected Matters Search Tool
DBCA (2023)	31 January 2019	NatureMap
DCCEEW (2023)	13 November 2023	Australian Faunal Directory
WALIA (2023)	13 November 2023	Landgate Map Viewer

# Basic Fauna and Targeted Black Cockatoo Assessment

Lots 25, 16 and 988 Victoria Rd Kenwick



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# Figures



*Figure 1: Site Location*

*Figure 2: Hydrography, Soils and Topography*

*Figure 3: Environmental Features*

*Figure 4: Fauna Habitat*

*Figure 5: Black Cockatoo Habitat Context*

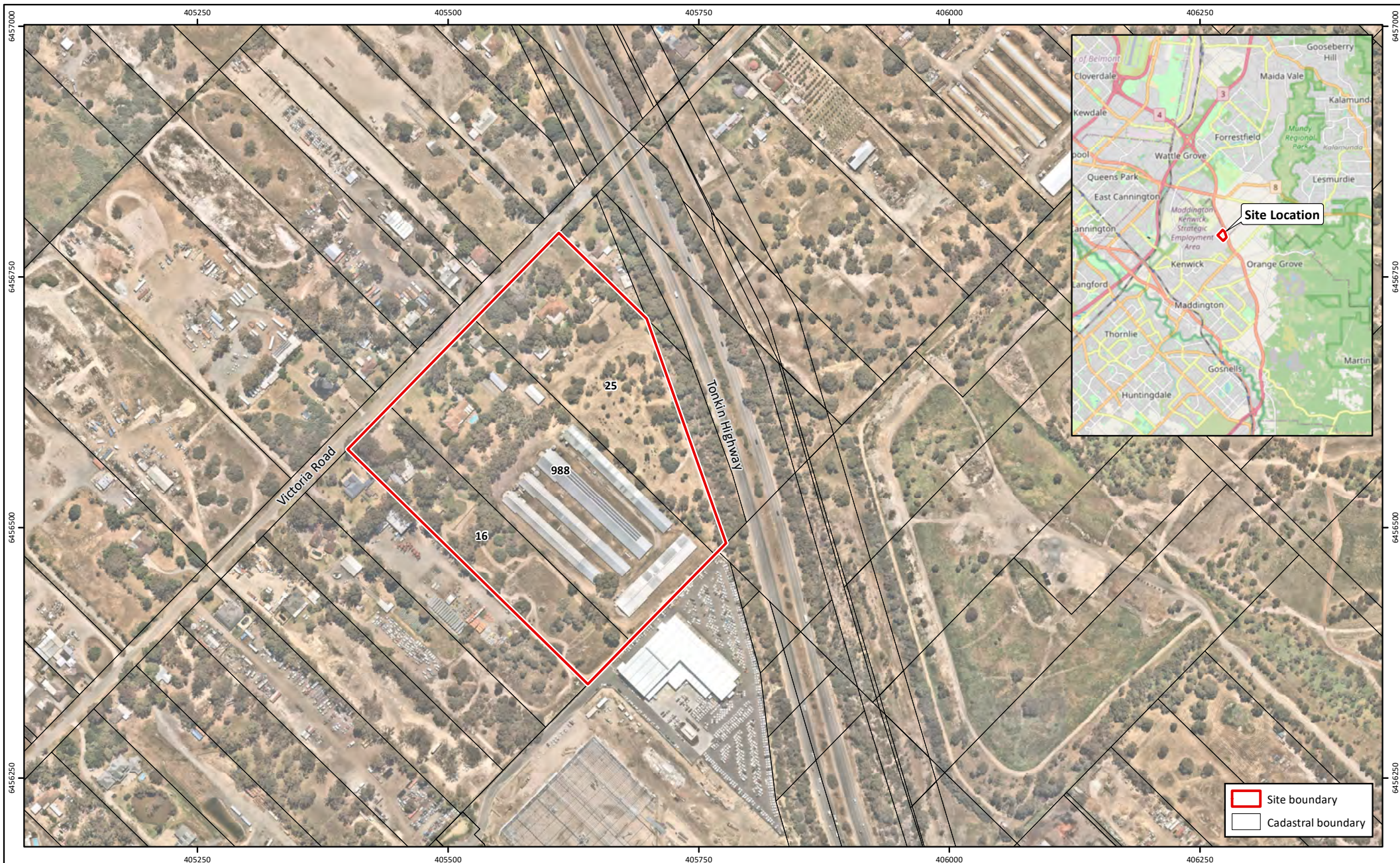
*Figure 6: Black Cockatoo Habitat Trees*

*Figure 7: Carnaby's Black Cockatoo Foraging Habitat*

*Figure 8: Baudin's Black Cockatoo Foraging Habitat*

*Figure 9: Forest Red-tailed Black Cockatoo Foraging Habitat*

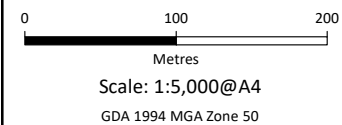




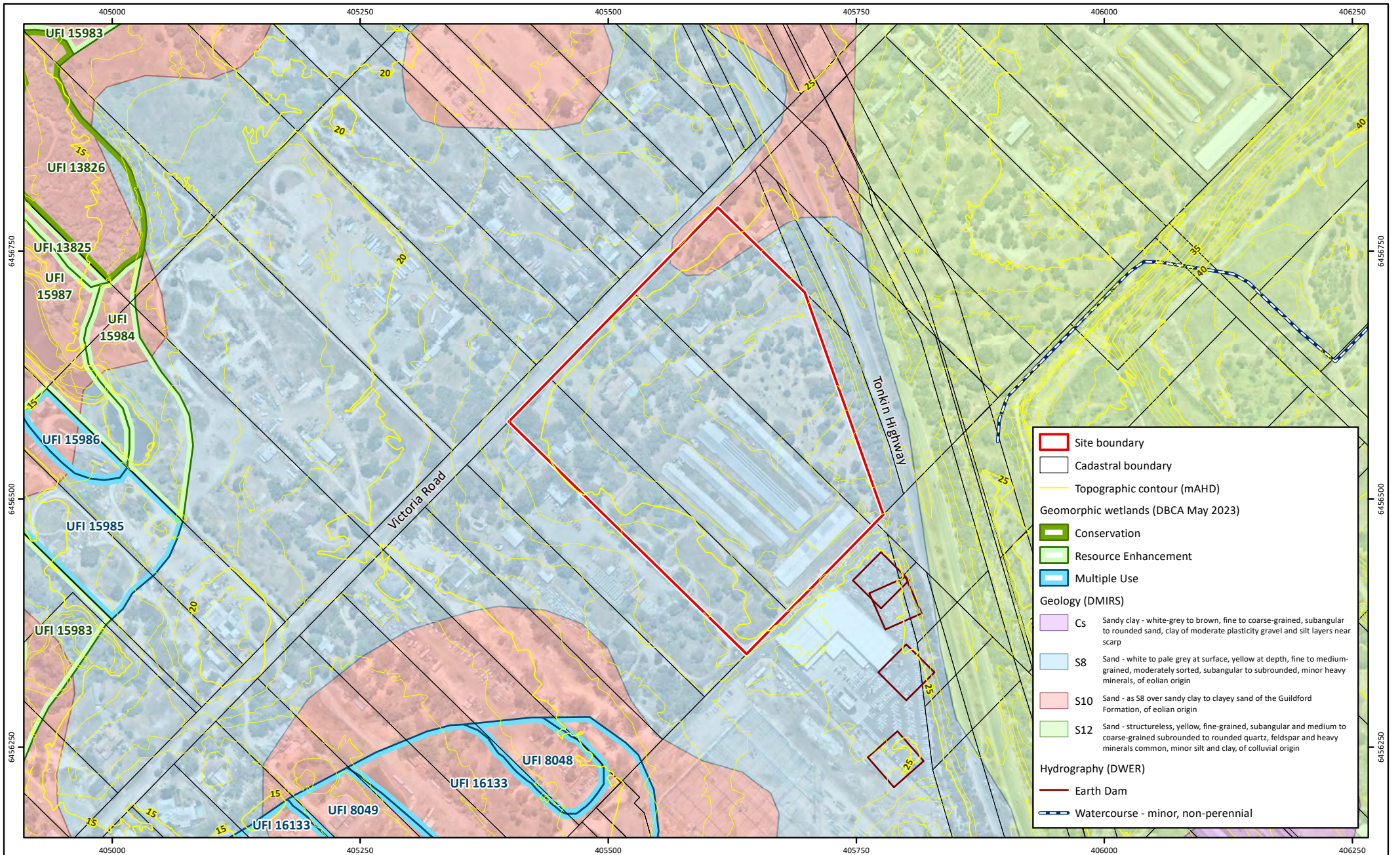
**Figure 1: Site Location**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:**  
 EP21-094(05)--F20  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
**Approved:** RAW  
**Date:** 30/11/2023



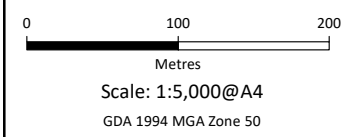




**Figure 2: Hydrography, Soils and Topography**

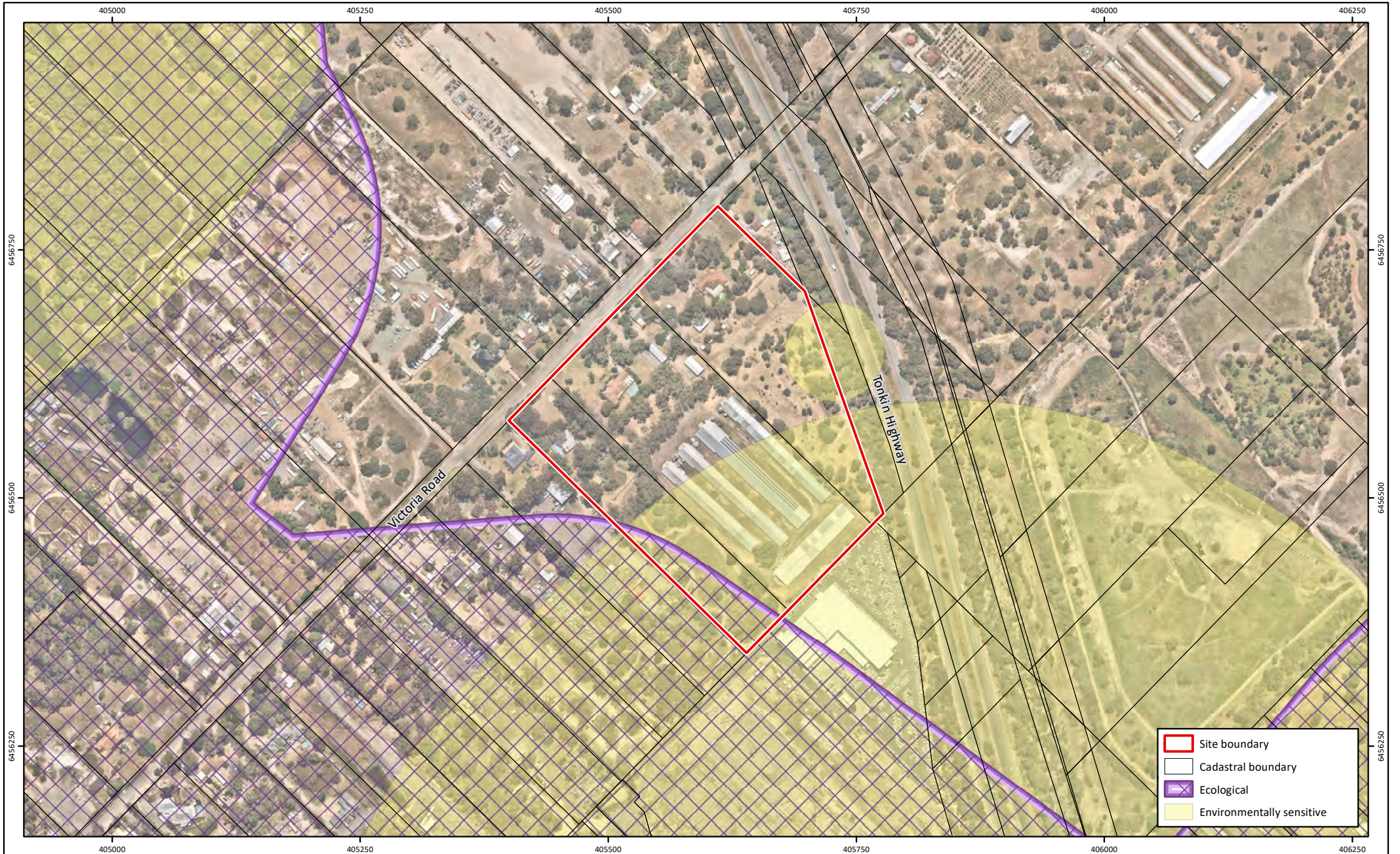
**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:** EP21-094(05)--F21  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
**Approved:** RAW  
**Date:** 30/11/2023



While Emerge Associates makes every attempt to ensure the accuracy and completeness of data, Emerge accepts no responsibility for externally sourced data used ©Landgate (2023). Nearmap Imagery date: 30/09/2022





**Figure 3: Environmental Features**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:**  
 EP21-094(05)--F22  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
**Approved:** RAW  
**Date:** 30/11/2023



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 GDA 1994 MGA Zone 50



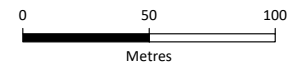




**Figure 4: Fauna Habitat**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

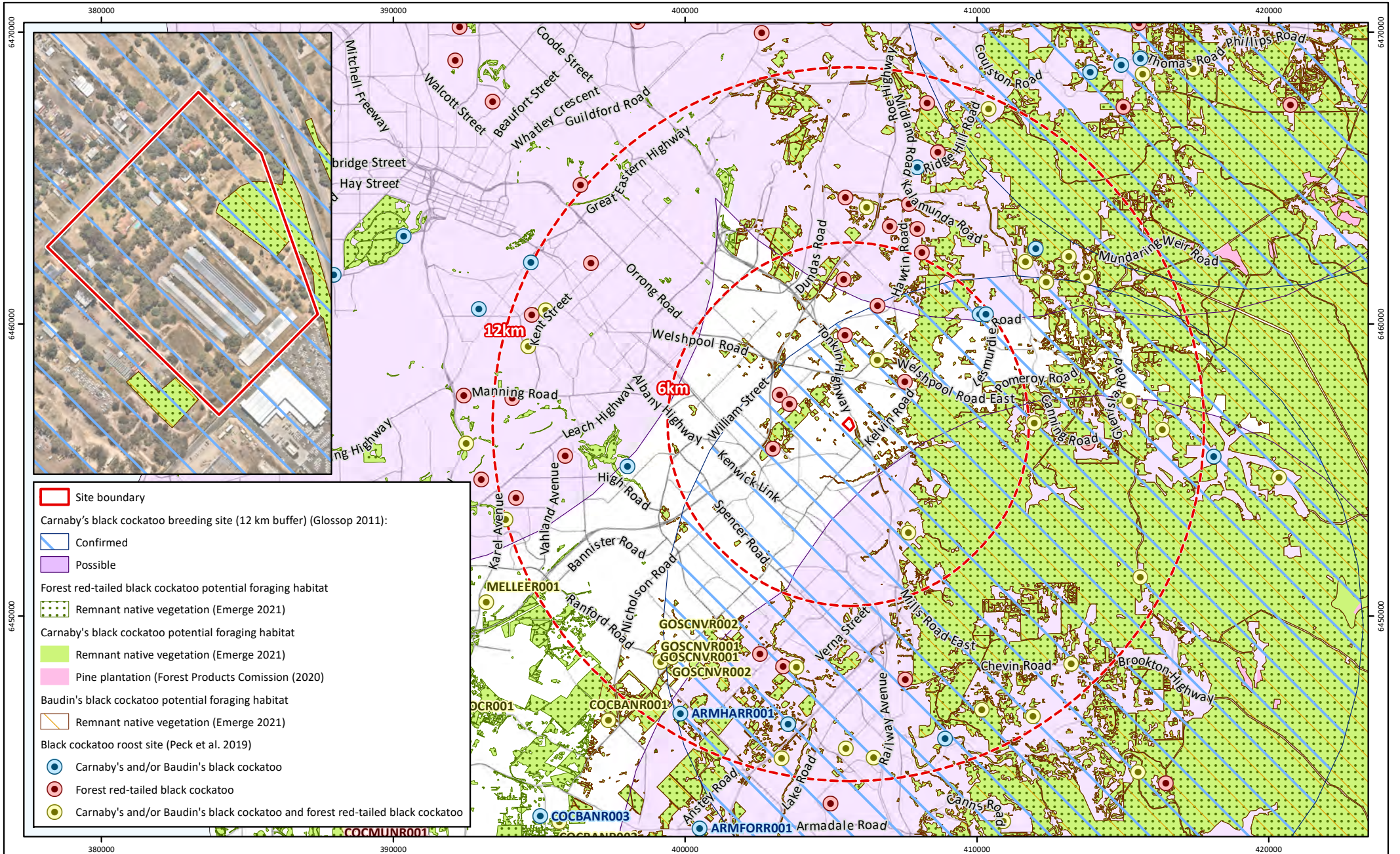
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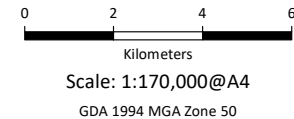




**Figure 5: Black Cockatoo Habitat Context**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:** EP21-094(05)-F24  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
**Approved:** RAW  
**Date:** 30/11/2023



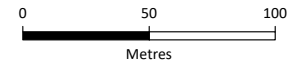




**Figure 6: Black Cockatoo Habitat Trees**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:**  
 EP21-094(05)--F25  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
**Approved:** RAW  
**Date:** 30/11/2023



Scale: 1:3,000@A4  
 GDA 1994 MGA Zone 50







**Figure 7: Carnaby's Black Cockatoo Habitat Trees**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:**  
 EP21-094(05)--F26  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
**Approved:** RAW  
**Date:** 30/11/2023



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 GDA 1994 MGA Zone 50







**Figure 8: Baudin's Black Cockatoo Foraging Habitat**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:**  
 EP21-094(05)--F27  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
**Approved:** RAW  
**Date:** 30/11/2023



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 GDA 1994 MGA Zone 50







**Figure 9: Forest Red-tailed Black Cockatoo Habitat**

**Project:** Basic Fauna and Targeted Black Cockatoo Assessment  
 Lots 16, 25 and 988 Victoria Rd, Kenwick  
**Client:** Hesperia Property Pty Ltd

**Plan Number:**  
 EP21-094(05)--F28  
**Drawn:** GAR  
**Date:** 14/11/2023  
**Checked:** AJU  
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**Date:** 30/11/2023



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# Appendix A

Additional Information



## Conservation Significant Fauna

### Threatened and priority fauna

Fauna species considered rare or under threat warrant special protection under Commonwealth and/or State legislation. At the Commonwealth level, fauna species can be listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as ‘threatened’, ‘migratory’ or ‘marine’ as described in **Table 1**.

Migratory species comprise birds recognised under international treaties including:

- Japan Australia Migratory Bird Agreement 1981 (JAMBA)
- China Australia Migratory Bird Agreement 1998 (CAMBA)
- Republic of Korea-Australia Migratory Bird Agreement 2007 (ROKAMBA)
- Bonn Convention 1979 (The Convention on the Conservation of Migratory Species of Wild Animals).

Fauna species listed as threatened and migratory are protected in Australia as ‘matters of national environmental significance’ (MNES) under the EPBC Act.

*Table 1: Definitions of conservation significant fauna species pursuant to the EPBC Act*

Conservation Code	Category
X	Threatened Fauna –Extinct There is no reasonable doubt that the last member of the species has died.
EW <sup>#</sup>	Threatened Fauna –Extinct in the Wild Taxa which are known only to survive in cultivation, captivity or as a naturalised population outside its past range, or taxa which have not been recorded in its known and/or expected habitat despite appropriate exhaustive surveys.
CR <sup>#</sup>	Threatened Fauna – Critically Endangered Taxa which are considered to be facing an extremely high risk of extinction in the wild.
EN <sup>#</sup>	Threatened Fauna – Endangered Taxa which are considered to be facing a very high risk of extinction in the wild.
VU <sup>#</sup>	Threatened Fauna – Vulnerable Taxa which are considered to be facing a high risk of extinction in the wild.
Migratory <sup>#</sup>	Migratory Fauna All migratory species that are: (i) native species; and (ii) from time to time included in the appendices to the Bonn Convention; and (b) all migratory species from time to time included in annexes established under JAMBA, CAMBA and ROKAMBA; and All native species from time to time identified in a list established under, or an instrument made under, an international agreement approved by the Minister.
Ma	Marine Fauna Species in the list established under s248 of the EPBC Act

<sup>#</sup>matters of national environmental significance (MNES) under the EPBC Act



## Additional Background Information



In Western Australia, fauna taxa may be classed as ‘threatened’, ‘extinct’, or ‘specially protected’ under the *Biodiversity Conservation Act 2016* (BC Act), which is enforced by Department of Biodiversity Conservation and Attractions (DBCA) (DBCA 2019a). The definitions of these categories are provided in **Table 2**.

Table 2: Definitions of specially protected fauna schedules under the BC Act (DBCA 2019a)

Category	Conservation Code	Definition
Threatened	CR	Critically endangered Threatened species considered to be facing an extremely high risk of extinction in the wild in the immediate future.
	EN	Endangered Threatened species considered to be facing a very high risk of extinction in the wild in the near future.
	VU	Vulnerable Threatened species considered to be facing a high risk of extinction in the wild in the medium-term future.
Extinct	EX	Extinct Species where there is no reasonable doubt that the last member of the species has died.
	EW	Extinct in the wild 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. Note that no species are currently listed as EW.
Specially protected	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  Includes birds that subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds.
	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.
	OS	Other specially protected species Fauna otherwise in need of special protection to ensure their conservation.

## Additional Background Information



Fauna species that may be threatened or near threatened but lack sufficient information to be legislatively listed may be added to the DBCA's *Priority Fauna List* (DBCA 2018b). Species listed under priorities 1-3 comprise possible threatened species that do not meet survey criteria or are otherwise data deficient. Species listed under priority 4 are those 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 (DBCA 2019a).

Priority fauna species are considered during State approval processes. Priority fauna categories and definitions are listed in **Table 3** (DBCA 2019a).

*Table 3: Definitions of priority fauna categories on DBCA's Priority Fauna List (DBCA 2019a)*

Conservation Code	Category
P1	<p>Priority 1 – Poorly known</p> <p>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.</p>
P2	<p>Priority 2 – Poorly known</p> <p>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.</p>
P3	<p>Priority 3 – Poorly known</p> <p>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.</p>
P4	<p>(a) Priority 4 – Rare species</p> <p>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) Priority 4 – Near Threatened</p> <p>Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.</p> <p>(c) Priority 4 – Other</p> <p>Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>

## Additional Background Information

### Black cockatoos

Three threatened species of black cockatoo occur on the Swan Coastal Plain (referred to herein collectively as ‘black cockatoos’):

- *Zanda*<sup>1</sup> *latirostris* (Carnaby’s black cockatoo) which is listed as ‘endangered’ under the EPBC Act and the BC Act.
- *Zanda*<sup>1</sup> *baudinii* (Baudin’s black cockatoo) which is listed as ‘endangered’ under the EPBC Act and the BC Act.
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) which is listed as ‘vulnerable’ under the EPBC Act and the BC Act.

There are a range of regional studies and spatial datasets available which provide information on black cockatoo records and potential habitat mapping. These are detailed below.

### Species distribution and breeding range

Broad-scale maps are available for the modelled distribution of Baudin’s black cockatoo, Carnaby’s black cockatoo and forest red-tailed black cockatoo (DSEWPaC 2011; DoEE 2016a, b).

The modelled distribution maps also include ‘known breeding areas’ and ‘predicted breeding range’ for Baudin’s black cockatoo and ‘breeding range’ and ‘non-breeding range’ for Carnaby’s black cockatoo.

No breeding range modelling is available for forest red-tailed black cockatoo but the species is known to breed mainly in the jarrah forest region (DBCA 2017a) and in small populations on the Swan Coastal Plain within the Baldvis, Stake Hill, Lake McLarty and Capel area and increasingly in the Perth metropolitan area (DAWE 2022).

### Breeding habitat

Department of Environment and Conservation (DEC, now Department of Biodiversity, Conservation and Attractions (DBCA)) and fauna experts, have identified and mapped Carnaby’s black cockatoo habitat on the Swan Coastal Plain and Jarrah Forest regions (Glossop *et al.* 2011). This dataset includes mapping of Carnaby’s black cockatoo breeding sites based on point records of breeding from a range of sources. Breeding sites were classified as ‘confirmed’ where eggs or chicks were recorded and ‘possible’ where observations relating to Carnaby’s black cockatoo breeding that did not include actual records of eggs or chicks (e.g. chewed hollows or records of breeding or nesting behaviour by an expert observer).

A 12 km buffer applies to each site to ‘reflect the flexible use of these areas by cockatoos and to indicate the important zone for access to potential feeding habitat’ (Glossop *et al.* 2011). Glossop *et al.* (2011) state that the areas mapped in the dataset are not a comprehensive record of Carnaby’s black cockatoo breeding and that many nesting sites are not known.

While this dataset only applies to Carnaby’s black cockatoo, the information it contains is also applicable for Baudin’s black cockatoo and forest red-tailed black cockatoo as they have similar

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<sup>1</sup> Previously *Calyptorhynchus*

## Additional Background Information



breeding habitat requirements. That is, breeding sites that are suitable for Carnaby's black cockatoo may also be suitable for Baudin's black cockatoo and forest red-tailed black cockatoo, if located within their distribution/breeding ranges.

BirdLife Australia also maintain a database of confirmed black cockatoo breeding sites which is accessible via a paid search system. BirdLife Australia have advised that their database is comprised of data collected during surveys by staff and volunteers of which most (>99%) surveys are of Carnaby's black cockatoo. They have also advised that the dataset is not comprehensive and that an absence of known nests does not necessarily indicate a lack of breeding activity.

The Carnaby's black cockatoo recovery plan also identifies 13 'important bird areas' for Carnaby's black cockatoo, which are identified as 'sites of global bird conservation importance' (DPaW 2013). These 'important bird areas' comprise sites supporting at least 20 breeding pairs or 1% of the population regularly utilising an area in the non-breeding part of the range.

### Confirmed roost sites

BirdLife Australia undertakes annual monitoring of black cockatoo overnight roost sites as part of the annual 'Great Cocky Count' community-based survey. Information gathered from these monitoring events provides roost locations and recorded black cockatoo number (Birdlife Australia 2023).

### Native foraging habitat

Glossop *et al.* (2011) also mapped 'areas requiring investigation as Carnaby's black cockatoo feeding habitat' for the Swan Coastal Plain and Jarrah Forest regions, based on regional vegetation mapping that may contain plant species known to be foraged upon by Carnaby's black cockatoo. Note that this dataset does not include observations or point records of Carnaby's black cockatoo feeding. This dataset represents areas of vegetation that may potentially provide foraging habitat for Carnaby's black cockatoo.

In order to account for clearing of native vegetation that has occurred since the Glossop *et al.* (2011) dataset was created and to incorporate updated vegetation mapping and information on foraging behaviour of Carnaby's black cockatoo, Emerge have revised this dataset to represent the most up to date information available. Furthermore, Emerge have used a similar methodology to Glossop *et al.* (2011) to define potential foraging habitat for Baudin's black cockatoo and forest-red tailed cockatoos.

Specifically, DBCA (2021), DBCA (2019b) and DPIRD (2018) regional vegetation complex mapping was used to determine which areas of remnant vegetation support plant species known to be foraged upon by Carnaby's black cockatoo, Baudin's black cockatoo or forest red-tailed cockatoos. Where these vegetation complexes intersect remnant vegetation mapped by DPIRD (2020) they were considered to represent potential foraging habitat for Carnaby's black cockatoo, Baudin's black cockatoo and/or forest red-tailed cockatoo.

Pine plantations also provide an important food source for Carnaby's black cockatoo, but were not included in the original Glossop *et al.* (2011) dataset. Mapping of pine plantations is available from the Forest Products Commission (Forest Products Commission 2020) and was considered in the assessment of Carnaby's black cockatoo foraging habitat.

## Pest fauna

A number of legislative and policy documents exist in relation to pest fauna management at state and national levels. The *Biosecurity and Agriculture Management Act 2007* (BAM Act) is the principle legislation guiding pest fauna management in Western Australia and lists declared pest species.

### Declared Pests

Part 2.3.23 of the BAM Act requires a person must not “*a) keep, breed or cultivate the declared pest; b) keep, breed or cultivate an animal, plant or other thing that is infected or infested with the declared pest; c) release into the environment the declared pest, or an animal, plant or other thing that is infected or infested with the declared pest; or d) intentionally infect or infest, or expose to infection or infestation, a plant, animal or other thing with a declared pest*”.

Under the BAM Act, all declared pests are assigned a legal status, as described in **Table 4**. Species assigned to the ‘declared pest, prohibited - s12’ category are placed in one of three control categories, as described in **Table 5**.

The *Biosecurity and Agriculture Management Regulations 2013* specify keeping categories for species assigned to the ‘declared pest - s22(2)’ category, which relate to the purposes of which species can be kept, as well as the entities that can keep them. The categories are described in **Table 6**.

The Western Australian Organism List (WAOL) provides the status of organisms which have been categorised under the BAM Act (DAFWA 2016).

Table 4: Legal status of declared pest species listed under the BAM Act (DAFWA 2016)

Category	Description
Declared Pest Prohibited - s12	May only be imported and kept subject to permits. Permit conditions applicable to some species may only be appropriate or available to research organisations or similarly secure institutions.
Declared Pest s22(2)	Must satisfy any applicable import requirements when imported and may be subject to an import permit if they are potential carriers of high-risk organisms. They may also be subject to control and keeping requirements once within Western Australia

Table 5: Control categories of declared pest species listed under the BAM Act (DAFWA 2016)

Category	Description
C1	Exclusion Not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.
C2	Eradication Present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.
C3	Management Established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

## Additional Background Information

*Table 6: Keeping categories of declared pest species listed under the BAM Act (DAFWA 2016)*

Category	Description
Prohibited	Can only be kept under a permit for public display and education purposes, and/or genuine scientific research, by entities approved by the state authority.
Exempt	No permit or conditions are required for keeping.
Restricted	Organisms which, relative to other species, have a low risk of becoming a problem for the environment, primary industry or public safety and can be kept under a permit by private individuals.

## Wetland Habitat

### Geomorphic wetland types

On the Swan Coastal Plain DBCA (2017b) have used the geomorphic wetland classification system developed by Semeniuk (1987) and Semeniuk and Semeniuk (1995) to classify wetlands based on the landform shape and water permanence (hydro-period) as outlined in **Table 7**. DBCA maintains a dataset of the *Geomorphic Wetlands of the Swan Coastal Plain* (DBCA 2018a).

*Table 7: Geomorphic Wetlands of the Swan Coastal Plain classification categories (DBCA 2017b)*

Level of inundation	Geomorphology			
	Basin	Flat	Channel	Slope
Permanently inundated	Lake	-	River	-
Seasonally inundated	Sumpland	Floodplain	Creek	-
Seasonally waterlogged	Dampland	Palusplain	-	Paluslope

## Literature

The main literature used for identifying fauna and fauna habitats is listed in **Table 8** below.

*Table 8: Standard literature used for identifying fauna species and habitats.*

Conservation Code	Category
Birds	Johnstone and Storr (1998b), Johnstone and Storr (1998a), Pizzey and Knight (2012), Slater <i>et al.</i> (2003)
Mammals	Menkhorst and Knight (2011), Triggs (2003)
Amphibia	Tyler and Doughty (2009), Bush <i>et al.</i> (2002)
Reptiles	Bush <i>et al.</i> (2002), Wilson and Swan (2021)



## References

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department of biodiversity Conservation and Attractions (DBCA) 2017a, *Fauna Profile - Forest red-tailed black cockatoo *Calyptorhynchus banksii naso**, Perth, Western Australia.

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# Appendix B

Black cockatoo foraging plants



Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Acacia baileyana</i>	Cootamundra wattle	Secondary	-	-	Groom 2011
<i>Acacia pentadenia</i>	Karri wattle	Secondary	-	-	Groom 2011
<i>Acacia saligna</i>	Orange wattle	Secondary	-	-	Groom 2011
<i>Agonis flexuosa</i>	Peppermint tree	Secondary	-	-	Groom 2011
<i>Allocasuarina fraseriana</i>	Sheoak	Secondary	Secondary	Secondary	Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010; Johnstone 2017; DoEE 2017
<i>Allocasuarina spp.</i>		Secondary	-	Secondary	Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DoEE 2017
<i>Anigozanthos flavidus</i>	Tall kangaroo paw	-	Secondary	-	Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017
<i>Araucaria heterophylla</i>	Norfolk island pine	Secondary	-	-	Groom 2011; DoEE 2017
<i>Banksia ashbyi</i>	Ashby's banksia	Primary	Secondary	-	Saunders 1980; Groom 2011; DoEE 2017
<i>Banksia attenuata</i>	Slender banksia	Primary	Secondary	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia baxteri</i>	Baxter's banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia carlinoides</i>	Pink dryandra	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia coccinea</i>	Scarlet banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia dallanneyi</i>	Couch honeypot dryandra	Primary	Secondary	-	Groom 2011; DoEE 2017
<i>Banksia ericifolia</i>	Heath-leaved banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia fraseri</i>		Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia gardneri</i>	Prostrate banksia	Primary	Secondary	-	Groom 2011; DoEE 2017
<i>Banksia grandis</i>	Bull banksia	Primary	Secondary	-	Saunders 1980; Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia hookeriana</i>	Hooker's banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia ilicifolia</i>	Holly banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; Johnstone & Storr 1998; DoEE 2017
<i>Banksia kippistiana</i>		Primary	Secondary	-	Groom 2011; DoEE 2017
<i>Banksia leptophylla</i>		Primary	Secondary	-	Groom 2011; DoEE 2017
<i>Banksia lindleyana</i>	Porcupine banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; DoEE 2017

Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Banksia littoralis</i>	Swamp banksia	Primary	Secondary	-	Saunders 1980; Groom 2011; Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010; DoEE 2017
<i>Banksia menziesii</i>	Firewood banksia	Primary	Secondary	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia mucronulata</i>	Swordfish dryandra	Primary	Secondary	-	Groom 2011; DoEE 2017
<i>Banksia nivea</i>	Honeypot dryandra	Primary	Secondary	-	Saunders 1980; Groom 2011; DoEE 2017
<i>Banksia nobilis</i>	Golden dryandra	Primary	Secondary	-	Saunders 1980; Groom 2011; DoEE 2017
<i>Banksia praemorsa</i>	Cut-leaf banksia	Primary	Secondary	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia prionotes</i>	Acorn banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia prolata</i>		Primary	Secondary	-	Johnstone <i>et al.</i> 2010; DoEE 2017
<i>Banksia quercifolia</i>	Oak-leaved banksia	Primary	Secondary	-	Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia sessilis</i>	Parrot bush	Primary	Secondary	-	Saunders 1980; Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia speciosa</i>	Showy banksia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia spp.</i>		Primary	Secondary	-	Saunders 1979; DSEWPaC 2012; DoEE 2017
<i>Banksia squarrosa</i>	Pingle	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Banksia tricuspis</i>	Pine banksia	Primary	Secondary	-	Groom 2011; DoEE 2017
<i>Banksia undata</i>	Urchin dryandra	Primary	Secondary	-	Groom 2011; DoEE 2017
<i>Banksia verticillata</i>	Granite banksia	Primary	Secondary	-	Saunders 1980; Groom 2011; DoEE 2017
<i>Brassica campestris</i>	Canola	Secondary	-	-	Groom 2011; DoEE 2017
<i>Callistemon spp.</i>		Secondary	Secondary	-	Johnstone <i>et al.</i> 2010; DoEE 2017
<i>Callistemon viminalis</i>	Captain cook bottlebrush	Secondary	-	-	Groom 2011
<i>Callitris sp.</i>		Secondary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Carya illinoensis</i>	Pecan	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; Groom 2014; DoEE 2017
<i>Casuarina cunninghamiana</i>	River sheoak	Secondary	-	-	Groom 2011
<i>Citrullus lanatus</i>	Pie or afghan melon	Secondary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011

Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Corymbia calophylla</i>	Marri	Primary	Primary	Primary	Johnstone & Storr 1998; Johnstone & Kirkby 1999; Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017; Johnstone 2017; Saunders 1979; Johnstone & Kirkby 2008
<i>Corymbia citriodora</i>	Lemon scented gum	Secondary	Secondary	Secondary	Johnstone <i>et al.</i> 2010; DSEWPaC 2012; Groom 2011; Johnstone 2017
<i>Corymbia ficifolia</i>	Red flowering gum	Secondary	-	-	Groom 2011
<i>Corymbia haematoxylon</i>	Mountain marri	Secondary	-	Secondary	Groom 2011; DoEE 2012; DoEE 2017
<i>Corymbia maculata</i>	Spotted gum	-	-	-	-
<i>Darwinia citriodora</i>	Lemon-scented darwinia	Secondary	Secondary	-	Groom 2011; Johnstone <i>et al.</i> 2010
<i>Diospyros sp.</i>	Sweet persimmon	Secondary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DoEE 2017
<i>Eremophila glabra</i>	Tarbush	Secondary	-	-	Groom 2011
<i>Erodium aureum</i>		Secondary	-	-	Groom 2011
<i>Erodium botrys</i>	Long storksbill	Secondary	Secondary	-	Groom 2011; Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010
<i>Erodium spp.</i>		Secondary	Secondary	-	Johnstone <i>et al.</i> 2010; DoEE 2017
<i>Eucalyptus caesia</i>	Silver princess	Secondary	-	Secondary	Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DoEE 2017; Johnstone 2017
<i>Eucalyptus camaldulensis</i>	River red gum	-	-	Secondary	DoEE 2012; DoEE 2017
<i>Eucalyptus decipiens</i>	Red heart/moit	-	-	Secondary	Johnstone 2017
<i>Eucalyptus diversicolor</i>	Karri	-	-	Primary	Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017; Johnstone & Storr 1998
<i>Eucalyptus erythrocorys</i>	Illyarrie	Secondary	-	Secondary	DSEWPaC 2012; DoEE 2017; Johnstone 2017, Johnstone <i>et al.</i> 2010
<i>Eucalyptus gomphocephala</i>	Tuart	Secondary	-	Secondary	Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DoEE 2017
<i>Eucalyptus grandis</i>	Flooded gum, rose gum	-	-	Secondary	DoEE 2012; DoEE 2017
<i>Eucalyptus lehmannii</i>	Bushy yate	-	-	Secondary	Johnstone 2017
<i>Eucalyptus leucoxylon</i>	Yellow gum	Secondary	-	-	Groom 2014

Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Eucalyptus loxophleba</i>	York gum	Secondary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DoEE 2017
<i>Eucalyptus marginata</i>	Jarrah	Primary	Secondary	Primary	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DoEE 2017; Johnstone & Storr 1998; Johnstone & Kirkby 1999; Johnstone 2017
<i>Eucalyptus patens</i>	Blackbutt	Primary	-	Primary	Johnstone & Storr 1998; Johnstone & Kirkby 1999; Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017; Johnstone 2017; Groom 2011
<i>Eucalyptus pleurocarpa</i>	Tallerack	Secondary	-	-	Groom 2011
<i>Eucalyptus preissiana</i>	Bell-fruited mallee	Secondary	-	-	Groom 2011
<i>Eucalyptus robusta</i>	Swamp mahogany	Secondary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Eucalyptus salmonophloia</i>	Salmon gum	Primary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DSEWPaC 2012; DoEE 2017
<i>Eucalyptus staeri</i>	Albany blackbutt	-	-	Secondary	Johnstone & Storr 1998
<i>Eucalyptus todtiana</i>	Coastal blackbutt	Secondary	-	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011; Johnstone & Kirkby 2008
<i>Eucalyptus wandoo</i>	Wandoo	Primary	Secondary	Primary	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011; DSEWPaC 2012; DoEE 2017
<i>Ficus sp.</i>	Fig	Secondary	-	-	Groom 2011
<i>Grevillea armigera</i>	Prickly toothbrushes	Primary	-	-	Groom 2011
<i>Grevillea bipinnatifida</i>	Fuschia grevillea	Primary	-	-	Groom 2011
<i>Grevillea hookeriana</i>	Red toothbrushes	Primary	-	-	Groom 2011
<i>Grevillea hookeriana subsp. apiculata</i>	Black toothbrushes	Primary	-	-	Groom 2011
<i>Grevillea paniculata</i>	Kerosene bush	Primary	-	-	Groom 2011
<i>Grevillea paradoxa</i>	Bottlebrush grevillea	Primary	-	-	Groom 2011
<i>Grevillea petrophiloides</i>	Pink poker	Primary	-	-	Groom 2011
<i>Grevillea robusta</i>	Silky oak	Primary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011



Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Grevillea spp.</i>		Primary	-	-	Saunders 1979; Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017
<i>Grevillea wilsonii</i>	Native fuchsia	-	Secondary	-	Johnstone <i>et al.</i> 2010
<i>Hakea auriculata</i>		Primary	-	-	Saunders 1980; Groom 2011
<i>Hakea candolleana</i>		Primary	-	-	Groom 2011
<i>Hakea circumalata</i>	Coastal hakea	Primary	-	-	Groom 2011
<i>Hakea commutata</i>		Primary	-	-	Groom 2011
<i>Hakea conchifolia</i>	Shell-leaved hakea	Primary	-	-	Groom 2011
<i>Hakea costata</i>	Ribbed hakea	Primary	-	-	Groom 2011
<i>Hakea cristata</i>	Snail hakea	Primary	Secondary	-	Groom 2011; Johnstone <i>et al.</i> 2010
<i>Hakea cucullata</i>	Snail hakea	Primary	-	-	Groom 2011
<i>Hakea cyclocarpa</i>	Ramshorn	Primary	-	-	Saunders 1980; Groom 2011
<i>Hakea eneabba</i>		Primary	-	-	Groom 2011
<i>Hakea erinacea</i>	Hedgehog hakea	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea falcata</i>	Sickle hakea	Primary	-	-	Groom 2011
<i>Hakea flabellifolia</i>	Fan-leaved hakea	Primary	-	-	Groom 2011
<i>Hakea gilbertii</i>		Primary	-	-	Saunders 1980; Groom 2011
<i>Hakea incrassata</i>	Golfball or marble hakea	Primary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea lasiantha</i>	Woolly flowered hakea	Primary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea lasianthoides</i>		Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea laurina</i>	Pin-cushion hakea	Primary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea lissocarpa</i>	Honeybush	Primary	Secondary	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea marginata</i>		-	Secondary	-	Johnstone <i>et al.</i> 2010
<i>Hakea megalosperma</i>	Lesueur hakea	Primary	-	-	Groom 2011
<i>Hakea multilineata</i>	Grass leaf hakea	Primary	-	-	Groom 2011
<i>Hakea neospathulata</i>		Primary	-	-	Groom 2011
<i>Hakea obliqua</i>	Needles and corks	Primary	-	-	Saunders 1980; Groom 2011
<i>Hakea oleifolia</i>	Dungyn	Primary	-	-	Groom 2011

Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Hakea pandanycarpa</i> subsp. <i>crassifolia</i>	Thick-leaved hakea	Primary	-	-	Groom 2011
<i>Hakea petiolaris</i>	Sea urchin hakea	Primary	-	-	Groom 2011
<i>Hakea polyanthema</i>		Primary	-	-	Groom 2011
<i>Hakea preissii</i>	Needle tree	Primary	-	-	Groom 2011
<i>Hakea prostrata</i>	Harsh hakea	Primary	Secondary	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea psilorrhyncha</i>		Primary	-	-	Groom 2011
<i>Hakea ruscifolia</i>	Candle hakea	Primary	Secondary	-	Saunders 1980; Groom 2011; Johnstone <i>et al.</i> 2010
<i>Hakea scoparia</i>	Kangaroo bush	Primary	-	-	Groom 2011
<i>Hakea smilacifolia</i>		Primary	-	-	Groom 2011
<i>Hakea</i> spp.		Primary	Secondary	-	Saunders 1979; DSEWPaC 2012; DoEE 2017
<i>Hakea stenocarpa</i>	Narrow-fruited hakea	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea sulcata</i>	Furrowed hakea	Primary	-	-	Groom 2011
<i>Hakea trifurcata</i>	Two-leaved hakea	Primary	Secondary	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea undulata</i>	Wavy-leaved hakea	Primary	Secondary	-	Saunders 1980; Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hakea varia</i>	Variable-leaved hakea	Primary	Secondary	-	Saunders 1980; Groom 2011
<i>Harpephyllum caffrum</i>	Kaffir plum	-	-	Secondary	Johnstone 2017
<i>Helianthus annuus</i>	Sunflower	Secondary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Hibiscus</i> sp.	Hibiscus	Secondary	-	-	Groom 2011
<i>Isopogon scabriusculus</i>		Secondary	-	-	Groom 2011
<i>Jacaranda mimosifolia</i>	Jacaranda	Secondary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Jacksonia furcellata</i>	Grey stinkwood	Secondary	-	-	Groom 2011
<i>Kingia australis</i>	Kingia	-	Secondary	-	Johnstone <i>et al.</i> 2010
<i>Lambertia inermis</i>	Chittick	Secondary	-	-	Johnstone & Storr 1998; Groom 2011
<i>Lambertia multiflora</i>	Many-flowered honeysuckle	Secondary	-	-	Saunders 1980; Groom 2011

Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Liquidamber styraciflua</i>	Liquid amber	Primary	-	Secondary	Johnstone <i>et al.</i> 2010; Groom 2011; Groom 2014; Personal observation
<i>Lupinus sp.</i>	Lupin	Secondary	-	-	Saunders 1980; Groom 2011
<i>Macadamia integrifolia</i>	Macadamia	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Grooms 2011; Groom 2014
<i>Malus domestica</i>	Apple	Secondary	Secondary	-	Johnstone <i>et al.</i> 2010; Johnstone & Storr 1998; DSEWPaC 2012; DoEE 2017; Groom 2011
<i>Melaleuca leuropoma</i>		Secondary	-	-	Saunders 1980; Groom 2011
<i>Melia azedarach</i>	Cape lilac or white cedar	Secondary	-	Primary	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Mesomeleana spp.</i>		Secondary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Olea europea</i>	Olive	-	-	Secondary	Johnstone 2017
<i>Persoonia longifolia</i>	Snottygobble	-	-	Secondary	Johnstone & Storr 1998; Johnstone & Kirkby 1999; Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017
<i>Pinus canariensis</i>	Canary island pine	Primary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Pinus caribea</i>	Caribbean pine	Primary	-	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Pinus pinaster</i>	Pinaster or maritime pine	Primary	-	-	Groom 2011
<i>Pinus radiata</i>	Radiata pine	Primary	Secondary	-	Johnstone <i>et al.</i> 2010; Groom 2011
<i>Pinus spp.</i>		Primary	Secondary	-	Johnstone & Storr 1998; Saunders 1979; Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017
<i>Protea 'Pink Ice'</i>		Secondary	-	-	Groom 2011
<i>Protea repens</i>		Secondary	-	-	Groom 2011
<i>Protea spp.</i>		Secondary	-	-	Johnstone <i>et al.</i> 2010
<i>Prunus amygdalus</i>	Almond tree	Secondary	-	-	Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010; Groom 2011; DoEE 2017
<i>Pyrus communis</i>	European pear	-	Secondary	-	Johnstone & Storr 1998; Johnstone <i>et al.</i> 2010; DSEWPaC 2012; DoEE 2017
<i>Quercus spp.</i>	Oak	-	Secondary	-	Johnstone <i>et al.</i> 2010

Species name	Common name	Foraging category as assigned by Emerge			Literature references
		CBC	BBC	FRTBC	
<i>Raphanus raphanistrum</i>	Wild radish	Secondary	-	-	Groom 2011; DoEE 2017
<i>Reedia spathacea</i>		-	Secondary	-	Johnstone <i>et al.</i> 2010
<i>Rumex hypogaeus</i>	Doublegee	Secondary	-	-	Saunders 1980
<i>Stenocarpus sinuatus</i>		Secondary	-	-	Johnstone <i>et al.</i> 2010
<i>Syzygium smithii</i>	Lilly pilly	Secondary	-	-	Groom 2014
<i>Tipuana tipu</i>	Tipu or rosewood tree	Primary	-	-	Groom 2011, Groom 2014
<i>Xanthorrhoea preissii</i>	Grass tree	Secondary	Secondary	-	Groom 2011; Johnstone <i>et al.</i> 2010
<i>Xylomelum occidentale</i>	Woody pear	Secondary	-	-	Groom 2014

CBC=Carnaby's black cockatoo, BBC=Baudin's black cockatoo and FRTBC=Forest red-tailed black cockatoo

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# Appendix C

Black cockatoo roost counts



Table 1: White-tailed black cockatoo recorded in roosts within 12 km of the site

Roost ID	Year and number of individuals									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
ARMCHAR001	NS	NS	NS	0	3	0	NS	0	0	0
ARMHARR001	0	1	3	0	0	0	NS	0	NS	9
ARMKELR001	0	NS	NS	NS	0	0	NS	0	0	0
ARMKELR002	0	0	0	0	0	NS	NS	0	NS	NS
ARMKELR005	NS	NS	NS	NS	NS	NS	NS	4	0	0
ARMROLR003	0	0	0	0	0	0	NS	0	NS	NS
ARMROLR004	0	NS	28	0	0	0	NS	0	0	0
ARMROLR005	NS	NS	0	0	0	35	NS	0	0	0
CANFERR001	0	0	0	0	0	NS	NS	0	NS	NS
GOSCNVR001	0	0	0	0	NS	80	NS	0	0	275
GOSCNVR002	0	0	151	0	0	0	NS	0	0	NS
GOSMARR001	NS	NS	NS	0	120	36	NS	110	61	46
GOSSOUR001	NS	NS	0	NS	NS	0	NS	9	NS	NS
GOSSOUR002	NS	NS	50	0	0	0	NS	2	0	0
KALCANR001	NS	NS	NS	NS	NS	1	NS	NS	NS	0
KALCARR002	NS	NS	NS	90	NS	8	NS	0	11	5
KALCARR003	NS	NS	NS	NS	NS	0	NS	0	3	8
KALKALR001	0	0	0	0	NS	0	NS	0	NS	NS
KALKALR002	28	10	58	107	48	0	NS	0	0	6
KALKALR004	NS	NS	65	215	0	5	NS	31	0	0
KALLESR001	0	8	0	0	NS	NS	NS	NS	NS	NS
KALMAIR002	0	NS	0	0	0	11	NS	0	0	0
KALMAIR003	NS	NS	0	5	NS	0	NS	0	NS	NS
KALPICR003	NS	NS	NS	NS	NS	NS	NS	0	0	7
KALPIER001	0	0	163	NS	210	133	NS	500	0	0
KALPIER002	NS	NS	NS	6	60	89	NS	132	0	373
KALPIER003	NS	NS	97	132	163	145	NS	131	20	45
KALWALR001	0	0	NS	0	0	NS	NS	0	0	0
KALWATR003	NS	NS	NS	NS	NS	0	NS	4	0	0
MUNHEL001	124	0	44	0	3	0	NS	50	4	18
SOUCOMR001	402	460	242	289	470	563	NS	353	333	605

Table 1 (continued): White-tailed black cockatoo recorded in roosts within 12 km of the site

Roost ID	Year and number of individuals									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
VICKENR001	0	0	0	0	0	2	NS	0	0	0

NS = not surveyed

Table 2: Forest red-tailed black cockatoo recorded in roosts within 12 km of the site

Roost ID	Year and number of individuals									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
ARMCHAR001	NS	NS	NS	11	16	0	NS	4	0	8
ARMKELR001	0	NS	NS	NS	0	0	NS	2	0	0
ARMKELR004	NS	NS	NS	NS	NS	6	NS	16	0	0
ARMKELR005	NS	NS	NS	NS	NS	NS	NS	6	0	0
ARMROLR003	0	0	0	4	0	0	NS	0	NS	NS
ARMROLR004	0	NS	35	0	0	50	NS	46	6	38
ARMROLR005	NS	NS	0	36	40	12	NS	107	3	62
CANRIVR001	NS	NS	6	11	7	16	NS	51	4	38
CANWILR004	NS	NS	NS	NS	NS	NS	NS	33	14	33
GOSCNVR001	2	0	0	0	NS	0	NS	0	0	9
GOSCNVR002	0	4	0	0	0	0	NS	0	0	NS
GOSGOSR004	19	NS	31	32	79	0	NS	53	0	21
GOSKENR001	NS	NS	NS	51	334	35	NS	6	0	22
GOSKENR002	NS	NS	NS	NS	72	0	NS	10	0	42
GOSKENR003	NS	NS	NS	NS	NS	NS	NS	3	0	0
GOSMARR001	NS	NS	NS	75	37	18	NS	11	5	51
GOSSOUR002	NS	NS	0	36	208	15	NS	21	0	0
GOSSOUR003	NS	NS	NS	NS	NS	0	NS	99	3	69
KALCANR001	NS	NS	NS	NS	NS	5	NS	NS	NS	0
KALCARR001	NS	NS	0	12	0	NS	NS	0	0	NS
KALCARR002	NS	NS	NS	0	NS	24	NS	0	0	0
KALCARR003	NS	NS	NS	NS	NS	76	NS	91	15	45
KALFORR002	NS	NS	NS	NS	42	65	NS	58	0	44
KALFORR003	NS	NS	NS	NS	31	10	NS	7	0	0
KALFORR004	NS	NS	NS	NS	NS	NS	NS	NS	13	7
KALGOOR002	NS	NS	NS	NS	NS	NS	NS	34	0	19

Table 2 (continued): Forest red-tailed black cockatoo recorded in roosts within 12 km of the site

Roost ID	Year and number of individuals									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
KALHIGR001	NS	NS	NS	7	78	5	NS	0	0	0
KALHIGR003	NS	NS	0	7	0	NS	NS	NS	NS	NS
KALKALR004	NS	NS	0	0	0	0	NS	5	0	0
KALMAIR002	25	NS	56	98	137	304	NS	205	0	322
KALMAIR004	NS	NS	NS	0	NS	NS	NS	5	0	NS
KALMAIR005	NS	NS	3	0	0	0	NS	0	NS	NS
KALMAIR006	NS	NS	NS	3	NS	NS	NS	NS	NS	NS
KALPICR003	NS	NS	NS	NS	NS	NS	NS	99	23	18
KALPIER001	0	0	25	NS	29	6	NS	34	0	0
KALPIER002	NS	NS	NS	2	8	0	NS	0	17	0
KALPIER003	NS	NS	0	0	0	0	NS	3	22	32
KALWALR001	43	1	NS	0	0	NS	NS	24	0	0
KALWATR002	NS	NS	150	31	150	23	NS	87	0	35
KALWATR003	NS	NS	NS	NS	NS	0	NS	21	0	28
MUNHEL001	0	0	4	31	0	13	NS	6	4	21
MUNHEL002	NS	NS	NS	NS	79	66	NS	33	10	117
SOUCOMR001	0	0	0	0	0	1	NS	2	0	4
VICKENR001	94	121	0	116	108	140	NS	287	16	207
VICKENR002	NS	35	42	0	NS	NS	NS	20	NS	0
VICLATR001	0	0	0	0	15	32	NS	28	9	29
VICWATR002	NS	NS	0	45	85	51	NS	50	NS	4

NS = not surveyed





# Appendix D

Database search results





Australian Government

Department of Climate Change, Energy,  
the Environment and Water

# 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. Please see the caveat for interpretation of information provided here.

Report created: 13-Nov-2023

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

# Summary

## Matters of National Environment Significance

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

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar)</a>	1
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	7
<a href="#">Listed Threatened Species:</a>	67
<a href="#">Listed Migratory Species:</a>	25

## 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 <https://www.dcceew.gov.au/parks-heritage/heritage>

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

<a href="#">Commonwealth Lands:</a>	270
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	29
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	None

## Extra Information

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

<a href="#">State and Territory Reserves:</a>	17
<a href="#">Regional Forest Agreements:</a>	1
<a href="#">Nationally Important Wetlands:</a>	4
<a href="#">EPBC Act Referrals:</a>	52
<a href="#">Key Ecological Features (Marine):</a>	None
<a href="#">Biologically Important Areas:</a>	None
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	None

# Details

## Matters of National Environmental Significance

### Wetlands of International Importance (Ramsar Wetlands)

[ [Resource Information](#) ]

Ramsar Site Name

Proximity

Buffer Status

[Forrestdale and thomsons lakes](#)

Within 10km of Ramsar site

In buffer area only

### Listed Threatened Ecological Communities

[ [Resource Information](#) ]

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

Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name

Threatened Category

Presence Text

Buffer Status

[Banksia Woodlands of the Swan Coastal Plain ecological community](#)

Endangered

Community likely to occur within area

In feature area

[Clay Pans of the Swan Coastal Plain](#)

Critically Endangered

Community likely to occur within area

In feature area

[Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain](#)

Endangered

Community known to occur within area

In buffer area only

[Empodisma peatlands of southwestern Australia](#)

Endangered

Community may occur within area

In buffer area only

[Shrublands and Woodlands of the eastern Swan Coastal Plain](#)

Endangered

Community known to occur within area

In buffer area only

[Subtropical and Temperate Coastal Saltmarsh](#)

Vulnerable

Community likely to occur within area

In buffer area only

[Tuart \(Eucalyptus gomphocephala\) Woodlands and Forests of the Swan Coastal Plain ecological community](#)

Critically Endangered

Community likely to occur within area

In feature area

### Listed Threatened Species

[ [Resource Information](#) ]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.

Number is the current name ID.

Scientific Name

Threatened Category

Presence Text

Buffer Status

BIRD

[Botaurus poiciloptilus](#)

Australasian Bittern [1001]

Endangered

Species or species habitat likely to occur within area

In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Calyptorhynchus banksii naso</a> Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Diomedea amsterdamensis</a> Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Leipoa ocellata</a> Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Pachyptila turtur subantarctica</a> Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Zanda baudinii listed as Calyptorhynchus baudinii</a> Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]	Endangered	Roosting known to occur within area	In feature area
<a href="#">Zanda latirostris listed as Calyptorhynchus latirostris</a> Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding known to occur within area	In feature area
<b>FISH</b>			
<a href="#">Thunnus maccoyii</a> Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
<b>INSECT</b>			
<a href="#">Leioproctus douglasiellus</a> a short-tongued bee [66756]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<b>MAMMAL</b>			
<a href="#">Bettongia penicillata ogilbyi</a> Woylie [66844]	Endangered	Species or species habitat known to occur within area	In buffer area only



Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Dasyurus geoffroii</a> Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Myrmecobius fasciatus</a> Numbat [294]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Pseudocheirus occidentalis</a> Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Setonix brachyurus</a> Quokka [229]	Vulnerable	Species or species habitat known to occur within area	In feature area
<b>OTHER</b>			
<a href="#">Westralunio carteri</a> Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<b>PLANT</b>			
<a href="#">Acacia anomala</a> Grass Wattle, Chittering Grass Wattle [8153]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Acacia aphylla</a> Leafless Rock Wattle [13553]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Andersonia gracilis</a> Slender Andersonia [14470]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Anigozanthos viridis subsp. terraspectans</a> Dwarf Green Kangaroo Paw [3435]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Anthocercis gracilis</a> Slender Tailflower [11103]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<a href="#">Austrostipa bronweniae listed as Austrostipa bronwenae</a> [92773]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Austrostipa jacobiana</a> [87809]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Banksia mimica</a> Summer Honeypot [82765]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Caladenia huegelii</a> King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Calytrix breviseta subsp. breviseta</a> Swamp Starflower [23879]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Chamelaucium lullfitzii listed as Chamelaucium sp. Gingin (N.G.Marchant 6)</a> Gingin Wax [92777]	Endangered (listed as Chamelaucium sp. Gingin)	Species or species habitat may occur within area	In buffer area only
<a href="#">Conospermum undulatum</a> Wavy-leaved Smokebush [24435]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Darwinia apiculata</a> Scarp Darwinia [8763]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Diplolaena andrewsii</a> [6601]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Diuris drummondii</a> Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Diuris micrantha</a> Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<a href="#">Diuris purdiei</a> Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Drakaea elastica</a> Glossy-leafed Hammer Orchid, Glossy-leafed Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Drakaea micrantha</a> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<a href="#">Eleocharis keigheryi</a> Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat known to occur within area	In feature area
<a href="#">Eremophila glabra subsp. chlorella</a> [84927]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Eucalyptus x balanites</a> Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Goodenia arthrotricha</a> [12448]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Grevillea curviloba subsp. incurva</a> Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Grevillea flexuosa</a> Zig Zag Grevillea [2957]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Grevillea thelemanniana</a> Spider Net Grevillea [32835]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Lepidosperma rostratum</a> Beaked Lepidosperma [14152]	Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Macarthuria keigheryi</a> Keighery's Macarthuria [64930]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Ptilotus pyramidatus</a> Pyramid Mulla-mulla [18216]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Synaphea sp. Fairbridge Farm (D.Papenfus 696)</a> Selena's Synaphea [82881]	Critically Endangered	Species or species habitat known to occur within area	In feature area
<a href="#">Synaphea sp. Pinjarra Plain (A.S.George 17182)</a> [86878]	Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Synaphea sp. Serpentine (G.R.Brand 103)</a> [86879]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Thelymitra dedmaniarum</a> Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Thelymitra stellata</a> Star Sun-orchid [7060]	Endangered	Species or species habitat known to occur within area	In feature area
<b>REPTILE</b>			
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<b>SHARK</b>			
<a href="#">Sphyrna lewini</a> Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only

Listed Migratory Species			[ Resource Information ]	
Scientific Name	Threatened Category	Presence Text	Buffer Status	
<b>Migratory Marine Birds</b>				
<a href="#">Apus pacificus</a>				
Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area	
<a href="#">Diomedea amsterdamensis</a>				
Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only	
<a href="#">Diomedea epomophora</a>				
Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area	In buffer area only	
<a href="#">Diomedea exulans</a>				
Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only	
<a href="#">Diomedea sanfordi</a>				
Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only	
<a href="#">Macronectes giganteus</a>				
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only	
<a href="#">Macronectes halli</a>				
Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only	
<a href="#">Thalassarche impavida</a>				
Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only	
<a href="#">Thalassarche melanophris</a>				
Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only	
<a href="#">Thalassarche steadi</a>				
White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only	

**Migratory Marine Species**

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Mobula alfredi as Manta alfredi</a> Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
<a href="#">Mobula birostris as Manta birostris</a> Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<b>Migratory Terrestrial Species</b>			
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
<b>Migratory Wetlands Species</b>			
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat likely to occur within area	In feature area



Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area	In buffer area only
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

## Other Matters Protected by the EPBC Act

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

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

Commonwealth Land Name	State	Buffer Status
<b>Defence</b>		
Defence - AIRTC CANNINGTON [50232]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50231]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50229]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50230]	WA	In buffer area only
Defence - AIRTC CANNINGTON [50233]	WA	In buffer area only
Defence - BUSHMEAD RIFLE RANGE [50143]	WA	In buffer area only
Defence - BUSHMEAD TRAINING AREA [50260]	WA	In buffer area only
Defence - BUSHMEAD TRAINING AREA [50258]	WA	In buffer area only
Defence - BUSHMEAD TRAINING AREA [50259]	WA	In buffer area only
<b>Unknown</b>		
Commonwealth Land - [51178]	WA	In buffer area only
Commonwealth Land - [51179]	WA	In buffer area only
Commonwealth Land - [51920]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51305]	WA	In buffer area only
Commonwealth Land - [51195]	WA	In buffer area only
Commonwealth Land - [51302]	WA	In buffer area only
Commonwealth Land - [51194]	WA	In buffer area only
Commonwealth Land - [51375]	WA	In buffer area only
Commonwealth Land - [51193]	WA	In buffer area only
Commonwealth Land - [51262]	WA	In buffer area only
Commonwealth Land - [51192]	WA	In buffer area only
Commonwealth Land - [51263]	WA	In buffer area only
Commonwealth Land - [51191]	WA	In buffer area only
Commonwealth Land - [51299]	WA	In buffer area only
Commonwealth Land - [51190]	WA	In buffer area only
Commonwealth Land - [51304]	WA	In buffer area only
Commonwealth Land - [51518]	WA	In buffer area only
Commonwealth Land - [51303]	WA	In buffer area only
Commonwealth Land - [51359]	WA	In buffer area only
Commonwealth Land - [51249]	WA	In buffer area only
Commonwealth Land - [51177]	WA	In buffer area only
Commonwealth Land - [51330]	WA	In buffer area only
Commonwealth Land - [51332]	WA	In buffer area only
Commonwealth Land - [51189]	WA	In buffer area only
Commonwealth Land - [51188]	WA	In buffer area only
Commonwealth Land - [51267]	WA	In buffer area only
Commonwealth Land - [51360]	WA	In buffer area only
Commonwealth Land - [51264]	WA	In buffer area only
Commonwealth Land - [51265]	WA	In buffer area only
Commonwealth Land - [51172]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51363]	WA	In buffer area only
Commonwealth Land - [51333]	WA	In buffer area only
Commonwealth Land - [51173]	WA	In buffer area only
Commonwealth Land - [51364]	WA	In buffer area only
Commonwealth Land - [51334]	WA	In buffer area only
Commonwealth Land - [51170]	WA	In buffer area only
Commonwealth Land - [51361]	WA	In buffer area only
Commonwealth Land - [51335]	WA	In buffer area only
Commonwealth Land - [51269]	WA	In buffer area only
Commonwealth Land - [51362]	WA	In buffer area only
Commonwealth Land - [51336]	WA	In buffer area only
Commonwealth Land - [51176]	WA	In buffer area only
Commonwealth Land - [51368]	WA	In buffer area only
Commonwealth Land - [51367]	WA	In buffer area only
Commonwealth Land - [51366]	WA	In buffer area only
Commonwealth Land - [51365]	WA	In buffer area only
Commonwealth Land - [51266]	WA	In buffer area only
Commonwealth Land - [51369]	WA	In buffer area only
Commonwealth Land - [51338]	WA	In buffer area only
Commonwealth Land - [51339]	WA	In buffer area only
Commonwealth Land - [51337]	WA	In buffer area only
Commonwealth Land - [51198]	WA	In buffer area only
Commonwealth Land - [51253]	WA	In buffer area only
Commonwealth Land - [51252]	WA	In buffer area only
Commonwealth Land - [51197]	WA	In buffer area only
Commonwealth Land - [51255]	WA	In buffer area only
Commonwealth Land - [51427]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51254]	WA	In buffer area only
Commonwealth Land - [51228]	WA	In buffer area only
Commonwealth Land - [50850]	WA	In buffer area only
Commonwealth Land - [51257]	WA	In buffer area only
Commonwealth Land - [51196]	WA	In buffer area only
Commonwealth Land - [51256]	WA	In buffer area only
Commonwealth Land - [51221]	WA	In buffer area only
Commonwealth Land - [51907]	WA	In buffer area only
Commonwealth Land - [51259]	WA	In buffer area only
Commonwealth Land - [51220]	WA	In buffer area only
Commonwealth Land - [51906]	WA	In buffer area only
Commonwealth Land - [51258]	WA	In buffer area only
Commonwealth Land - [51260]	WA	In buffer area only
Commonwealth Land - [51261]	WA	In buffer area only
Commonwealth Land - [51226]	WA	In buffer area only
Commonwealth Land - [51227]	WA	In buffer area only
Commonwealth Land - [51222]	WA	In buffer area only
Commonwealth Land - [51223]	WA	In buffer area only
Commonwealth Land - [51224]	WA	In buffer area only
Commonwealth Land - [51225]	WA	In buffer area only
Commonwealth Land - [51199]	WA	In buffer area only
Commonwealth Land - [51909]	WA	In buffer area only
Commonwealth Land - [51908]	WA	In buffer area only
Commonwealth Land - [51246]	WA	In buffer area only
Commonwealth Land - [50859]	WA	In buffer area only
Commonwealth Land - [51300]	WA	In buffer area only
Commonwealth Land - [51307]	WA	In buffer area only



Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50833]	WA	In buffer area only
Commonwealth Land - [51986]	WA	In buffer area only
Commonwealth Land - [51268]	WA	In buffer area only
Commonwealth Land - [51345]	WA	In buffer area only
Commonwealth Land - [51917]	WA	In buffer area only
Commonwealth Land - [51344]	WA	In buffer area only
Commonwealth Land - [51301]	WA	In buffer area only
Commonwealth Land - [51916]	WA	In buffer area only
Commonwealth Land - [51347]	WA	In buffer area only
Commonwealth Land - [50950]	WA	In buffer area only
Commonwealth Land - [51927]	WA	In buffer area only
Commonwealth Land - [51918]	WA	In buffer area only
Commonwealth Land - [51201]	WA	In buffer area only
Commonwealth Land - [51251]	WA	In buffer area only
Commonwealth Land - [51250]	WA	In buffer area only
Commonwealth Land - [51922]	WA	In buffer area only
Commonwealth Land - [51229]	WA	In buffer area only
Commonwealth Land - [51910]	WA	In buffer area only
Commonwealth Land - [51911]	WA	In buffer area only
Commonwealth Land - [51912]	WA	In buffer area only
Commonwealth Land - [51913]	WA	In buffer area only
Commonwealth Land - [51914]	WA	In buffer area only
Commonwealth Land - [51915]	WA	In buffer area only
Commonwealth Land - [51356]	WA	In buffer area only
Commonwealth Land - [51167]	WA	In buffer area only
Commonwealth Land - [51272]	WA	In buffer area only
Commonwealth Land - [51165]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51270]	WA	In buffer area only
Commonwealth Land - [51273]	WA	In buffer area only
Commonwealth Land - [51351]	WA	In buffer area only
Commonwealth Land - [51271]	WA	In buffer area only
Commonwealth Land - [51166]	WA	In buffer area only
Commonwealth Land - [51370]	WA	In buffer area only
Commonwealth Land - [51211]	WA	In buffer area only
Commonwealth Land - [51210]	WA	In buffer area only
Commonwealth Land - [51217]	WA	In buffer area only
Commonwealth Land - [50866]	WA	In buffer area only
Commonwealth Land - [51216]	WA	In buffer area only
Commonwealth Land - [51163]	WA	In buffer area only
Commonwealth Land - [50828]	WA	In buffer area only
Commonwealth Land - [51373]	WA	In buffer area only
Commonwealth Land - [50865]	WA	In buffer area only
Commonwealth Land - [51213]	WA	In buffer area only
Commonwealth Land - [50864]	WA	In buffer area only
Commonwealth Land - [51212]	WA	In buffer area only
Commonwealth Land - [50827]	WA	In buffer area only
Commonwealth Land - [50838]	WA	In buffer area only
Commonwealth Land - [50949]	WA	In buffer area only
Commonwealth Land - [51309]	WA	In buffer area only
Commonwealth Land - [51928]	WA	In buffer area only
Commonwealth Land - [51215]	WA	In buffer area only
Commonwealth Land - [51308]	WA	In buffer area only
Commonwealth Land - [51371]	WA	In buffer area only
Commonwealth Land - [51160]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51159]	WA	In buffer area only
Commonwealth Land - [51219]	WA	In buffer area only
Commonwealth Land - [51218]	WA	In buffer area only
Commonwealth Land - [50872]	WA	In buffer area only
Commonwealth Land - [50873]	WA	In buffer area only
Commonwealth Land - [50870]	WA	In buffer area only
Commonwealth Land - [51214]	WA	In buffer area only
Commonwealth Land - [51292]	WA	In buffer area only
Commonwealth Land - [51291]	WA	In buffer area only
Commonwealth Land - [51290]	WA	In buffer area only
Commonwealth Land - [51297]	WA	In buffer area only
Commonwealth Land - [51358]	WA	In buffer area only
Commonwealth Land - [51295]	WA	In buffer area only
Commonwealth Land - [51294]	WA	In buffer area only
Commonwealth Land - [50874]	WA	In buffer area only
Commonwealth Land - [51293]	WA	In buffer area only
Commonwealth Land - [51180]	WA	In buffer area only
Commonwealth Land - [51181]	WA	In buffer area only
Commonwealth Land - [51357]	WA	In buffer area only
Commonwealth Land - [51187]	WA	In buffer area only
Commonwealth Land - [51245]	WA	In buffer area only
Commonwealth Land - [51923]	WA	In buffer area only
Commonwealth Land - [51353]	WA	In buffer area only
Commonwealth Land - [51352]	WA	In buffer area only
Commonwealth Land - [51354]	WA	In buffer area only
Commonwealth Land - [51355]	WA	In buffer area only
Commonwealth Land - [51200]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51972]	WA	In buffer area only
Commonwealth Land - [51204]	WA	In buffer area only
Commonwealth Land - [51205]	WA	In buffer area only
Commonwealth Land - [51202]	WA	In buffer area only
Commonwealth Land - [51203]	WA	In buffer area only
Commonwealth Land - [51374]	WA	In buffer area only
Commonwealth Land - [51319]	WA	In buffer area only
Commonwealth Land - [51279]	WA	In buffer area only
Commonwealth Land - [50862]	WA	In buffer area only
Commonwealth Land - [51376]	WA	In buffer area only
Commonwealth Land - [51164]	WA	In buffer area only
Commonwealth Land - [51278]	WA	In buffer area only
Commonwealth Land - [51298]	WA	In buffer area only
Commonwealth Land - [50861]	WA	In buffer area only
Commonwealth Land - [51312]	WA	In buffer area only
Commonwealth Land - [51310]	WA	In buffer area only
Commonwealth Land - [51313]	WA	In buffer area only
Commonwealth Land - [51921]	WA	In buffer area only
Commonwealth Land - [51311]	WA	In buffer area only
Commonwealth Land - [50835]	WA	In buffer area only
Commonwealth Land - [50836]	WA	In buffer area only
Commonwealth Land - [50837]	WA	In buffer area only
Commonwealth Land - [51924]	WA	In buffer area only
Commonwealth Land - [51318]	WA	In buffer area only
Commonwealth Land - [51277]	WA	In buffer area only
Commonwealth Land - [51274]	WA	In buffer area only
Commonwealth Land - [51275]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51296]	WA	In buffer area only
Commonwealth Land - [51350]	WA	In buffer area only
Commonwealth Land - [51324]	WA	In buffer area only
Commonwealth Land - [51329]	WA	In buffer area only
Commonwealth Land - [51287]	WA	In buffer area only
Commonwealth Land - [51284]	WA	In buffer area only
Commonwealth Land - [51286]	WA	In buffer area only
Commonwealth Land - [51285]	WA	In buffer area only
Commonwealth Land - [51283]	WA	In buffer area only
Commonwealth Land - [51282]	WA	In buffer area only
Commonwealth Land - [51281]	WA	In buffer area only
Commonwealth Land - [50885]	WA	In buffer area only
Commonwealth Land - [51971]	WA	In buffer area only
Commonwealth Land - [51289]	WA	In buffer area only
Commonwealth Land - [51288]	WA	In buffer area only
Commonwealth Land - [51209]	WA	In buffer area only
Commonwealth Land - [51208]	WA	In buffer area only
Commonwealth Land - [50867]	WA	In buffer area only
Commonwealth Land - [51244]	WA	In buffer area only
Commonwealth Land - [51247]	WA	In buffer area only
Commonwealth Land - [51280]	WA	In buffer area only
Commonwealth Land - [50860]	WA	In buffer area only
Commonwealth Land - [51372]	WA	In buffer area only
Commonwealth Land - [51248]	WA	In buffer area only
Commonwealth Land - [50824]	WA	In buffer area only
Commonwealth Land - [51241]	WA	In buffer area only
Commonwealth Land - [51242]	WA	In buffer area only



Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51206]	WA	In buffer area only
Commonwealth Land - [51207]	WA	In buffer area only
Commonwealth Land - [50848]	WA	In buffer area only
Commonwealth Land - [51321]	WA	In buffer area only
Commonwealth Land - [51325]	WA	In buffer area only
Commonwealth Land - [51326]	WA	In buffer area only
Commonwealth Land - [51327]	WA	In buffer area only
Commonwealth Land - [51320]	WA	In buffer area only
Commonwealth Land - [50844]	WA	In buffer area only
Commonwealth Land - [51328]	WA	In buffer area only
Commonwealth Land - [50843]	WA	In buffer area only
Commonwealth Land - [51306]	WA	In buffer area only
Commonwealth Land - [51346]	WA	In buffer area only
Commonwealth Land - [50849]	WA	In buffer area only
Commonwealth Land - [51340]	WA	In buffer area only
Commonwealth Land - [51341]	WA	In buffer area only
Commonwealth Land - [51342]	WA	In buffer area only
Commonwealth Land - [51343]	WA	In buffer area only
Commonwealth Land - [51349]	WA	In buffer area only
Commonwealth Land - [51243]	WA	In buffer area only
Commonwealth Land - [51323]	WA	In buffer area only
Commonwealth Land - [51348]	WA	In buffer area only
Commonwealth Land - [51235]	WA	In buffer area only
Commonwealth Land - [51234]	WA	In buffer area only
Commonwealth Land - [51233]	WA	In buffer area only
Commonwealth Land - [51232]	WA	In buffer area only
Commonwealth Land - [51315]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51314]	WA	In buffer area only
Commonwealth Land - [51317]	WA	In buffer area only
Commonwealth Land - [51316]	WA	In buffer area only
Commonwealth Land - [51236]	WA	In buffer area only
Commonwealth Land - [51237]	WA	In buffer area only
Commonwealth Land - [50847]	WA	In buffer area only
Commonwealth Land - [51322]	WA	In buffer area only
Commonwealth Land - [51525]	WA	In buffer area only
Commonwealth Land - [51174]	WA	In buffer area only
Commonwealth Land - [51175]	WA	In buffer area only
Commonwealth Land - [51231]	WA	In buffer area only
Commonwealth Land - [51276]	WA	In buffer area only
Commonwealth Land - [51230]	WA	In buffer area only
Commonwealth Land - [51523]	WA	In buffer area only
Commonwealth Land - [51526]	WA	In buffer area only

Listed Marine Species			[ Resource Information ]
Scientific Name	Threatened Category	Presence Text	Buffer Status
<b>Bird</b>			
<a href="#">Actitis hypoleucos</a>			
Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
<a href="#">Apus pacificus</a>			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Bubulcus ibis as Ardea ibis</a>			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Diomedea amsterdamensis</a> Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Diomedea epomophora</a> Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Diomedea exulans</a> Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
<a href="#">Diomedea sanfordi</a> Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
<a href="#">Macronectes giganteus</a> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
<a href="#">Macronectes halli</a> Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<a href="#">Pachyptila turtur</a> Fairy Prion [1066]		Species or species habitat likely to occur within area	In buffer area only
<a href="#">Pandion haliaetus</a> Osprey [952]		Breeding known to occur within area	In buffer area only
<a href="#">Rostratula australis as Rostratula benghalensis (sensu lato)</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
<a href="#">Thalassarche impavida</a> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Thalassarche melanophris</a> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<a href="#">Thalassarche steadi</a> White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<a href="#">Thinornis cucullatus as Thinornis rubricollis</a> Hooded Plover, Hooded Dotterel [87735]		Species or species habitat likely to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area

## Reptile

<a href="#">Caretta caretta</a> Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Chelonia mydas</a> Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<a href="#">Dermochelys coriacea</a> Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
<a href="#">Natator depressus</a> Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

## Extra Information

State and Territory Reserves			[ <a href="#">Resource Information</a> ]
Protected Area Name	Reserve Type	State	Buffer Status
Beelu	National Park	WA	In buffer area only
Canning River	Management Area	WA	In buffer area only
Dundas Road	Nature Reserve	WA	In buffer area only
Gooseberry Hill	National Park	WA	In buffer area only
Helena River	Management Area	WA	In buffer area only
Kalamunda	National Park	WA	In buffer area only
Kenwick Wetlands	Nature Reserve	WA	In buffer area only
Korung	National Park	WA	In buffer area only
Lesmurdie Falls	National Park	WA	In buffer area only
Unnamed WA23076	Nature Reserve	WA	In buffer area only
Unnamed WA24657	Conservation Park	WA	In buffer area only



Protected Area Name	Reserve Type	State	Buffer Status
Unnamed WA29815	5(1)(h) Reserve	WA	In buffer area only
Unnamed WA37997	Nature Reserve	WA	In buffer area only
Unnamed WA49079	Nature Reserve	WA	In buffer area only
Unnamed WA49299	Nature Reserve	WA	In buffer area only
Unnamed WA49362	Nature Reserve	WA	In buffer area only
Unnamed WA49363	Conservation Park	WA	In buffer area only

## Regional Forest Agreements

[ [Resource Information](#) ]

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

RFA Name	State	Buffer Status
<a href="#">South West WA RFA</a>	Western Australia	In buffer area only

## Nationally Important Wetlands

[ [Resource Information](#) ]

Wetland Name	State	Buffer Status
<a href="#">Brixton Street Swamps</a>	WA	In feature area
<a href="#">Gibbs Road Swamp System</a>	WA	In buffer area only
<a href="#">Perth Airport Woodland Swamps</a>	WA	In buffer area only
<a href="#">Swan-Canning Estuary</a>	WA	In buffer area only

## EPBC Act Referrals

[ [Resource Information](#) ]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<a href="#">Residential subdivision of Lot 126 Lawnbrook Road, Walliston</a>	2021/9105		Completed	In buffer area only
<a href="#">Southern Link Road Stage 3 City of Canning</a>	2020/8809		Assessment	In buffer area only
<b>Controlled action</b>				
<a href="#">Airport &amp; Freight Access Gateway</a>	2010/5384	Controlled Action	Post-Approval	In buffer area only
<a href="#">Bushmead Residential Development, Hazelmere, WA</a>	2015/7414	Controlled Action	Post-Approval	In buffer area only
<a href="#">Clearing for orchard expansion, Lot 400 Canning Road, Carmel, WA</a>	2016/7647	Controlled Action	Completed	In buffer area only
<a href="#">Construction of Residential Dwelling, Ozone Terrace, Kalamunda</a>	2006/3147	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<b>Controlled action</b>				
<a href="#">Development of an Integrated Aged Care Facility, Kalumunda, WA</a>	2013/6990	Controlled Action	Completed	In buffer area only
<a href="#">Garden Street road extension, Huntingdale, city of Gosnells, WA</a>	2016/7735	Controlled Action	Post-Approval	In buffer area only
<a href="#">National Lifestyle Village, Lot 97 Adelaide Street</a>	2009/5141	Controlled Action	Post-Approval	In buffer area only
<a href="#">Native vegetation clearing of Lot 21 Webster Road for Industrial Development</a>	2011/6186	Controlled Action	Post-Approval	In buffer area only
<a href="#">Natural Gas Pipeline Expansion</a>	2006/2813	Controlled Action	Post-Approval	In feature area
<a href="#">Nava-1 Cable System</a>	2001/510	Controlled Action	Completed	In buffer area only
<a href="#">Residential Estate at Lot 1580 Warton Road, Southern River</a>	2004/1471	Controlled Action	Post-Approval	In buffer area only
<a href="#">Roe Highway and Great Eastern Highway Bypass Grade Separation Interchange, Hazelmere WA</a>	2020/8784	Controlled Action	Further Information Request	In buffer area only
<a href="#">Roe Highway and Kalamunda Road Interchange upgrade, WA</a>	2018/8316	Controlled Action	Post-Approval	In buffer area only
<a href="#">Thornlie-Cockburn Link Project, WA</a>	2018/8188	Controlled Action	Post-Approval	In buffer area only
<a href="#">Tonkin Highway Grade Separated Interchanges</a>	2019/8529	Controlled Action	Post-Approval	In feature area
<b>Not controlled action</b>				
<a href="#">Berkshire Road and Roe Highway Interchange, Forrestfield, East Perth, WA</a>	2014/7243	Not Controlled Action	Completed	In buffer area only
<a href="#">Burslem Drive Bridge Duplication Over Canning River, Maddington, WA</a>	2014/7115	Not Controlled Action	Completed	In buffer area only
<a href="#">Canning Mills Road Improvement Project, Martin, WA</a>	2015/7426	Not Controlled Action	Completed	In buffer area only
<a href="#">Clearing of Lot 400 Canning Road, Carmel, WA</a>	2017/7979	Not Controlled Action	Completed	In buffer area only
<a href="#">Commercial development of Lot 106 Wright Road, Forrestdale WA</a>	2003/1255	Not Controlled Action	Completed	In buffer area only
<a href="#">Community Centre Project, Kalamunda, WA</a>	2019/8473	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<b>Not controlled action</b>				
<a href="#">Construction of international rowing course and commercial/residential areas</a>	2003/1034	Not Controlled Action	Completed	In feature area
<a href="#">Denny Avenue Level Crossing Removal, Kelmscott WA</a>	2018/8377	Not Controlled Action	Completed	In buffer area only
<a href="#">Eradication of the European House Borer, Perth metropolitan area, WA</a>	2009/5027	Not Controlled Action	Completed	In feature area
<a href="#">Forrestfield Airport Link, WA</a>	2015/7399	Not Controlled Action	Completed	In buffer area only
<a href="#">Grazing of stock and associated works on Lot 1790 Passmore Street, Southern River Western Australia</a>	2018/8176	Not Controlled Action	Completed	In buffer area only
<a href="#">Hartfield Park Sporting Field Extension</a>	2013/7008	Not Controlled Action	Completed	In buffer area only
<a href="#">Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia</a>	2015/7522	Not Controlled Action	Completed	In feature area
<a href="#">INDIGO Central Submarine Telecommunications Cable</a>	2017/8127	Not Controlled Action	Completed	In feature area
<a href="#">Industrial Development (multiple lots) Edward Street, Kenwick, WA</a>	2018/8231	Not Controlled Action	Completed	In buffer area only
<a href="#">Pipeline Extension, Hazelmere and Helena Valley, WA</a>	2018/8239	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential Development - Lot 608 Dixon Road, Kalamundah, WA</a>	2014/7389	Not Controlled Action	Completed	In buffer area only
<a href="#">Residential development of Lots 302, 308, 320 and part of Lot 9502, Hawtin Rd, Forrestfield, WA</a>	2016/7770	Not Controlled Action	Completed	In buffer area only
<a href="#">Ridge Hill Road intersection modification and offsite water main installation, Gooseberry Hill, WA</a>	2020/8842	Not Controlled Action	Completed	In buffer area only
<a href="#">Roe Highway - Karel Avenue to Hope Road Bridge Project</a>	2005/2061	Not Controlled Action	Completed	In buffer area only
<a href="#">Roe Highway Noise Wall, High Wycombe, WA</a>	2014/7149	Not Controlled Action	Completed	In buffer area only
<a href="#">Southern River Mixed Business Precinct F, City of Gosnells, WA</a>	2013/6813	Not Controlled Action	Completed	In buffer area only
<a href="#">Southern River Precinct 3E</a>	2017/7900	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
<b>Not controlled action</b>				
<a href="#">To develop a residential development at Glyde Road, Lesmurdie, WA</a>	2013/7096	Not Controlled Action	Completed	In buffer area only
<a href="#">Tonkin Highway Extension</a>	2001/470	Not Controlled Action	Completed	In buffer area only
<a href="#">Tonkin Highway Upgrade, Guildford Road to Great Eastern Highway, WA</a>	2019/8545	Not Controlled Action	Completed	In buffer area only
<a href="#">Translocation of orchids (Caladenia huegelii) from Roe Hway Reserve</a>	2002/781	Not Controlled Action	Completed	In buffer area only
<a href="#">Wungong Transfer Mains Project</a>	2007/3532	Not Controlled Action	Completed	In buffer area only
<a href="#">Yule Brook Main Drain Flood Mitigation Works</a>	2019/8572	Not Controlled Action	Completed	In buffer area only
<b>Not controlled action (particular manner)</b>				
<a href="#">City of Cockburn Sporting Facilities</a>	2005/2139	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
<a href="#">Commercial Estate and Aeronautical Infrastructure Development, Precincts 2A &amp; 2B</a>	2006/3021	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
<a href="#">INDIGO Marine Cable Route Survey (INDIGO)</a>	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
<a href="#">South West Metropolitan Railway Project</a>	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
<a href="#">State Football Centre</a>	2020/8824	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
<b>Referral decision</b>				
<a href="#">Commercial development of Lot 414 Grove Road, Kenwick</a>	2021/9022	Referral Decision	Referral Publication	In buffer area only

# Caveat

## 1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

## 2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

## 3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and 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

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

Where little information is available for a 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 detailed distribution mapping methods are used to update these distributions

## 4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

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

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

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

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.



# 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.

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# NatureMap Species Report

Created By Guest user on 31/01/2019

**Kingdom** Animalia  
**Current Names Only** Yes  
**Core Datasets Only** Yes  
**Method** 'By Circle'  
**Centre** 115° 59' 07" E, 32° 00' 25" S  
**Buffer** 10km

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
1.	24559 <i>Acanthagenys rufogularis</i> (Spiny-cheeked Honeyeater)			
2.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
3.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
4.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
5.	24265 <i>Acanthiza uropygialis</i> (Chestnut-rumped Thornbill)			
6.	25242 <i>Acanthophis antarcticus</i> (Southern Death Adder)		P3	
7.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
8.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
9.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
10.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
11.	24283 <i>Accipiter fasciatus</i> subsp. <i>didimus</i> (Brown Goshawk)			
12.	24282 <i>Accipiter fasciatus</i> subsp. <i>fasciatus</i> (Brown Goshawk)			
13.	<i>Acercella falcipes</i>			
14.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
15.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
16.	24831 <i>Acrocephalus australis</i> subsp. <i>gouldi</i> (Australian Reed Warbler)			
17.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
18.	25544 <i>Aegotheles cristatus</i> (Australian Owlet-nightjar)			
19.	<i>Afurcagobius suppositus</i>			
20.	<i>Aganippe raphiduca</i>			
21.	<i>Agapornis</i> sp.			Y
22.	<i>Akamptogonus novarae</i>			
23.	<i>Allothereua maculata</i>			
24.	<i>Amblyomma triguttatum</i>			
25.	<i>Aname mainae</i>			
26.	<i>Aname tepperi</i>			
27.	24310 <i>Anas castanea</i> (Chestnut Teal)			
28.	24312 <i>Anas gracilis</i> (Grey Teal)			
29.	24313 <i>Anas platyrhynchos</i> (Mallard)			
30.	<i>Anas platyrhynchos</i> subsp. <i>domesticus</i>			
31.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
32.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
33.	<i>Ancylidae</i> sp.			
34.	<i>Anguilla australis</i>			
35.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
36.	<i>Anisops hyperion</i>			
37.	<i>Anser anser</i>			
38.	25241 <i>Antaresia stimsoni</i> subsp. <i>stimsoni</i> (Stimson's Python)			
39.	24088 <i>Antechinus flavipes</i> subsp. <i>leucogaster</i> (Yellow-footed Antechinus, Mardo)			
40.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
41.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
42.	25670 <i>Anthus australis</i> (Australian Pipit)			
43.	24599 <i>Anthus australis</i> subsp. <i>australis</i> (Australian Pipit)			
44.	24990 <i>Aprasia pulchella</i> (Granite Worm-lizard)			
45.	24991 <i>Aprasia repens</i> (Sand-plain Worm-lizard)			
46.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
47.	<i>Arachnura higginsi</i>			
48.	<i>Araneus cyphoxis</i>			
49.	<i>Araneus eburneiventris</i>			
50.	<i>Araneus eburnus</i>			
51.	<i>Araneus senicaudatus</i>			
52.	<i>Araneus talipedatus</i>			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
53.	25557 <i>Ardea garzetta</i> (Little Egret)			
54.	24337 <i>Ardea garzetta</i> subsp. <i>nigripes</i> (Little Egret)			
55.	25558 <i>Ardea ibis</i> (Cattle Egret)			
56.	25559 <i>Ardea intermedia</i> (Intermediate Egret)			
57.	41324 <i>Ardea modesta</i> (great egret, white egret)			
58.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
59.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
60.	25560 <i>Ardea sacra</i> (Eastern Reef Egret, Eastern Reef Heron)			
61.	<i>Argiope trifasciata</i>			
62.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
63.	24352 <i>Artamus cinereus</i> subsp. <i>melanops</i> (Black-faced Woodswallow)			
64.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
65.	24356 <i>Artamus personatus</i> (Masked Woodswallow)			
66.	<i>Artema atlanta</i>			
67.	<i>Arteria linnaei</i>			
68.	<i>Arteria taeniifera</i>			
69.	<i>Arteriopsis eccentrica</i>			
70.	<i>Arteriopsis expolita</i>			
71.	<i>Arteriopsis joergi</i>			
72.	<i>Asadipus kunderang</i>			
73.	<i>Austracantha minax</i>			
74.	48574 <i>Australotomurus morbidus</i> (cemetery springtail, Guildford springtail)		P3	
75.	<i>Austrammo harveyi</i>			
76.	24318 <i>Aythya australis</i> (Hardhead)			
77.	<i>Backbournkia heroine</i>			
78.	<i>Badumna insignis</i>			
79.	<i>Ballarra longipalpus</i>			
80.	<i>Barnardius zonarius</i>			
81.	24162 <i>Bettongia penicillata</i> subsp. <i>ogilbyi</i> (Woylie, Brush-tailed Bettong)		T	
82.	24319 <i>Biziura lobata</i> (Musk Duck)			
83.	24251 <i>Bos taurus</i> (European Cattle)	Y		
84.	<i>Bostockia porosa</i>			
85.	24345 <i>Botaurus poiciloptilus</i> (Australasian Bittern)		T	
86.	42380 <i>Brachyurophis fasciolatus</i> subsp. <i>fasciolatus</i> (Narrow-banded Shovel-nosed Snake)			
87.	42381 <i>Brachyurophis semifasciatus</i> (Southern Shovel-nosed Snake)			
88.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
89.	25713 <i>Cacatua galerita</i> (Sulphur-crested Cockatoo)			
90.	25714 <i>Cacatua pastinator</i> (Western Long-billed Corella)			
91.	25715 <i>Cacatua roseicapilla</i> (Galah)			
92.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
93.	24729 <i>Cacatua tenuirostris</i> (Eastern Long-billed Corella)	Y		
94.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
95.	24427 <i>Cacomantis flabelliformis</i> subsp. <i>flabelliformis</i> (Fan-tailed Cuckoo)			
96.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
97.	<i>Caenidae</i> sp.			
98.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
99.	24786 <i>Calidris melanotos</i> (Pectoral Sandpiper)		IA	
100.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
101.	24789 <i>Calidris subminuta</i> (Long-toed Stint)		IA	
102.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
103.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
104.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
105.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
106.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
107.	<i>Carassius auratus</i>			
108.	25625 <i>Carduelis carduelis</i> (Goldfinch, European Goldfinch)	Y		
109.	24480 <i>Carduelis carduelis</i> subsp. <i>britannica</i> (Goldfinch)	Y		
110.	<i>Ceinidae</i> sp.			
111.	<i>Celaenia excavata</i>			
112.	<i>Ceratopogonidae</i> sp.			
113.	<i>Cercophonius granulatus</i>			
114.	<i>Cercophonius sulcatus</i>			
115.	<i>Ceryerda cursitans</i>			
116.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
117.	24187 <i>Chalinolobus morio</i> (Chocolate Wattled Bat)			
118.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
119.	43380 <i>Chelodina colliei</i> (South-western Snake-necked Turtle)			
120.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
121.	47909 <i>Cheramoeca leucosterna</i> (White-backed Swallow)			
122.	33939 <i>Cherax cainii</i> (Marron)			
123.	<i>Cherax destructor</i>			
124.	<i>Cherax preissii</i>			
125.	<i>Cherax quinquecarinatus</i>			
126.	<i>Chironominae</i> sp.			
127.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
128.	<i>Chroicocephalus novaehollandiae</i>			
129.	24431 <i>Chrysococcyx basalis</i> (Horsfield's Bronze Cuckoo)			
130.	25601 <i>Chrysococcyx lucidus</i> (Shining Bronze Cuckoo)			
131.	24432 <i>Chrysococcyx lucidus</i> subsp. <i>plagosus</i> (Shining Bronze Cuckoo)			
132.	24288 <i>Circus approximans</i> (Swamp Harrier)			
133.	24289 <i>Circus assimilis</i> (Spotted Harrier)			
134.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
135.	<i>Cleidopus gloriamaris</i>			
136.	<i>Coenagrionidae</i> sp.			
137.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
138.	24613 <i>Colluricincla harmonica</i> subsp. <i>rufiventris</i> (Grey Shrike-thrush)			
139.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
140.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
141.	24362 <i>Coracina novaehollandiae</i> subsp. <i>novaehollandiae</i> (Black-faced Cuckoo-shrike)			
142.	<i>Corixidae</i> sp.			
143.	<i>Cormocephalus aurantiipes</i>			
144.	<i>Cormocephalus novaehollandiae</i>			
145.	<i>Cormocephalus rubiceps</i>			
146.	<i>Cormocephalus strigosus</i>			
147.	<i>Cormocephalus turneri</i>			
148.	24416 <i>Corvus bennetti</i> (Little Crow)			
149.	25592 <i>Corvus coronoides</i> (Australian Raven)			
150.	24417 <i>Corvus coronoides</i> subsp. <i>perplexus</i> (Australian Raven)			
151.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
152.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
153.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
154.	24422 <i>Cracticus tibicen</i> subsp. <i>dorsalis</i> (White-backed Magpie)			
155.	24423 <i>Cracticus tibicen</i> subsp. <i>tibicen</i> (Black-backed Magpie)			
156.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
157.	24424 <i>Cracticus torquatus</i> subsp. <i>torquatus</i> (Grey Butcherbird)			
158.	24918 <i>Crenadactylus ocellatus</i> subsp. <i>ocellatus</i> (Clawless Gecko)			
159.	25398 <i>Crinia georgiana</i> (Quacking Frog)			
160.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
161.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
162.	25401 <i>Crinia pseudinsignifera</i> (Bleating Froglet)			
163.	30893 <i>Cryptoblepharus buchananii</i>			
164.	25020 <i>Cryptoblepharus plagioccephalus</i>			
165.	<i>Cryptoerithus quobba</i>			
166.	30899 <i>Ctenophorus adelaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
167.	24883 <i>Ctenophorus ornatus</i> (Ornate Crevice-Dragon)			
168.	25027 <i>Ctenotus australis</i>			
169.	25035 <i>Ctenotus delli</i> (Dell's skink, Darling Range southwest Ctenotus)		P4	
170.	25039 <i>Ctenotus fallens</i>			
171.	25040 <i>Ctenotus gemmula</i> (Jewelled South-west Ctenotus (Swan Coastal Plain subpop P3), skink)			
172.	25047 <i>Ctenotus impar</i>			
173.	25049 <i>Ctenotus labillardieri</i>			
174.	41641 <i>Ctenotus ora</i> (Coastal Plains Skink)		P3	
175.	<i>Cyclosa trilobata</i>			
176.	24322 <i>Cygnus atratus</i> (Black Swan)			
177.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
178.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
179.	24606 <i>Daphoenositta chrysoptera</i> subsp. <i>pileata</i> (Varied Sittella, Black-capped Sittella)			
180.	24092 <i>Dasyurus geoffroi</i> (Chuditch, Western Quoll)		T	
181.	<i>Delena cancerides</i>			
182.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
183.	24999 <i>Delma grayii</i>			
184.	25296 <i>Demansia psammophis</i> subsp. <i>reticulata</i> (Yellow-faced Whipsnake)			
185.	25325 <i>Dendrelaphis punctulata</i> (Green Tree Snake)			
186.	24325 <i>Dendrocygna eytoni</i> (Plumed Whistling Duck)			
187.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
188.	<i>Dingosa murata</i>			
189.	<i>Dingosa serrata</i>			



Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
190.	<i>Dinocambala ingens</i>			
191.	24929 <i>Diplodactylus granariensis</i> subsp. <i>granariensis</i>			
192.	44654 <i>Diplodactylus lateroides</i> (Speckled Stone Gecko)			
193.	24939 <i>Diplodactylus polyophthalmus</i>			
194.	24940 <i>Diplodactylus pulcher</i>			
195.	24470 <i>Dromaius novaehollandiae</i> (Emu)			
196.	<i>Dytiscidae</i> sp.			
197.	25096 <i>Egernia kingii</i> (King's Skink)			
198.	25100 <i>Egernia napoleonis</i>			
199.	<i>Egretta garzetta</i>			
200.	<i>Egretta novaehollandiae</i>			
201.	<i>Elanus axillaris</i>			
202.	25540 <i>Elanus caeruleus</i> (Black-shouldered Kite)			
203.	24290 <i>Elanus caeruleus</i> subsp. <i>axillaris</i> (Australian Black-shouldered Kite)			
204.	25250 <i>Elapognathus coronatus</i> (Crowned Snake)			
205.	47937 <i>Elseymis melanops</i> (Black-fronted Dotterel)			
206.	<i>Eolophus roseicapillus</i>			
207.	24651 <i>Eopsaltria australis</i> subsp. <i>griseogularis</i> (Western Yellow Robin)			
208.	24652 <i>Eopsaltria georgiana</i> (White-breasted Robin)			
209.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
210.	<i>Eriophora biapicata</i>			
211.	24379 <i>Erythronyctis cinctus</i> (Red-kneed Dotterel)			
212.	<i>Eucyrtops latior</i>			
213.	<i>Eulimnadia</i> sp.			
214.	<i>Eupograpta kottae</i>			
215.	<i>Eurytion incisunguis</i>			Y
216.	25621 <i>Falco berigora</i> (Brown Falcon)			
217.	24471 <i>Falco berigora</i> subsp. <i>berigora</i> (Brown Falcon)			
218.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
219.	24472 <i>Falco cenchroides</i> subsp. <i>cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
220.	25623 <i>Falco longipennis</i> (Australian Hobby)			
221.	24474 <i>Falco longipennis</i> subsp. <i>longipennis</i> (Australian Hobby)			
222.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
223.	24475 <i>Falco peregrinus</i> subsp. <i>macropus</i> (Australian Peregrine Falcon)		S	
224.	24041 <i>Felis catus</i> (Cat)	Y		
225.	25727 <i>Fulica atra</i> (Eurasian Coot)			
226.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
227.	30916 <i>Funambulus pennanti</i> (Indian Palm Squirrel)	Y		
228.	34028 <i>Galaxias occidentalis</i> (Western Minnow)			
229.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
230.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
231.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
232.	24765 <i>Gallirallus philippensis</i> subsp. <i>mellori</i> (Buff-banded Rail)			
233.	<i>Gallus gallus</i>			
234.	42314 <i>Gavicalis virescens</i> (Singing Honeyeater)			
235.	24959 <i>Gehyra variegata</i>			
236.	24401 <i>Geopelia cuneata</i> (Diamond Dove)			
237.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
238.	48581 <i>Glossurocolletes bilobatus</i> (a short-tongued bee (southwest), short-tongued bee)		P2	
239.	47962 <i>Glyciphila melanops</i> (Tawny-crowned Honeyeater)			
240.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
241.	<i>Gripopterygidae</i> sp.			
242.	<i>Gymnapistes marmoratus</i>			
243.	<i>Gyrinidae</i> sp.			
244.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
245.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
246.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			
247.	24296 <i>Hamirostra isura</i> (Square-tailed Kite)			
248.	<i>Hebridae</i> sp.			
249.	25409 <i>Heleioporus barycragus</i> (Hooting Frog)			
250.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
251.	25412 <i>Heleioporus psammophilus</i> (Sand Frog)			
252.	<i>Hemicloea</i> sp.			Y
253.	<i>Hemicorduliidae</i> sp.			
254.	25232 <i>Hemidactylus frenatus</i> (Asian House Gecko)	Y		
255.	25115 <i>Hemiergis initialis</i> subsp. <i>initialis</i>			
256.	25475 <i>Hemiergis peronii</i>			
257.	25119 <i>Hemiergis quadrilineata</i>			
258.	<i>Henicops dentatus</i>			
259.	24961 <i>Heteronotia binoei</i> (Bynoe's Gecko)			

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260.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
261.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
262.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
263.	<i>Hoggicosa storri</i>			
264.	<i>Hogna crispipes</i>			
265.	<i>Hogna immansueta</i>			
266.	<i>Holasteron perth</i>			
267.	<i>Holasteron wamuseum</i>			Y
268.	<i>Holconia westralia</i>			
269.	<i>Holocnemus pluchei</i>			
270.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
271.	<i>Hydrophilidae</i> sp.			
272.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
273.	<i>Hydropsychidae</i> sp.			
274.	<i>Hydroptilidae</i> sp.			
275.	<i>Hypoblemum</i> sp.			Y
276.	<i>Idiommata blackwalli</i>			
277.	<i>Idiosoma hirsutum</i>			
278.	48935 <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)		P3	
279.	48588 <i>Isoodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
280.	<i>Isopeda leishmanni</i>			
281.	<i>Isopeda magna</i>			
282.	<i>Isopedella cana</i>			
283.	47975 <i>Ixobrychus dubius</i> (Australian Little Bittern)		P4	
284.	<i>Kangarosa properipes</i>			
285.	<i>Karaops ellенае</i>			
286.	<i>Karaops jarrit</i>			
287.	33980 <i>Kawaniphila pachomai</i> (Grey Vernal Katydid (southwest), cricket)		P1	
288.	24367 <i>Lalage tricolor</i> (White-winged Triller)			
289.	<i>Lampona cylindrata</i>			
290.	25637 <i>Larus novaehollandiae</i> (Silver Gull)			
291.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
292.	<i>Latrodectus hasselti</i>			
293.	<i>Latrodectus hasseltii</i>			
294.	33983 <i>Leioproctus douglasiellus</i> (a short-tongued bee)		T	
295.	<i>Leptoceridae</i> sp.			
296.	25131 <i>Lerista distinguenda</i>			
297.	25133 <i>Lerista elegans</i>			
298.	25147 <i>Lerista lineata</i> (Perth Slider, Lined Skink)		P3	
299.	25148 <i>Lerista lineopunctulata</i>			
300.	25165 <i>Lerista praepedita</i>			
301.	25005 <i>Lialis burtonis</i>			
302.	<i>Libellulidae</i> sp.			
303.	25659 <i>Lichenostomus leucotis</i> (White-eared Honeyeater)			
304.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
305.	24582 <i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
306.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
307.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
308.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
309.	<i>Longepi woodman</i>			
310.	<i>Lophoictinia isura</i>			
311.	42414 <i>Lucasium alboguttatum</i>			
312.	<i>Lycosa ariadnae</i>			
313.	<i>Lycosa godeffroyi</i>			
314.	<i>Lynceus</i> sp.			
315.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
316.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
317.	25650 <i>Malurus elegans</i> (Red-winged Fairy-wren)			
318.	25651 <i>Malurus lamberti</i> (Variegated Fairy-wren)			
319.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
320.	24583 <i>Manorina flavigula</i> (Yellow-throated Miner)			
321.	<i>Maratus pavonis</i>			
322.	<i>Masasteron maini</i>			
323.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
324.	47997 <i>Melanodryas cucullata</i> (Hooded Robin)			
325.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
326.	24587 <i>Melithreptus chloropsis</i> (Western White-naped Honeyeater)			
327.	24736 <i>Melopsittacus undulatus</i> (Budgerigar)			
328.	25184 <i>Menetia greyii</i>			
329.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			

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330.	<i>Microcarbo melanoleucos</i>			
331.	25693 <i>Microeca fascinans</i> (Jacky Winter)			
332.	<i>Missulena granulosa</i>			
333.	<i>Missulena hoggi</i>			
334.	<i>Missulena occatoria</i>			
335.	<i>Mituliodon tarantulinus</i>			
336.	<i>Mitoruga insularis</i>			
337.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
338.	25191 <i>Morethia lineocellata</i>			
339.	25192 <i>Morethia obscura</i>			
340.	24223 <i>Mus musculus</i> (House Mouse)	Y		
341.	24042 <i>Mustela putorius</i> (European Polecat, Ferret)	Y		
342.	<i>Myandra bicincta</i>			
343.	<i>Myandra cambridgei</i>			
344.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			
345.	25420 <i>Myobatrachus gouldii</i> (Turtle Frog)			
346.	24146 <i>Myrmecobius fasciatus</i> (Numbat, Walpurti)		T	
347.	<i>Nannoperca vittata</i>			
348.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
349.	25249 <i>Neelaps calonotos</i> (Black-striped Snake, black-striped burrowing snake)		P3	
350.	25686 <i>Neochmia temporalis</i> (Red-browed Finch)	Y		
351.	33984 <i>Neopasiphae simplicior</i> (a short-tongued bee)		T	
352.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
353.	24739 <i>Neophema petrophila</i> (Rock Parrot)			
354.	<i>Nephila edulis</i>			
355.	<i>Nicodamus mainae</i>			
356.	25747 <i>Ninox connivens</i> (Barking Owl)			
357.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
358.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
359.	<i>Notiasemus glauerti</i>			
360.	<i>Notonectidae</i> sp.			
361.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
362.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
363.	24742 <i>Nymphicus hollandicus</i> (Cockatiel)			
364.	<i>Occiperipatoides gilesii</i>			
365.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
366.	<i>Oecobius navis</i>			
367.	<i>Oligochaeta</i> sp.			
368.	<i>Ommatoiulus moreleti</i>			
369.	<i>Ommatoiulus moreletii</i>			
370.	<i>Ophisurus serpens</i>			
371.	<i>Opopaea</i> sp.			Y
372.	<i>Orthocladinae</i> sp.			
373.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
374.	<i>Ostearius melanopygius</i>			
375.	<i>Oxidus gracilis</i>			
376.	<i>Oxyopes gracilipes</i>			
377.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
378.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
379.	24624 <i>Pachycephala rufiventris</i> subsp. <i>rufiventris</i> (Rufous Whistler)			
380.	<i>Palaemonidae</i> sp.			
381.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
382.	<i>Papillogobius punctatus</i>			
383.	<i>Paralampona marangaroo</i>			
384.	<i>Parastacidae</i> sp.			
385.	25253 <i>Parasuta gouldii</i>			
386.	25255 <i>Parasuta nigriceps</i>			
387.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
388.	24625 <i>Pardalotus punctatus</i> subsp. <i>punctatus</i> (Spotted Pardalote)			
389.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
390.	24630 <i>Pardalotus striatus</i> subsp. <i>westraliensis</i> (Striated Pardalote)			
391.	25687 <i>Passer domesticus</i> (House Sparrow)	Y		
392.	<i>Pediana occidentalis</i>			
393.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
394.	48060 <i>Petrochelidon ariel</i> (Fairy Martin)			
395.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
396.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
397.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
398.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
399.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			

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400.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
401.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
402.	<i>Phalacrocorax varius</i>			
403.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
404.	25587 <i>Phaps elegans</i> (Brush Bronzewing)			
405.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
406.	<i>Phenasteron longiconductor</i>			
407.	<i>Pholcus phalangioides</i>			
408.	<i>Phreatoicidae</i> sp.			
409.	<i>Phryganoporus candidus</i>			
410.	<i>Phryganoporus gausapatus</i> subsp. <i>occidentalis</i>			Y
411.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
412.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
413.	<i>Phyllopteryx taeniolatus</i>			
414.	<i>Physidae</i> sp.			
415.	<i>Pinkfloydia harveii</i>			
416.	<i>Planorbidae</i> sp.			
417.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
418.	24842 <i>Platalea regia</i> (Royal Spoonbill)			
419.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
420.	24745 <i>Platycercus icterotis</i> subsp. <i>icterotis</i> (Western Rosella)			
421.	24747 <i>Platycercus spurius</i> (Red-capped Parrot)			
422.	25721 <i>Platycercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
423.	24750 <i>Platycercus zonarius</i> subsp. <i>semitorquatus</i> (Twenty-eight Parrot)			
424.	24751 <i>Platycercus zonarius</i> subsp. <i>zonarius</i> (Port Lincoln Parrot)			
425.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
426.	25007 <i>Pletholax gracilis</i> subsp. <i>gracilis</i> (Keeled Legless Lizard)			
427.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
428.	24679 <i>Podargus strigoides</i> subsp. <i>brachypterus</i> (Tawny Frogmouth)			
429.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
430.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			
431.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
432.	24681 <i>Poliocephalus poliocephalus</i> (Hoary-headed Grebe)			
433.	<i>Poltys laciniosus</i>			
434.	<i>Polygonarea repanda</i>			Y
435.	30854 <i>Polytelis anthopeplus</i> subsp. <i>westralis</i> (Regent Parrot)			
436.	24683 <i>Pomatostomus superciliosus</i> (White-browed Babbler)			
437.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
438.	24767 <i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			
439.	24769 <i>Porzana fluminea</i> (Australian Spotted Crane)			
440.	25732 <i>Porzana pusilla</i> (Baillon's Crane)			
441.	24770 <i>Porzana pusilla</i> subsp. <i>palustris</i> (Baillon's Crane)			
442.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
443.	25261 <i>Pseudechis australis</i> (Mulga Snake)			
444.	25345 <i>Pseudemura umbrina</i> (Western Swamp Tortoise, Western Swamp Turtle)		T	
445.	24234 <i>Pseudomys delicatulus</i> (Delicate Mouse)			
446.	25511 <i>Pseudonaja affinis</i> (Dugite)			
447.	25259 <i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
448.	42416 <i>Pseudonaja mengdeni</i> (Western Brown Snake)			
449.	25264 <i>Pseudonaja nuchalis</i> (Gwardar, Northern Brown Snake)			
450.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
451.	24702 <i>Pterodroma brevirostris</i> (Kerguelen Petrel)			
452.	24703 <i>Pterodroma lessonii</i> (White-headed Petrel)			
453.	25710 <i>Pterodroma macroptera</i> (Great-winged Petrel)			
454.	24173 <i>Pteropus scapulatus</i> (Little Red Flying-fox)			
455.	24711 <i>Puffinus assimilis</i> subsp. <i>assimilis</i> (Little Shearwater)			
456.	24716 <i>Puffinus pacificus</i> (Wedge-tailed Shearwater)		IA	
457.	<i>Purpureicephalus spurius</i>			
458.	25008 <i>Pygopus lepidopodus</i> (Common Scaly Foot)			
459.	24243 <i>Rattus fuscipes</i> (Western Bush Rat)			
460.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
461.	<i>Raveniella cirrata</i>			
462.	<i>Raveniella peckorum</i>			
463.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
464.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
465.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
466.	24454 <i>Rhipidura leucophrys</i> subsp. <i>leucophrys</i> (Willie Wagtail)			
467.	<i>Scolopendra laeta</i>			
468.	<i>Scolopendra morsitans</i>			

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469.	24199 <i>Scotorepens balstoni</i> (Inland Broad-nosed Bat)			
470.	<i>Scytodes thoracica</i>			
471.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
472.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
473.	<i>Simuliidae</i> sp.			
474.	<i>Smeringopus natalensis</i>			
475.	<i>Smeringopus natalensis?</i>			Y
476.	30948 <i>Smicromis brevirostris</i> (Weebill)			
477.	<i>Sminthopsis murina</i>			
478.	<i>Solaenodolichopus pruvoti</i>			
479.	<i>Sphaerotrichopus ramosus</i>			
480.	24645 <i>Stagonopleura oculata</i> (Red-eared Firetail)			
481.	<i>Steatoda capensis</i>			
482.	<i>Steatoda grossa</i>			
483.	24525 <i>Sterna fuscata</i> subsp. <i>nubilosa</i> (Sooty Tern)			
484.	48594 <i>Sternula nereis</i> (Fairy Tern)			
485.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			
486.	25655 <i>Stipiturus malachurus</i> (Southern Emu-wren)			
487.	<i>Storena formosa</i>			
488.	<i>Storena sinuosa</i>			
489.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
490.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
491.	30951 <i>Streptopelia chinensis</i> subsp. <i>tigrina</i> (Spotted Turtle-Dove)	Y		
492.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
493.	30950 <i>Streptopelia senegalensis</i> subsp. <i>senegalensis</i> (Laughing Turtle-Dove)	Y		
494.	24943 <i>Strophurus spinigerus</i> subsp. <i>inornatus</i>			
495.	24942 <i>Strophurus spinigerus</i> subsp. <i>spinigerus</i>			
496.	<i>Supunna funerea</i>			
497.	<i>Supunna picta</i>			
498.	24259 <i>Sus scrofa</i> (Pig)	Y		
499.	<i>Sutorectus tentaculatus</i>			
500.	<i>Synothele durokoppin</i>			
501.	<i>Synsphyronus magnus</i>			
502.	<i>Tabanidae</i> sp.			
503.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
504.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
505.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
506.	<i>Tamopsis facialis</i>			
507.	<i>Tamopsis perthensis</i>			
508.	<i>Tanypodinae</i> sp.			
509.	24167 <i>Tarsipes rostratus</i> (Honey Possum, Noolbenger)			
510.	<i>Tasmanicosa leuckartii</i>			
511.	<i>Tegenaria atrica</i>			Y
512.	<i>Tetragnatha demissa</i>			
513.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
514.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
515.	25203 <i>Tiliqua occipitalis</i> (Western Bluetongue)			
516.	25519 <i>Tiliqua rugosa</i>			
517.	25204 <i>Tiliqua rugosa</i> subsp. <i>aspera</i>			
518.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
519.	<i>Tipulidae</i> sp.			
520.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
521.	24309 <i>Todiramphus sanctus</i> subsp. <i>sanctus</i> (Sacred Kingfisher)			
522.	48141 <i>Tribonyx ventralis</i> (Black-tailed Native-hen)			
523.	<i>Trichocyclus balladong</i>			
524.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
525.	24755 <i>Trichoglossus haematodus</i> subsp. <i>moluccanus</i> (Rainbow Lorikeet)	Y		
526.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
527.	24158 <i>Trichosurus vulpecula</i> subsp. <i>vulpecula</i> (Common Brushtail Possum)			
528.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
529.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
530.	48147 <i>Turnix varius</i> (Painted Button-quail)			
531.	24851 <i>Turnix velox</i> (Little Button-quail)			
532.	24069 <i>Tursiops truncatus</i> (Bottlenose Dolphin)			
533.	25762 <i>Tyto alba</i> (Barn Owl)			
534.	24852 <i>Tyto alba</i> subsp. <i>delicatula</i> (Barn Owl)			
535.	25764 <i>Tyto novaehollandiae</i> (Masked Owl)			
536.	24855 <i>Tyto novaehollandiae</i> subsp. <i>novaehollandiae</i> (Masked Owl (southwest))		P3	
537.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			



Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
538.	<i>Urocampus carinirostris</i>			
539.	<i>Urodacus novaehollandiae</i>			
540.	<i>Urodacus planimanus</i>			
541.	<i>Urodacus woodwardii</i>			
542.	25577 <i>Vanellus miles</i> (Masked Lapwing)			
543.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
544.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
545.	25225 <i>Varanus rosenbergi</i> (Heath Monitor)			
546.	25526 <i>Varanus tristis</i> (Racehorse Monitor)			
547.	<i>Venator immansueta</i>			
548.	<i>Venatrix arenaris</i>			
549.	<i>Venatrix pullastra</i>			
550.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
551.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		
552.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
553.	<i>Westrarchaea spinosa</i>			
554.	<i>Zachria flavicoma</i>			
555.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			
556.	unknown unknown			Y

**Conservation Codes**

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

<sup>1</sup> For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.



# Appendix E

Conservation Significant Species and Likelihood of Occurrence  
Assessment



Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<b>Birds</b>					
<i>Actitis hypoleucos</i>	Common sandpiper	MI	MI	Edge of sheltered waters salt or fresh, e.g. estuaries, mangrove creeks, rocky coasts, near-coastal saltlakes (including saltwork ponds), river pools, lagoons, claypans, drying swamps, flood waters, dams and sewage ponds. Preferring situations where low perches are available (Johnstone & Storr 1998).	Nil
<i>Apus pacificus</i>	Pacific swift	MI	MI	Aerial, migratory species that is most often seen over inland plains and sometimes above open areas, foothills or in coastal areas. Sometimes occurs over settled areas, including towns, urban areas and cities (Pizzey & Knight 2012).	Moderate
<i>Arenaria interpres</i>	Ruddy turnstone	MI	MI	Tidal mud and reef flats, sheltered rocky coasts, stony and seaweedy beaches and sandpits, dry coral ridges (Abrolhos) and pebbly shores of near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	Negligible
<i>Calidris acuminata</i>	Sharp-tailed sandpiper	MI	MI	Occurs in tidal mudflats, saltmarshes and mangroves, as well as, shallow fresh, brackish or saline inland wetlands. It is also known from floodwaters, irrigated pastures and crops, sewage ponds, saltfields (Pizzey & Knight 2012).	Nil

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Calidris alba</i>	Sanderling	MI	MI	Mainly steeply shelving sandy beaches exposed to ocean swell. Also sandy inlets, estuarine sandbanks and near-coastal saltlakes (including saltwork ponds) (Johnstone & Storr 1998).	Negligible
<i>Calidris canutus</i>	Red knot	EN	EN (MI)	Mud and sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Pizzey & Knight 2012).	Negligible
<i>Calidris ferruginea</i>	Curlew sandpiper	CR	CR (MI)	Mainly shallows of estuaries and near-coastal saltlakes (including saltwork ponds) and drying near-coastal freshwater lakes and swamps. Also beaches and near-coastal sewage ponds (Johnstone & Storr 1988).	Nil
<i>Calidris melanotos</i>	Pectoral sandpiper	MI	MI	Mainly fresh waters (swamps, lagoons, river pools, irrigation channels and sewage ponds); also samphire flats around estuaries and saltlakes (Johnstone & Storr 1998).	Negligible
<i>Calidris subminuta</i>	Long-toed stint	MI	MI	Mainly freshwater swamps (especially when drying and where vegetation is short), river pools, lagoons and claypans; also brackish pools, sewage ponds and samphire flats around estuaries and saltlakes (Johnstone & Storr 1988).	Negligible
<i>Calidris tenuirostris</i>	Great knot	CR	CR (MI)	Mud or sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Johnstone & Storr 1988).	Negligible



Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Calyptorhynchus banksii naso</i>	Forest red-tailed black cockatoo	VU	VU	Eucalypt and Corymbia forests, often in hilly interior. More recently also observed in more open agricultural and suburban areas including Perth metropolitan area. Attracted to seeding Corymbia calophylla, Eucalyptus marginata, introduced Melia azedarach and Eucalyptus spp. trees (Johnstone et al. 2013).	High
<i>Charadrius leschenaultii</i>	Great sand plover	VU	VU (MI)	Wide sandy or shelly beaches, sandpits, tidal mudflats, reefs, sand cays, mangroves, saltmarsh, dune wilderness, bare paddocks, seldom far inland (Pizzey & Knight 2012).	Negligible
<i>Diomedea amsterdamensis</i>	Amsterdam Island albatross	CR	EN (MI)	The Amsterdam albatross is a marine, pelagic seabird. It nests in open patchy vegetation (among tussocks, ferns or shrubs) near exposed ridges or hillocks (Weimerskirch et al. 1985). It sleeps and rests on ocean waters when not breeding (Marchant and Higgins 1990)	Nil
<i>Diomedea epomophora</i>	Southern royal albatross	VU	VU (MI)	Rare visitor to Western Australian seas; it breeds on subantarctic islands south of New Zealand (Johnstone and Storr 1998).	Nil
<i>Diomedea exulans</i>	Wandering albatross	VU	VU (MI)	Marine, pelagic and aerial species. It breeds on Macquarie Island and feeds in Australian portions of the Southern Ocean (DoE 2018).	Nil

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Diomedea sanfordi</i>	Northern royal albatross	EN	EN	Species is marine, pelagic and aerial. Habitat includes subantarctic, subtropical, and occasionally Antarctic waters (Marchant & Higgins 1990). Rare visitors to south-western Australian waters.	Nil
<i>Falco peregrinus</i>	Peregrine falcon	OS	-	Mainly found around cliffs along coasts, rivers, ranges and around wooded watercourses and lakes (Johnstone and Storr 1998).	Moderate
<i>Gallinago hardwickii</i>	Latham's snipe	MI	MI	Soft, wet ground or shallow water with tussocks and other green or dead growth, wet parts of paddocks, seepage below dams, irrigated areas, scrub or open woodland from sea level to alpine bogs over 2000 m, samphire on saltmarshes and mangrove fringes. Rare visitor to Western Australia (Pizzey & Knight 2012).	Negligible
<i>Gelochelidon nilotica</i>	Gull-billed tern	MI	MI	Beaches, mudflats; fresh, brackish wetlands, including far inland; grasslands, crops, ploughed fields, airfields (Pizzey & Knight 2012).	Negligible
<i>Hydroprogne caspia</i>	Caspian tern	MI	MI	Mainly sheltered areas, estuaries (when not laden with silt) and tidal creeks; occasionally near-coastal saltlakes (including saltwork ponds) and brackish pools in lower courses of rivers; rarely fresh waters (DCCEEW 2023).	Negligible

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Ixobrychus dubius</i>	Australian little bittern	P4	-	Dense vegetation surrounding/within freshwater pools, swamps and lagoons, well screened with trees. Shelters in dense beds of <i>Typha</i> spp., <i>Baumea</i> spp. and tall rushes in freshwater swamps around lakes and along rivers (Johnstone and Storr 1998).	Negligible
<i>Leipoa ocellata</i>	Malleefowl	VU	VU	Scrubs and thickets of <i>Eucalyptus</i> spp., <i>Melaleuca lanceolata</i> and <i>Acacia linophylla</i> ; also other dense litter-forming shrublands. Attracted to fallen wheat in stubbles and along roads (Johnstone and Storr 1998).	Nil
<i>Limosa lapponica</i>	Bar-tailed godwit	MI	MI	Estuarine sand and mudflats and sandy beaches with loads of seaweed; also reef flats and near-coastal saltlakes (including saltwork and sewage ponds) (Johnstone and Storr 1998).	Negligible
<i>Limosa limosa</i>	Black-tailed godwit	MI	MI	Tidal mudflats, estuaries, sewage ponds, shallow river margins, brackish or saline inland lakes, flooded pastures, airfields (Pizzey & Knight 2012).	Negligible
<i>Macronectes giganteus</i>	Southern giant-petrel	MI	EN (MI)	Breeds on southern subantarctic and antarctic islands. May visit Western Australian waters from February to December (mostly June to September) (Johnstone and Storr 1998).	Nil
<i>Macronectes halli</i>	Northern giant petrel	MI	VU (MI)	Breeds on subantarctic islands. May visit Western Australian water from February to September (Johnstone and Storr 1998).	Nil

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Motacilla cinerea</i>	Grey wagtail	MI	MI	In Australia mostly near running water in disused quarries, sandy and rocky streams in escarpments and rainforests, sewage ponds, ploughed fields and airfields (Pizzey & Knight 2012).	Nil
<i>Numenius madagascariensis</i>	Eastern curlew	CR	CR (MI)	Mainly tidal mudflats; also reef flats, sandy beaches and rarely near-coastal lakes (including saltwork ponds) (Johnstone and Storr 1998).	Nil
<i>Numenius phaeopus</i>	Whimbrel	MI	MI	Estuaries, mangroves, tidal flats, coral cays, exposed reefs, flooded paddocks, sewage ponds, bare grasslands, sportsgrounds and lawns (Pizzey & Knight 2012).	Negligible
<i>Oxyura australis</i>	Blue-billed duck	P4	-	Mainly deeper freshwater swamps and lakes; occasionally saltlakes and estuaries freshened by flood waters (Johnstone and Storr 1998).	Negligible
<i>Pachyptila turtur subantarctica</i>	Fairy prion	-	VU	Breeds on subantarctic islands and is presumed to frequent subtropical waters during non-breeding period (TSSC 2015).	Nil
<i>Pandion haliaetus</i>	Osprey	MI	MI	Coasts, estuaries, bays, inlets, islands, and surrounding waters; coral atolls, reefs, lagoons, rock cliffs, stacks (Pizzey & Knight 2012).	Negligible
<i>Plegadis falcinellus</i>	Glossy Ibis	MI	MI	Well-vegetated wetlands, wet pasture, ricefields, floodwaters, floodplains, brackish or occasionally saline wetlands, mangroves, mudflats and occasionally dry grassland (Pizzey & Knight 2012).	Negligible

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Pluvialis fulva</i>	Pacific golden plover	MI	MI	Estuaries, mudflats, saltmarshes, mangroves; rocky reefs and stranded seaweed on ocean shores; margins of shallow open inland swamps; sewage ponds, short-grass paddocks, sportsgrounds, airfields, ploughed land (Pizzey & Knight 2012).	Negligible
<i>Pluvialis squatarola</i>	Grey Plover	MI	MI	Mudflats, saltmarsh, tidal reefs and estuaries, rarely inland (Pizzey and Knight 2012).	Negligible
<i>Rostratula australis</i>	Australian painted snipe	EN	EN	Mainly shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans (Marchant and Higgins 1993).	Nil
<i>Sternula nereis nereis</i>	Australian fairy tern	VU	VU	Sheltered blue-water seas close to land, estuaries (when free of silt) and near-coastal lakes (Johnstone and Storr 1998).	Nil
<i>Thalassarche impavida</i>	Campbell albatross	VU	VU (MI)	Scarce visitor to south-western and western Australian seas. Breeds on Campbell Island (Pizzey & Knight 2012).	Nil
<i>Thalassarche melanophris</i>	Black-browed albatross	EN	VU (MI)	Seas of south and west coasts. Visitor to Western Australian mainland from January to early November (mostly May to September). Breeds on southern subantarctic and Antarctic islands (Johnstone and Storr 1998).	Nil
<i>Thalassarche steadi</i>	White-capped albatross	VU	VU (MI)	Scarce visitor (late May to mid-October) to southwestern and western seas. Breeds on islands off Tasmania and south New Zealand (Johnstone and Storr 1998).	Nil



Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Thalasseus bergii</i>	Crested tern	MI	MI	Mainly blue-water seas (especially within 3 km of land), including southern estuaries in summer and autumn (when free of silt); also tidal creeks in north, but not penetrating far into larger estuaries (DCCEEW 2023).	Negligible
<i>Tringa brevipes</i>	Grey-tailed tattler	P4 (MI)	MI	Tidal mud and reef flats, sheltered rocky coasts, stony and seaweedy beaches and sandpits, dry coral ridges (Abrolhos) and pebbly shores of near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	Negligible
<i>Tringa glareola</i>	Wood sandpiper	MI	MI	Mainly shallow fresh waters (lagoons, swamps, claypans, river pools, dams, bore overflows and sewage ponds); occasionally brackish swamps, rarely saltlakes and estuaries (Pizzey & Knight 2012).	Negligible
<i>Tringa nebularia</i>	Common greenshank	MI	MI	Mudflats, estuaries, saltmarshes, margins of lakes, wetlands, claypans (fresh and saline), commercial saltfields, sewage ponds (Pizzey & Knight 2012).	Negligible
<i>Tringa stagnatilis</i>	Marsh sandpiper	MI	MI	Mainly shallow fresh or brackish waters: swamps, lakes, river pools, soaks, sewage ponds and bore overflows. Occasionally estuaries and salt ponds, and rarely coasts (DCCEEW 2023).	Negligible

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Zanda baudinii</i>	Baudin's black cockatoo	EN	EN	Mainly eucalypt forests. Attracted to seeding <i>Corymbia calophylla</i> , <i>Banksia</i> spp., <i>Hakea</i> spp., and to fruiting apples and pears (Johnstone and Storr 1998).	High
<i>Zanda latirostris</i>	Carnaby's black cockatoo	EN	EN	Mainly proteaceous scrubs and heaths and adjacent eucalypt woodlands and forests; also plantations of <i>Pinus</i> spp. Attracted to seeding <i>Banksia</i> spp., <i>Hakea</i> spp., <i>Eucalyptus</i> spp., <i>Corymbia calophylla</i> , <i>Grevillea</i> spp., and <i>Allocasuarina</i> spp. (Johnstone and Storr 1998).	High
<b>Invertebrates</b>					
<i>Australotomurus morbidus</i>	Cemetery springtail	P3	-	Unknown.	Negligible
<i>Glossurocolletes bilobatus</i>	a short-tongued bee	P2	-	Life history and habits are poorly documented/ unknown. It has been recorded only on plants of the Pailionaceae family (PaDIL 2022).	Negligible
<i>Idiosoma sigillatum</i>	Swan Coastal Plain shield-backed trapdoor spider	P3	-	Widely distributed in sandy areas on the Swan Coastal Plain and on Rottnest Island (Prince 2003). Species predominantly recorded from remnant banksia woodland vegetation and heath on sandy soils (Rix et. al 2018).	Negligible
<i>Leioproctus douglasiellus</i>	a short-tongued bee	EN	CR	Life history and habits are poorly documented/ unknown. It has been recorded only on the flowers of <i>Goodenia filiformis</i> and <i>Anthotium junciforme</i> (Houston 2000).	Negligible

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Neopasiphae simplicior</i>	a short-tongued bee	EN	CR	This species of native bee has been collected on flowers of <i>Goodenia filiformis</i> , <i>Lobelia tenuior</i> , <i>Angianthus preissianus</i> and <i>Velleia</i> sp. (Houston 2000).	Negligible
<i>Westralunio carteri</i>	Carter's freshwater mussel	VU	VU	Occurs in greatest abundance in slower flowing streams with stable sediments that are soft enough for burrowing amongst woody debris and exposed tree roots. Also occupies lentic systems including large water supply dams and even on-stream farm dams. Salinity tolerance quite low (Morgan et al. 2011).	Negligible
<b>Mammals</b>					
<i>Bettongia penicillata ogilbyi</i>	Woylie	CR	EN	Woodlands and adjacent heaths with a dense understorey of shrubs, particularly <i>Gastrolobium</i> spp. (TSSC 2018).	Nil
<i>Dasyurus geoffroii</i>	Chuditch	VU	VU	Wide range of habitats from woodlands, dry sclerophyll forests, riparian vegetation, beaches and deserts. Appears to utilise native vegetation along roadsides in the wheatbelt (DEC 2012).	Negligible
<i>Hydromys chrysogaster</i>	Rakali	P4	-	Areas with permanent water, fresh, brackish or marine. Likely to occur in all major rivers and most of the larger streams as well as bodies of permanent water in the lower south-west (Christensen et al. 1984).	Negligible
<i>Isodon fusciventer</i>	Quenda	P4	-	Dense scrubby, often swampy, vegetation with dense cover up to one metre high (DEC 2012)	Moderate

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Myrmecobius fasciatus</i>	Numbat	EN	EN	Generally dominated by Eucalyptus spp. that provide hollow logs and branches for shelter and termites for food (van Dyck & Strahan 2008).	Nil
<i>Notamacropus irma</i>	Western brush wallaby	P4	-	Dry sclerophyll forest, Banksia spp. woodlands and shrublands, typically favouring dense low vegetation that provides dense cover (Christensen and Strahan 1983).	Nil
<i>Phascogale tapoatafa wambenger</i>	South-western brush-tailed phascogale	CD	-	Dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover (Triggs 2003).	Low
<i>Pseudocheirus occidentalis</i>	Western ringtail possum	CR	CR	On the Swan Coastal Plain in Agonis flexuosa woodlands and Agonis flexuosa/ Eucalyptus gomphocephala forests. Also Eucalyptus marginata forests (DBCA 2017).	Nil
<i>Setonix brachyurus</i>	Quokka	VU	VU	On the mainland mostly dense streamside vegetation or shrubland and heath areas, particularly around swamps (Cronin 2007).	Nil
<b>Reptile</b>					
<i>Acanthophis antarcticus</i>	Southern death adder	P3	-	Mostly in woodlands, grasslands and heaths. In the Darling Range this species is typically found within Eucalyptus marginata woodlands adjacent to granite outcrops and along densely vegetated creeks (Bush et al. 2010).	Nil
<i>Ctenotus delli</i>	Dell's skink	P4	-	Jarraah and marri woodland with a shrub dominated understorey, sheltering in dense vegetation, inside grass trees and beneath rocks, sometimes in burrows (Nevill 2005).	Nil







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**Conservation Significant Fauna Likelihood of Occurrence  
Lots 25, 16 and 988 Victoria Rd Kenwick**






# Appendix F

Species list



Category	Status	Species name	Common name	Record type
<b>Birds</b>				
		<i>Acanthiza chrysorrhoa</i>	Yellow-rumped thornbill	Sight
		<i>Accipiter fasciatus</i>	Brown goshawk	Sight
		<i>Anthochaera carunculata</i>	Red wattlebird	Sight
	VU	<i>Calyptorhynchus banksii naso</i>	Forest red-tailed black cockatoo	Foraging
		<i>Chrysococcyx lucidus</i>	Shining bronze cuckoo	Call
		<i>Corvus coronoides</i>	Australian raven	Sight
		<i>Cracticus tibicen</i>	Australian magpie	Sight
		<i>Dromaius novaehollandiae</i>	Emu	Tracks
		<i>Eolophus roseicapilla</i>	Galah	Sight
		<i>Gerygone fusca</i>	Western gerygone	Call
		<i>Grallina cyanoleuca</i>	Magpie-lark	Sight
		<i>Lichmera indistincta</i>	Brown honeyeater	Sight
		<i>Pardalotus striatus</i>	Striated pardalote	Call
		<i>Phylidonyris novaehollandiae</i>	New Holland honeyeater	Sight
		<i>Rhipidura leucophrys</i>	Willie wagtail	Sight
	*	<i>Spilopelia senegalensis</i>	Laughing dove	Sight
		<i>Threskiornis spinicollis</i>	Straw-necked Ibis	Sight
	EN	<i>Zanda baudinii</i>	Baudin's black cockatoo	Foraging
	EN	<i>Zanda latirostris</i>	Carnaby's black cockatoo	Foraging
<b>Reptiles</b>				
		<i>Tiliqua rugosa</i>	Bobtail	Sight

Note: \* denotes introduced fauna species, DP=declared pest under the BAM Act, EN=Endangered under the BC and EPBC Acts, P4=Priority 4 in WA, VU=Vulnerable under the BC and EPBC Acts



# Appendix G

Black cockatoo habitat tree data



<b>Tag No.</b>	<b>Easting</b>	<b>Northing</b>	<b>DBH (cm)</b>	<b>Species</b>	<b>Category</b>	<b>Notes</b>
57	405582.8	6456683.5	74	<i>Corymbia calophylla</i>	Potential nesting tree	
85	405637.5	6456718.8	59	<i>Corymbia calophylla</i>	Potential nesting tree	
106	405715.2	6456659.6	102	<i>Eucalyptus todtiana</i>	Potential nesting tree	
125	405726.6	6456622.4	55	<i>Corymbia calophylla</i>	Potential nesting tree	
126	405721.1	6456616.6	59	<i>Corymbia calophylla</i>	Potential nesting tree	
132	405724.1	6456612.2	58	<i>Corymbia calophylla</i>	Potential nesting tree	
133	405724.1	6456601	74	<i>Corymbia calophylla</i>	Potential nesting tree	
162	405692.7	6456542.8	77	<i>Corymbia calophylla</i>	Potential nesting tree	



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<b>Tag No.</b>	<b>Easting</b>	<b>Northing</b>	<b>DBH (cm)</b>	<b>Species</b>	<b>Category</b>	<b>Notes</b>
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<b>Tag No.</b>	<b>Easting</b>	<b>Northing</b>	<b>DBH (cm)</b>	<b>Species</b>	<b>Category</b>	<b>Notes</b>
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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One hollow deemed suitable.

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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One hollow deemed suitable.

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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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One hollow deemed suitable.



Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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One hollow was deemed potentially suitable as the base was not visible during the inspection.

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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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<b>Tag No.</b>	<b>Easting</b>	<b>Northing</b>	<b>DBH (cm)</b>	<b>Species</b>	<b>Category</b>	<b>Notes</b>
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Inspected hollows were deemed unsuitable for black cockatoos. One hollow above 16 m height could not be inspected and was deemed potentially suitable.

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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tag No.	Easting	Northing	DBH (cm)	Species	Category	Notes
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Tree not tagged due to presence of bees at the tree base.