

# Level 1 Fauna and Targeted Black Cockatoo Assessment

Lot 1001 Murdoch Drive, Murdoch

Project No: EP19-068(05)

**Prepared for Rhyian Pty Ltd  
July 2019**



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## Document Control

<b>Doc name:</b>		Level 1 Fauna and Targeted Black Cockatoo Assessment Lot 1001 Murdoch Drive, Murdoch			
<b>Doc no.:</b>		EP19-068(05)--007 MS			
Version	Date	Author		Reviewer	
1	July 2019	Melanie Schubert	MS	Tom Atkinson	TAA
	Submitted for client review				

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## Executive Summary

Rhyian Pty Ltd intends to develop Lot 1001 Murdoch Drive in Murdoch for commercial development purposes. This lot (referred to herein as 'the site') is located approximately 18 kilometres (km) south of the Perth Central Business District within the City of Melville.

An ecologist from Emerge Associates visited the site on 24 June 2019 and undertook a 'level 1' fauna survey and a targeted black cockatoo survey. During the survey targeted searches for fauna species were conducted with a particular reference for 'threatened' and 'priority' fauna species and an assessment was made on the type and conservation significance of fauna habitat across the site.

Outcomes of the survey include the following:

- A total of 11 native and two non-native fauna species were positively identified to occur within the site, including threatened (endangered) Carnaby's cockatoo and (vulnerable) forest red-tailed black cockatoo.
- Six additional species of conservation significance are considered to have potential to occur within the site, including Baudin's cockatoo (endangered), black-stripe snake (P3), Perth slider (P3), graceful sunmoth (P4), quenda (P4) and pacific swift (migratory). However, the likelihood that the site would provide important habitat for these species is low, due to the relatively poor condition and limited extent of habitat within the site.
- The site contains nine potential black cockatoo habitat trees, of which none contain hollows. The site does therefore currently not provide suitable breeding habitat for species of black cockatoo.
- No evidence of black cockatoo roosting activity was observed within the site and it is considered unlikely that roosting would occur.
- Plant species within areas of **banksia woodland** and scattered native trees within the site are considered to provide a limited extent of quality foraging habitat for Carnaby's cockatoo, forest red-tailed cockatoo and to a lesser extent Baudin's cockatoo.
- With the exception of the aforementioned species of black cockatoo, the site is likely to be primarily utilised by common and widespread native species without specific habitat requirements.

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## Abbreviation Tables

*Table A1: Abbreviations – Organisations*

Organisations	
EPA	Environmental Protection Authority
DBCA	Department of Biodiversity, Conservation and Attractions
DPaW	Department of Parks and Wildlife (now DBCA)
DoEE	Department of Environment and Energy

*Table A2: Abbreviations – General terms*

General terms	
ESA	Environmentally sensitive area
VU	Vulnerable
EN	Endangered
S	Specially protected fauna
CD	Conservation depended
CE	Critically endangered
IA	International agreement
MI	Migratory fauna
P1	Priority 1
P2	Priority 2
P3	Priority 3
P4	Priority 4
P5	Priority 5
DBH	Diameter at breast height

*Table A3: Abbreviations – Legislation*

Legislation	
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
BC Act	<i>Biodiversity Conservation Act 2016</i>

*Table A4: Abbreviations – planning*

Planning terms	
TPS	District Planning Scheme
MRS	Metropolitan region scheme

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*Table A5: Abbreviations – units of measurement*

Units of measurement	
ha	Hectare
km	Kilometre
m	Metre
cm	Centimetre



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## 1 Introduction

### 1.1 Project background

Rhyian Pty Ltd (Rhyian) intends to develop Lot 1001 Murdoch Drive in Murdoch for commercial development purposes. This lot (referred to herein as 'the site') is located approximately 18 kilometres (km) south of the Perth Central Business District within the City of Melville and is zoned 'urban' under the Metropolitan Region Scheme and reserved 'service commercial' under the City of Melville *Local Planning Scheme* (LPS) No. 6.

The site is approximately 1.49 hectares (ha) in size and is bound by commercial land to the east, State Energy Commission land to the north, Murdoch Drive to the west and Farrington Road to the south. The location and extent of the site is shown in **Figure 1**.

### 1.2 Purpose and scope of work

Emerge Associates (Emerge) were engaged by Rhyian to provide environmental consultancy services to support the planning process for the site. The purpose of this survey is to provide sufficient information on the fauna values within the site to inform this process.

The scope of work was specifically to conduct a fauna assessment to the standard required of a 'level 1' fauna survey and a targeted black cockatoo survey in accordance with the Environmental Protection Authority's (EPA's) *Technical Guidance – Terrestrial fauna Surveys* (EPA 2016).

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

- Desktop review of background information regarding fauna species relevant to the site and surrounds.
- Compilation of a list of fauna species opportunistically recorded as part of the field survey.
- Identification of potential habitat for conservation significant fauna species and likelihood of occurrence.
- A targeted black cockatoo survey.
- Documentation of the desktop assessment, survey methodology and results into a report.

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## 2 Environmental Context

### 2.1 Significant fauna

#### 2.1.1 Threatened fauna species

Certain fauna taxa that are considered to be rare or under threat warrant special protection under Commonwealth and/or State legislation. At a Commonwealth level, fauna taxa may be listed as 'threatened' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Any action likely to have a significant impact on a taxon listed under the EPBC Act requires approval from the Commonwealth Minister for the Environment and Energy.

In Western Australia fauna species may also be classed as 'threatened' under the *Biodiversity Conservation Act 2016* (BC Act). It is an offence to 'take' or disturb threatened fauna without Ministerial approval.

Threatened fauna species listed under the EPBC Act and/or BC Act are assigned a conservation status. Further information on threatened species and their categories is provided in **Appendix A**.

#### 2.1.2 Priority fauna species

Fauna species that do not currently meet the criteria for listing as threatened but are potentially rare or threatened may be added to the Department of Biodiversity, Conservation and Attractions (DBCA) *Priority Fauna List*. These species are classified into 'priority' levels based on threat. Whilst priority species are not under direct statutory protection, they are considered during State approval processes. Further information on priority species and their categories is provided in **Appendix A**.

#### 2.1.3 Migratory fauna species

Migratory fauna species that migrate to Australia and its external territories, or pass through or over Australian waters during their annual migrations warrant special protection under Commonwealth and State legislation. At a Commonwealth level, migratory fauna taxa may be listed as 'migratory' under *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Any action likely to have a significant impact on a taxon listed under the EPBC Act requires approval from the Commonwealth Minister for the Environment and Energy.

In Western Australia migratory fauna taxa may be listed as 'specially protected species' and classed as 'migratory' under the *Biodiversity Conservation Act 2016* (BC Act). Further information on migratory species is provided in **Appendix A**.

#### 2.1.4 Pest fauna species

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. Many non-native fauna species and some fauna species native to Australia but not Western Australia are considered to be pest fauna.

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

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warrants special management to limit its spread. At a National level, pest fauna may be listed as 'Established Pests and Diseases of National Significance' (EPDNS) under the *Australian Pest Animal Strategy (2017-2027) (DoA 2017)*. Further information on declared pests and their categories is provided in Appendix A.

## 2.2 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 or in close proximity to the site. Bush Forever Site 244 (North Lake and Bibra Lake, North Lake/Bibra Lake) lies approximately 550 m to the west of the site and extends to the south west of the site. The location of Bush Forever Site 244 in relation to the site is shown in **Figure 2**.

## 2.3 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 Australia Local Government Association (WALGA), have identified and mapped regional ecological linkages within the Perth Metropolitan Region (WALGA and PBP 2004). This study was extended beyond the Perth Metropolitan Region through the South West Biodiversity Project, resulting in the identification and mapping of the South West regional ecological linkages (Molloy *et al.* 2009).

There are no mapped ecological linkages within or in close proximity to the site. One regional ecological linkage (No. 50) occurs approximately 800 m west of the site running from north to south and intersects with another ecological linkage (No. 48) running east to west approximately 500 m south of the site. These ecological linkages connect areas of *Bush Forever* located in the wider local area. The location of these linkages is shown in **Figure 2**.

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### 2.4 Black cockatoo habitat

The Swan Coastal Plain is known to provide habitat for three threatened species of black cockatoo, including *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo) and *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo).

Important black cockatoo habitat includes the following:

- Breeding habitat: Trees that contain hollows that are suitable for breeding black cockatoos. These must generally be located within 7 km of food and water resources (Saunders 1990).
- Roosting habitat: Groups of large trees that are located within 6 km of water and food resources, with overlapping foraging ranges within 12 km (Shah 2006; Le Roux 2017).
- Foraging habitat: Vegetation that contains known foraging plant species for black cockatoos.

The Department of Planning (DoP), in partnership with the Department of the Environment and Energy (DoEE) and fauna experts have identified and mapped Carnaby's cockatoo habitat (breeding, roosting and foraging) on the Swan Coastal Plain and Jarrah Forest to help identify areas of highest potential conflict between land-use planning and conservation of habitat (Johnstone *et al.* 2011).

The dataset includes confirmed (chicks or eggs observed) and potential (breeding behaviour or chew marks observed but no chicks or eggs) Carnaby's cockatoo breeding habitat, as well as confirmed (roosting observed) and potential roosting (requiring further investigation) habitat. Potential foraging habitat is mapped based on regional vegetation mapping that may contain plant species known to be foraged upon by Carnaby's cockatoo (Hedde *et al.* 1980; Havel and Matisse 2000; DEC 2007; Strelein *et al.* 2009).

While this dataset only predicts potential habitat presence for Carnaby's cockatoo, the information is also largely applicable for Baudin's cockatoo and forest red-tailed black cockatoo. Many plant species that are foraged upon by Carnaby's cockatoo are also consumed by Baudin's cockatoo (e.g. *Banksia* spp. cones and *Corymbia calophylla* (marri) nuts) and forest red-tailed cockatoo (e.g. *Eucalyptus marginata* (jarrah) and marri nuts). Similarly, some roost and breeding sites that are suitable for Carnaby's cockatoo may also be suitable for Baudin's cockatoo and forest red-tailed cockatoo. The potential foraging habitat dataset is likely an overestimation of available foraging habitat for forest red-tailed cockatoos, as it includes a number of plant species that are not consumed by this species (e.g. *Banksia* spp.).

No confirmed or potential Carnaby's cockatoo breeding habitat is mapped within the site. The closest confirmed Carnaby's cockatoo breeding habitat is located approximately 10 km east of the site and potential breeding habitat is located 1.5 km north of the site.

No confirmed or potential roost site mapped within the site. Two confirmed black cockatoo roost sites are located approximately 1.5 m north and 2.8 km east of the site. This includes a very large roost site, located on Murdoch University grounds.

Vegetation in the southern and central portions of the site is mapped as potential black cockatoo foraging habitat. Extensive areas of potential black cockatoo foraging habitat exist approximately 20 km east of the site, which comprises remnant vegetation of the Jarrah Forest on the Darling Scarp.

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This vegetation is likely suitable for foraging by all three species of black cockatoo. Multiple smaller patches of mapped potential black cockatoo foraging habitat occur within the local area.

Black cockatoo habitat within the wider local area is shown in **Figure 3**.

### 2.5 Previous surveys

No previous fauna surveys are known to have been undertaken over the site.

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## 3 Methods

### 3.1 Desktop assessment

#### 3.1.1 Database searches

A search was conducted for threatened and priority flora that may occur or have been recorded within a 10 km radius of the site using the *Protected Matters Search Tool* (DoEE 2019a) and *NatureMap* (DBCA 2019).

A total number of species with potential to occur within the site was calculated by adding the total count of non-conservation significant species provided by *NatureMap* to the combined number of conservation significant species provided by *NatureMap* and *Protected Matters Search Tool*.

#### 3.1.2 Likelihood of occurrence

Information on habitat preferences and distribution of threatened and priority vertebrate fauna species<sup>1</sup> identified to potentially occur within the site or wider area was reviewed. This was assessed against the general site conditions and fauna habitat types recorded during the field survey.

An assessment of the likelihood of occurrence of threatened and priority fauna species within the site was undertaken and each was assigned to one of the following categories:

- Recorded: The species was positively identified as being present within the site during the field survey or from recent literature records.
- Likely: Potentially suitable habitat for the species was identified during the field survey and the site lies within the known distribution of the species.
- Possible: Potentially suitable habitat for the species was identified but of marginal quality and/or extend. The site lies within or close to the known distribution of the species.
- Unlikely: The site lies outside of the known distribution of the species and/or no suitable habitat was identified within the site.

### 3.2 Field survey

An ecologist from Emerge visited the site on the 24 June 2019 during the day (from 10:00 AM to 03:00 PM) to conduct the level 1 fauna survey and targeted black cockatoo field survey. The weather was fine with intermittent clouds.

#### 3.2.1 Level 1 fauna

Transects were traversed across the site, during the day, and the characteristics of fauna habitat and presence of fauna species was recorded. Microhabitats such as logs, rocks and leaf litter were investigated and secondary evidence of species presence such as tracks, scats, skeletal remains, foraging evidence or calls was also noted.

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A vertebrate fauna list was compiled and fauna habitat values were described, with particular reference to 'threatened' and 'priority' fauna species with potential to occur within the site<sup>1</sup>. Taxonomy and nomenclature for vertebrate fauna species was taken from the *WA Museum Checklist of the Terrestrial Vertebrate Fauna of Western Australia* (Western Australian Museum 2019). Literature listed in **Appendix A** represent the main publications used to identify fauna species and habitats within the site.

## 3.2.2 Targeted black cockatoo

The site was searched for potential black cockatoo breeding, roosting and foraging habitat. Potential breeding habitat trees<sup>2</sup> were individually identified, tagged and assessed against attributes outlined in **Table 1** below. Potential habitat trees were deemed as potentially suitable for use by breeding black cockatoos if the opening diameter was  $\geq 10$  cm (Groom 2010) and if the hollow was located in a trunk branch that is large enough to allow for a mature black cockatoo to occupy it.

Table 1: Attributes recorded as part of the black cockatoo potential habitat tree (POT) assessment.

Attribute	Description
Tag	Unique identifier on a metal tag was attached to each potential habitat tree (POT).
Image	Each POT was individually photographed.
GPS location	The location of each POT was recorded using a handheld GPS unit.
Tree species	Species and common name were identified.
Diameter at breast height (DBH) (cm)	Each POT was measured using a diameter tape.
Tree height (m)	The height of each POT was estimated.
Hollow information	If observed, hollows were noted and photographed.
Entrance information	The entrance diameter was estimated and the entry position noted (e.g. top-entry or side-entry).
Hollow orientation	The orientation of hollows was recorded (vertical, near-vertical, non-vertical).
Hollow height (m)	The height of hollows was recorded.
Signs of use of hollows	Signs of use of hollows by black cockatoos or other species were noted.

A dusk roost survey was not undertaken but the site was assessed for the potential of providing roosting habitat for black cockatoos, and secondary evidence of roosting activity, such as branch clippings, droppings or moulted feathers was searched. Patches of large native and non-native trees were assumed to provide potential black cockatoo roosting habitat.

Potential black cockatoo foraging habitat was identified by comparing the literature on known foraging habitat resources against the vegetation within the site (Davies 1966; Saunders 1980; Johnstone and Storr 1998; Johnstone and Kirkby 1999; Groom 2011; Johnstone *et al.* 2011; DoEE

<sup>1</sup> Invertebrate taxa were not assessed and no evaluation of the potential for invertebrate taxa to occur within the site is provided.

<sup>2</sup> Native tree of a suitable species with a diameter at breast height (DBH)  $\geq 50$  cm (or  $\geq 30$  cm for salmon gum and wandoo).

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2012, 2017). Secondary evidence of black cockatoo foraging, such as chewed marri nuts or banksia cones, within the site was searched and allocated to a species where possible.

Active searches were conducted for secondary evidence of breeding, roosting and foraging activity such as chew marks, branch clippings, droppings, moulted feathers and chewed marri nuts or banksia cones.

## 3.3 Mapping and data analysis

### 3.3.1 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 *'Reconnaissance Flora and Vegetation Assessment'* (Emerge Associates 2019). The identified fauna habitats were mapped on aerial photography with the boundaries interpreted from aerial photography, previously identified plant communities (Emerge Associates 2019) and notes taken in the field.

Information on specific habitat requirements for conservation significant vertebrate fauna species with potential to occur within the site were compiled as part of the desktop assessment. This information was compared to the fauna habitats identified within the site to determine whether any conservation significant fauna species are considered to have potential to utilise the site.

### 3.3.2 Black cockatoo habitat

The location of potential black cockatoo habitat trees recorded in the site and information on hollows (if present) were mapped on aerial imagery. The data for each potential black cockatoo habitat tree was compiled in a table format.

Potential black cockatoo foraging habitat was mapped according to the fauna habitats recorded and notes taken in the field. The quality of foraging habitat was assessed based on presence of black cockatoo foraging plant species, vegetation extent and regional context of the site and information provided in the Department of the Environment and Energy's (DoEE) *EPBC Act referral guidelines for three threatened black cockatoo species* (DoEE 2012).



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## 3.4 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 constraints outlined in the EPA document *Technical Guidance – Terrestrial Fauna Surveys* (EPA 2016) is provided in **Table 2**.

*Table 2: Evaluation of survey methodology against standard constraints outlined in EPA Technical Guidance – Terrestrial fauna Surveys.*

Constraint	Degree of limitation	Details
Level of survey	No limitation	A level 1 survey (desktop study and field survey) in combination with level 2 (targeted) black cockatoo survey was considered adequate given the relatively low habitat values within the site and the generally good availability of fauna information for the region.
Scope	No limitation	The survey focused on vertebrate fauna and habitat values, with particular focus on 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. No reptiles were observed within the site. It is likely that reptiles are present within the site but not detected due to typically low activity during cold weather.
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.
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	Minor limitation	This fauna assessment was undertaken by a qualified, early career ecologist with a university degree in landscape ecology. The ecologist is experienced in conducting fauna surveys but is relatively new to Western Australia. Technical review was undertaken by a senior environmental consultant with 15 years' experience in environmental science in Western Australia.
Suitability of timing	Slight limitation	Survey timing is not considered to be of great importance for Level 1 assessments. Nonetheless, the cold seasonal conditions during the field survey likely reduced the detectability of some fauna classes such as reptiles.
Completeness	No limitation	The desktop assessment, field survey and targeted black cockatoo components of the survey were completed.
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.

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## 4 Results

### 4.1 General site conditions

The site contains a west facing slope with sandy soils. Historical clearing is evident, particularly in the western half of the site. A number of tracks are present throughout and surrounding the periphery of the site. Evidence of disturbance to the landform was observed, particularly the presence of steep sloping sand banks in the north eastern and south eastern portions of the site.

### 4.2 Fauna habitat

Historical disturbance has significantly compromised habitat values within the site. The majority of the native vegetation has been removed and vegetation now predominantly comprises cleared areas, dominated by non-native and weed species with scattered or patches of native and non-native trees and shrubs.

A total of six (6) fauna habitats were identified within the site, including '**banksia woodland**', '**open woodland *Corymbia calophylla* and *Eucalyptus marginata***', '**dense shrubland *Chamelaucium uncinatum***', '**open woodland *Eucalyptus* spp.**', '**scattered non-native trees and shrubs**' and '**non-native grassland**'.

A description and the area of each habitat is provided in **Table 3** and representative photographs of each are provided in **Plate 1** to **Plate 6**. The location of each habitat is shown on **Figure 4**.

The highest fauna habitat values within the site are associated with a small area of remnant native **banksia woodland** vegetation. In particular where this vegetation remains in good<sup>3</sup> or better condition, it provides a cover of native trees and shrubs, dense ground cover and contains microhabitats such as logs, rocks and leaf litter.

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<sup>3</sup> Keighery, B. 1994, *Bushland Plant Survey: A guide to plant community survey for the community*, Wildflower Society of WA (Inc), Nedlands.

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Table 3: Fauna habitats identified within the site.

Fauna habitat classification	Description	Area (ha)
<b>Banksia woodland</b>	Low open woodland of <i>Banksia menziesii</i> , <i>B. attenuata</i> , <i>B. ilicifolia</i> , <i>Eucalyptus marginata</i> and <i>Nuytsia floribunda</i> over open shrubland of <i>Kunzea glabrescens</i> , <i>Xanthorrhoea preissii</i> and <i>Allocasuarina humilis</i> over low shrubland of <i>Acacia pulchella</i> var. <i>glaberrima</i> , <i>Stirlingia latifolia</i> , <i>Eremaea pauciflora</i> var. <i>pauciflora</i> and <i>Hibbertia</i> spp. over forbland of <i>Desmodcladus flexuosus</i> , <i>Patersonia occidentalis</i> and <i>Lomandra</i> spp. and open grassland of * <i>Ehrharta calycina</i> and * <i>Briza maxima</i> ( <b>Plate 1</b> ).	0.47
<b>Open woodland <i>Corymbia calophylla</i> and <i>Eucalyptus marginata</i></b>	Scattered <i>Eucalyptus marginata</i> and <i>Corymbia calophylla</i> trees over weeds and occasional native species ( <b>Plate 2</b> ).	0.09
<b>Dense shrubland <i>Chamelaucium uncinatum</i></b>	Dense shrubland <i>Chamelaucium uncinatum</i> over weeds and bare ground ( <b>Plate 3</b> ).	0.06
<b>Open woodland <i>Eucalyptus</i> spp.</b>	Open woodland of planted <i>Eucalyptus</i> spp. over shrubland of <i>Stirlingia latifolia</i> and <i>Kunzea glabrescens</i> over weeds ( <b>Plate 4</b> ).	0.04
<b>Scattered non-native trees and shrubs</b>	Scattered non-native trees and shrubs over weeds and bare ground ( <b>Plate 5</b> ).	0.05
<b>Non-native grassland</b>	Heavily disturbed areas comprising grassy and herbaceous weeds with occasional native shrubs and forbs and planted vegetation ( <b>Plate 6</b> ).	0.78



Plate 1: Banksia woodland

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Plate 2: Open woodland *Corymbia calophylla* and *Eucalyptus marginata*.



Plate 3: Dense shrubland *Chamelaucium uncinatum*.

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*Plate 4: Open woodland Eucalyptus spp.*



*Plate 5: Scattered non-native trees and shrubs.*

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Plate 6: Non-native grassland (foreground).

## 4.3 Fauna

### 4.3.1 Desktop assessment

A total number of 678 fauna species were identified from database searches as occurring or potentially occurring within 10 km of the site<sup>4</sup> as listed in **Appendix B**.

This includes 37 threatened, 17 priority, 37 migratory fauna and two other specially protected species as listed in **Appendix C**.

### 4.3.2 Species inventory

A total of 11 native and two introduced fauna species, including two fauna species of conservation significance (Carnaby's cockatoo and forest red-tailed black cockatoo), were directly or indirectly (from foraging evidence) recorded during the field survey. A complete species list is provided in **Appendix D**.

### 4.3.3 Conservation significant fauna

Foraging evidence indicates that the threatened fauna species Carnaby's cockatoo and forest red-tailed black cockatoo have utilised the site.

The majority of the threatened and priority flora species identified in the desktop assessment are not considered to occur in the site due to lack of suitable habitat or because the site lies outside of the species known distribution.

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<sup>4</sup> Includes native and non-native species

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Other conservation significant fauna species identified from database searches that are considered to also have the potential to utilise the site are shown in **Table 4**.

Table 4: Summary of conservation significant fauna species with have potential to occur within the site.

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	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.	<b>Possible:</b> May opportunistically occur in or fly over the site on commute or while searching for prey.
<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.	<b>Likely:</b> Foraging habitat present.
<i>Calyptorhynchus baudinii</i>	Baudin's cockatoo	EN	EN	Mainly eucalypt forests. Attracted to seeding Corymbia calophylla, Banksia spp., Hakea spp., and to fruiting apples and pears.	<b>Possible:</b> Species prefers dense eucalypt forests and does not usually occur in the Perth metropolitan area. However, it may occasionally fly over the site or forage opportunistically.
<i>Calyptorhynchus latirostris</i>	Carnaby's cockatoo	EN	EN	Mainly proteaceous scrubs and heaths and adjacent eucalypt woodlands and forests; also plantations of Pinus spp. Attracted to seeding Banksia spp., Dryandra spp., Hakea spp., Eucalyptus spp., Corymbia calophylla, Grevillea spp., and Allocasuarina spp..	<b>Likely:</b> Foraging habitat present.

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Table 3 (continued): Summary of conservation significant fauna species deemed possible or likely to occur within the site.

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		WA	EPBC Act		
<b>Mammals</b>					
<i>Isoodon fusciventer</i>	Quenda	P4	-	Dense scrubby, often swampy, vegetation with dense cover up to one metre high	<b>Possible:</b> Some parts of the site provide adequate ground cover for this species but these are limited in extent.
<b>Reptiles</b>					
<i>Lerista lineata</i>	Perth slider	P3	-	Sandy coastal heath and low scrubland. Banksia spp. woodland, Eucalyptus gomphocephala open woodland over deep sands, and coastal dunes immediately adjacent to the beach.	<b>Possible:</b> May utilise the remnant banksia woodland vegetation and sandy soils within the site.
<i>Neelaps calonotos</i>	Black-striped snake	P3	-	Coastal and near-coastal dunes, sandplains supporting heathlands and Banksia spp. woodlands.	<b>Possible:</b> May utilise the remnant banksia woodland vegetation.

#### 4.3.1 Declared pests

One species, *Oryctolagus cuniculus* (rabbit) listed as a declared pest (C3) pursuant to the BAM Act, was identified from scats within the site.

#### 4.4 Black cockatoo habitat

##### 4.4.1 Breeding habitat

A total of nine potential black cockatoo habitat trees were observed within the site as shown in **Figure 5**. These trees consist of five *Corymbia calophylla* (marri), three *Eucalyptus marginata* (jarrah) and one *Eucalyptus gomphocephala* (tuart). None of the potential habitat trees contained hollows. An inventory of potential habitat trees recorded within the site is provided in **Appendix E**.

##### 4.4.2 Roosting habitat

No evidence of black cockatoo roosting, such as branch clippings, droppings and moulted feathers was observed within the site. A small number of native and non-native trees within the site have the potential to provide a limited area of roosting habitat for black cockatoos.



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### 4.4.3 Foraging habitat

The site contains approximately 0.57 ha of potential black cockatoo foraging habitat as shown in **Figure 5**. The majority of the foraging habitat within the site consists of banksia woodland vegetation such as *Banksia attenuata*, *Banksia ilicifolia*, *Banksia menziesii*, *Jacksonia furcellata*, *Xanthorrhoea preissii*. These species are recognised as important foraging species for Carnaby's cockatoo and Baudin's cockatoo and would therefore be considered a quality foraging resource. The site also contains patches of marri and jarrah trees and one tuart tree, which are also recognised as important foraging species for the two black cockatoo species mentioned above and forest red-tailed black cockatoo.

The site is therefore considered to contain approximately 0.55 ha of quality foraging habitat for Carnaby's and Baudin's cockatoos and approximately 0.12 ha of quality foraging habitat for forest red-tailed black cockatoo. The scattered non-native eucalyptus trees (0.02 ha) within the site may be foraged upon opportunistically but do not represent a quality resource.

Foraging evidence attributed to Carnaby's cockatoo and forest red-tailed black cockatoo was observed within the site.

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## 5 Discussion

### 5.1 Fauna habitat values

Fauna habitat values within the site are generally limited. The 11 native and two non-native fauna recorded within the site are all generally common and widespread species.

Habitat value is greatest with respect to **banksia woodland**, as well as, scattered native trees within the site that likely provide value to a range of native species including some that are conservation significant, such as species of black cockatoo (further discussed in **Section 4.2** below). However, the extent of **banksia woodland** vegetation within the site is relatively small (0.47 ha). For the majority of the site, habitat values are compromised by the removal of native vegetation and historical degradation. The site now primarily provides habitat that is suitable for common and widespread species with non-specific habitat requirements.

### 5.2 Black cockatoo habitat values

Carnaby's cockatoo and forest red-tailed black cockatoo were positively identified within the site. A record of these species at the site was anticipated as the areas surrounding the site are known to contain habitat used by these species. The site lies outside of the usual distribution range of Baudin's cockatoo. However, this species travels long distances and may occasionally fly over the site while commuting between habitats and may also utilise the site for foraging opportunistically, as some potentially suitable foraging habitat is present.

Of the nine potential black cockatoo habitat trees identified within the site, none were observed to contain hollows. Hence the site does not currently provide breeding habitat for species of black cockatoo. While trees within the site have the potential to form hollows in the future, it will likely take many years for hollows to form that are suitable for use by black cockatoos.

A small number of trees within the site have the potential to provide roosting habitat for black cockatoos. However, the extent of this habitat is very limited and no evidence of recent or historical roosting activity was observed within the site. It is therefore considered unlikely that black cockatoo roosting would occur within the site due to the small number of trees present and isolation of patches of trees.

Several plant species within remnant patches of vegetation in the site are recognised as important foraging resources for Carnaby's and Baudin's cockatoo and forest red-tailed black cockatoo. However, the site is located outside of Baudin's cockatoo usual range and the site is therefore not considered to represent important foraging habitat for this species. Quality foraging habitat for Carnaby's cockatoo and forest red-tailed black cockatoo within the site covers a relatively small area (0.55 ha Carnaby's cockatoo and 0.12 ha forest red-tailed black cockatoo) and extensive areas of higher quality black cockatoo foraging habitat are located in close proximity to the site.

## Level 1 Fauna and Targeted Black Cockatoo Assessment

Lot 1001 Murdoch Drive, Murdoch



## 6 Conclusions

A total of 11 native and two non-native fauna species were positively identified to occur within the site, including threatened (endangered) Carnaby's cockatoo and (vulnerable) forest red-tailed black cockatoo. Six additional species of conservation significance are considered to have potential to occur within the site, including Baudin's cockatoo (endangered), black-stripe snake (P3), Perth slider (P3), graceful sunmoth (P4), quenda (P4) and pacific swift (migratory). However, the likelihood that the site would provide important habitat for these species is low, due to the relatively poor condition and limited extent of habitat within the site.

The site contains nine potential black cockatoo habitat trees, of which none contain hollows. The site does therefore currently not provide suitable breeding habitat for species of black cockatoo. No evidence of black cockatoo roosting activity was observed within the site and it is considered unlikely that roosting would occur. Plant species within areas of **banksia woodland** and scattered native trees within the site are considered to provide a limited extent of quality foraging habitat for Carnaby's cockatoo, forest red-tailed cockatoo and to a lesser extent Baudin's cockatoo.

With the exception of the aforementioned species of black cockatoo, the site is likely to be primarily utilised by common and widespread native species without specific habitat requirements.

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# Level 1 Fauna and Targeted Black Cockatoo Assessment

Lot 1001 Murdoch Drive, Murdoch



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# Figures



*Figure 1: Site Location*

*Figure 2: Environmental Features*

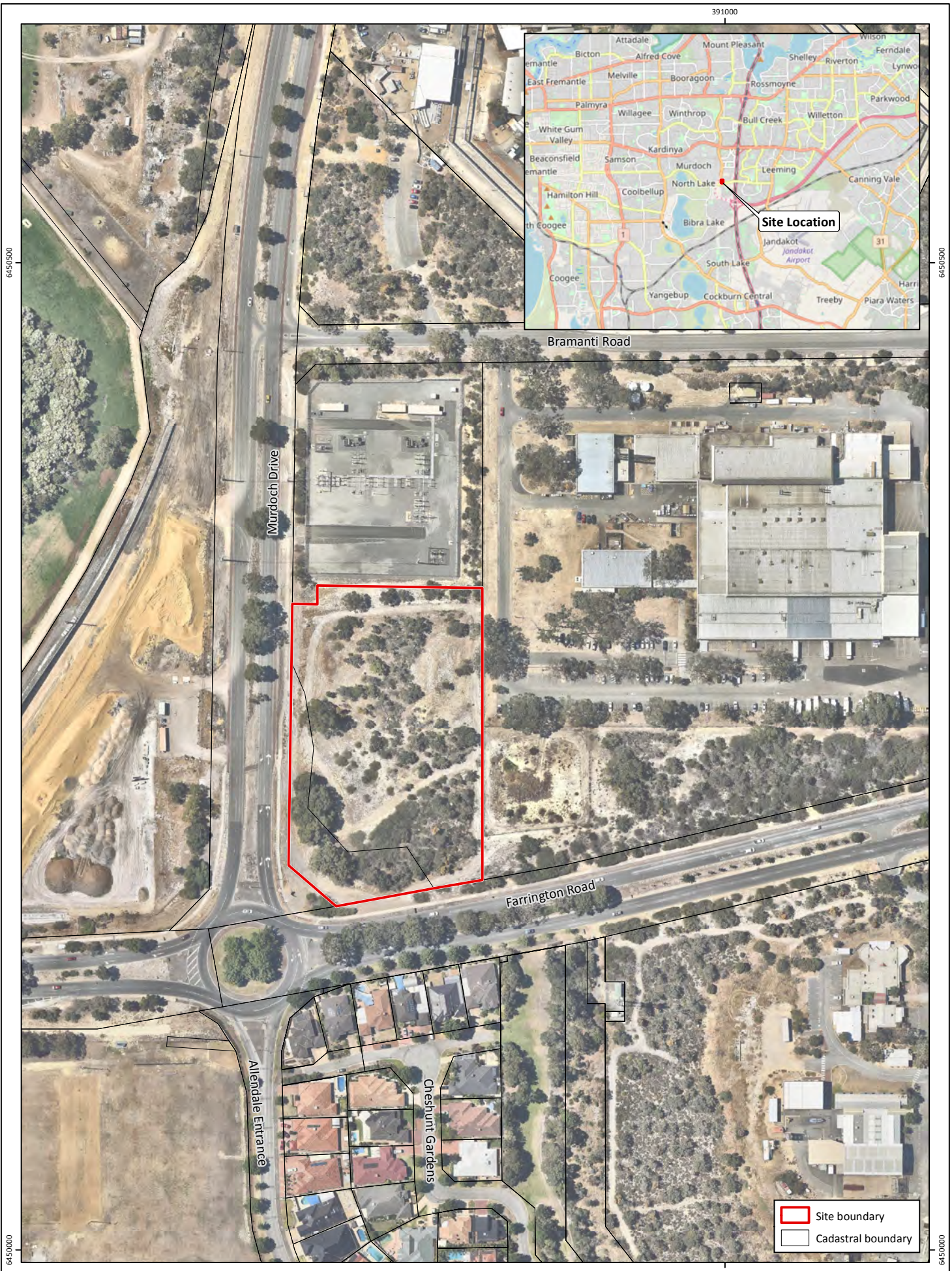
*Figure 3: Black Cockatoo Habitat Context*

*Figure 4: Fauna Habitat*

*Figure 5: Black Cockatoo Habitat*



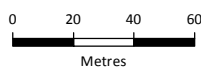




**Figure 1: Site Location**

**Project:** Level 1 Fauna and Targeted Black Cockatoo Assessment  
 Lot 1001 Murdoch Drive Murdoch  
**Client:** Rhyian Pty Ltd

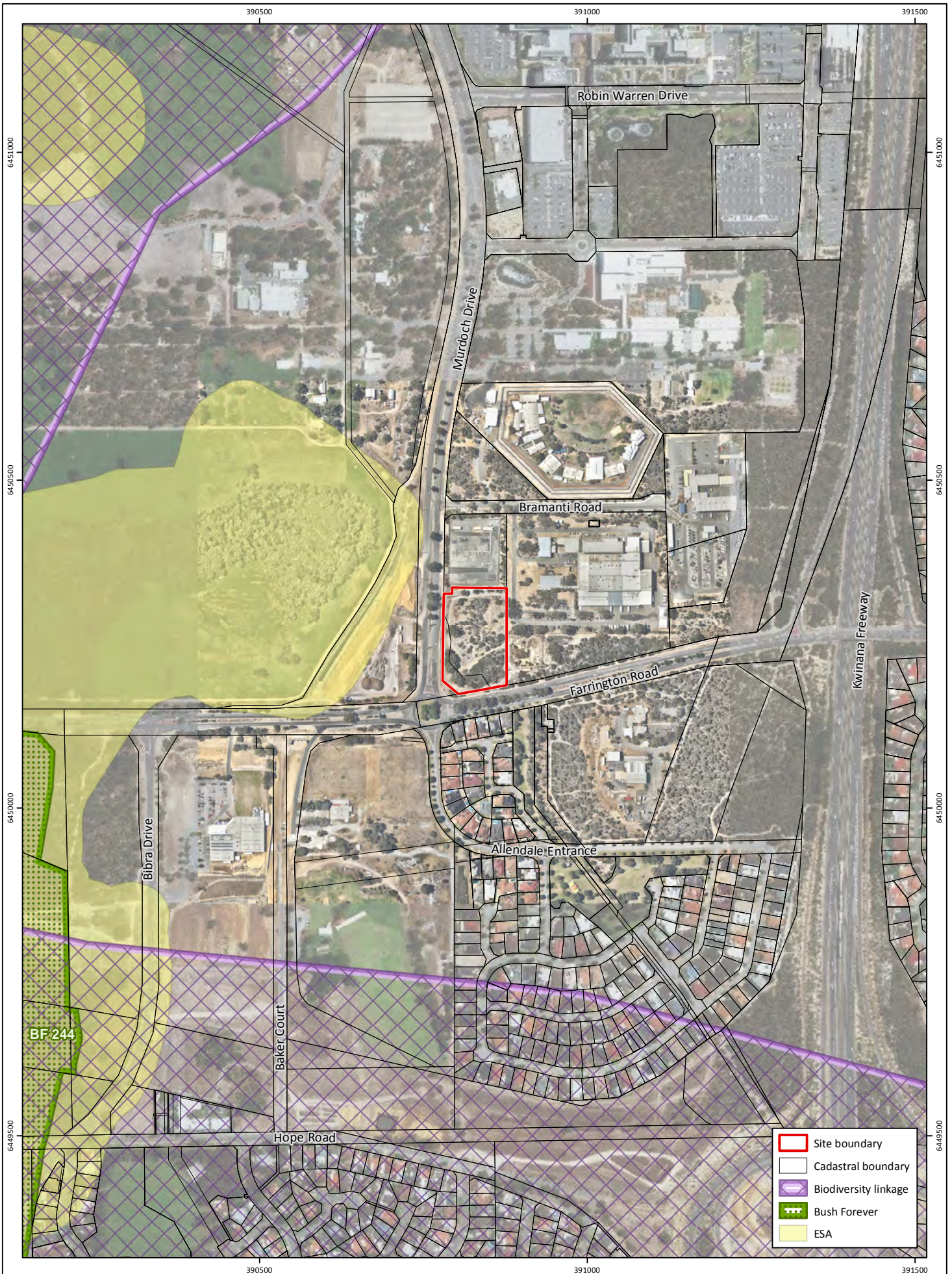
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**Checked:** MS  
**Approved:** TAA  
**Date:** 31/07/2019



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 GDA 1994 MGA Zone 50



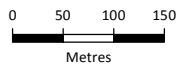




**Figure 2: Environmental Features**

**Project:** Level 1 Fauna and Targeted Black Cockatoo Assessment  
 Lot 1001 Murdoch Drive Murdoch  
**Client:** Rhyian Pty Ltd

**Plan Number:** EP19-068(05)-F06  
**Drawn:** KNM  
**Date:** 05/07/2019  
**Checked:** MS  
**Approved:** TAA  
**Date:** 31/07/2019

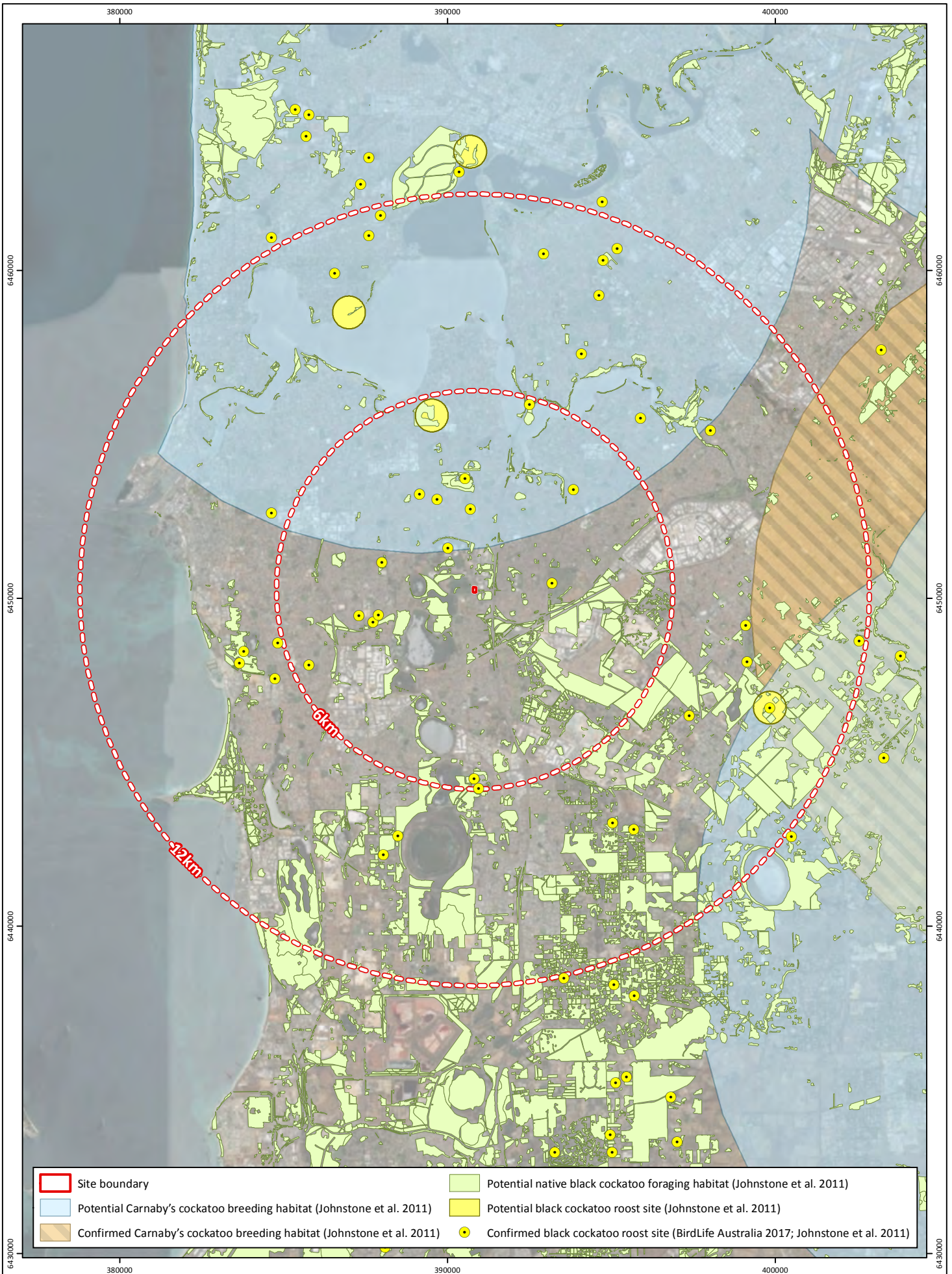


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 GDA 1994 MGA Zone 50



While Emerge Associates makes every attempt to ensure the accuracy and completeness of data, Emerge accepts no responsibility for externally sourced data used





**Figure 3: Black Cockatoo Habitat Context**

**Project:** Level 1 Fauna and Targeted Black Cockatoo Assessment  
 Lot 1001 Murdoch Drive Murdoch

**Client:** Rhyian Pty Ltd

**Plan Number:** EP19-068(05)-F22  
**Drawn:** GAR  
**Date:** 26/07/2019  
**Checked:** MS  
**Approved:** TAA  
**Date:** 31/07/2019



0 1 2 3 4  
 Kilometres  
**Scale: 1:150,000@A4**  
 GDA 1994 MGA Zone 50







**Figure 4: Fauna Habitat**

**Project:** Level 1 Fauna and Targeted Black Cockatoo Assessment  
 Lot 1001 Murdoch Drive Murdoch  
**Client:** Rhyian Pty Ltd

**Plan Number:** EP19-068(05)--F07  
**Drawn:** KNM  
**Date:** 05/07/2019  
**Checked:** MS  
**Approved:** TAA  
**Date:** 31/07/2019



0 10 20  
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 GDA 1994 MGA Zone 50









**Figure 5: Black Cockatoo Habitat**

**Project:** Level 1 Fauna and Targeted Black Cockatoo Assessment  
 Lot 1001 Murdoch Drive Murdoch

**Client:** Rhyian Pty Ltd

**Plan Number:** EP19-068(05)-F08  
**Drawn:** KNM  
**Date:** 05/07/2019  
**Checked:** MS  
**Approved:** TAA  
**Date:** 31/07/2019



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 GDA 1994 MGA Zone 50





# Appendix A

Additional Background 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). Migratory birds may be 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).

All migratory bird species listed in the annexes to these bilateral agreements are protected in Australia as ‘matters of national environmental significance’ (MNES) under the EPBC Act. Fauna species considered ‘threatened’ pursuant to Schedule 1 of the EPBC Act are assigned categories as outlined in **Table 1**.

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#	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#	Threatened Fauna – Critically Endangered Taxa which are considered to be facing an extremely high risk of extinction in the wild.
EN#	Threatened Fauna – Endangered Taxa which are considered to be facing a very high risk of extinction in the wild.
VU#	Threatened Fauna – Vulnerable Taxa which are considered to be facing a high risk of extinction in the wild.
Migratory#	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

#matters of national environmental significance (MNES) under the EPBC Act

## Additional Background Information



In Western Australia, fauna taxa may be classed as ‘specially protected’ under the *Biodiversity Conservation Act 2016* (BC Act) which is enforced by Department of Biodiversity Conservation and Attractions (DBCA). Specially protected fauna species are listed under Schedules 1 to 7 according to their conservation status. The definitions of these Schedules are provided in **Table 2**.

*Table 2: Definitions of specially protected fauna schedules under the BC Act.*

Conservation Code	Definition
CR	Schedule 1 – Critically Endangered Threatened species considered to be facing an extremely high risk of extinction in the wild.
EN	Schedule 2 – Endangered Threatened species considered to be facing a very high risk of extinction in the wild.
VU	Schedule 3 – Vulnerable Threatened species considered to be facing a high risk of extinction in the wild.
EX	Schedule 4 – Presumed extinct Species which have been adequately searched for and there is no reasonable doubt that the last individual has died.
MI	Schedule 5 – Migratory birds protected under an international agreement Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds.
CD	Schedule 6 – Fauna of special conservation need as 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	Schedule 7 – Other specially protected fauna. 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 2018). Priority fauna species are considered during State approval processes. Priority fauna categories and definitions are listed in **Table 3**.

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

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 2 – 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>

## Pest fauna

A number of legislative and policy documents exist in relation to weed management at state and national levels. The *Biosecurity and Agriculture Management Act 2007* (BAM Act) is the principle legislation guiding weed management in Western Australia and lists declared pest species. At a national level, pest fauna may be listed as 'Established Pests and Diseases of National Significance' (EPDNS) under the *Australian Pest Animal Strategy (2017-2027)* (DoA 2017).

### 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



## Additional Background Information



Category	Description
	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.

*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.

## References

### General references

Department of Biodiversity, Conservation and Attractions (DBCA) 2018, *Threatened and Priority Fauna List 15 February 2018*, Perth.

Department of Agriculture (DoA) 2017, *Australian Pest Animal Strategy (2017-2027)*, Canberra.

## Literature

Table 1: 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)

## References

Bush, B., Maryan, B., Browne-Cooper, R. and Robinson, D. 2002, *Reptiles and Frogs of the Perth Region*, UWA Press, Crawley.

Johnstone, R. E. and Storr, G. M. 1998a, *Handbook of Western Australian Birds. Volume 2 - Passerines (Blue-winged Pitta to Goldfinch)*, Western Australian Museum, Perth.

Johnstone, R. E. and Storr, T. 1998b, *Handbook of Western Australian Birds: Volume 1 - Non-passerines (Emu to Dollarbird)*, Western Australian Museum, Perth.

Menkhorst, P. and Knight, F. 2011, *Field guide to the mammals of Australia (Third edition)*, Oxford University Press Australia & New Zealand, Melbourne, VIC, Australia.

Pizzey, G. and Knight, F. 2012, *The Fieldguide to the Birds of Australia*, Harper Collins Publishers, Sydney, Australia.

Slater, P., Slater, P. and Slater, R. 2003, *The Slater Field Guide to Australian Birds*, Reed New Holland, Australia.

Triggs, B. 2003, *Tracks, Scats and Other Traces A Field Guide to Australian Mammals*, Oxford University Press Australia, Melbourne, Victoria.

Tyler, M. J. and Doughty, P. 2009, *Field Guide to Frogs of Western Australia*, Western Australian Museum, Perth, Western Australia.



# Appendix B

*NatureMap* Database Results





# NatureMap Species Report

Created By Guest user on 20/06/2019

**Kingdom** Animalia  
**Current Names Only** Yes  
**Core Datasets Only** Yes  
**Method** 'By Circle'  
**Centre** 115° 50' 36" E, 32° 04' 43" S  
**Buffer** 10km

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
1.	? ?			
2.	24559 <i>Acanthagenys rufogularis</i> (Spiny-cheeked Honeyeater)			
3.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
4.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
5.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
6.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
7.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
8.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
9.	24282 <i>Accipiter fasciatus</i> subsp. <i>fasciatus</i> (Brown Goshawk)			
10.	<i>Acentrogobius bifrenatus</i>			
11.	<i>Acentrogobius pflaumi</i>			Y
12.	<i>Acercella falcipes</i>			
13.	<i>Acridotheres fuscus</i>			Y
14.	<i>Acridotheres tristis</i> subsp. <i>tristis</i>			
15.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
16.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
17.	24831 <i>Acrocephalus australis</i> subsp. <i>gouldi</i> (Australian Reed Warbler)			
18.	<i>Acrocephalus scripaceus</i>			Y
19.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
20.	25544 <i>Aegotheles cristatus</i> (Australian Owlet-nightjar)			
21.	<i>Afurcagobius suppositus</i>			
22.	<i>Akamptogonus novarae</i>			
23.	<i>Aldrichetta forsteri</i>			
24.	<i>Allothereua maculata</i>			
25.	<i>Amblyomma albolimbatum</i>			
26.	<i>Ammotretis elongatus</i>			
27.	<i>Amniataba caudavittata</i>			
28.	<i>Aname mainae</i>			
29.	<i>Aname tepperi</i>			
30.	24310 <i>Anas castanea</i> (Chestnut Teal)			
31.	24312 <i>Anas gracilis</i> (Grey Teal)			
32.	24313 <i>Anas platyrhynchos</i> (Mallard)			
33.	<i>Anas platyrhynchos</i> subsp. <i>domesticus</i>			
34.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
35.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
36.	<i>Anguilla australis</i>			
37.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
38.	44629 <i>Anilios australis</i>			
39.	<i>Anoplaceros lenticularis</i>			
40.	24506 <i>Anous tenuirostris</i> subsp. <i>melanops</i> (Australian Lesser Noddy)		T	
41.	<i>Anser anser</i>			
42.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
43.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
44.	<i>Aploactisoma milesii</i>			
45.	<i>Apogon rueppellii</i>			
46.	24991 <i>Aprasia repens</i> (Sand-plain Worm-lizard)			
47.	<i>Aptychotrema vincentiana</i>			
48.	25554 <i>Apus pacificus</i> (Fork-tailed Swift, Pacific Swift)		IA	
49.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
50.	<i>Aracana aurita</i>			
51.	<i>Aracana ornata</i>			
52.	<i>Arachnura higginsii</i>			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
53.	<i>Araneus cyphoxis</i>			
54.	<i>Araneus eburniventris</i>			
55.	<i>Araneus senicaudatus</i>			
56.	24208 <i>Arctocephalus forsteri</i> (New Zealand Fur Seal, long-nosed fur-seal)		S	
57.	25557 <i>Ardea garzetta</i> (Little Egret)			
58.	24337 <i>Ardea garzetta</i> subsp. <i>nigripes</i> (Little Egret)			
59.	25558 <i>Ardea ibis</i> (Cattle Egret)			
60.	25559 <i>Ardea intermedia</i> (Intermediate Egret)			
61.	41324 <i>Ardea modesta</i> (great egret, white egret)			
62.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
63.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
64.	25560 <i>Ardea sacra</i> (Eastern Reef Egret, Eastern Reef Heron)			
65.	25736 <i>Arenaria interpres</i> (Ruddy Turnstone)		IA	
66.	<i>Arenigobius bifrenatus</i>			
67.	<i>Argiope protensa</i>			
68.	<i>Argiope trifasciata</i>			
69.	<i>Argyrosomus japonicus</i>			
70.	<i>Arkys walckenaeri</i>			
71.	<i>Arothron hispidus</i>			
72.	<i>Arripis georgiana</i>			
73.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
74.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
75.	<i>Artoria flavimana</i>			
76.	<i>Artoria linnæi</i>			
77.	<i>Artoria taeniifera</i>			
78.	<i>Artoriopsis eccentrica</i>			
79.	<i>Artoriopsis exposita</i>			
80.	<i>Artoriopsis joergi</i>			
81.	<i>Atherinomorus lacunosus</i>			
82.	<i>Atherinomorus vaigiensis</i>			
83.	<i>Atherinosoma wallacei</i>			
84.	<i>Aulohalaelurus labiosus</i>			
85.	<i>Aureocrypta lugubris</i>			
86.	<i>Austracantha minax</i>			
87.	47713 <i>Austronomus australis</i> (White-striped Free-tailed Bat)			
88.	24318 <i>Aythya australis</i> (Hardhead)			
89.	<i>Backbourkia heroine</i>			
90.	<i>Badumna insignis</i>			
91.	<i>Ballarra longipalpus</i>			
92.	<i>Barnardius zonarius</i>			
93.	24319 <i>Biziura lobata</i> (Musk Duck)			
94.	24345 <i>Botaurus poiciloptilus</i> (Australasian Bittern)		T	
95.	42380 <i>Brachyurophis fasciolatus</i> subsp. <i>fasciolatus</i> (Narrow-banded Shovel-nosed Snake)			
96.	42381 <i>Brachyurophis semifasciatus</i> (Southern Shovel-nosed Snake)			
97.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
98.	25713 <i>Cacatua galerita</i> (Sulphur-crested Cockatoo)			
99.	25714 <i>Cacatua pastinator</i> (Western Long-billed Corella)			
100.	24724 <i>Cacatua pastinator</i> subsp. <i>pastinator</i> (Muir's Corella, Muir's Corella (Western Corella SW WA))		S	
101.	25715 <i>Cacatua roseicapilla</i> (Galah)			
102.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
103.	24729 <i>Cacatua tenuirostris</i> (Eastern Long-billed Corella)	Y		
104.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
105.	24427 <i>Cacomantis flabelliformis</i> subsp. <i>flabelliformis</i> (Fan-tailed Cuckoo)			
106.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
107.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
108.	24780 <i>Calidris alba</i> (Sanderling)		IA	
109.	25738 <i>Calidris canutus</i> (Red Knot, knot)		IA	
110.	24783 <i>Calidris canutus</i> subsp. <i>rogersi</i> (Red Knot (north-eastern Siberia))		T	
111.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
112.	24786 <i>Calidris melanotos</i> (Pectoral Sandpiper)		IA	
113.	24787 <i>Calidris minuta</i> (Little Stint)			
114.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
115.	<i>Calidris</i> sp.			
116.	24789 <i>Calidris subminuta</i> (Long-toed Stint)		IA	
117.	24790 <i>Calidris tenuirostris</i> (Great Knot)		T	
118.	<i>Callevophthalmus lividus</i>			Y
119.	<i>Callogobius mucosus</i>			
120.	<i>Calotes versicolor</i> subsp. <i>versicolor</i>			Y
121.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			



Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
122.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
123.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
124.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
125.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
126.	<i>Cantherhines</i> sp.			
127.	<i>Carassius auratus</i>			
128.	<i>Carcharhinus leucas</i>			
129.	<i>Carcharhinus obscurus</i>			
130.	<i>Carcharhinus</i> sp.			
131.	34031 <i>Carcharodon carcharias</i> (Great White Shark)		T	
132.	25625 <i>Carduelis carduelis</i> (Goldfinch, European Goldfinch)	Y		
133.	<i>Carduelis chloris</i>			Y
134.	25335 <i>Caretta caretta</i> (Loggerhead Turtle)		T	
135.	<i>Catharacta skua</i>			Y
136.	<i>Cercophonium granulatus</i>			
137.	<i>Cercophonium sulcatus</i>			
138.	<i>Chaetodermis penicilligera</i>			
139.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
140.	24187 <i>Chalinolobus morio</i> (Chocolate Wattled Bat)			
141.	25574 <i>Charadrius dubius</i> (Little Ringed Plover)		IA	
142.	25575 <i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	
143.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
144.	<i>Cheilodactylus gibbosus</i>			
145.	<i>Cheilopogon olgae?</i>			Y
146.	<i>Cheiracanthium nervosum</i>			Y
147.	<i>Chelidonichthys kumu</i>			
148.	43380 <i>Chelodina colliei</i> (South-western Snake-necked Turtle)			
149.	25336 <i>Chelonia mydas</i> (Green Turtle)		T	
150.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
151.	47909 <i>Cheramoeca leucosterna</i> (White-backed Swallow)			
152.	33939 <i>Cherax cainii</i> (Marron)			
153.	<i>Cherax destructor</i>			
154.	<i>Cherax preissii</i>			
155.	<i>Cherax quinquecarinatus</i>			
156.	<i>Cherax</i> sp.			
157.	41332 <i>Chlidonias leucopterus</i> (White-winged Black Tern, white-winged tern)		IA	
158.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
159.	<i>Chroicocephalus novaehollandiae</i>			
160.	25601 <i>Chrysococcyx lucidus</i> (Shining Bronze Cuckoo)			
161.	24432 <i>Chrysococcyx lucidus</i> subsp. <i>plagosus</i> (Shining Bronze Cuckoo)			
162.	24288 <i>Circus approximans</i> (Swamp Harrier)			
163.	24289 <i>Circus assimilis</i> (Spotted Harrier)			
164.	<i>Cirrhimuraena calamus</i>			
165.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
166.	<i>Cleidopus gloriamaris</i>			
167.	<i>Clynotis albobarbatus</i>			
168.	<i>Cnidoglanis macrocephalus</i>			
169.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
170.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
171.	<i>Contusus brevicaudus</i>			
172.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
173.	<i>Cormocephalus aurantipes</i>			
174.	<i>Cormocephalus novaehollandiae</i>			
175.	<i>Cormocephalus rubiceps</i>			
176.	24416 <i>Corvus bennetti</i> (Little Crow)			
177.	25592 <i>Corvus coronoides</i> (Australian Raven)			
178.	24417 <i>Corvus coronoides</i> subsp. <i>perplexus</i> (Australian Raven)			
179.	24419 <i>Corvus splendens</i> (House Crow)			
180.	<i>Corvus splendens</i> subsp. <i>protegatus</i>			
181.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
182.	25701 <i>Coturnix ypsilophora</i> (Brown Quail)			
183.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
184.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
185.	24422 <i>Cracticus tibicen</i> subsp. <i>dorsalis</i> (White-backed Magpie)			
186.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
187.	<i>Craterocephalus mugiloides</i>			
188.	25398 <i>Crinia georgiana</i> (Quacking Frog)			
189.	25399 <i>Crinia glauerti</i> (Clicking Frog)			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
190.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
191.	25401 <i>Crinia pseudinsignifera</i> (Bleating Froglet)			
192.	<i>Cristiceps australis</i>			
193.	<i>Cristiceps</i> sp.			
194.	<i>Crustulina bicrucata</i>			
195.	30893 <i>Cryptoblepharus buehananii</i>			
196.	25020 <i>Cryptoblepharus plagioccephalus</i>			
197.	<i>Cryptoerithus quobba</i>			
198.	30899 <i>Ctenophorus adelaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
199.	25027 <i>Ctenotus australis</i>			
200.	25039 <i>Ctenotus fallens</i>			
201.	25040 <i>Ctenotus gemmula</i> (Jewelled South-west Ctenotus (Swan Coastal Plain subpop P3), skink)			
202.	25047 <i>Ctenotus impar</i>			
203.	25087 <i>Cyclodomorphus celatus</i> (Western Slender Blue-tongue)			
204.	<i>Cyclosa trilobata</i>			
205.	24322 <i>Cygnus atratus</i> (Black Swan)			
206.	24323 <i>Cygnus olor</i> (Mute Swan)	Y		
207.	<i>Cypselurus</i> sp.			
208.	<i>Cyrtophora parnasia</i>			
209.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
210.	<i>Dactylopus dactylopus</i>			
211.	<i>Daphnia carinata</i>			
212.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
213.	24606 <i>Daphoenositta chrysoptera</i> subsp. <i>pileata</i> (Varied Sittella, Black-capped Sittella)			
214.	24687 <i>Daption capense</i> (Cape Petrel)			
215.	24092 <i>Dasyurus geoffroii</i> (Chuditch, Western Quoll)		T	
216.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
217.	24999 <i>Delma grayii</i>			
218.	25468 <i>Demansia psammophis</i> (Yellow-faced Whipsnake)			
219.	25296 <i>Demansia psammophis</i> subsp. <i>reticulata</i> (Yellow-faced Whipsnake)			
220.	24324 <i>Dendrocygna arcuata</i> (Wandering Whistling Duck, Chestnut Whistling Duck)			
221.	<i>Dermatopsis</i> sp.			
222.	25346 <i>Dermochelys coriacea</i> (Leatherback Turtle)		T	
223.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
224.	<i>Dingosa murata</i>			
225.	<i>Dingosa serrata</i>			
226.	<i>Diodon nichthemerus</i>			
227.	30836 <i>Diomedea exulans</i> subsp. <i>exulans</i> (Snowy Albatross)		T	
228.	44654 <i>Diplodactylus lateroides</i> (Speckled Stone Gecko)			
229.	<i>Dipulus caecus</i>			
230.	24470 <i>Dromaius novaehollandiae</i> (Emu)			
231.	<i>Echeneis naucrates</i>			
232.	25096 <i>Egernia kingii</i> (King's Skink)			
233.	25100 <i>Egernia napoleonis</i>			
234.	<i>Egretta garzetta</i>			
235.	<i>Egretta novaehollandiae</i>			
236.	<i>Elanus axillaris</i>			
237.	25540 <i>Elanus caeruleus</i> (Black-shouldered Kite)			
238.	24290 <i>Elanus caeruleus</i> subsp. <i>axillaris</i> (Australian Black-shouldered Kite)			
239.	25250 <i>Elapognathus coronatus</i> (Crowned Snake)			
240.	<i>Elops hawaiiensis</i>			
241.	47937 <i>Elseiyornis melanops</i> (Black-fronted Dotterel)			
242.	<i>Engraulis australis</i>			
243.	<i>Enoplognatha bidens</i>			Y
244.	<i>Enoplosus armatus</i>			
245.	<i>Eodelena convexa</i>			
246.	<i>Eodelena lapidicola</i>			
247.	<i>Eolophus roseicapillus</i>			
248.	<i>Epinephelus</i> sp.			
249.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
250.	<i>Eriophora biapicata</i>			
251.	<i>Ero aphana</i>			
252.	<i>Erythracarus decoris</i>			
253.	24379 <i>Erythrogonys cinctus</i> (Red-kneed Dotterel)			
254.	<i>Ethmostigmus rubripes</i>			
255.	24368 <i>Eurostopodus argus</i> (Spotted Nightjar)			
256.	25591 <i>Eurystomus orientalis</i> (Dollarbird)			
257.	25621 <i>Falco berigora</i> (Brown Falcon)			
258.	24471 <i>Falco berigora</i> subsp. <i>berigora</i> (Brown Falcon)			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
259.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
260.	25623 <i>Falco longipennis</i> (Australian Hobby)			
261.	24474 <i>Falco longipennis</i> subsp. <i>longipennis</i> (Australian Hobby)			
262.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
263.	24475 <i>Falco peregrinus</i> subsp. <i>macropus</i> (Australian Peregrine Falcon)		S	
264.	24189 <i>Falsistrellus mackenziei</i> (Western False Pipistrelle, Western Falsistrelle)		P4	
265.	<i>Favonigobius lateralis</i>			
266.	24041 <i>Felis catus</i> (Cat)	Y		
267.	<i>Filicampus tigris</i>			
268.	<i>Fistularia</i> sp.			
269.	25727 <i>Fulica atra</i> (Eurasian Coot)			
270.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
271.	24688 <i>Fulmarus glacialis</i> (Southern Fulmar)			
272.	30916 <i>Funambulus pennanti</i> (Indian Palm Squirrel)	Y		
273.	<i>Galaxias maculatus</i>			
274.	34028 <i>Galaxias occidentalis</i> (Western Minnow)			
275.	<i>Galeorhinus galeus</i>			
276.	24791 <i>Gallinago hardwickii</i> (Latham's Snipe, Japanese snipe)		IA	
277.	24793 <i>Gallinago stenura</i> (Pin-tailed Snipe)		IA	
278.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
279.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
280.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
281.	24765 <i>Gallirallus philippensis</i> subsp. <i>mellori</i> (Buff-banded Rail)			
282.	<i>Gallus gallus</i>			
283.	42314 <i>Gavicalis virescens</i> (Singing Honeyeater)			
284.	<i>Gea theridioides</i>			
285.	24959 <i>Gehyra variegata</i>			
286.	47954 <i>Gelochelidon nilotica</i> (Gull-billed Tern)		IA	
287.	<i>Geogarypus taylori</i>			
288.	24401 <i>Geopelia cuneata</i> (Diamond Dove)			
289.	<i>Gerres subfasciatus</i>			
290.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
291.	24271 <i>Gerygone fusca</i> subsp. <i>fusca</i> (Western Gerygone)			
292.	<i>Girella zebra</i>			
293.	47962 <i>Glyciphila melanops</i> (Tawny-crowned Honeyeater)			
294.	<i>Gonorynchus greyi</i>			
295.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
296.	<i>Gymnapistes marmoratus</i>			
297.	<i>Gymnothorax woodwardi</i>			
298.	25627 <i>Haematopus fuliginosus</i> (Sooty Oystercatcher)			
299.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
300.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
301.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			
302.	24689 <i>Halobaena caerulea</i> (Blue Petrel)			
303.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
304.	<i>Hemicloea insidiosa</i>			Y
305.	25232 <i>Hemidactylus frenatus</i> (Asian House Gecko)	Y		
306.	25119 <i>Hemiergis quadrilineata</i>			
307.	<i>Henicops dentatus</i>			
308.	24961 <i>Heteronotia binoei</i> (Bynoe's Gecko)			
309.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
310.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
311.	24775 <i>Himantopus himantopus</i> subsp. <i>leucocephalus</i> (Black-winged Stilt)			
312.	<i>Hippocampus elongatus</i>			
313.	<i>Hippocampus</i> sp.			
314.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
315.	<i>Histrio histrio</i>			
316.	<i>Hogna crispipes</i>			
317.	<i>Holconia westralia</i>			
318.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
319.	25366 <i>Hydrophis elegans</i> (Elegant Seasnake, Bar-bellied Seasnake)			
320.	43384 <i>Hydrophis platurus</i> (Yellow-bellied Seasnake)			
321.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
322.	<i>Hyperlophus vittatus</i>			
323.	<i>Hyporhamphus regularis</i>			
324.	<i>Idiommata blackwalli</i>			
325.	<i>Idiosoma hirsutum</i>			
326.	48935 <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)		P3	
327.	<i>Idiotropiscis australe?</i>			
328.	48588 <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
329.	<i>Isopeda leishmanni</i>			
330.	47975 <i>Ixobrychus dubius</i> (Australian Little Bittern)		P4	
331.	<i>Ixodes australiensis</i>			
332.	<i>Kangarosa ludwigi</i>			
333.	<i>Kangarosa properipes</i>			
334.	<i>Lagocephalus sceleratus</i>			
335.	<i>Lampona brevipes</i>			
336.	<i>Lampona cylindrata</i>			
337.	42319 <i>Lanius tigrinus</i> (Tiger Shrike)			Y
338.	25637 <i>Larus novaehollandiae</i> (Silver Gull)			
339.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
340.	25638 <i>Larus pacificus</i> (Pacific Gull)			
341.	<i>Latrodectus hasseltii</i>			
342.	33982 <i>Leioproctus contrarius</i> (a short-tongued bee)		P3	
343.	<i>Lepidoblennius marmoratus</i>			
344.	25128 <i>Lerista christinae</i>			
345.	25131 <i>Lerista distinguenda</i>			
346.	25133 <i>Lerista elegans</i>			
347.	25147 <i>Lerista lineata</i> (Perth Slider, Lined Skink)		P3	
348.	25148 <i>Lerista lineopunctulata</i>			
349.	25165 <i>Lerista praepedita</i>			
350.	<i>Leucauge dromedaria</i>			Y
351.	25005 <i>Lialis burtonis</i>			
352.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
353.	24582 <i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
354.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
355.	30932 <i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
356.	25741 <i>Limosa limosa</i> (Black-tailed Godwit)		IA	
357.	24797 <i>Limosa limosa</i> subsp. <i>melanuroides</i> (Black-tailed Godwit)		IA	
358.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
359.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
360.	25683 <i>Lonchura castaneothorax</i> (Chestnut-breasted Mannikin)			
361.	<i>Longepi woodman</i>			
362.	<i>Lophoictinia isura</i>			
363.	<i>Lycosa gilberta</i>			
364.	<i>Lycosa godeffroyi</i>			
365.	<i>Lycosa lacertosa</i>			
366.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
367.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
368.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
369.	25651 <i>Malurus lamberti</i> (Variegated Fairy-wren)			
370.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
371.	24583 <i>Manorina flavigula</i> (Yellow-throated Miner)			
372.	<i>Maratus pavonis</i>			
373.	<i>Megalaspis cordyla</i>			
374.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
375.	47997 <i>Melanodryas cucullata</i> (Hooded Robin)			
376.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
377.	24587 <i>Melithreptus chloropsis</i> (Western White-naped Honeyeater)			
378.	24736 <i>Melopsittacus undulatus</i> (Budgerigar)			
379.	25184 <i>Menetia greyii</i>			
380.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
381.	<i>Metavelifer multiradiatus</i>			
382.	<i>Meuschenia freycineti</i>			
383.	<i>Microcarbo melanoleucos</i>			
384.	25693 <i>Microeca fascians</i> (Jacky Winter)			
385.	25542 <i>Milvus migrans</i> (Black Kite)			
386.	<i>Missulena granulosa</i>			
387.	<i>Missulena occatoria</i>			
388.	<i>Mituliodon tarantulinus</i>			
389.	<i>Mitoruga insularis</i>			
390.	<i>Molycrisa vokes</i>			
391.	<i>Monacanthus chinensis</i>			
392.	25191 <i>Morethia lineoocellata</i>			
393.	25192 <i>Morethia obscura</i>			
394.	48008 <i>Morus serrator</i> (Australasian Gannet)			
395.	<i>Mugil cephalus</i>			
396.	24223 <i>Mus musculus</i> (House Mouse)	Y		
397.	24042 <i>Mustela putorius</i> (European Polecat, Ferret)	Y		
398.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			

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399.	<i>Myiobatis australis</i>			
400.	25420 <i>Myobatrachus gouldii</i> (Turtle Frog)			
401.	24146 <i>Myrmecobius fasciatus</i> (Numbat, Walpurti)		T	
402.	<i>Nannoperca vittata</i>			
403.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
404.	25249 <i>Neelaps calonotos</i> (Black-striped Snake, black-striped burrowing snake)		P3	
405.	<i>Nematalosa erebi</i>			
406.	<i>Nematalosa vlamminghi</i>			
407.	25426 <i>Neobatrachus pelobatoides</i> (Humming Frog)			
408.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
409.	24739 <i>Neophema petrophila</i> (Rock Parrot)			
410.	24210 <i>Neophoca cinerea</i> (Australian Sea-lion)		T	
411.	<i>Nephila edulis</i>			
412.	<i>Nicodamus mainae</i>			
413.	25747 <i>Ninox connivens</i> (Barking Owl)			
414.	48024 <i>Notamacropus eugenii</i> subsp. <i>derbianus</i> (Tammar Wallaby, Tammar)		P4	
415.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
416.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
417.	<i>Notiasemus glauerti</i>			
418.	<i>Novakiella trituberculosa</i>			
419.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
420.	25742 <i>Numenius phaeopus</i> (Whimbrel)		IA	
421.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
422.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
423.	24742 <i>Nymphicus hollandicus</i> (Cockatiel)			
424.	<i>Ocrisiona leucocomis</i>			
425.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
426.	<i>Odax cyanomelas</i>			
427.	<i>Oecobius navus</i>			
428.	<i>Ommatoiulus moreleti</i>			
429.	<i>Ommatoiulus moreletii</i>			
430.	<i>Ophisurus serpens</i>			
431.	<i>Orectolobus ornatus</i>			
432.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
433.	48040 <i>Otus sunia</i> (Oriental Scops Owl)			Y
434.	<i>Oxidus gracilis</i>			
435.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
436.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
437.	24624 <i>Pachycephala rufiventris</i> subsp. <i>rufiventris</i> (Rufous Whistler)			
438.	24692 <i>Pachyptila belcheri</i> (Slender-billed Prion)			
439.	24693 <i>Pachyptila desolata</i> (Antarctic Prion)			
440.	25707 <i>Pachyptila salvini</i> (Salvin's Prion)			
441.	24696 <i>Pachyptila turtur</i> (Fairy Prion)			
442.	24697 <i>Pachyptila vittata</i> (Broad-billed Prion)			
443.	<i>Pagrus auratus</i>			
444.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
445.	<i>Papillogobius punctatus</i>			
446.	<i>Parablennius postocolomaculatus</i>			
447.	<i>Parablennius tasmanianus</i>			
448.	<i>Paralamyctes cammoensis</i>			Y
449.	25253 <i>Parasuta gouldii</i>			
450.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
451.	24625 <i>Pardalotus punctatus</i> subsp. <i>punctatus</i> (Spotted Pardalote)			
452.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
453.	<i>Parequula melbournensis</i>			
454.	<i>Parma mccullochi</i>			
455.	25687 <i>Passer domesticus</i> (House Sparrow)	Y		
456.	24642 <i>Passer montanus</i> (Eurasian Tree Sparrow)	Y		
457.	<i>Pediana occidentalis</i>			
458.	<i>Pegasus volitans</i>			
459.	<i>Pelates sexlineatus</i>			
460.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
461.	<i>Pelsartia humeralis</i>			
462.	<i>Pemptheris</i> sp.			
463.	48060 <i>Petrochelidon ariel</i> (Fairy Martin)			
464.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
465.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
466.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
467.	24663 <i>Phaethon rubricauda</i> (Red-tailed Tropicbird)		P4	
468.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			

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469.	24665 <i>Phalacrocorax fuscescens</i> (Black-faced Cormorant)			
470.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
471.	24666 <i>Phalacrocorax melanoleucos</i> subsp. <i>melanoleucos</i> (Little Pied Cormorant)			
472.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
473.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
474.	24668 <i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
475.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
476.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
477.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
478.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
479.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
480.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
481.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
482.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
483.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
484.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
485.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
486.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
487.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
488.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
489.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
490.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
491.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
492.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
493.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
494.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
495.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
496.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
497.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
498.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
499.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
500.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
501.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
502.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
503.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
504.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
505.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
506.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
507.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
508.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
509.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
510.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
511.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
512.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
513.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
514.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
515.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
516.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
517.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
518.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
519.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
520.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
521.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
522.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
523.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
524.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
525.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
526.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
527.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
528.	<i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			
529.	48085 <i>Psittacula krameri</i> (Indian Ringnecked Parrot, Rose-ringed Parakeet)	Y		
530.	24702 <i>Pterodroma brevirostris</i> (Kerguelen Petrel)			
531.	24703 <i>Pterodroma lessonii</i> (White-headed Petrel)			
532.	25710 <i>Pterodroma macroptera</i> (Great-winged Petrel)			
533.	25711 <i>Pterodroma mollis</i> (Soft-plumaged Petrel)			
534.	<i>Pterodroma mollis</i> (Soft-plumaged Petrel)			
535.	24711 <i>Puffinus assimilis</i> subsp. <i>assimilis</i> (Little Shearwater)			
536.	42344 <i>Purnella albifrons</i> (White-fronted Honeyeater)			
537.	<i>Purpureicephalus spurius</i>			
538.	25008 <i>Pygopus lepidopodus</i> (Common Scaly Foot)			

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539.	<i>Rachycentron canadum</i>			
540.	24243 <i>Rattus fuscipes</i> (Western Bush Rat)			
541.	24244 <i>Rattus norvegicus</i> (Brown Rat)	Y		
542.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
543.	<i>Raveniella arenacea</i>			
544.	<i>Raveniella cirrata</i>			
545.	<i>Raveniella peckorum</i>			
546.	<i>Raveniella subcirrata</i>			
547.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
548.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
549.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
550.	24454 <i>Rhipidura leucophrys</i> subsp. <i>leucophrys</i> (Willie Wagtail)			
551.	<i>Rhychercus gloveri</i>			
552.	48237 <i>Rostratula australis</i> (Australian Painted Snipe)		T	
553.	<i>Sardinella lemuru?</i>			
554.	<i>Saurida undosquamis</i>			
555.	<i>Scolopendra laeta</i>			
556.	<i>Scomberoides lysan</i>			
557.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
558.	<i>Seriola hippos</i>			
559.	<i>Servaea melaina</i>			
560.	<i>Servaea spinibarbis</i>			
561.	24145 <i>Setonix brachyurus</i> (Quokka)		T	
562.	<i>Sillago bassensis</i>			
563.	<i>Sillago burrus</i>			
564.	<i>Simaetha tenuior</i>			
565.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
566.	<i>Siphonognathus argyrophanes</i>			
567.	<i>Smeringopus natalensis</i>			
568.	30948 <i>Smicromis brevirostris</i> (Weebill)			
569.	<i>Solaenodolichopus pruvoti</i>			
570.	<i>Solegnathus lettiensis</i>			
571.	<i>Sphyrna zygaena</i>			
572.	<i>Spratelloides robustus</i>			
573.	<i>Steatoda capensis</i>			
574.	24517 <i>Stercorarius parasiticus</i> (Arctic jaeger, Arctic Skua)		IA	
575.	24522 <i>Sterna bergii</i> (Crested Tern)			
576.	24525 <i>Sterna fuscata</i> subsp. <i>nubilosa</i> (Sooty Tern)			
577.	24526 <i>Sterna hirundo</i> subsp. <i>hirundo</i> (Common Tern)		IA	Y
578.	24528 <i>Sterna hybrida</i> subsp. <i>javanica</i> (Whiskered Tern)			
579.	48594 <i>Sternula nereis</i> (Fairy Tern)			
580.	48595 <i>Sternula nereis</i> subsp. <i>nereis</i> (Fairy Tern)		T	
581.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			
582.	<i>Stigmatopora argus</i>			
583.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
584.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
585.	30951 <i>Streptopelia chinensis</i> subsp. <i>tigrina</i> (Spotted Turtle-Dove)	Y		
586.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
587.	30950 <i>Streptopelia senegalensis</i> subsp. <i>senegalensis</i> (Laughing Turtle-Dove)	Y		
588.	<i>Strongylura leiura</i>			
589.	25518 <i>Strophurus spinigerus</i>			
590.	24942 <i>Strophurus spinigerus</i> subsp. <i>spinigerus</i>			
591.	24946 <i>Strophurus strophurus</i>			
592.	<i>Supunna funerea</i>			
593.	<i>Supunna picta</i>			
594.	24259 <i>Sus scrofa</i> (Pig)	Y		
595.	<i>Sutorectus tentaculatus</i>			
596.	33992 <i>Synemon gratiosa</i> (Graceful Sunmoth)		P4	
597.	<i>Synothele michaelseni</i>			
598.	<i>Synothele rastelloides</i>			
599.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
600.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
601.	24207 <i>Tachyglossus aculeatus</i> (Short-beaked Echidna)			
602.	25552 <i>Tadorna radjah</i> (Radjah Shelduck)			
603.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
604.	<i>Tamopsis darlingtoniana</i>			
605.	<i>Tamopsis perthensis</i>			
606.	<i>Tandanus bostocki</i>			
607.	24167 <i>Tarsipes rostratus</i> (Honey Possum, Noolbenger)			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
608.	<i>Tasmanicosa leuckartii</i>			
609.	<i>Terapon</i> sp.			
610.	<i>Tetragnatha demissa</i>			
611.	<i>Tetragnatha nitens</i>			
612.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
613.	48135 <i>Thinornis rubricollis</i> (Hooded Plover, Hooded Dotterel)		P4	
614.	48136 <i>Threskiornis moluccus</i> (Australian White Ibis)			
615.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
616.	33994 <i>Throscodectes xiphos</i> (Stylet Bush Cricket, Stylet Throsco (Jandakot))		P1	Y
617.	25203 <i>Tiliqua occipitalis</i> (Western Bluetongue)			
618.	25519 <i>Tiliqua rugosa</i>			
619.	25204 <i>Tiliqua rugosa</i> subsp. <i>aspera</i>			
620.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
621.	<i>Tinytrema yarra</i>			
622.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
623.	24309 <i>Todiramphus sanctus</i> subsp. <i>sanctus</i> (Sacred Kingfisher)			
624.	<i>Torquigener pleurogramma</i>			
625.	<i>Trachinocephalus myops</i>			
626.	48141 <i>Tribonyx ventralis</i> (Black-tailed Native-hen)			
627.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
628.	24755 <i>Trichoglossus haematodus</i> subsp. <i>moluccanus</i> (Rainbow Lorikeet)	Y		
629.	24754 <i>Trichoglossus haematodus</i> subsp. <i>rubritorquis</i> (Red-collared Lorikeet)			
630.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
631.	24158 <i>Trichosurus vulpecula</i> subsp. <i>vulpecula</i> (Common Brushtail Possum)			
632.	<i>Tridentiger trigonocephalus</i>			
633.	24803 <i>Tringa brevipes</i> (Grey-tailed Tattler)		P4	
634.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
635.	30848 <i>Tringa guttifer</i> (Nordmann's Greenshank)			
636.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
637.	24809 <i>Tringa stagnatilis</i> (Marsh Sandpiper, little greenshank)		IA	
638.	<i>Trygonorrhina fasciata</i>			
639.	48147 <i>Turnix varius</i> (Painted Button-quail)			
640.	24851 <i>Turnix velox</i> (Little Button-quail)			
641.	30954 <i>Tursiops aduncus</i> (Indo-Pacific Bottlenose Dolphin)			
642.	24069 <i>Tursiops truncatus</i> (Bottlenose Dolphin)			
643.	24852 <i>Tyto alba</i> subsp. <i>delicatula</i> (Barn Owl)			
644.	24855 <i>Tyto novaehollandiae</i> subsp. <i>novaehollandiae</i> (Masked Owl (southwest))		P3	
645.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			
646.	<i>Upeneus tragula</i>			
647.	<i>Urocampus carinirostris</i>			
648.	<i>Urodacus novaehollandiae</i>			
649.	25577 <i>Vanellus miles</i> (Masked Lapwing)			
650.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
651.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
652.	<i>Venator immansueta</i>			
653.	<i>Venatrix pullastra</i>			
654.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
655.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		
656.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
657.	<i>Westrarchaea sinuosa</i>			
658.	41351 <i>Xenus cinereus</i> (Terek Sandpiper)		IA	
659.	<i>Zachria flavicoma</i>			
660.	<i>Zebraplatys fractivittata</i>			
661.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			

**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 C

Conservation Significant Species and Likelihood of Occurrence  
Assessment





Table D1: Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green.

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<i>Anous stolidus</i>	Common noddy	MI	MI	Tropical and subtropical seas, cayes, reefs, buoys and piles (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Anous tenuirostris melanops</i>	Australian lesser noddy	EN	VU	Very common in blue-water seas around the Abrolhos (endemic to this area, accidental occurrences on lower west coast of Australia) (Johnstone and Storr 1998).	<b>Unlikely:</b> No habitat present.
<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).	<b>Possible:</b> May opportunistically occur in or fly over the site on commute or while searching for prey.
<i>Ardenna carneipes</i>	Flesh-footed shearwater	VU (MI)	MI	Marine species that breeds on islands off south coast from near Cape Leeuwin (Johnstone and Storr 1998).	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<i>Botaurus poiciloptilus</i>	Australasian bittern	EN	EN	In or over water, in tall reedbeds, sedges, rushes, cumbungi, lignum. Also occurs in ricefields, drains in tussocky paddocks and occasionally in saltmarshes and brackish wetlands (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Cacatua pastinator pastinator</i>	Muir's corella	S	-	Wheat and sheep farming country with remnant native forest (Pizzey and Knight 2012).	<b>Unlikely:</b> Locally extinct.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<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 and Knight 2012).	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<i>Calidris canutus</i>	Red knot	VU (MI)	CR (MI)	Mud and sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Calidris canutus rogersi</i>	-	VU (MI)	EN (MI)	Mud and sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Pizzey and Knight 2012)..	<b>Unlikely:</b> No habitat present.
<i>Calidris ferruginea</i>	Curlew sandpiper	VU (MI)	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 (Pizzey and Knight 2012)..	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<i>Calidris ruficollis</i>	Red-necked stint	MI	MI	Tidal mudflats, saltmarshes, sandy or shelly beaches, saline and freshwater wetlands (coastal and inland), saltfields, sewage ponds (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<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 (Pizzey and Knight 2012)..	<b>Unlikely:</b> No habitat present.
<i>Calidris tenuirostris</i>	Great knot	VU (MI)	CR (MI)	Mud or sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.
<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 azdarach and Eucalyptus spp. trees (Johnstone and Storr 1998)..	<b>Likely:</b> Foraging habitat present.
<i>Calyptorhynchus baudinii</i>	Baudin's cockatoo	EN	EN	Mainly eucalypt forests. Attracted to seeding Corymbia calophylla, Banksia spp., Hakea spp., and to fruiting apples and pears (Johnstone and Storr 1998).	<b>Possible:</b> Species prefers dense eucalypt forests and does not usually occur in the Perth metropolitan area. However, it may occasionally fly over the site or forage opportunistically.
<i>Calyptorhynchus latirostris</i>	Carnaby's cockatoo	EN	EN	Mainly proteaceous scrubs and heaths and adjacent eucalypt woodlands and forests; also plantations of Pinus spp. Attracted to seeding Banksia spp., Dryandra spp., Hakea spp., Eucalyptus spp., Corymbia calophylla, Grevillea spp., and Allocasuarina spp. (Johnstone and Storr 1998).	<b>Likely:</b> Foraging habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<i>Charadrius bicinctus</i>	Double-banded plover	MI	MI	Wide beaches, tidal mudflats, saltmarsh, wide and sparsely vegetated margins of shallow saline and freshwater wetlands, paddocks with sparse vegetation, ploughed fields, airfields (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<i>Charadrius dubius</i>	Little ringed plover	MI	MI	Open, muddy or sandy shores of lakes, swamps, tidal areas, sewage ponds or farm dams. Rare but regular summer migrant to Australia (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Charadrius leschenaultii</i>	Great sand plover	VU (MI)	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).	<b>Unlikely:</b> No habitat present.
<i>Charadrius mongolus</i>	Lesser sand plover	EN (MI)	EN (MI)	Sandy beaches and tidal estuarine flats. Also near-coastal salt lakes, including saltwork ponds (Johnstone & Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Chlidonias leucopterus</i>	White-winged black tern	MI	MI	Vegetated and open wetlands, brackish and saline lakes, saltfields, irrigated lands, sewage ponds and occasionally offshore (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Diomedea exulans exulans</i>	Wandering albatross	VU (MI)	VU (MI)	Marine, pelagic and aerial species. It breeds on Macquarie Island and feeds in Australian portions of the Southern Ocean.	<b>Unlikely:</b> No habitat present.
<i>Diomedea amsterdamensis</i>	Amsterdam albatross	VU (MI)	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)	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<i>Diomedea dabbenena</i>	Tristan albatross	VU (MI)	EN (MI)	The Tristan albatross is a marine, pelagic seabird. It forages in open water in the Atlantic Ocean near the Cape of Good Hope, South Africa. It sleeps and rests on ocean waters when not breeding (Marchant and Higgins 1990).	<b>Unlikely:</b> No habitat present.
<i>Diomedea epomophora</i>	Southern royal albatross	VU (MI)	VU (MI)	Rare visitor to Western Australian seas; it breeds on subantarctic islands south of New Zealand (Johnstone and Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Diomedea exulans exulans</i>	Snowy albatross	VU (MI)	VU (MI)	Regular visitor to open ocean and slope waters (mostly March-October) and less commonly over shelf. Nests at high latitude in the southern Indian and southern Atlantic Oceans (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<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.	<b>Unlikely:</b> No habitat present.
<i>Falco peregrinus macropus</i>	Australian peregrine falcon	S	-	Mainly about cliffs along coasts, rivers and ranges and about wooded watercourses and lakes (Johnstone and Storr 1998).	<b>Unlikely:</b> May fly over on commute.
<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)..	<b>Unlikely:</b> No habitat present.
<i>Gallinago megala</i>	Swinhoe's snipe	MI	MI	Wet, grassy ground; edges of reedy swamps (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<i>Gallinago stenura</i>	Pin-tailed snipe	MI	MI	Boggy edges of vegetated wetlands; sewage and other ponds; stubbles, grasslands with shrubs, pastures (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.
<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 Typha spp., Baumea spp. and tall rushes in freshwater swamps around lakes and along rivers (Johnstone and Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Leipoa ocellata</i>	Mallefowl	VU	VU	Scrubs and thickets of Eucalyptus spp., Melaleuca lanceolata and Acacia linophylla; also other dense litter-forming shrublands. Attracted to fallen wheat in stubbles and along roads (Johnstone and Storr 1998).	<b>Unlikely:</b> Locally extinct.
<i>Limosa lapponica</i>	Bar-tailed godwit	VU (MI)	MI	Estuarine sand and mudflats and sandy beaches with loads of seaweed; also reef flats and near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Limosa lapponica baueri</i>	-	VU	VU	Estuarine sand and mudflats and sandy beaches with loads of seaweed; also reef flats and near-coastal saltlakes (including saltwork ponds) (Johnstone and Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Limosa lapponica menzibieri</i>	-	CR	CR	Mainly coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. Has also been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats (Higgins and Davies 1996).	<b>Unlikely:</b> No habitat present.



Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<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).	<b>Unlikely:</b> No habitat present.
<i>Limosa limosa melanuroides</i>	-	MI	MI	Tidal mudflats, estuaries, sandpits, shallow river margins, sewage ponds and in inland areas on large, shallow fresh or brackish waters (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<i>Motacilla cinerea</i>	Grey wagtail	MI	MI	Mainly banks and rocks in fast-running fresh water habitats: rivers, creeks, streams and around waterfalls, both in forest and open country; but occurs almost anywhere during migration.	<b>Unlikely:</b> More common in wetter habitats near water courses. If occurring near the site than likely associated with nearby lakes.
<i>Numenius madagascariensis</i>	Eastern curlew	VU (MI)	CR (MI)	Mainly tidal mudflats; also reef flats, sandy beaches and rarely near-coastal lakes (including saltwork ponds) (Johnstone and Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Numenius minutus</i>	Little curlew	MI	MI	Dry grasslands, floodplains, margins of drying swamps; tidal mudflats, airfields, playing fields, crops, commercial saltfields, sewage ponds (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<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).	<b>Unlikely:</b> No habitat present.
<i>Onychoprion anaethetus</i>	Bridled tern	MI	MI	Tropical and subtropical seas, offshore islands, rarely coasts (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<i>Pachyptila turtur subantartica</i>	Fairy prion	-	VU	Breeds on subantarctic islands and is presumed to frequent subtropical waters during non-breeding period (TSSC 2015).	<b>Unlikely:</b> No habitat present.
<i>Pandion haliaetus</i>	Osprey	MI	MI	Moderately to very common in sheltered seas around north and west-coast islands south to 31°S; uncommon to common on mainland coasts, estuaries and larger rivers north of tropic; rare to uncommon elsewhere (Johnstone and Storr 1998a)..	<b>Unlikely:</b> No habitat present.
<i>Phaethon rubricauda</i>	Red-tailed tropicbird	P4 (MI)	MI	Spend most of their lives at sea and rarely venture near land. This bird is normally found in tropical and subtropical seas around northern Australia. Though rarely seen in colder areas, a few pairs breed on Sugarloaf Rock, south of Cape Naturaliste .	<b>Unlikely:</b> No habitat present.
<i>Phalaropus lobatus</i>	Red-necked phalarope	MI	MI	Shallow pools in commercial saltfields, tidal mudflats, beaches, saltmarshes, freshwater wetlands (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<i>Philomachus pugnax</i>	Ruff	MI	MI	Fresh, brackish and saline wetlands; tidal mudflats, saltfields, sewage ponds (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<i>Plegadis falcinellus</i>	Glossy Ibis	MI	MI	Shallow and adjacent flats of freshwater lakes and swamps, also river pools, flooded samphire and sewage ponds (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<i>Pluvialis squatarola</i>	Grey Plover	MI	MI	Mudflats, saltmarsh, tidal reefs and estuaries, rarely inland (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.
<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 1990).	<b>Unlikely:</b> No habitat present.
<i>Stercorarius parasiticus</i>	Arctic skua	MI	MI	Offshore waters, bays and harbours, seldom ashore. Also follows ships (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<i>Sterna 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 (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<i>Sterna 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 (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<i>Sterna dougallii</i>	Roseate tern	MI	MI	Offshore waters, islands, coral reefs, sand cays, beaches, tidal inlets (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Sterna hirundo hirundo</i>	-	MI	MI	Offshore waters, beaches, reefs, bays, estuaries, sandflats, saltfields, sewage ponds, freshwater wetlands (Pizzey & Knight 2012)..	<b>Unlikely:</b> No habitat present.
<i>Sterna nilotica</i>	Gull-billed tern	MI	MI	Beaches, mudflats; fresh, brackish wetlands, including far inland; grasslands, crops, ploughed fields, airfields (Pizzey & Knight 2012).	<b>Unlikely:</b> No habitat present.
<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).	<b>Unlikely:</b> No habitat present.
<i>Thalassarche melanophris impavida</i>	Campbell albatross	VU (MI)	VU (MI)	Scarce visitor to south western and western seas. Breeds on Campbell island (Johnstone and Storr 1998)..	<b>Unlikely:</b> No habitat present.
<i>Thalassarche cauta cauta</i>	Shy albatross	VU (MI)	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).	<b>Unlikely:</b> No habitat present.
<i>Thalassarche cauta steadi</i>	White-capped albatross	VU (MI)	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).	<b>Unlikely:</b> No habitat present.
<i>Thalassarche melanophris</i>	Black-browed albatross	EN (MI)	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).	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<i>Thinornis rubricollis</i>	Hooded plover	P4	-	Margins and shallows of saltlakes, sandy and seaweedy beaches and estuaries; also dams (Johnstone & Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Tringa brevipes</i>	Grey-tailed tattler	P4	-	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).	<b>Unlikely:</b> No habitat present.
<i>Tringa cinerea</i>	Terek sandpiper	MI	MI	Tidal mudflats, estuaries, shores and reefs of islands, coastal swamps and commercial saltfields (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.
<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 and Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Tringa 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 and Storr 1998).	<b>Unlikely:</b> No habitat present.
<i>Tringa nebularia</i>	Common greenshank	MI	MI	Shallow fresh waters (claypans, lagoons, swamps, river pools, dams and sewage ponds) and salt waters (estuaries, mangrove creeks, lakes, samphire flats, reef flats and saltwork ponds) (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Aves</b>					
<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 (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.
<i>Tyto novaehollandiae novaehollandiae</i>	Australian masked owl	P3	-	Forests, open woodlands, farmlands with large trees. E.g. river red gums, adjacent cleared country, timbered watercourses, paperbark woodlands and caves (Pizzey and Knight 2012).	<b>Unlikely:</b> No habitat present.
<b>Mammalia</b>					
<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 road sides in the wheatbelt. Now mainly limited to <i>Eucalyptus marginata</i> forests in the south-west of Western Australia (DEC 2012a).	<b>Unlikely:</b> Species locally extinct.
<i>Falsistrellus mackenziei</i>	Western false pipistrelle	P4	-	High rainfall forests dominated by jarrah, karri, marri, and tuart. Roosts and breeds in hollow old trees, branches and stumps (Van Dyck and Strahan 2008). Also known to utilise Banksia woodland on the Swan Coastal Plain (Hosken and O'Shea 1995).	<b>Unlikely:</b> Minor foraging habitat present but no hollow trees for roosting or breeding. No recent records reported near the site.
<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. 1985).	<b>Unlikely:</b> No habitat present.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Mammalia</b>					
<i>Isoodon fusciventer</i>	Quenda	P4	-	Dense scrubby, often swampy, vegetation with dense cover up to one metre high (DEC 2012b).	<b>Possible:</b> Some parts of the site provide adequate ground cover for this species but very limited in extent.
<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 and Strahan 2008).	<b>Unlikely:</b> Species locally extinct.
<i>Notamacropus eugenii derbianus</i>	Tammar wallaby	P4	-	Dry sclerophyll forest, Banksia spp. woodlands and shrublands, typically favouring dense low vegetation that provides dense cover (Christensen and Strahan 1983).	<b>Unlikely:</b> Minor habitat present but very limited in extent and likely too small to support this species.
<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 1984).	<b>Unlikely:</b> Minor habitat present but very limited in extent and likely too small to support this species.
<i>Pseudocheirus occidentalis</i>	Western ringtail possum	CR	VU	On the Swan Coastal Plain in Agonis flexuosa woodlands and Agonis flexuosa/ Eucalyptus gomphocephala forests. Also Eucalyptus marginata forests (DBCA 2017).	<b>Unlikely:</b> Species locally extinct and no suitable habitat present.
<i>Setonix brachyurus</i>	Quokka	VU	VU	On the mainland mostly dense streamside vegetation or shrubland and heath areas, particularly around swamps (Cronin 2007).	<b>Unlikely:</b> Species locally extinct.

Table D1 (continued): Summary of conservation significant fauna species known or likely to occur within 10 km of the site. Species that are likely to occur within the site are shaded in green

Species	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<b>Reptilia</b>					
<i>Lerista lineata</i>	Perth slider	P3	-	Sandy coastal heath and low scrubland. Banksia spp. woodland, Eucalyptus gomphocephala open woodland over deep sands, and coastal dunes immediately adjacent to the beach (Wilson and Swan 2008).	<b>Possible:</b> May utilise the remnant banksia woodland vegetation and sandy soils within the site.
<i>Neelaps calonotos</i>	Black-striped snake	P3	-	Coastal and near-coastal dunes, sandplains supporting heathlands and Banksia spp. woodlands (Bush <i>et al.</i> 2002).	<b>Possible:</b> May utilise the remnant banksia woodland vegetation.
<b>Invertebrates</b>					
<i>Idiosoma sigillatum</i>	Swan Coastal Plain shield-backed trapdoor spider	P3	-	Unknown.	Not assessed
<i>Leioproctus contrarius</i>	a short-tongued bee	P3	-	Life history and habits are poorly documented/ unknown. It has been recorded only on flowers of Goodeniaceae and possibly Lechenaultia stenosepala (Bamford 2003).	Not assessed
<i>Synemon gratiosa</i>	Graceful sunmoth	P4	-	Coastal heathland on Quindalup dunes where it is restricted to secondary sand dunes due to the abundance of the preferred host plant Lomandra maritima. Banksia woodland on Spearwood and Bassendean dunes, where the second known host plant L. hermaphrodita is widespread (DEC 2011).	<b>Possible:</b> Host plant present.
<i>Throscodectes xiphos</i>	Stylet bush cricket	P1	-	Unknown.	Not assessed
<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. Salinity tolerance quite low (Morgan <i>et al.</i> 2011).	<b>Unlikely:</b> No habitat present.



## Table D1 references

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# Appendix D

Species List





## Flora Species List - Lot 1001 Murdoch Drive Murdoch

Note: T= threatened fauna species, \* denotes introduced fauna species, DP=declared pest under the BAM Act

Class	Status	Species	Common name	Record type	Record location
<b>Aves</b>					
		<i>Acanthiza inornata</i>	Western thornbill	Sight	Enire site
		<i>Anthochaera carunculata</i>	Red wattle bird	Sight	Enire site
		<i>Cacatua sanguinea</i>	Little corella	Sight	Flying over the site
					Open woodland <i>Corymbia calophylla</i> and <i>Eucalyptus marginata</i>
	T	<i>Calyptorhynchus banksii naso</i>	Forest red-tailed black cockatoo	Foraging evidence	Open woodland <i>Corymbia calophylla</i> and <i>Eucalyptus marginata</i>
	T	<i>Calyptorhynchus latirostris</i>	Carnaby's black cockatoo	Foraging evidence	<i>marginata</i>
		<i>Corvus coronoides</i>	Australian raven	Sight	Enire site
		<i>Ocyphaps lophotes</i>	Crested pigeon	Sight	Banksia woodland
		<i>Petrochelidon nigricans</i>	Tree martin	Sight	Enire site
		<i>Phylidonyris novaehollandiae</i>	New Holland honeyeater	Sight	Enire site
		<i>Phylidonyris niger</i>	White-cheeked honeyeater	Sight	Enire site
		<i>Rhipidura leucophrys</i>	Willie wagtail	Sight	Enire site
	DP	<i>Trichoglossus moluccanus</i>	Rainbow lorikeet	Sight	Enire site
<b>Mammalia</b>					
	DP	<i>Oryctolagus cuniculus</i>	Rabbit	Scat	Entire site



# Appendix E

Black Cockatoo Potential Habitat Tree Data







Potential Habitat Tree Inventory - Lot 105 Murdoch Drive, Murdoch

Tag No.	Easting	Northing	DBH (cm)	Species	Photo No.	Height (m)	Hollows present?	Notes
468	390807.304	6450193.56	74	<i>Eucalyptus marginata</i>	74	14	No	
469	390789.895	6450210.08	56	<i>Corymbia calophylla</i>	78	15	No	
470	390790.149	6450212.98	54	<i>Corymbia calophylla</i>	79	15	No	
471	390787.518	6450219.25	85	<i>Corymbia calophylla</i>	80	15	No	
472	390793.123	6450224.85	84	<i>Corymbia calophylla</i>	81	15	No	
473	390788.096	6450236.23	73	<i>Corymbia calophylla</i>	82	17	No	Bees present on main trunk approx 2 m above ground.
476	390810.916	6450327.5	57	<i>Eucalyptus gomphocephala</i>	104	10	No	
477	390845.589	6450314.01	61	<i>Eucalyptus marginata</i>	115	10	No	Foraging evidence present.
494	390795.862	6450270.46	59	<i>Eucalyptus camaldulensis</i>	97	15	No	
495	390799.697	6450193.24	100	<i>Eucalyptus marginata</i>	73	15	No	