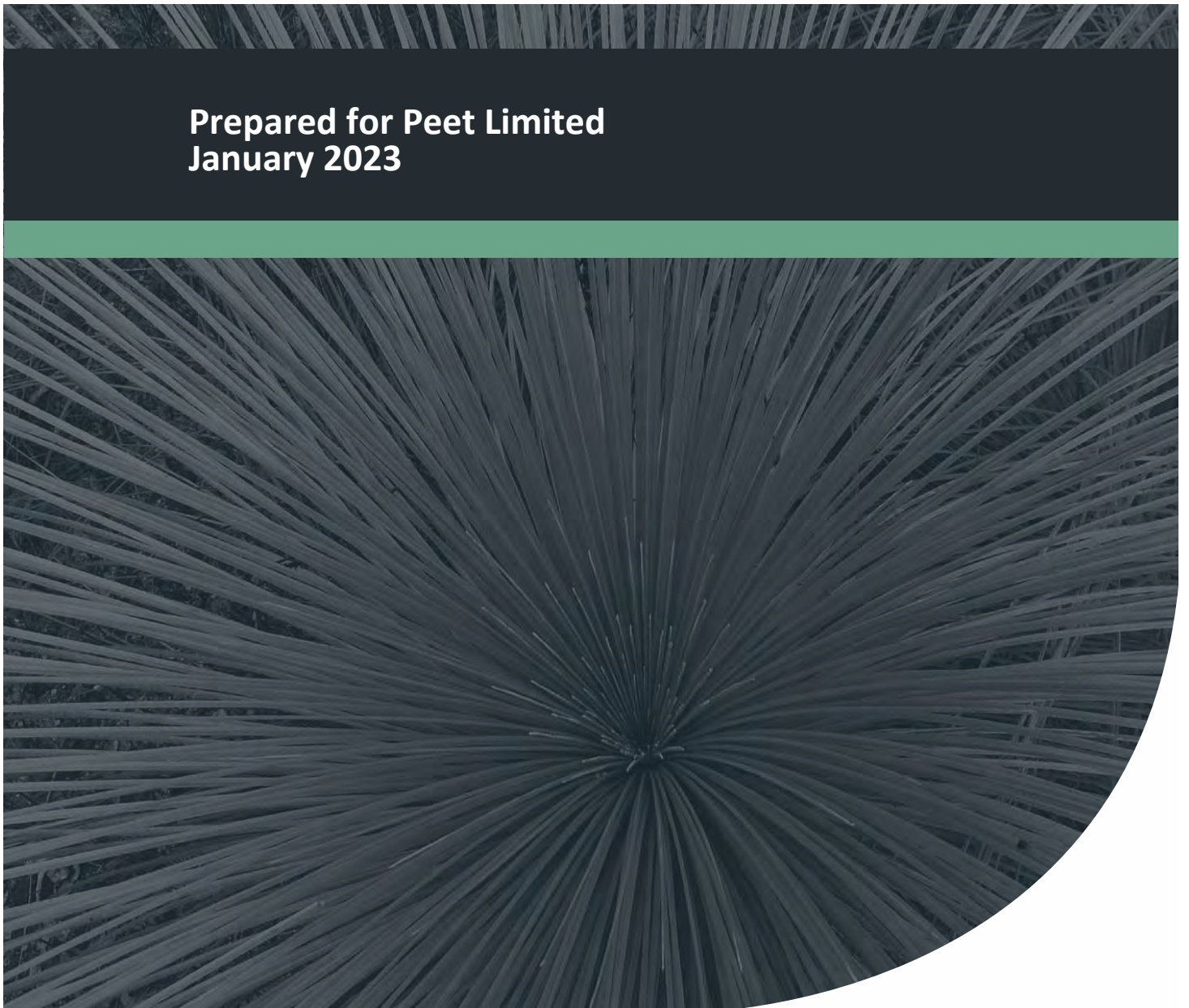


Basic Fauna and Targeted Black Cockatoo Assessment

Lot 822 Youle-Dean Road, Brabham

Project No: EP17-131(28)

**Prepared for Peet Limited
January 2023**



Basic Fauna and Targeted Black Cockatoo Assessment

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Basic Fauna and Targeted Black Cockatoo Assessment

Lot 822 Youle-Dean Road, Brabham



Executive Summary

Peet Limited engaged Emerge Associates to conduct a basic fauna and a targeted black cockatoo assessment to provide information on the fauna and black cockatoo values within Lot 822 Youle-Dean Road in Brabham (referred to herein as the 'site').

As part of the assessment a desktop review of relevant background information was completed, and a field survey was undertaken on 27 October 2021, 22 November 2021 and 10, 13 and 14 January 2022. During the field survey opportunistic sightings of fauna were recorded and an assessment was made on the fauna habitat within the site and its suitability to provide habitat for conservation significant fauna. A targeted black cockatoo survey was also undertaken to determine the presence of habitat for threatened black cockatoo species.

Outcomes of the basic fauna survey include the following:

- The highest fauna habitat values are associated with the **woodland** habitat which occurs over 23.97% of the site. Remaining vegetation within the site supports a range of forest, open woodland and shrubland habitats which provide limited value to fauna species of conservation significance and is likely to primarily be used by common and widespread native and non-native fauna with non-specific habitat requirements. The remainder of the site comprises cleared areas (28.67%).
- A total of 27 native fauna species were recorded within the site, including two species of conservation significance, Carnaby's black cockatoo (listed as endangered) and forest red-tailed black cockatoo (listed as vulnerable).
- While not recorded during the field survey, Baudin's black cockatoo (listed as endangered) is likely to occur in the site. Seven other species of conservation significance not recorded during the field survey may possibly occur in the site; Pacific swift, peregrine falcon, quenda, black-striped snake, Swan Coastal Plain shield backed trapdoor spider, graceful sunmoth and Douglas's broad headed bee.

Outcomes of the targeted black cockatoo survey include the following:

- The site occurs within the modelled distribution of Carnaby's black cockatoo, forest red-tailed black cockatoo and Baudin's black cockatoo. Carnaby's black cockatoo and Forest red-tailed black cockatoo were recorded in the site during the field survey and Baudin's black cockatoo is likely to occur.
- The site contains 283 habitat trees of which none contain hollows suitable for use by black cockatoos for breeding. Therefore, the site does currently not provide suitable breeding habitat for black cockatoos.
- No roosts or evidence of roosting by any species of black cockatoo was recorded within the site during the field survey. Tall native and non-native trees within the site represent suitable roosting habitat for species of black cockatoo.
- A total of 28.73 ha of foraging habitat for Carnaby's black cockatoo was mapped within the site of which 28.7 ha (99.9%) comes from native vegetation and 0.03 ha (0.1%) comes from non-native vegetation.
- A total of 28.67 ha of foraging habitat for Baudin's black cockatoo was mapped in the site of which all comes from native vegetation.

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- A total of 18.72 ha of foraging habitat for forest red-tailed black cockatoo was mapped in the site of which 18.65 ha (99.63%) comes from native vegetation and 0.07 ha (0.37%) comes from non-native vegetation.
- Additional areas of foraging habitat of similar or higher value occur adjacent to the site and in the wider local area.
- A total of 33.33 ha of black cockatoo habitat occurs in the site.

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Abbreviation Tables

Table A1: Abbreviations – Organisations

Organisations	
EPA	Environmental Protection Authority
DBCA	Department of Biodiversity, Conservation and Attractions
DCCEEW	Department of Climate Change, Energy the Environment and Water
DPaW	Department of Parks and Wildlife (now DBCA)
DAWE	Department of Agriculture, Water and the Environment (now DCCEEW)
WA Museum	Western Australian Museum

Table A2: Abbreviations – General terms

General terms	
CD	Specially Protected - Conservation Dependent
CE	Critically Endangered
EN	Endangered
IBRA	<i>Interim Biogeographic Regionalisation of Australia</i>
MI	Migratory
OS	Other Specially Protected
P3	Priority 3
P4	Priority 4
UFI	Unique feature identifier
VU	Vulnerable

Table A3: Abbreviations – Legislation

Legislation	
BAM Act	<i>Biosecurity and Agriculture Management Act 2007</i>
EBPC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
BC Act	<i>Biodiversity Conservation Act 2016</i>

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Table A4: Abbreviations – units of measurement

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

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1 Introduction

1.1 Project background

Emerge Associates (Emerge) were engaged by Peet Limited to characterise the fauna/black cockatoo values within Lot 822 Youle-Dean Road in Brabham (referred to herein as the 'site'). This lot is located approximately 17 kilometres (km) north east of the Perth Central Business District within the City of Swan.

The site is approximately 109 hectares (ha) in size and is bounded by bushland and an old landing strip to the east, Youle-Dean Road to the north, Isoodon Street to the west and native bushland to the south. The location and extent of the site is shown in **Figure 1**.

1.2 Purpose and scope of works

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

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

- Desktop assessment of relevant background information pertaining to the site and surrounds, including database and literature searches for fauna species.
- A field survey to identify fauna species and habitats within the site, including habitat for species of black cockatoo.
- Compilation of a list of fauna species with potential to occur within the site as identified from the desktop assessment and opportunistically recorded as part of the field survey.
- Identification of potential habitat for conservation significant fauna species and an assessment of likelihood of occurrence.
- Mapping of fauna and black cockatoo habitat.
- Documentation of the desktop assessment, survey methodology and results into a report.

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2 Environmental context

2.1 Climate

Climate has a strong influence on the fauna habitat and species present in a region and a site. The south-west of Western Australia experiences a Mediterranean climate of hot dry summers and cool wet winters.

A total of 52 millimetre (mm) of rainfall was recorded during the month prior to the survey (September 2021) from the Whiteman park weather station (no. 9263) which is the closest weather station located approximately 2 km west of the site (BoM 2022). This is higher than the average rainfall of 36.4 mm for the same period and weather station (BoM 2022).

Temperatures recorded in September 2021 ranged from a mean maximum of 21.6°C to a mean minimum of 8.8°C, as recorded by the Perth Airport weather station (no. 9021) which is the closest temperature recording weather station located approximately 13 km south of the site (BoM 2022). This is similar to the average maximum temperature of 20.3°C and average minimum temperature of 8.9°C for the same period and weather station (BoM 2022).

On the days of the survey, temperatures at the Perth Airport weather station ranged from a daily maximum of 33.6°C to a daily minimum of 10.1°C (BoM 2022). Approximately 21 mm of rainfall was recorded on the first day of the survey by the Whiteman Park weather station (BoM 2022). No rainfall was recorded on the remaining days of the survey.

2.2 Geomorphology and soils

Landform and soils influence fauna habitat and species at regional and local scales. The site occurs on the Swan Coastal Plain, which is the geomorphic unit that characterises much of the Perth metropolitan area. The Swan Coastal Plain is approximately 500 km long and 20 to 30 km wide and is roughly bound by the Indian Ocean to the west and the Darling Scarp to the east. Broadly the Swan Coastal Plain consists of two sedimentary belts of different origin. Its eastern side comprises the Pinjarra Plain which formed from the deposition of alluvial material washed down from the Darling Scarp, while its western side comprises three dune systems that run roughly parallel to the Indian Ocean coastline (Seddon 2004). These dune systems, referred to as Quindalup, Spearwood and Bassendean associations, represent a succession of coastal deposition that has occurred since the late Quaternary period (approximately two million years ago) (Kendrick *et al.* 1991) and, as a result, they contain soils at different stages of leaching and formation.

Examination of physiographic region mapping by (Gozzard 2011) places the site in the Bassendean Dunes which was later confirmed during the field survey. The Bassendean Dunes typically comprises of old, low hills of quartz sand with numerous interdunal swamps and lakes (Beard 1990). The physiographic regions mapped within the site are shown in **Figure 2**.

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

2.3 Topography

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The elevation of the site ranges from 22 m in relation to the Australian height datum (mAHD) on the south eastern side of the site to 26 mAHD on the south western side of the site (DoW 2008) (**Figure 2**).

2.4 Hydrology and wetlands

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

Wetlands of national or international significance may be afforded special protection under Commonwealth or international agreements. The following lists of important wetlands were checked as part of this assessment:

- *Ramsar List of Wetlands of International Importance* (DBCA 2017)
- *A Directory of Important Wetlands in Australia* (DBCA 2018).

No Ramsar wetlands are located within or near the site. The RAAF Caversham important wetland (directory of important wetland (DIW) ID 120) occurs within and adjacent to the site.

Examination of the Department of Water and Environmental Regulation (DWER) hydrography dataset (DWER 2018) shows the following six wetland or water related features occur within the site:

- Four earth dams
- Two minor drains

The Department of Biodiversity, Conservation and Attractions (DBCA) has developed the *Geomorphic Wetlands of the Swan Coastal Plain* dataset (DBCA 2021). This dataset maps geomorphic wetland features and classifies them based on their landform shape and water permanence.

A review of the *Geomorphic Wetlands, Swan Coastal Plain* dataset indicated that two sumpland wetland features (unique feature identifiers (UFI) 8807 and 8814) occur within the northern and central portions of the site (DBCA 2021). The locations of the geomorphic wetlands in the site are shown in Error! Reference source not found..

2.5 Regional vegetation

Vegetation types and resulting fauna habitats strongly influence the diversity and composition of fauna taxa present within an area. Native vegetation is described and mapped at different scales in order to illustrate patterns in its distribution. At a continental scale the *Interim Biogeographic Regionalisation of Australia* (IBRA) divides the Swan Coastal Plain into two floristic subregions (Environment Australia 2000).

The site is contained within the 'SWA02' or Perth subregion, which is characterised as mainly containing *Banksia* low woodland on leached sands with *Melaleuca* swamps where ill-drained; and woodland of *Eucalyptus gomphocephala* (tuart), *E. marginata* (jarrah) and *Corymbia calophylla*

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(marri) on less leached soils (Beard 1990). This subregion is recognised as a biodiversity hotspot and contains a wide variety of endemic fauna species.

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

Hedde *et al.* (1980) mapping shows the site as comprising the ‘Southern River complex’, which is described as an open woodland of *Corymbia calophylla*, *Eucalyptus marginata* and *Banksia* spp. with fringing woodland of *Eucalyptus rudis*, *Melaleuca raphiophylla* along creek beds.

Review of historical images available from 1953 (WALIA 2022) onwards show that parts of the site were cleared of native vegetation prior to 1953 for use as an airstrip.

2.6 Significant fauna

2.6.1 Threatened fauna

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 Ministerial approval.

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 according to attributes such as population size and geographic distribution. Further information on threatened species and their categories is provided in **Appendix A**.

2.6.1.1 Black cockatoos

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

- *Zanda¹ latirostris* (Carnaby’s black cockatoo) which is listed as ‘endangered’ under the EPBC Act and the BC Act.
- *Zanda² baudinii* (Baudin’s black cockatoo) which is listed as ‘endangered’ under the EPBC Act and the BC Act.
- *Calyptorhynchus banksii naso* (forest red-tailed black cockatoo) which is listed as ‘vulnerable’ under the EPBC Act and the BC Act.

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

- Black cockatoos nest in hollows that form in trees which are usually more than ~200 years old. ‘Breeding habitat’ comprises ‘habitat trees’ which are trees of a species known to support black

¹ Previously *Calyptorhynchus*

² Previously *Calyptorhynchus*

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cockatoo breeding and which either have a suitably large enough nest hollow or have a large enough diameter at breast height (DBH) to indicate that a suitable nest hollow could develop in time (DAWE 2022b). A minimum DBH for a habitat tree is defined as ≥ 50 centimetres (cm) for most tree species used by black cockatoos and ≥ 30 cm for *Eucalyptus wandoo* (wandoo) and *Eucalyptus salmonophloia* (salmon gum) (DAWE 2022b). Breeding habitat is also generally expected to be located within 6 km of food and water resources (DPaW 2013).

- Roosting refers to black cockatoos congregating in a tree or group of trees to rest overnight. 'Roosting habitat' consists of groups or individual tall trees used for roosting. Roosts generally comprise the tallest trees in an area and can include native and non-native trees (DAWE 2022b). They are often located within 6 km of water and food resources, with additional foraging ranges within 12 km (Shah 2006; Le Roux 2017; DAWE 2022b). The use of a particular roost may vary depending on availability of food and water resources.
- Black cockatoos feed on the fruit and seeds of a range of native and non-native plant species. 'Foraging habitat' is vegetation that contains plant species known to be foraged on by black cockatoos.

Each black cockatoo species has a defined breeding season, with Baudin's black cockatoo breeding from August/September to February/March and Carnaby's black cockatoo breeding from July/August to January/February (DAWE 2022b). Forest red-tailed black cockatoo breeds in October/November but may breed in March/April if there is good autumn rainfall (DAWE 2022b). There is also evidence that forest red-tail black cockatoos breed throughout the year, with peaks in April – June and August – October (Johnstone *et al.* 2013).

2.6.2 Priority fauna

Fauna species that do not currently meet the criteria for listing as threatened but are potentially rare or threatened may be added to the 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**.

2.6.3 Migratory fauna

Some fauna species that migrate to Australia and its external territories or pass through or over Australian waters during their annual migrations are protected 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 Ministerial approval. Further information on migratory species is provided in **Appendix A**.

2.6.4 Specially protected fauna

In Western Australia, fauna species that are of special conservation interest, including migratory species and cetaceans, species subject to international agreement or species otherwise in need of special protection may be listed as 'specially protected' under the BC Act. Further information on specially protected species and their categories is provided in **Appendix A**.

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2.7 Pest fauna

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

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

2.8 Bush Forever

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

No *Bush Forever* sites occur within the site. Bush Forever site no. 140 (Caversham Airfield Bushland) lies adjacent to the southern and eastern site boundary. The locations of this Bush Forever site and additional Bush Forever sites in the wider area of the site are shown in **Figure 3**.

2.9 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).

Biodiversity linkage no. 32 intersects the site and extends beyond the site in an east-west direction. The locations of this linkage and additional linkages in the wider area of the site are shown in **Figure 3**.

2.10 Previous surveys

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ATA Environmental previously completed a Carnaby's cockatoo assessment within the site in January 2007. Suitable foraging habitat was found within the site. No hollows suitable for black cockatoos were reported (ATA Environmental 2007). This assessment was undertaken prior to updated referral guidelines relating to black cockatoos.

PGV Environmental previously completed a black cockatoo habitat assessment within the site in May 2014. The assessment identified 38.21 ha of suitable habitat and 163 habitat trees. No hollows suitable for black cockatoos or roosting evidence was reported (PGV Environmental 2014).

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3 Methods

3.1 Desktop assessment

3.1.1 Basic fauna

A search was conducted for fauna species that have been recorded within a 10 km radius of the site using the *Protected Matters Search Tool* (DAWE 2022a), *NatureMap* (DBCA 2022), DBCA's conservation significant fauna database (reference no. FAUNA#6949) and literature references.

3.1.2 Black cockatoo

A search was conducted for records of black cockatoos and potential black cockatoo habitat mapping occurring within 12 km of the site using a range of publicly available regional studies and datasets. Detailed information on each dataset considered as part of the desktop review is provided in **Appendix A**.

3.2 Field survey

Two to four ecologists from Emerge visited the site on the 27 October 2021, 22 November 2021 and 10, 13 and 14 January 2022 during the day to conduct the basic fauna survey and targeted black cockatoo field survey. The surveys were conducted from approximately 9:00 am until 4:30 pm on each day.

The weather conditions prior to and during the survey were hot and dry (refer to **Section 2.1** for recorded weather conditions).

3.2.1 Basic 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 evidence of species presence such as tracks, scats, skeletal remains, foraging evidence or calls was also noted.

An opportunistic fauna species list was compiled and fauna habitat values were described, with particular reference to conservation significant fauna species with potential to occur within the site.

3.2.2 Targeted black cockatoo

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

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3.2.2.1 Breeding habitat

A 'habitat tree' was defined as a native eucalypt that is typically known to support black cockatoo breeding such as marri, jarrah, blackbutt, tuart, wandoo, salmon gum or to a lesser extent flooded gum, with a DBH ≥ 50 cm or DBH ≥ 30 cm for wandoo or salmon gum. As any tree that has a suitable hollow may provide breeding habitat for black cockatoos, other tree species were also considered to be habitat trees if they contained a suitable hollow.

To be suitable for use as breeding habitat by black cockatoos it was considered a hollow must:

- have an entrance opening of at least 10 cm but preferably 20-30 cm (Saunders *et al.* 1982; Groom 2010; Johnstone *et al.* 2013)
- be located at least 3 m from the ground (Saunders 1979b; Johnstone and Storr 1998; Groom 2010; Saunders 2014)
- be located in a trunk or branch that is generally large enough to contain a hollow that has a floor diameter of at least 40 cm and depth of 50-200 cm such that it could house an adult black cockatoo and nestlings (Saunders 1979a; Johnstone and Storr 1998; Saunders 2014; DPaW 2015)
- have vertical or near vertical orientation (Johnstone and Kirkby 2008; Johnstone *et al.* 2013).

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

Habitat trees were individually identified and the attributes outlined in **Table 1** were recorded for each tree.

Table 1: Attributes recorded for each habitat tree in the site

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

Hollows that appeared potentially suitable for use by a black cockatoo from the ground were further inspected using a drone and/or a pole-mounted camera. During the hollow inspection the internal dimensions of the hollow were confirmed if possible and an assessment was made for signs of use such as chew marks around the hollow entrance, nesting material, eggs, feathers or the presence of birds within the hollow.

Each habitat tree was assigned to a category based on federal guidelines (DAWE 2022b) listed in **Table 2**.

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Table 2: Habitat tree categories

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

[^]Hollow determined to be suitable for use as breeding habitat by black cockatoos as listed above in **Section 3.2.2.1**

3.2.2.2 Roosting habitat

The presence of active or historical roosts was determined through evidence of roosting activity, such as branch clippings, droppings or moulted feathers.

If present, groups of tall native and non-native trees were assumed to provide roosting habitat.

3.2.2.3 Foraging habitat

Foraging habitat was identified by assessing vegetation in the site for plant species known to provide food for black cockatoos (Davies 1966; Saunders 1980; Johnstone and Storr 1998; Johnstone and Kirkby 1999; Groom 2011; Johnstone *et al.* 2011; DAWE 2022b). A list of plant species classified as primary or secondary food plants is provided as **Appendix C**.

Foraging habitat was classified as either 'native' or 'non-native'. Foraging habitat was then graded using the DCCEEW foraging quality scoring method (DAWE 2022b).

As it is not always possible to separate out food plants from non-food plants, mapped foraging habitat may also include vegetation comprising non-food plants. The proportion of non-food plants in mapped foraging habitat was minimised as far as practicable.

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

3.3 Data analysis

3.3.1 Desktop assessment

A total number of species that occur or potentially occur within the desktop assessment search area 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*. The habitat requirements of conservation significant vertebrate fauna were specifically reviewed to verify they did in fact have potential to occur in the site (that is marine mammals and fish were omitted).

3.3.2 Fauna habitat

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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 2022).

The identified fauna habitats were mapped on aerial photography with the boundaries interpreted from aerial photography, (Emerge Associates 2022) plant communities and notes taken in the field.

3.3.3 Likelihood of occurrence

Information on habitat preferences and distribution of conservation significant fauna species with potential occur within the site or wider area was reviewed and assessed against the general site conditions and fauna habitat types recorded during the field survey.

Based on the results of the desktop assessment and information recorded during the field survey, an assessment of the likelihood of occurrence of conservation significant fauna within the site was undertaken using the categories outlined in **Table 3**.

Table 3: Likelihood of occurrence assessment categories and definitions

Likelihood of occurrence	Definition
Recorded	The species was recorded during the current field survey or during previous field surveys.
Likely	The site contains suitable habitat for the species and it is likely the species may occur based on presence of a recent historical record within or close to the site.
Possible	The site contains habitat of at least marginal quality and/or extent for the species and the site is located within the known distribution range of the species which is supported by recent literature records from near the site.
Unlikely	The site contains no or marginal habitat for the species and/or no recent literature records occur near the site.

3.3.4 Black cockatoo habitat

3.3.4.1 Habitat trees

Habitat trees were classified according to the scheme outlined in **Table 2** and mapped on aerial imagery. A complete summary of the recorded attributes of habitat trees was compiled in a tabular format.

3.3.4.2 Foraging habitat value

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

3.3.4.3 Total habitat value

Total area of black cockatoo habitat was calculated by mapping canopy extent of black cockatoo breeding and roosting trees, then combining with foraging habitat.

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3.4 Nomenclature and sources of information

Taxonomy and nomenclature of scientific and common names for mammals, reptiles and amphibians follow *the Western Australian Museum (WAM) Checklist of the Terrestrial Vertebrate Fauna of Western Australia* (WAM 2021). For birds taxonomy and nomenclature of scientific and common names follows the Australian Faunal Directory (AFD) (DoEE 2021). Where common names were not provided by the WAM or the AFD, these have been derived from other sources as noted.

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

3.5 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's document *Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA 2020) is provided in **Table 4**.

Table 4: Evaluation of survey methodology against standard constraints outlined in the EPA's Technical Guidance – Terrestrial vertebrate fauna surveys for environmental impact assessment (EPA 2020)

Constraint	Degree of limitation	Details
Level of survey	No limitation	A basic survey (desktop study and field survey) in combination with a targeted black cockatoo survey was undertaken. The level of survey and survey effort are considered adequate to assess the fauna and black cockatoo habitat values within the site.
Scope	No limitation	The survey focused on vertebrate fauna and habitat values, with particular focus on black cockatoos and other conservation significant taxa with potential to occur within the site.
Proportion of fauna identified, recorded and/or collected.	No limitation	All observed vertebrate fauna were identified.
Sources of information e.g. previously available information	No limitation	Adequate information was available from database searches, previous surveys and literature references.
The proportion of the task achieved.	No limitation	The task was achieved in its entirety.
Experience level of personnel	No limitation	This fauna and black cockatoo assessment was undertaken by a qualified zoologist with over three years of zoological experience in Western Australia and four environmental consultants with three to seven years of environmental experience. Technical review was undertaken by a senior environmental consultant with over 11 years' experience in environmental science in Western Australia.
Suitability of timing, weather and season	No limitation	Survey timing is not considered to be of great importance for basic fauna assessments but the weather conditions during the survey were ideal for detecting fauna species. The survey was undertaken during the black cockatoo peak breeding season to maximise the chance of detecting breeding behaviour. However, many black cockatoo individuals leave the Swan Coastal Plain (SCP) during this

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Constraint	Degree of limitation	Details
		time and migrate to breeding areas and as such the detectability of roosting activity was reduced.
Completeness	No limitation	The desktop assessment, field survey and targeted black cockatoo components of the survey were completed comprehensively.
Spatial coverage and access	No limitation	Site coverage was comprehensive (track logged).
	No limitation	All parts of the site could be accessed as required.
Survey intensity	No limitation	The intensity of the survey was adequate given the size of the site.
Influence of disturbance	No limitation	The site is modified due to historical disturbance. However, no recent disturbance was noted that may have affected outcomes of the survey.
Adequacy of resources	No limitation	All resources required to perform the survey were available. The guidance currently available from Commonwealth and State agencies on the assessment of black cockatoo habitat is limited and relies heavily on technical experts preparing their own methodology. This assessment applies an internally developed methodology that is considered to provide a systematic and balanced characterisation of black cockatoo habitat.
Compliance with EPA (2020) guidance	Minor limitation	The EPA guidance requires that a full list of all fauna species with potential to occur within the site is compiled. As part of this assessment a comprehensive list of fauna species of conservation significance was compiled. Non-conservation taxa with potential to occur within the site were not compiled into a list but are provided as raw data in Appendix B . Given that all species with potential to occur within the site are still identified within the relevant appendices this is not considered to affect the outcomes of this assessment.

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4 Results

4.1 General site conditions

The site was previously used as an airport during the 1940s and later converted to a racetrack with the track itself running adjacent to the eastern site boundary. Since 1969, the site has been used as a radio communication facility and also by local car clubs.

The site is mostly flat with some areas susceptible to winter inundation. While native vegetation occurs in patches within the site, it has experienced a large degree of human disturbance due to its various uses over the years. In addition to the former runways, multiple portions of vegetation were cleared between 1985 and 1989 for unknown reasons particularly towards the south and east of the site. Illegal dumping has also occurred over much of the area.

4.2 Fauna habitat

Six broad fauna habitats were identified within the site, as listed in **Table 5**.

A description and the area of each habitat is provided in **Table 5** and representative photographs of each are provided in **Plate 1** to **Plate 6**. The location of each habitat is shown on **Figure 4**.

Table 5: Fauna habitats identified within the site

Fauna habitat	Description	Area (ha)
Closed forest	Low closed forest of <i>Melaleuca</i> spp. with some areas prone to inundation (Plate 1).	7.43
Open forest	Low open forest of <i>Eucalyptus rudis</i> and <i>Melaleuca preissiana</i> over sparse forbland dominated by weeds (Plate 2).	12.79
Open woodland	Open woodland of <i>Corymbia calophylla</i> and <i>Melaleuca preissiana</i> over forbland dominated by weeds (Plate 3).	28.15
Woodland	Low open <i>Banksia</i> woodland over tall to closed shrubland (Plate 4).	26.30
Shrubland	Low shrubland over forbland (Plate 5).	3.61
Cleared	Heavily disturbed areas comprising bare ground and weeds with occasional native trees (Plate 6).	31.46

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Plate 1: Closed forest habitat



Plate 2: Open forest habitat

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Plate 3: Open woodland habitat



Plate 4: Woodland habitat

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Plate 5: Shrubland habitat



Plate 6: Cleared habitat

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4.3 Fauna

4.3.1 Desktop assessment

A total of 516 fauna species were identified from database searches as occurring or potentially occurring within 10 km of the site³ as listed in **Appendix B**.

Of these species, 66 are conservation significant, including 31 threatened, 14 priority, 30 migratory fauna and three other specially protected species as listed in **Appendix D**.

4.3.2 Species inventory

A total of 27 native and one introduced fauna species, including two fauna species of conservation significance (Carnaby's black 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 E**.

4.3.3 Conservation significant fauna

Two conservation significant fauna species were recorded within the site during the field survey: Carnaby's black cockatoo and forest red-tailed black cockatoo. Evidence of foraging by both species in the form of chewed marri, banksia and jarrah fruit was recorded in multiple locations in the site.

Additionally, eight fauna species of conservation significance were considered to possibly occur in the site based on habitat requirements, species distribution and site conditions, as shown in **Table 6**.

The remainder of the conservation significant fauna species identified in the desktop assessment (58 species) are considered unlikely to occur in the site due to lack of suitable habitat or because the site lies outside of the species known distribution. Fauna species classed as unlikely to occur are listed in **Appendix D**.

Table 6: Summary of conservation significant fauna species recorded or deemed possible or likely to occur within the site

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
Birds					
<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 (Johnstone and Storr 1998).	Possible: May opportunistically occur in or fly over the site on commute but only for short periods of time.

³ Includes native and non-native species. Excludes marine fish and mammal species.

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Table 6: Summary of conservation significant fauna species recorded or deemed possible or likely to occur within the site (continued)

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<i>Calyptrorhynchus banksii naso</i>	Forest red-tailed black cockatoo	VU	VU	<i>Eucalypt</i> and <i>Corymbia</i> forests, often in hilly interior. More recently also observed in more open agricultural and suburban areas including Perth metropolitan area. Attracted to seeding <i>Corymbia calophylla</i> , <i>Eucalyptus marginata</i> , introduced <i>Melia azedarach</i> and <i>Eucalyptus</i> spp. trees (Johnstone and Storr 1998).	Recorded: Suitable roosting and foraging habitat present and potential breeding habitat.
<i>Falco peregrinus</i>	Peregrine falcon	MI	MI	Mainly found around cliffs along coasts, rivers, ranges and around wooded watercourses and lakes (Johnstone and Storr 1998).	Possible: May opportunistically occur in or fly over the site on commute or while searching for prey but only for short periods of time.
<i>Zanda baudinii</i>	Baudin's black cockatoo	EN	EN	Mainly eucalypt forests. Attracted to seeding <i>Corymbia calophylla</i> , <i>Banksia</i> spp., <i>Hakea</i> spp., and to fruiting apples and pears (Johnstone and Storr 1998).	Possible: Suitable roosting and foraging habitat present. Site is located at the north-western limits of the species range.
<i>Zanda latirostris</i>	Carnaby's black cockatoo	EN	EN	Mainly proteaceous scrubs and heaths and adjacent eucalypt woodlands and forests; also plantations of <i>Pinus</i> spp. Attracted to seeding <i>Banksia</i> spp., <i>Dryandra</i> spp., <i>Hakea</i> spp., <i>Eucalyptus</i> spp., <i>Corymbia calophylla</i> , <i>Grevillea</i> spp., and <i>Allocasuarina</i> spp. (Johnstone and Storr 1998).	Recorded: Suitable roosting and foraging habitat present and potential breeding habitat.
Invertebrate					
<i>Hesperocolletes douglasi</i>	Douglas's broad-headed bee	CR	CR	<i>Banksia</i> woodland vegetation (Pille Arnold 2019).	Possible Suitable habitat (<i>banksia</i> woodland) present within the site.
<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 <i>Lomandra maritima</i> . <i>Banksia</i> woodland on Spearwood and Bassendean dunes, where the second known host plant <i>L. hermaphrodita</i> is widespread (DEC 2011).	Possible <i>Lomandra hermaphrodita</i> historically recorded within the site.

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Table 6: Summary of conservation significant fauna species recorded or deemed possible or likely to occur within the site (continued)

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence within the site
		BC Act	EPBC Act		
<i>Idiosoma sigillatum</i>	Swan Coastal Plain shield-backed trapdoor spider	P3	-	Widely distributed in sandy areas on the Swan Coastal Plain and on Rottnest Island (Prince 2003).	Possible: Suitable habitat present (sandy soils) within the site.
Mammal					
<i>Isoodon fusciventer</i>	Quenda	P4	-	Dense scrubby, often swampy, vegetation with dense cover up to one metre high (DEC 2012)	Likely Suitable habitat (scrubby vegetation) present within the site. .
Reptile					
<i>Neelaps calonotos</i>	Black-striped snake	P3	-	Coastal and near-coastal dunes, sandplains supporting heathlands and Banksia spp. woodlands (Bush et al. 2002).	Possible: Suitable habitat (banksia woodland) present within the site.

4.4 Declared pests

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

4.5 Black cockatoos

4.5.1 Desktop assessment

The site is located within the distribution range of Carnaby's black cockatoo and forest red-tailed black cockatoo and within the north-western most extent of the Baudin's black cockatoo distribution range (DoEE 2016c, b, a).

The site is located within the Carnaby's black cockatoo modelled breeding range but not within Baudin's black cockatoos breeding range (DoEE 2016b, a).

No breeding range information for forest red-tailed black cockatoo is provided in DoEE (2016c). However, on the Swan Coastal Plain the species is known to breed near Baldvis, Mundijong, Stake Hill, Karnup, Murdoch and possibly Perry Lakes (Johnstone *et al.* 2017). Therefore, the site is likely a location for suitable breeding.

No known roosts associated with black cockatoos occur within 1000 m of the site with the closest roost being approximately 2.3 km west.

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The results of the black cockatoo desktop assessment are summarised in **Table 7** and shown in **Figure 5**.

Table 7: Summary of black cockatoo background review

Category		Site context	Source
Species distribution		<ul style="list-style-type: none"> • Site is located within the modelled distribution range of Carnaby's black cockatoo and within its breeding range. • Site is located within the modelled distribution range of Baudin's black cockatoo but not within its breeding range. • Site is located within the modelled distribution range of forest red-tailed black cockatoo. 	(DoEE 2016a, b, c)
Carnaby's black cockatoo breeding areas (12 km radius surrounding breeding sites)		<ul style="list-style-type: none"> • No confirmed breeding areas intersect the site. • One possible breeding area intersects the site. 	(Glossop <i>et al.</i> 2011)
Important bird areas for Carnaby's black cockatoo		<ul style="list-style-type: none"> • Site is located within the 'Northern Swan Coastal Plain' IBA. • The Northern Swan Coastal Plain IBA is estimated to support 4600-15000 Carnaby's cockatoos during the non-breeding season and a small number of breeding individuals, forming the largest population of non-breeding birds in south-western Australia (BirdLife International 2022). 	(DPaW 2013; BirdLife International 2022)
Roost site		<ul style="list-style-type: none"> • None within the site • 23 roost sites within 12 km of the site (Table 8 and Table 9): <ul style="list-style-type: none"> ◦ 11 associated with white-tailed[^] black cockatoos only. ◦ 7 associated with forest red-tailed black cockatoos only. ◦ 5 associated with white[^] and red-tailed black cockatoos. 	(Peck <i>et al.</i> 2019)
Foraging habitat	Carnaby's black cockatoo	<ul style="list-style-type: none"> • Potential native foraging habitat is mapped throughout the site. • Additional areas of potential native foraging habitat mapped within the wider local area, including adjacent to the eastern portion of the site. 	(Emerge Associates 2021)
		<ul style="list-style-type: none"> • No pine plantations mapped within the site • Gnarara pine plantation is within 12km of the site. 	(Forest Products Commission 2020)
	Baudin's black cockatoo	<ul style="list-style-type: none"> • Potential native foraging habitat is mapped throughout the site. • Additional areas of potential native foraging habitat mapped within the wider local area, including adjacent to the eastern portion of the site. 	(Emerge Associates 2021)
	Forest red-tailed black cockatoo [^]	<ul style="list-style-type: none"> • Potential native foraging habitat is mapped throughout the site. • Additional areas of potential native foraging habitat mapped within the wider local area, including adjacent to the eastern portion of the site. 	(Emerge Associates 2021)

[^]Carnaby's and/or Baudin's black cockatoo

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Table 8: White-tailed black cockatoos recorded in roosts within 12 km of the site (Peck et al. 2019)

Roost ID	Year and number of individuals									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
MUNHELRO01	NS	3	16	42	124	0	44	0	3	0
MUNHELRO02	NS	NS	NS	NS	NS	NS	NS	NS	0	66
SWABALR001	0	40	0	92	0	35	0	0	0	0
SWABALR004	0	NS	NS	NS	0	5	105	0	0	0
SWABULR003	NS	NS	NS	NS	NS	NS	8	0	0	NS
SWAELLR001	NS	NS	NS	NS	14	NS	280	0	0	NS
SWAHENR002	NS	NS	NS	NS	NS	NS	NS	50	0	0
SWALEXR001	0	80	0	0	181	0	0	0	34	753
SWALEXR002	185	0	NS	0	0	0	0	NS	NS	NS
SWAMILR001	NS	NS	NS	NS	0	NS	250	0	40	0
SWAVINR003	NS	NS	NS	NS	NS	NS	21	0	0	3
SWAWHIR001	NS	69	13	NS	NS	0	0	7	15	NS
WANGNAR001	0	NS	NS	NS	0	NS	454	316	157	255
WANGNAR003	0	14	0	0	0	0	0	0	0	0
WANGNAR004	27	0	0	0	0	0	0	0	0	12
WANGNAR005	NS	NS	NS	100	0	14	0	260	NS	NS

NS = not surveyed

Table 9: Forest red-tailed black cockatoo recorded in roosts within 12 km of the site (Peck et al. 2019)

Roost ID	Year and number of individuals					
	2014	2015	2016	2017	2018	2019
BAYEMBR002	NS	NS	NS	NS	34	NS
BAYMORR001	0	0	36	130	300	299
BAYMORR002	NS	NS	NS	8	30	2
MUNHELRO01	0	0	4	31	0	13
MUNHELRO02	NS	NS	NS	NS	79	0
SWABALR003	NS	NS	0	120	151	151
SWABULR005	NS	NS	NS	NS	41	0

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Table 9: Forest red-tailed black cockatoo recorded in roosts within 12 km of the site (Peck et al. 2019)(continued)

Roost ID	Year and number of individuals					
	2014	2015	2016	2017	2018	2019
SWAHAZR001	NS	NS	NS	NS	NS	12
SWAVINR003	NS	NS	31	5	0	0
SWAWESR001	NS	NS	0	0	36	NS
SWAWHIR001	NS	0	0	4	0	NS
WANGNAR005	0	0	0	7	NS	NS

NS = not surveyed

4.5.2 Habitat

4.5.2.1 Breeding

A total of 283 black cockatoo habitat trees were recorded within the site as shown in **Figure 6**.

The habitat trees comprised 106 *Eucalyptus rudis* (flooded gum), 105 marri, 32 jarrah, 16 *Eucalyptus todtiana* (coastal blackbutt), three tuart, and 21 stag (dead) trees.

An internal hollow inspection was undertaken for 12 habitat trees that were determined to potentially contain suitable hollows based on the initial inspection from ground level. Of the 12 trees inspected, none were determined to contain suitable hollows. The remaining trees contained no suitable hollows for breeding by black cockatoos.

A summary of the habitat trees recorded within the site is provided in **Table 10** and an inventory in **Appendix F**.

Table 10: Habitat trees recorded within the site

Category	No. trees
Known nesting trees	0
Suitable nesting trees	0
Potential nesting trees	283

4.5.2.2 Roosting

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

Native and non-native trees within the site have the potential to provide roosting habitat for black cockatoos.

4.5.2.3 Foraging

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A total of 28.73 ha of foraging habitat for Carnaby's black cockatoo, 28.67 ha for Baudin's black cockatoo and 18.72 ha for forest red-tailed black cockatoo were recorded in the site as shown in **Figure 7 to Figure 9**.

The majority of the foraging habitat occurs as a contiguous area of mixed woodland vegetation and comprises a combination of primary, secondary and non-food plants. Dominant primary food plants are *Banksia menziesii* (firewood banksia), *Banksia attenuata* (candle stick banksia), jarrah and marri.

The extent of foraging habitat by value category is detailed in **Table 11**.

Table 11: Proportion of native and non-native patches of foraging habitat

Foraging value	Black cockatoo species and area of foraging habitat (ha)		
	Carnaby's	Baudin's	Forest red-tailed
Native	28.70	28.67	18.65
Non-native	0.03	0.00	0.07
Total	28.73	28.67	18.72

4.5.2.4 Total habitat

A total of 33.37 ha of black cockatoo habitat was recorded in the site as shown in **Figure 10**.

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5 Discussion

5.1 Fauna and fauna habitat

The 27 native fauna species recorded within the site are mostly common and widespread across the Swan Coastal Plain and therefore records for these species were not unexpected. The Carnaby's black cockatoo and forest red-tailed black cockatoo were also not unexpected due to the suitable foraging habitat available within the site.

The habitat values within the site have been modified by historical clearing for various uses over the years, which has resulted in the removal of some of the native vegetation. However, patches of native vegetation still remain providing habitat for a range of fauna species.

Habitat values in the site are greatest with respect to areas of **woodland** habitat, which covers approximately 24% of the site. This habitat provides a contiguous cover of predominantly native trees and is supported by an understorey of native shrubs.

Approximately 44% of the site contains either **closed forest**, **open forest** or **open woodland** habitats. While these habitats contain native trees of various coverages, the lack of understorey limits their value for native fauna in the area. These habitats are likely to be predominantly used by common and widespread native and non-native fauna with non-specific habitat requirements, which enable them to persist in highly modified environments.

Approximately 3% of the site contains **shrubland** habitat. While this habitat provides value to many native fauna species, particularly those that are ground dwelling, the relative extent of this habitat is small.

The remainder of the site (approximately 29%) comprises **cleared** area which contains no to minimal vegetation and may be used occasionally by common and widespread native and non-native fauna species.

5.2 Conservation significant fauna

Carnaby's black cockatoo and forest red-tailed black cockatoo were recorded from foraging evidence within the site. Both species and Baudin's black cockatoo are discussed further in **Section 5.3**.

Seven additional fauna species of conservation significance were considered to possibly occur in the site.

Pacific swift and Peregrine falcon are highly mobile species that may opportunistically fly over or forage in the site for short periods of time as part of a much larger home range. Neither of these species would breed within the site. Any occurrence of Pacific swift and peregrine falcon in the site would likely be in the air space and largely independent from terrestrial habitat.

The black-striped snake, quenda, swan coastal plain shield-backed trapdoor spider, graceful sunmoth and Douglas's broad-headed bee could all possibly occur with suitable habitat present within the site and are either within or close to current known distribution ranges.

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5.3 Black cockatoo habitat values

Evidence of foraging attributed to Carnaby's black cockatoo and forest red-tailed black cockatoo were recorded within the site. Records for these species were not unexpected as the site is located within its modelled distribution range and suitable habitat occurs within the site and the local area.

Although not recorded during the field survey, Baudin's black cockatoo is possible to occur as suitable habitat for this species exists within the site. However, the site is located on the north-west edge of the species modelled distribution range so occurrences may be less likely than other black cockatoo species (DBCA 2021).

5.3.1 Breeding

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

5.3.2 Roosting

While no dusk roost survey was undertaken, no secondary evidence of roosting such as branch clippings, droppings or feathers were observed within the site. Therefore, there is no reason to suspect that roosting by black cockatoos has recently occurred in the site. Nevertheless, the site contains many tall trees and groups of tall trees that have the potential to provide roosting habitat for black cockatoos.

5.3.3 Foraging

The site contains native and non-native foraging habitat for all three species of black cockatoo. The highest value foraging resource in the site for all species is associated with stands of marri trees scattered throughout, particularly in the northern portion of the site. This is added to by banksia woodland vegetation in the southeast providing a total of over 28 ha of high value foraging habitat for Carnaby's black cockatoo.

The secondary foraging sources for both Carnaby's black cockatoo and forest red-tailed black cockatoo is predominantly associated with scattered *Eucalyptus tottiana* (coastal blackbutt), sheoak or grass trees in the understory. While there are records of black cockatoos consuming the fruit of these plants (Groom 2011; DoEE 2017), they are secondary options and not as important food sources compared to marri or jarrah. *Agonis flexuosa*, which is considered a secondary foraging source for Carnaby's black cockatoo, also occurs within the site and is considered non-native in this part of Western Australia.

5.3.4 Total habitat

The overall black cockatoo habitat of 33.37 ha was lower than that recorded previously by PGV Environmental (38.21 ha). This was due to a finer scale mapping process that eliminated areas of open ground that contain no habitat essential to black cockatoos.

6 Conclusions

6.1 Fauna and fauna habitat

The highest fauna habitat values are associated with the **woodland** habitat which occurs over 23.97% of the site. Remaining vegetation within the site supports a range of forest, open woodland and shrubland habitats which provide limited value to fauna species of conservation significance and is likely to primarily be used by common and widespread native and non-native fauna with non-specific habitat requirements. The remainder of the site comprises cleared areas (28.67%).

A total of 27 native fauna species were recorded within the site, including two species of conservation significance, Carnaby's black cockatoo (endangered) and forest red-tailed black cockatoo (vulnerable).

Eight other species of conservation significance not recorded during the field survey may possibly occur in the site: Baudin's black cockatoo, Pacific swift, peregrine falcon, quenda, black-striped snake, Swan Coastal Plain shield backed trapdoor spider, graceful sunmoth and Douglas's broad headed bee.

6.2 Black cockatoos

The site occurs within the modelled distribution of Carnaby's black cockatoo, forest red-tailed black cockatoo and Baudin's black cockatoo. Carnaby's black cockatoo and forest red-tailed black cockatoo were recorded in the site during the field survey and Baudin's black cockatoo is possible to occur.

The site contains 283 habitat trees, none of which contain hollows suitable for use by black cockatoos for breeding. Therefore, the site does currently not provide breeding habitat for any species of black cockatoo.

No roosts or evidence of roosting by any species of black cockatoo was recorded within the site during the field survey. Tall native and non-native trees within the site represent suitable roosting habitat for species of black cockatoo.

A total of 28.73 ha of foraging habitat for Carnaby's black cockatoo was mapped within the site of which 28.7 ha (99.9%) comes from native vegetation and 0.03 ha (0.1%) comes from non-native vegetation.

A total of 28.67 ha of foraging habitat for Baudin's black cockatoo was mapped in the site of which all comes from native vegetation.

A total of 18.72 ha of foraging habitat for forest red-tailed black cockatoo was mapped in the site of which 18.65 ha (99.63%) comes from native vegetation and 0.07 ha (0.37%) comes from non-native vegetation.

A total of 33.33 ha of black cockatoo habitat occurs in the site.

Basic Fauna and Targeted Black Cockatoo Assessment

Lot 822 Youle-Dean Road, Brabham



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Basic Fauna and Targeted Black Cockatoo Assessment

Lot 822 Youle-Dean Road, Brabham



Calyptorhynchus latirostris, *Baudin's Cockatoo (Vulnerable)* *Calyptorhynchus baudinii* and *Forest Red-tailed Black Cockatoo (Vulnerable)* *Calyptorhynchus banksii naso*, Canberra, Australia.

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Lot 822 Youle-Dean Road, Brabham



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7.2 Online references

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

Table R 1 Access dates for online references

Reference	Date accessed	Website or dataset name
Atlas of Living Australia (2022)	1 March 2022	The Atlas of Living Australia's Spatial Portal
BirdLife International (2022)	1 March 2022	Important Bird Areas
BoM (2022)	23 May 2022	Climate Data Online
DAWE (2022)	14 February 2022	Protected Matters Search Tool
DBCA (2022)	18 February 2022	NatureMap
WALIA (2022)	1 March 2022	Landgate Map Viewer

Basic Fauna and Targeted Black Cockatoo Assessment

Lot 822 Youle-Dean Road, Brabham



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Figures



Figure 1: Site Location

Figure 2: Hydrography, Soils and Topography

Figure 3: Environmental Features

Figure 4: Fauna Habitat

Figure 5: Black Cockatoo Habitat Context

Figure 6: Black Cockatoo Habitat Trees

Figure 7: Carnaby's Black Cockatoo Foraging Habitat

Figure 8: Baudin's Black Cockatoo Foraging Habitat

Figure 9: Forest Red-tailed Black Cockatoo Foraging Habitat

Figure 10: Black Cockatoo Habitat

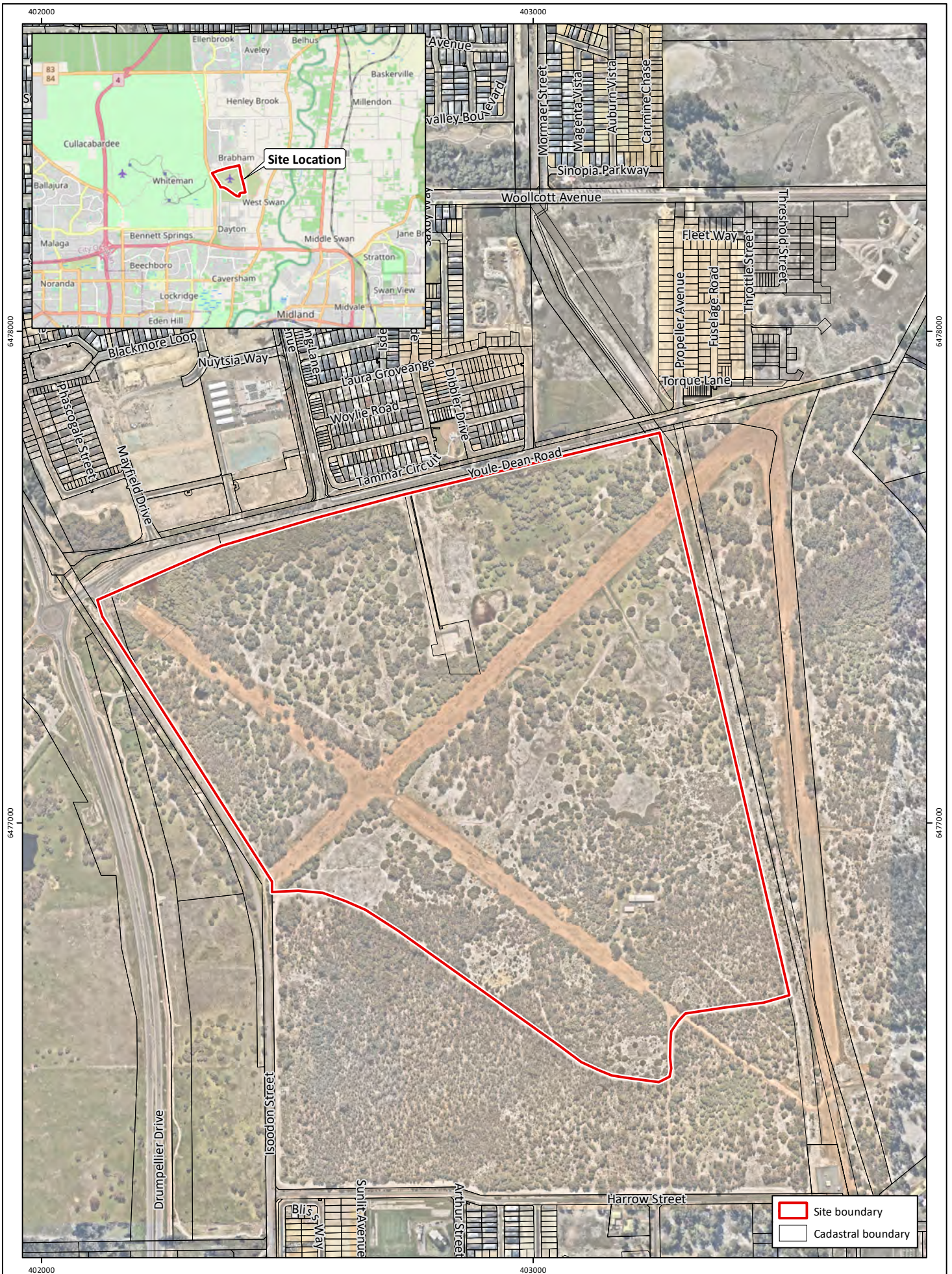
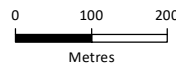


Figure 1: Site Location

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham
Client: Peet Limited

Plan Number: EP17-131(28)-F175
Drawn: GAR
Date: 22/02/2022
Checked: NAW
Approved: RAW
Date: 27/05/2022



Scale: 1:10,000@A4
 GDA 1994 MGA Zone 50



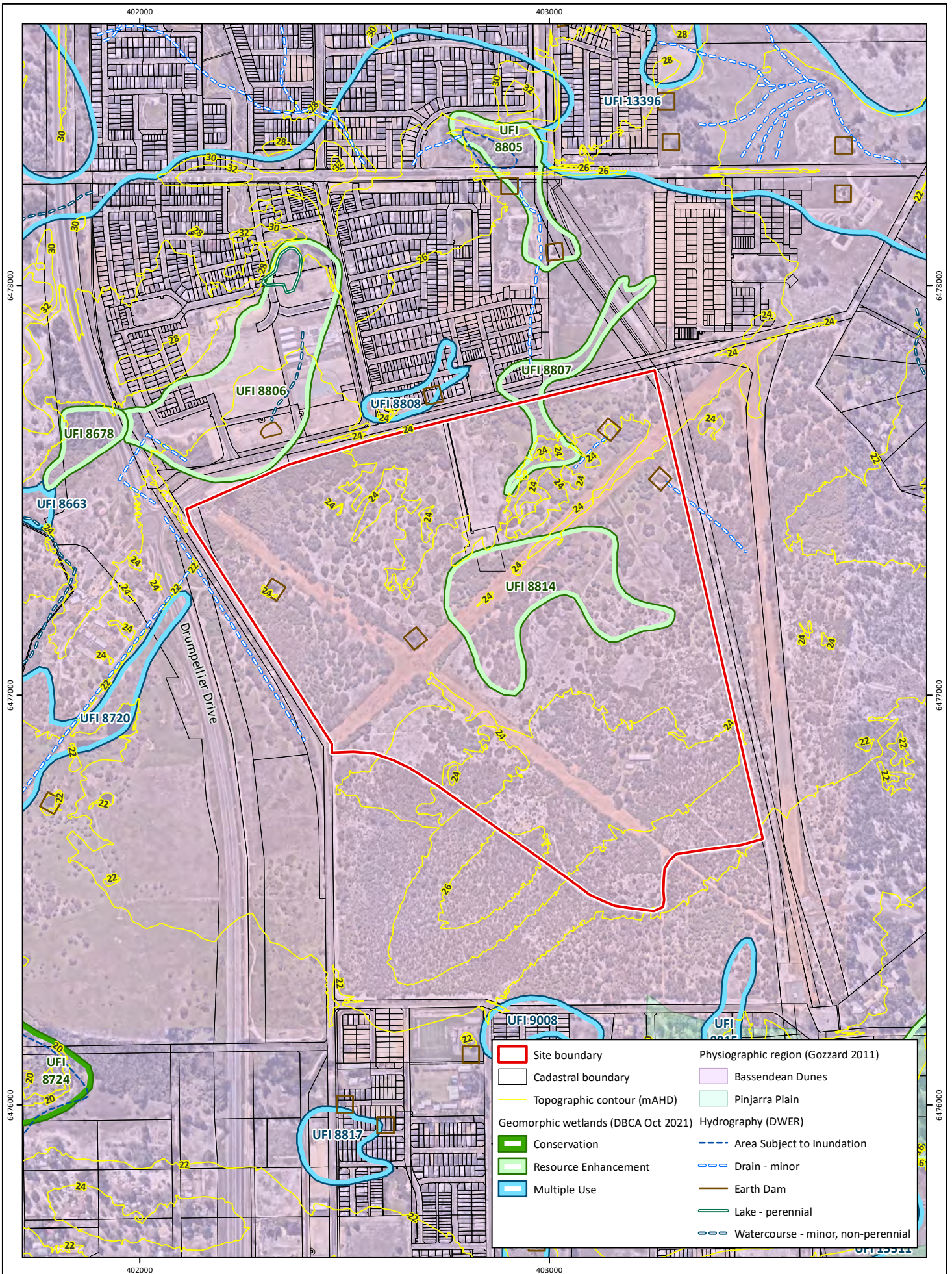


Figure 2: Hydrography, Soils and Topography

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham

Client: Peet Limited

Plan Number: EP17-131(28)-F176
Drawn: GAR
Date: 22/02/2022
Checked: NAW
Approved: RAW
Date: 27/05/2022

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 GDA 1994 MGA Zone 50

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While Emerge Associates makes every attempt to ensure the accuracy and completeness of data, Emerge accepts no responsibility for externally sourced data used.
 © Landgate (2021). Nearmap Imagery date: 25/08/2021

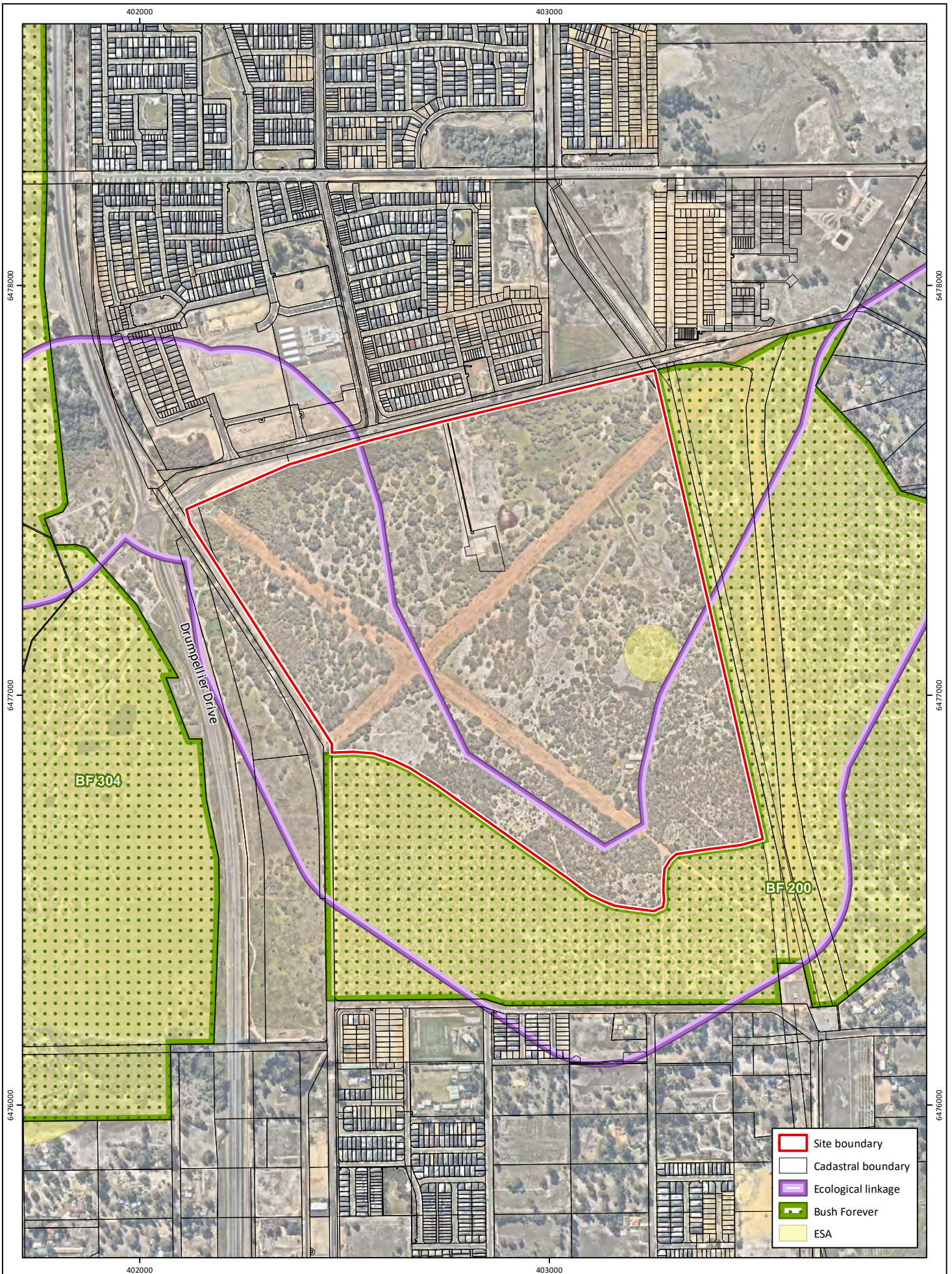


Figure 3: Environmental Features

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham
Client: Peet Limited

Plan Number: EP17-131(28)-F177
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Approved: RAW
Date: 27/05/2022



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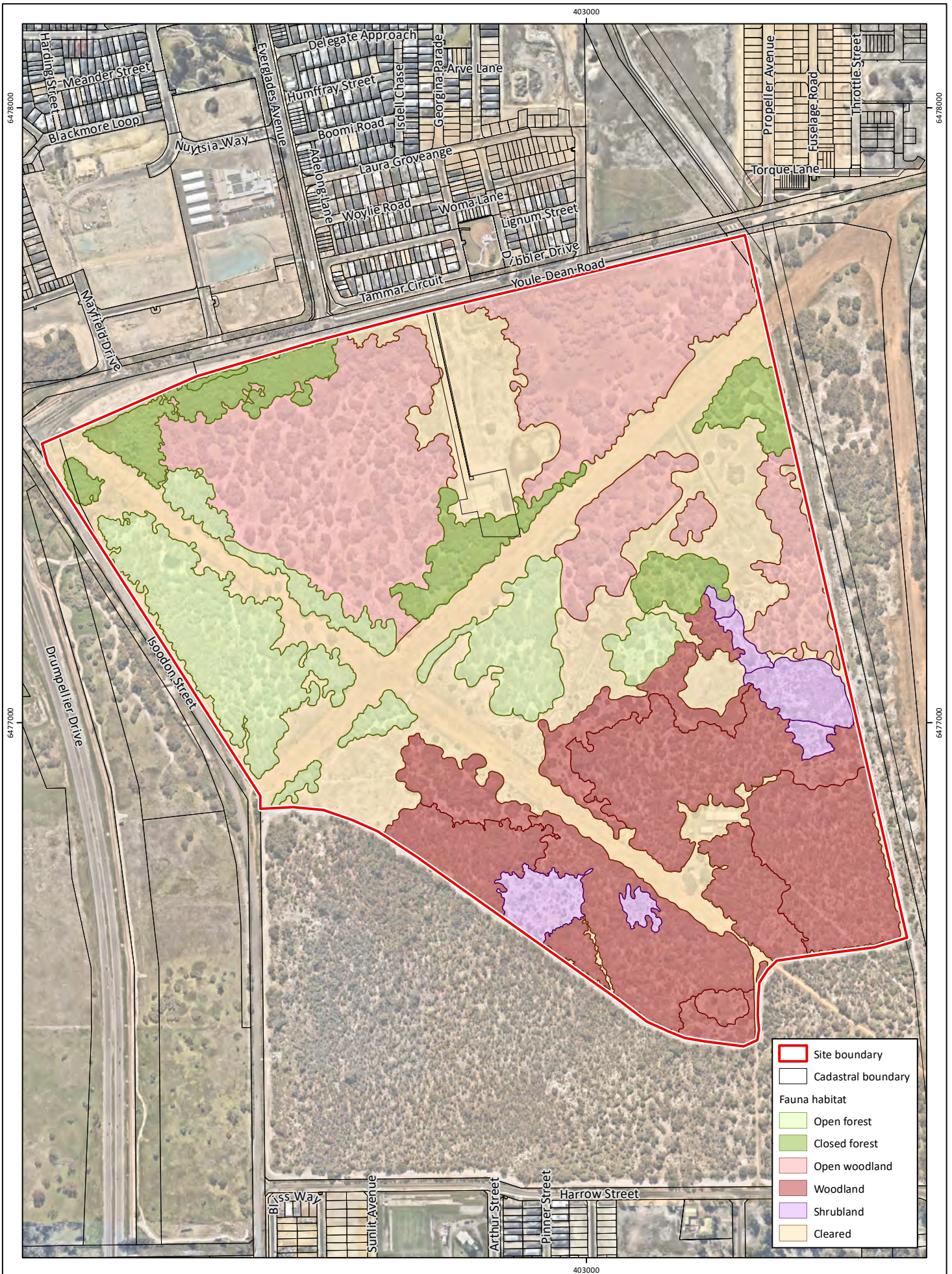


Figure 4: Fauna Habitat

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham
Client: Peet Limited

Plan Number: EP17-131(28)-F179
Drawn: GAR
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Approved: RAW
Date: 27/05/2022



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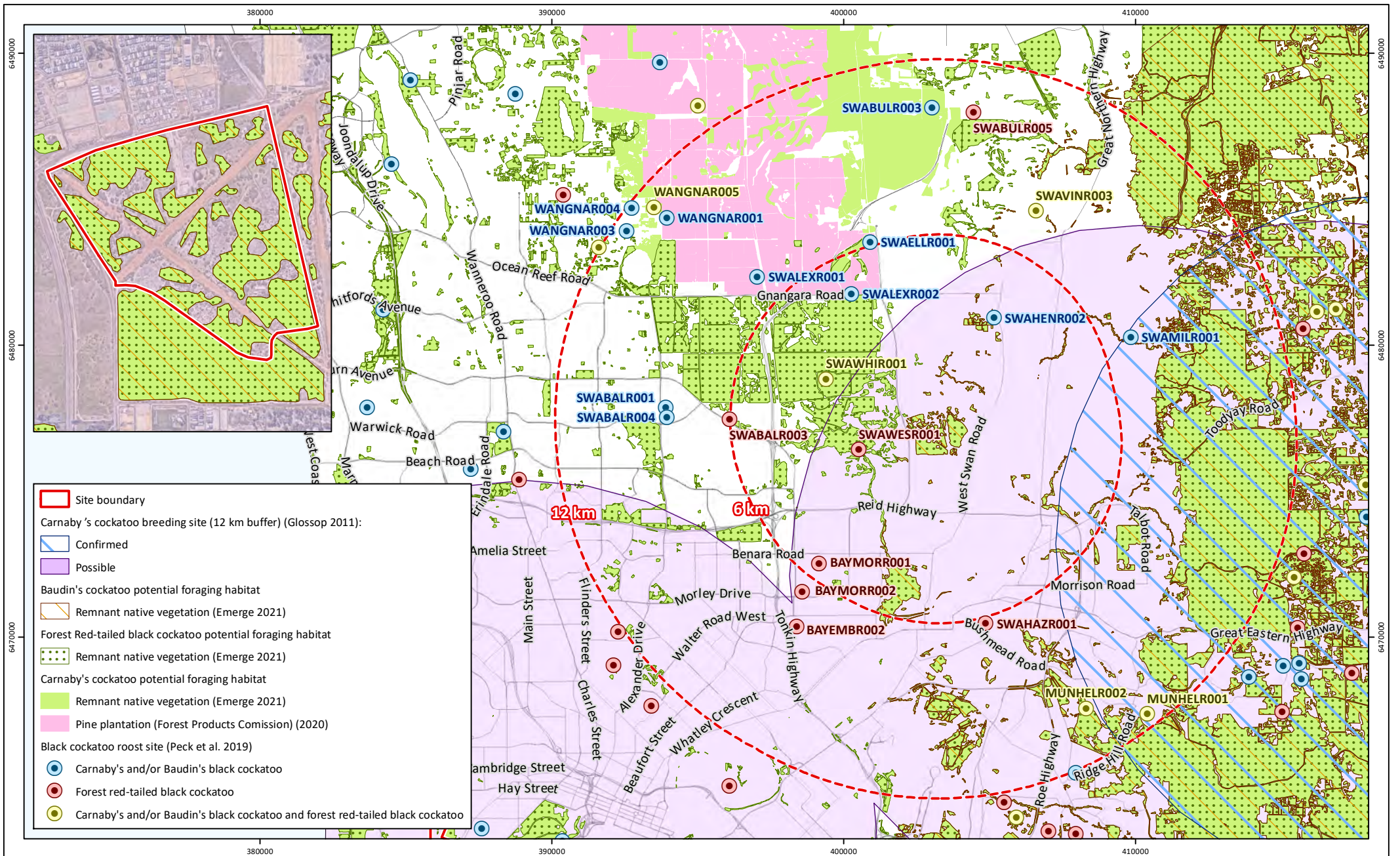


Figure 5: Black Cockatoo Habitat Context

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Yule-Deane Road, Brabham

Client: Peet Limited

Plan Number: EP17-131(28)-F178
Drawn: GAR
Date: 22/02/2022
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Date: 27/05/2022

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 GDA 1994 MGA Zone 50



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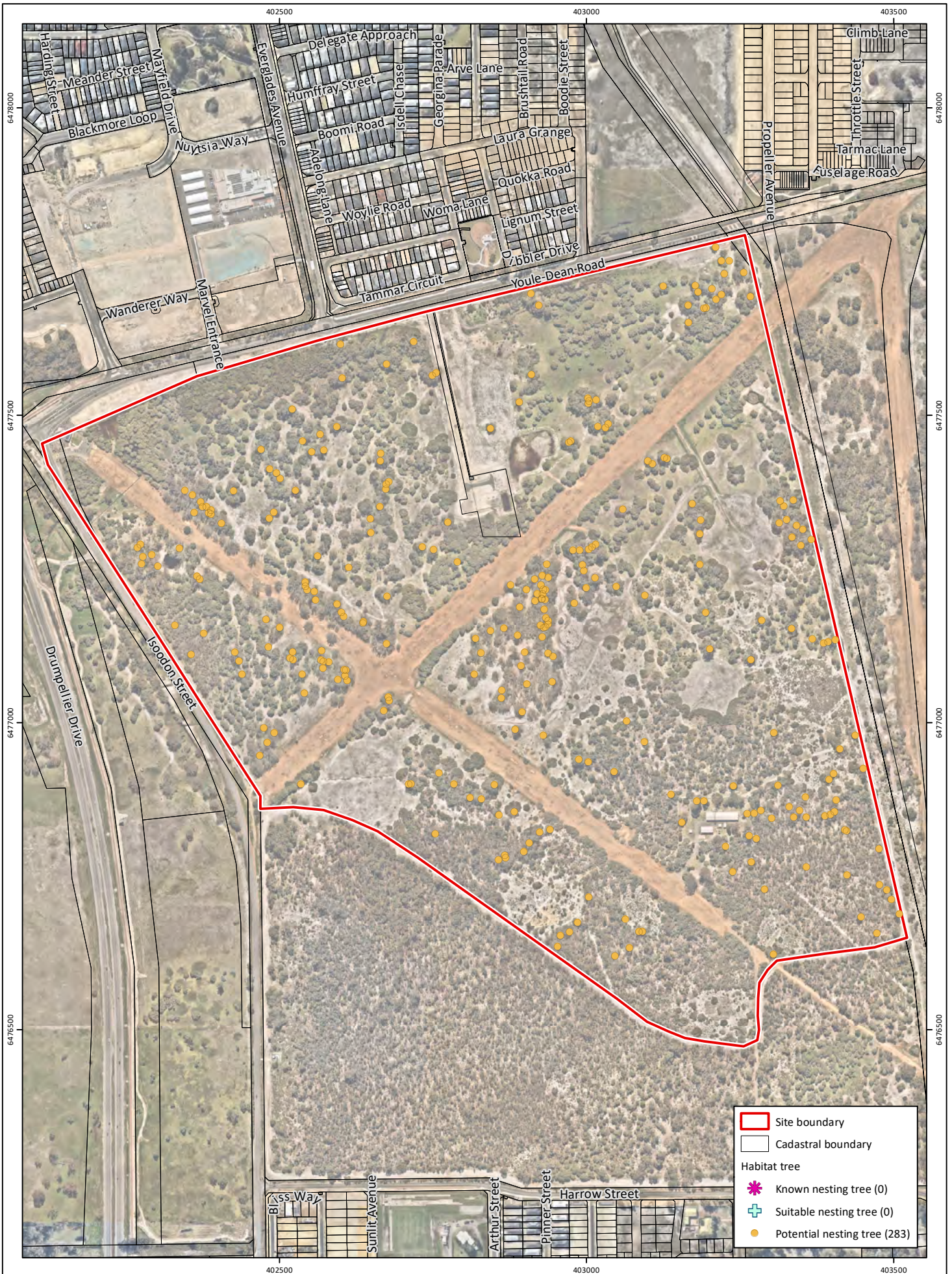


Figure 6: Black Cockatoo Habitat Trees

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham
Client: Peet Limited

Plan Number: EP17-131(28)-F180a
Drawn: GAR
Date: 19/01/2023
Checked: DRAFT
Approved: DRAFT
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Scale: 1:8,000@A4
 GDA 1994 MGA Zone 50





Figure 7: Carnaby's Black Cockatoo Foraging Habitat

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham
Client: Peet Limited

Plan Number: EP17-131(28)-F181a
Drawn: GAR
Date: 19/01/2023
Checked: DRAFT
Approved: DRAFT
Date: --/--

Scale: 1:8,000@A4
 GDA 1994 MGA Zone 50



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Figure 8: Baudin's Black Cockatoo Foraging Habitat

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham
Client: Peet Limited

Plan Number: EP17-131(28)-F182a
Drawn: GAR
Date: 19/01/2023
Checked: DRAFT
Approved: DRAFT
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 Metres
Scale: 1:8,000@A4
 GDA 1994 MGA Zone 50





Figure 9: Forest Red-tailed Black Cockatoo Foraging Habitat

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham

Client: Peet Limited

Plan Number: EP17-131(28)-F183a
Drawn: GAR
Date: 19/01/2023
Checked: DRAFT
Approved: DRAFT
Date: --/--

Scale: 1:8,000@A4
 GDA 1994 MGA Zone 50



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Figure 10: Black Cockatoo Habitat

Project: Basic Fauna and Targeted Black Cockatoo Assessment
 Lot 822 Youle-Dean Rd, Brabham
Client: Peet Limited

Plan Number: EP17-131(28)-F197a
Drawn: GAR
Date: 19/01/2023
Checked: DRAFT
Approved: DRAFT
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 GDA 1994 MGA Zone 50



Appendix A

Additional Information



Additional Background Information



Flora and Vegetation Report / Fauna Report - Appendix

Date	Version	Summary of changes	Author
22/05/2020	001	Created appendix from <i>Emerge Fauna only Report-Appendix A (V010)</i> . Added information regarding black cockatoos	RAW
15/06/2020	002	Added references for Emerge BC datasets and updated State category listings of conservation significant fauna	RAW
19/06/2020	003	Added fauna literature section (previously separate appendix)	MS
17/03/2021	005	Added wetland section	MS
03/12/2021	006	Minor update to black cockatoo section to reference new Emerge foraging habitat spatial datasets	MS
28/01/2021	007	Minor updates to reflect the genus change for Carnaby's and Baudin's cockatoo	MS

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Conservation Significant Fauna

Threatened and priority fauna

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

Migratory species comprise birds recognised under international treaties including:

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

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

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

Conservation Code	Category
X	Threatened Fauna –Extinct There is no reasonable doubt that the last member of the species has died.
EW [#]	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 ‘threatened’, ‘extinct’, or ‘specially protected’ under the *Biodiversity Conservation Act 2016* (BC Act), which is enforced by Department of Biodiversity Conservation and Attractions (DBCA) (DBCA 2019a). The definitions of these categories are provided in **Table 2**.

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

Category	Conservation Code	Definition
Threatened	CR	Critically endangered Threatened species considered to be facing an extremely high risk of extinction in the wild in the immediate future.
	EN	Endangered Threatened species considered to be facing a very high risk of extinction in the wild in the near future.
	VU	Vulnerable Threatened species considered to be facing a high risk of extinction in the wild in the medium-term future.
Extinct	EX	Extinct Species where there is no reasonable doubt that the last member of the species has died.
	EW	Extinct in the wild Species that is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form. Note that no species are currently listed as EW.
Specially protected	MI	Migratory species Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth Includes birds that subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds.
	CD	Species of special conservation interest (conservation dependent fauna) Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened.
	OS	Other specially protected species Fauna otherwise in need of special protection to ensure their conservation.

Additional Background Information



Fauna species that may be threatened or near threatened but lack sufficient information to be legislatively listed may be added to the DBCA's *Priority Fauna List* (DBCA 2018b). Species listed under priorities 1-3 comprise possible threatened species that do not meet survey criteria or are otherwise data deficient. Species listed under priority 4 are those that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons (DBCA 2019a).

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

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

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

Additional Background Information



Black cockatoos

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

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

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

Species distribution and breeding range

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

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

No breeding range modelling is available for forest red-tailed black cockatoo but the species is known to breed mainly in the jarrah forest region (DBCA 2017a) and in small populations on the Swan Coastal Plain within the Baldvis, Stake Hill, Lake McLarty and Capel area and increasingly in the Perth metropolitan area (DAWE 2020).

Breeding habitat

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

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

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

¹ Previously *Calyptorhynchus*

Additional Background Information



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

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

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

Confirmed roost sites

BirdLife Australia undertakes annual monitoring of black cockatoo overnight roost sites as part of the annual 'Great Cocky Count' community-based survey. Information gathered from these monitoring events provides roost locations and recorded black cockatoo numbers (Peck *et al.* 2019).

Native foraging habitat

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

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

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

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

Pest fauna

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

Declared Pests

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

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

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

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

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

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

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

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

Additional Background Information

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

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

Wetland Habitat

Geomorphic wetland types

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

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

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

Literature

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

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

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

References

General references

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Department of Environment and Energy (DoEE) 2016b, *Modelled distribution for Forest Red-tailed Black-Cockatoo (*Calyptorhynchus banksii naso*)*, Canberra.

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Department of Primary Industries and Regional Development (DPIRD) 2020, *Current Extent of Native vegetation - Western Australia dataset (DPIRD-005)*, Perth, Western Australia.

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Additional Background Information



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

Appendix B

Database Search Results





EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 14-Feb-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	9
Listed Threatened Species:	62
Listed Migratory Species:	26

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	140
Commonwealth Heritage Places:	None
Listed Marine Species:	31
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	20
Regional Forest Agreements:	1
Nationally Important Wetlands:	3
EPBC Act Referrals:	55
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[\[Resource Information \]](#)

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

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

Community Name	Threatened Category	Presence Text	Buffer Status
Assemblages of plants and invertebrate animals of tumulus (organic mound) springs of the Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area	In feature area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area	In buffer area only
Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only
Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands of the Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only
Shrublands and Woodlands of the eastern Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only
Shrublands and Woodlands on Muchea Limestone of the Swan Coastal Plain	Endangered	Community known to occur within area	In buffer area only
Subtropical and Temperate Coastal Saltmarsh	Vulnerable	Community likely to occur within area	In buffer area only
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

[\[Resource Information \]](#)

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

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
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BIRD

Scientific Name	Threatened Category	Presence Text	Buffer Status
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Zanda baudinii listed as Calyptorhynchus baudinii Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]	Endangered	Roosting known to occur within area	In feature area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Species or species habitat known to occur within area	In feature area
FISH			
Galaxiella nigrostriata Blackstriped Dwarf Galaxias, Black-stripe Minnow [88677]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
INSECT			
Hesperocolletes douglasi Douglas' Broad-headed Bee, Rottnest Bee [66734]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
MAMMAL			
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat known to occur within area	In feature area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat known to occur within area	In buffer area only
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
OTHER			
Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
PLANT			
Acacia anomala Grass Wattle, Chittering Grass Wattle [8153]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anigozanthos viridis subsp. terraspectans Dwarf Green Kangaroo Paw [3435]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Anthocercis gracilis Slender Tailflower [11103]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat known to occur within area	In feature area
Calytrix breviseta subsp. breviseta Swamp Starflower [23879]	Endangered	Species or species habitat may occur within area	In buffer area only
Chamelaucium sp. Gingin (N.G.Marchant 6) Gingin Wax [88881]	Endangered	Species or species habitat may occur within area	In buffer area only
Conospermum undulatum Wavy-leaved Smokebush [24435]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Darwinia foetida Muceha Bell [83190]	Critically Endangered	Species or species habitat may occur within area	In buffer area only
Diplolaena andrewsii [6601]	Endangered	Species or species habitat known to occur within area	In buffer area only
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leafed Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area	In feature area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat may occur within area	In feature area
Grevillea christineae Christine's Grevillea [64520]	Endangered	Species or species habitat known to occur within area	In buffer area only
Grevillea curviloba subsp. curviloba Curved-leaf Grevillea [64908]	Endangered	Species or species habitat known to occur within area	In buffer area only
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat known to occur within area	In feature area
Grevillea flexuosa Zig Zag Grevillea [2957]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Macarthuria keigheryi Keighery's Macarthuria [64930]	Endangered	Species or species habitat may occur within area	In feature area
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Thelymitra dedmaniarum Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat known to occur within area	In feature area
Trithuria occidentalis Swan Hydatella [42224]	Endangered	Species or species habitat likely to occur within area	In feature area

REPTILE

Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pseudemydura umbrina Western Swamp Tortoise [1760]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only

SHARK

Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
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Listed Migratory Species [\[Resource Information \]](#)

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Migratory Marine Species			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat likely to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

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

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

Commonwealth Land Name	State	Buffer Status
Defence		
Defence - BUSHMEAD RIFLE RANGE [50143]	WA	In buffer area only
Defence - BUSHMEAD TRAINING AREA [50260]	WA	In buffer area only
Defence - BUSHMEAD TRAINING AREA [50259]	WA	In buffer area only
Defence - BUSHMEAD TRAINING AREA [50258]	WA	In buffer area only
Defence - PALMER BARRACKS - SOUTH GUILDFORD [50180]	WA	In buffer area only
Defence - PALMER BARRACKS - SOUTH GUILDFORD [50177]	WA	In buffer area only
Defence - PALMER BARRACKS - SOUTH GUILDFORD [50179]	WA	In buffer area only
Defence - PALMER BARRACKS - SOUTH GUILDFORD [50176]	WA	In buffer area only
Defence - PALMER BARRACKS - SOUTH GUILDFORD [50178]	WA	In buffer area only
Defence - RAAF CAVERSHAM [50003]	WA	In feature area
Unknown		
Commonwealth Land - [50847]	WA	In buffer area only
Commonwealth Land - [50845]	WA	In buffer area only
Commonwealth Land - [50842]	WA	In buffer area only
Commonwealth Land - [51329]	WA	In buffer area only
Commonwealth Land - [50840]	WA	In buffer area only
Commonwealth Land - [50841]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51325]	WA	In buffer area only
Commonwealth Land - [51324]	WA	In buffer area only
Commonwealth Land - [51327]	WA	In buffer area only
Commonwealth Land - [51326]	WA	In buffer area only
Commonwealth Land - [51308]	WA	In buffer area only
Commonwealth Land - [51260]	WA	In buffer area only
Commonwealth Land - [51261]	WA	In buffer area only
Commonwealth Land - [51174]	WA	In buffer area only
Commonwealth Land - [50894]	WA	In buffer area only
Commonwealth Land - [51309]	WA	In buffer area only
Commonwealth Land - [50839]	WA	In buffer area only
Commonwealth Land - [51264]	WA	In buffer area only
Commonwealth Land - [51237]	WA	In buffer area only
Commonwealth Land - [51265]	WA	In buffer area only
Commonwealth Land - [51234]	WA	In buffer area only
Commonwealth Land - [51172]	WA	In buffer area only
Commonwealth Land - [50934]	WA	In buffer area only
Commonwealth Land - [51173]	WA	In buffer area only
Commonwealth Land - [51236]	WA	In buffer area only
Commonwealth Land - [51238]	WA	In buffer area only
Commonwealth Land - [51230]	WA	In buffer area only
Commonwealth Land - [51233]	WA	In buffer area only
Commonwealth Land - [51235]	WA	In buffer area only
Commonwealth Land - [50846]	WA	In buffer area only
Commonwealth Land - [51171]	WA	In buffer area only
Commonwealth Land - [51176]	WA	In buffer area only
Commonwealth Land - [51170]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51306]	WA	In buffer area only
Commonwealth Land - [51177]	WA	In buffer area only
Commonwealth Land - [51307]	WA	In buffer area only
Commonwealth Land - [51379]	WA	In buffer area only
Commonwealth Land - [51370]	WA	In buffer area only
Commonwealth Land - [50863]	WA	In buffer area only
Commonwealth Land - [51378]	WA	In buffer area only
Commonwealth Land - [50933]	WA	In buffer area only
Commonwealth Land - [51311]	WA	In buffer area only
Commonwealth Land - [51922]	WA	In buffer area only
Commonwealth Land - [51924]	WA	In buffer area only
Commonwealth Land - [51921]	WA	In buffer area only
Commonwealth Land - [51923]	WA	In buffer area only
Commonwealth Land - [50312]	WA	In buffer area only
Commonwealth Land - [51263]	WA	In buffer area only
Commonwealth Land - [51178]	WA	In buffer area only
Commonwealth Land - [50829]	WA	In buffer area only
Commonwealth Land - [50823]	WA	In buffer area only
Commonwealth Land - [50822]	WA	In buffer area only
Commonwealth Land - [50946]	WA	In buffer area only
Commonwealth Land - [50948]	WA	In buffer area only
Commonwealth Land - [51262]	WA	In buffer area only
Commonwealth Land - [51310]	WA	In buffer area only
Commonwealth Land - [51364]	WA	In buffer area only
Commonwealth Land - [50801]	WA	In buffer area only
Commonwealth Land - [51363]	WA	In buffer area only
Commonwealth Land - [51203]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [51366]	WA	In buffer area only
Commonwealth Land - [50804]	WA	In buffer area only
Commonwealth Land - [51365]	WA	In buffer area only
Commonwealth Land - [51515]	WA	In buffer area only
Commonwealth Land - [51367]	WA	In buffer area only
Commonwealth Land - [51195]	WA	In buffer area only
Commonwealth Land - [51369]	WA	In buffer area only
Commonwealth Land - [51362]	WA	In buffer area only
Commonwealth Land - [51361]	WA	In buffer area only
Commonwealth Land - [51288]	WA	In buffer area only
Commonwealth Land - [51289]	WA	In buffer area only
Commonwealth Land - [51977]	WA	In buffer area only
Commonwealth Land - [50803]	WA	In buffer area only
Commonwealth Land - [51285]	WA	In buffer area only
Commonwealth Land - [51286]	WA	In buffer area only
Commonwealth Land - [50884]	WA	In buffer area only
Commonwealth Land - [51284]	WA	In buffer area only
Commonwealth Land - [51916]	WA	In buffer area only
Commonwealth Land - [50869]	WA	In buffer area only
Commonwealth Land - [51352]	WA	In buffer area only
Commonwealth Land - [51182]	WA	In buffer area only
Commonwealth Land - [51226]	WA	In buffer area only
Commonwealth Land - [51910]	WA	In buffer area only
Commonwealth Land - [50862]	WA	In buffer area only
Commonwealth Land - [51915]	WA	In buffer area only
Commonwealth Land - [51181]	WA	In buffer area only
Commonwealth Land - [51360]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50805]	WA	In buffer area only
Commonwealth Land - [51189]	WA	In buffer area only
Commonwealth Land - [51359]	WA	In buffer area only
Commonwealth Land - [51185]	WA	In buffer area only
Commonwealth Land - [51184]	WA	In buffer area only
Commonwealth Land - [51368]	WA	In buffer area only
Commonwealth Land - [51906]	WA	In buffer area only
Commonwealth Land - [51330]	WA	In buffer area only
Commonwealth Land - [51331]	WA	In buffer area only
Commonwealth Land - [51186]	WA	In buffer area only
Commonwealth Land - [51187]	WA	In buffer area only
Commonwealth Land - [51345]	WA	In buffer area only
Commonwealth Land - [51344]	WA	In buffer area only
Commonwealth Land - [51346]	WA	In buffer area only
Commonwealth Land - [51343]	WA	In buffer area only
Commonwealth Land - [51175]	WA	In buffer area only
Commonwealth Land - [50853]	WA	In buffer area only
Commonwealth Land - [51154]	WA	In buffer area only
Commonwealth Land - [50851]	WA	In buffer area only
Commonwealth Land - [50858]	WA	In buffer area only
Commonwealth Land - [51909]	WA	In buffer area only
Commonwealth Land - [51194]	WA	In buffer area only
Commonwealth Land - [51190]	WA	In buffer area only
Commonwealth Land - [51516]	WA	In buffer area only
Commonwealth Land - [51188]	WA	In buffer area only
Commonwealth Land - [50878]	WA	In buffer area only
Commonwealth Land - [51213]	WA	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [50877]	WA	In buffer area only
Commonwealth Land - [51328]	WA	In buffer area only
Commonwealth Land - [51373]	WA	In buffer area only
Commonwealth Land - [51372]	WA	In buffer area only
Commonwealth Land - [51371]	WA	In buffer area only
Commonwealth Land - [51161]	WA	In buffer area only
Commonwealth Land - [51166]	WA	In buffer area only
Commonwealth Land - [51167]	WA	In buffer area only
Commonwealth Land - [51375]	WA	In buffer area only
Commonwealth Land - [51374]	WA	In buffer area only
Commonwealth Land - [51168]	WA	In buffer area only
Commonwealth Land - [51183]	WA	In buffer area only
Commonwealth Land - [51169]	WA	In buffer area only
Commonwealth Land - [51252]	WA	In buffer area only
Commonwealth Land - [51259]	WA	In buffer area only
Commonwealth Land - [51342]	WA	In buffer area only

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

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

Scientific Name	Threatened Category	Presence Text	Buffer Status
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Breeding known to occur within area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In buffer area only
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Thinornis cucullatus as Thinornis rubricollis Hooded Dotterel, Hooded Plover [87735]		Species or species habitat likely to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area
Mammal			
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat known to occur within area	In buffer area only
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Ellen Brook	Nature Reserve	WA	In buffer area only
Errina Road	Nature Reserve	WA	In buffer area only
Greenmount	National Park	WA	In buffer area only
Helena River	Management Area	WA	In buffer area only
John Forrest	National Park	WA	In buffer area only
NTWA Bushland covenant (0074)	Conservation Covenant	WA	In buffer area only
NTWA Bushland covenant (0157)	Conservation Covenant	WA	In buffer area only
Swan River	Management Area	WA	In buffer area only

Protected Area Name	Reserve Type	State	Buffer Status
Talbot Road	Nature Reserve	WA	In buffer area only
Unnamed WA1919/893	Management Area	WA	In buffer area only
Unnamed WA33618	Management Area	WA	In buffer area only
Unnamed WA36440	Management Area	WA	In buffer area only
Unnamed WA44853	Nature Reserve	WA	In buffer area only
Unnamed WA45106	5(1)(g) Reserve	WA	In buffer area only
Unnamed WA46875	Nature Reserve	WA	In buffer area only
Unnamed WA46919	Nature Reserve	WA	In buffer area only
Unnamed WA46920	Nature Reserve	WA	In buffer area only
Unnamed WA49079	Nature Reserve	WA	In buffer area only
Unnamed WA49300	Nature Reserve	WA	In buffer area only
Unnamed WA50069	Nature Reserve	WA	In buffer area only

Regional Forest Agreements

[[Resource Information](#)]

Note that all areas with completed RFAs have been included.

RFA Name	State	Buffer Status
South West WA RFA	Western Australia	In buffer area only

Nationally Important Wetlands

[[Resource Information](#)]

Wetland Name	State	Buffer Status
Perth Airport Woodland Swamps	WA	In buffer area only
RAAF Caversham	WA	In feature area
Swan-Canning Estuary	WA	In buffer area only

EPBC Act Referrals

[[Resource Information](#)]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Airport & Freight Access Gateway	2010/5384	Controlled Action	Post-Approval	In buffer area only
Brigadoon Estate Rural Residential Development	2008/4250	Controlled Action	Post-Approval	In buffer area only
Bushmead Residential Development, Hazelmere, WA	2015/7414	Controlled Action	Post-Approval	In buffer area only
East Landsdale Residential Development	2008/4676	Controlled Action	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
East Wanneroo Cell 9 residential subdivision - Lots 50,51,52,154 & 404	2010/5772	Controlled Action	Completed	In buffer area only
Ellenbrook Reliable Water Storage Project, WA	2015/7421	Controlled Action	Post-Approval	In buffer area only
Lot 112 and Lot 114 Warbrook Road, Bullsbrook	2020/8753	Controlled Action	Further Information Request	In buffer area only
Midland Cemetery Expansion	2008/4246	Controlled Action	Completed	In buffer area only
Morley-Ellenbrook Rail Line Part 2, WA	2019/8546	Controlled Action	Post-Approval	In feature area
National Lifestyle Village, Lot 97 Adelaide Street	2009/5141	Controlled Action	Post-Approval	In buffer area only
Natural Gas Pipeline Expansion	2006/2813	Controlled Action	Post-Approval	In feature area
Nava-1 Cable System	2001/510	Controlled Action	Completed	In buffer area only
Perth-Darwin National Highway alignment (Swan Valley Section), WA	2013/7042	Controlled Action	Post-Approval	In buffer area only
Primary school, residential development and open space, Lots 9000 Bottlebrush Drive, Kiara, WA	2013/7050	Controlled Action	Post-Approval	In buffer area only
Residential Development	2013/6983	Controlled Action	Completed	In buffer area only
Residential Development 822 Youle-Dean Road, Brabham, WA	2015/7458	Controlled Action	Post-Approval	In feature area
Residential development and conservation, Lot 102 Farrall Road, Stratton, WA	2017/8066	Controlled Action	Post-Approval	In buffer area only
Residential Subdivision development	2011/6040	Controlled Action	Post-Approval	In buffer area only
Roe Highway and Great Eastern Highway Bypass Grade Separation Interchange, Hazelmere WA	2020/8784	Controlled Action	Further Information Request	In buffer area only
Roe Highway and Kalamunda Road Interchange upgrade, WA	2018/8316	Controlled Action	Post-Approval	In buffer area only
Rural Development, Lot 1983 North Ellenbrook, WA	2014/7232	Controlled Action	Further Information Request	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Sand Mining 70/915 Banksia Road, Wellard, WA	2015/7438	Controlled Action	Post-Approval	In feature area
To grade separate three intersections on Tonkin Highway, WA	2014/7385	Controlled Action	Post-Approval	In buffer area only
Upper Swan Urban Development, 25km north, north-east of Perth, WA	2017/8062	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Brabham North residential development, Brabham, WA	2018/8380	Not Controlled Action	Completed	In feature area
Cell 2 of Caversham Local Structure Plan	2012/6259	Not Controlled Action	Completed	In buffer area only
Development of 39 (Lot 3000) Hardcastle Avenue, Landsdale, WA	2017/8100	Not Controlled Action	Completed	In buffer area only
Ellenbrook Bus Rapid Transit Project, WA	2016/7732	Not Controlled Action	Completed	In feature area
Eradication of the European House Borer, Perth metropolitan area, WA	2009/5027	Not Controlled Action	Completed	In feature area
Extension of Red Hill hard rock quarry, Lot 11 Toodyay Road	2007/3433	Not Controlled Action	Completed	In buffer area only
Forrestfield Airport Link, WA	2015/7399	Not Controlled Action	Completed	In buffer area only
Gnangara Road upgrade project, city of Swan, WA	2013/6966	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In buffer area only
Landsdale Primary School Development, WA	2015/7597	Not Controlled Action	Completed	In buffer area only
Landsdale Residential Subdivision Development	2011/6027	Not Controlled Action	Completed	In buffer area only
Lot 158 Landsdale Rd, Landsdale, WA	2012/6403	Not Controlled Action	Completed	In buffer area only
Pipeline Extension, Hazelmere and Helena Valley, WA	2018/8239	Not Controlled Action	Completed	In buffer area only
Reid Highway/Malaga Drive interchange upgrade, City of Swan, WA	2013/6892	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Residential and commercial development, Lot 1981 Alexander Drive & Lot 152 Gnangara Road, Landsdale, WA	2013/6982	Not Controlled Action	Completed	In buffer area only
Residential development, Landsdale, WA	2013/6964	Not Controlled Action	Completed	In buffer area only
Residential Development, Lot 500 Park Street, Brabham, WA	2019/8472	Not Controlled Action	Completed	In buffer area only
Residential development, Lot 55 Alexander Drive, Landsdale, WA	2013/6971	Not Controlled Action	Completed	In buffer area only
Residential Subdivision	2012/6410	Not Controlled Action	Completed	In buffer area only
Residential subdivision - lot 169 Kingsway Road, Landsdale WA	2012/6412	Not Controlled Action	Completed	In buffer area only
Residential subdivision - Lots 156 and 157 Landsdale Road Landsdale WA	2012/6407	Not Controlled Action	Completed	In buffer area only
Roe Highway Noise Wall, High Wycombe, WA	2014/7149	Not Controlled Action	Completed	In buffer area only
Rural residential development Lot 9006, Jane Brook, Perth, WA	2016/7667	Not Controlled Action	Completed	In buffer area only
Sand and clay extraction, Lots 5 and 6, 1728 Great Northern Hwy, Bullsbrook, WA	2019/8415	Not Controlled Action	Completed	In buffer area only
Telstra PITC O3B Clearing Application	2011/6147	Not Controlled Action	Completed	In buffer area only
Tonkin Highway Upgrade, Guildford Road to Great Eastern Highway, WA	2019/8545	Not Controlled Action	Completed	In buffer area only
Vegetation Clearing Viticulture project	2021/9099	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Ocean Reef Road Extension Works in Wangara	2010/5388	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
Rural/Residential Subdivision at Lot 502 Jane Brook Drive	2009/5261	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
South West Metropolitan Railway Project	2003/1175	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)		Manner)		

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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NatureMap Species Report

Created By Guest user on 18/02/2022

Kingdom Animalia
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 115° 58' 24" E, 31° 50' 15" S
Buffer 10km
Group By Species Group

Species Group	Species	Records
Amphibian	14	842
Bird	217	26064
Fish	23	36
Invertebrate	163	735
Mammal	29	405
Reptile	70	639
TOTAL	516	28721

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Amphibian				
1.	25398 <i>Crinia georgiana</i> (Quacking Frog)			
2.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
3.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
4.	25401 <i>Crinia pseudinsignifera</i> (Bleating Froglet)			
5.	25408 <i>Heleioporus albopunctatus</i> (Western Spotted Frog)			
6.	25409 <i>Heleioporus barycragus</i> (Hooting Frog)			
7.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
8.	25412 <i>Heleioporus psammophilus</i> (Sand Frog)			
9.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
10.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
11.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
12.	25420 <i>Myobatrachus gouldii</i> (Turtle Frog)			
13.	25426 <i>Neobatrachus pelobatoides</i> (Humming Frog)			
14.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
Bird				
15.	24559 <i>Acanthagenys rufogularis</i> (Spiny-cheeked Honeyeater)			
16.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
17.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
18.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
19.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
20.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
21.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
22.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
23.	24283 <i>Accipiter fasciatus</i> subsp. <i>didimus</i> (Brown Goshawk)			
24.	24282 <i>Accipiter fasciatus</i> subsp. <i>fasciatus</i> (Brown Goshawk)			
25.	25751 <i>Acridotheres tristis</i> (Common Myna)	Y		
26.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
27.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
28.	24310 <i>Anas castanea</i> (Chestnut Teal)			
29.	24311 <i>Anas clypeata</i> (Northern Shoveler)			Y
30.	24312 <i>Anas gracilis</i> (Grey Teal)			
31.	24313 <i>Anas platyrhynchos</i> (Mallard)			
32.	<i>Anas platyrhynchos</i> subsp. <i>domesticus</i>			
33.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
34.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
35.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
36.	24506 <i>Anous tenuirostris</i> subsp. <i>melanops</i> (Australian Lesser Noddy)		T	
37.	<i>Anser anser</i>			
38.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
39.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
40.	25670 <i>Anthus australis</i> (Australian Pipit)			
41.	25554 <i>Apus pacificus</i> (Fork-tailed Swift, Pacific Swift)		IA	
42.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
43.	25558 <i>Ardea ibis</i> (Cattle Egret)			
44.	25559 <i>Ardea intermedia</i> (Intermediate Egret)			
45.	41324 <i>Ardea modesta</i> (great egret, white egret)			
46.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
47.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
48.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
49.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
50.	24356 <i>Artamus personatus</i> (Masked Woodswallow)			
51.	24318 <i>Aythya australis</i> (Hardhead)			
52.	<i>Barnardius zonarius</i>			
53.	24319 <i>Biziura lobata</i> (Musk Duck)			
54.	24345 <i>Botaurus poiciloptilus</i> (Australasian Bittern)		T	
55.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
56.	25713 <i>Cacatua galerita</i> (Sulphur-crested Cockatoo)			
57.	24721 <i>Cacatua galerita</i> subsp. <i>galerita</i> (Sulphur-crested Cockatoo)	Y		
58.	24722 <i>Cacatua leadbeateri</i> (Major Mitchell's Cockatoo)			
59.	25714 <i>Cacatua pastinator</i> (Western Long-billed Corella)			
60.	24723 <i>Cacatua pastinator</i> subsp. <i>butleri</i> (Butler's Corella)			
61.	24724 <i>Cacatua pastinator</i> subsp. <i>pastinator</i> (Muir's Corella, Muir's Corella (Western Corella SW WA))		S	
62.	25715 <i>Cacatua roseicapilla</i> (Galah)			
63.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
64.	24727 <i>Cacatua sanguinea</i> subsp. <i>westralensis</i> (Little Corella)			
65.	<i>Cacatua sulphurea</i> subsp. <i>galerita</i>			Y
66.	24729 <i>Cacatua tenuirostris</i> (Eastern Long-billed Corella)	Y		
67.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
68.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
69.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
70.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
71.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
72.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
73.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
74.	25625 <i>Carduelis carduelis</i> (Goldfinch, European Goldfinch)	Y		
75.	24480 <i>Carduelis carduelis</i> subsp. <i>britannica</i> (Goldfinch)	Y		
76.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
77.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
78.	47909 <i>Cheramoeca leucosterna</i> (White-backed Swallow)			
79.	<i>Chroicocephalus novaehollandiae</i>			
80.	24431 <i>Chrysococcyx basalis</i> (Horsfield's Bronze Cuckoo)			
81.	24432 <i>Chrysococcyx lucidus</i> subsp. <i>plagosus</i> (Shining Bronze Cuckoo)			
82.	24288 <i>Circus approximans</i> (Swamp Harrier)			
83.	24289 <i>Circus assimilis</i> (Spotted Harrier)			
84.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
85.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
86.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
87.	24416 <i>Corvus bennetti</i> (Little Crow)			
88.	25592 <i>Corvus coronoides</i> (Australian Raven)			
89.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
90.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
91.	24422 <i>Cracticus tibicen</i> subsp. <i>dorsalis</i> (White-backed Magpie)			
92.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
93.	<i>Cyanorhamphus auriceps</i>			Y
94.	24322 <i>Cygnus atratus</i> (Black Swan)			
95.	24323 <i>Cygnus olor</i> (Mute Swan)	Y		
96.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
97.	30902 <i>Dacelo novaeguineae</i> subsp. <i>novaeguineae</i> (Laughing Kookaburra)	Y		
98.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
99.	24606 <i>Daphoenositta chrysoptera</i> subsp. <i>pileata</i> (Varied Sittella, Black-capped Sittella)			
100.	24325 <i>Dendrocygna eytoni</i> (Plumed Whistling Duck)			
101.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
102.	24470 <i>Dromaius novaehollandiae</i> (Emu)			
103.	<i>Egretta garzetta</i>			
104.	<i>Egretta novaehollandiae</i>			
105.	<i>Elanus axillaris</i>			
106.	24290 <i>Elanus caeruleus</i> subsp. <i>axillaris</i> (Australian Black-shouldered Kite)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
107.	47937 <i>Elseyornis melanops</i> (Black-fronted Dotterel)			
108.	<i>Eolophus roseicapillus</i>			
109.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
110.	24570 <i>Epthianura tricolor</i> (Crimson Chat)			
111.	24379 <i>Erythrogonyx cinctus</i> (Red-kneed Dotterel)			
112.	24368 <i>Eurostopodus argus</i> (Spotted Nightjar)			
113.	25621 <i>Falco berigora</i> (Brown Falcon)			
114.	24471 <i>Falco berigora</i> subsp. <i>berigora</i> (Brown Falcon)			
115.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
116.	24472 <i>Falco cenchroides</i> subsp. <i>cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
117.	25623 <i>Falco longipennis</i> (Australian Hobby)			
118.	24474 <i>Falco longipennis</i> subsp. <i>longipennis</i> (Australian Hobby)			
119.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
120.	25727 <i>Fulica atra</i> (Eurasian Coot)			
121.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
122.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
123.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
124.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
125.	42314 <i>Gavicalis virescens</i> (Singing Honeyeater)			
126.	24401 <i>Geopelia cuneata</i> (Diamond Dove)			
127.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
128.	47962 <i>Glyciphila melanops</i> (Tawny-crowned Honeyeater)			
129.	<i>Gracula religiosa</i>			
130.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
131.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
132.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			
133.	24689 <i>Halobaena caerulea</i> (Blue Petrel)			
134.	24296 <i>Hamirostra isura</i> (Square-tailed Kite)			
135.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
136.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
137.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
138.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
139.	24347 <i>Ixobrychus flavicollis</i> subsp. <i>australis</i> (Black Bittern (southwest subpop.), Australian Black Bittern)		P2	
140.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
141.	25659 <i>Lichenostomus leucotis</i> (White-eared Honeyeater)			
142.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
143.	24582 <i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
144.	<i>Lophoictinia isura</i>			
145.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
146.	25651 <i>Malurus lamberti</i> (Variegated Fairy-wren)			
147.	25652 <i>Malurus leucopterus</i> (White-winged Fairy-wren)			
148.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
149.	24552 <i>Malurus splendens</i> subsp. <i>splendens</i> (Splendid Fairy-wren)			
150.	24583 <i>Manorina flavigula</i> (Yellow-throated Miner)			
151.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
152.	47997 <i>Melanodryas cucullata</i> (Hooded Robin)			
153.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
154.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
155.	<i>Microcarbo melanoleucos</i>			
156.	25693 <i>Microeca fascinans</i> (Jacky Winter)			
157.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			
158.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
159.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
160.	24742 <i>Nymphicus hollandicus</i> (Cockatiel)			
161.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
162.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
163.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
164.	24693 <i>Pachyptila desolata</i> (Antarctic Prion)			
165.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
166.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
167.	24625 <i>Pardalotus punctatus</i> subsp. <i>punctatus</i> (Spotted Pardalote)			
168.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
169.	24630 <i>Pardalotus striatus</i> subsp. <i>westraliensis</i> (Striated Pardalote)			
170.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
171.	48060 <i>Petrochelidon ariel</i> (Fairy Martin)			
172.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
173.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
174.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
175.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
176.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
177.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
178.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
179.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
180.	25587 <i>Phaps elegans</i> (Brush Bronzewing)			
181.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
182.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
183.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
184.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
185.	24747 <i>Platycercus spurius</i> (Red-capped Parrot)			
186.	25721 <i>Platycercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
187.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
188.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
189.	24679 <i>Podargus strigoides</i> subsp. <i>brachypterus</i> (Tawny Frogmouth)			
190.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
191.	24680 <i>Podiceps cristatus</i> subsp. <i>australis</i> (Great Crested Grebe)			
192.	24681 <i>Poliiocephalus poliocephalus</i> (Hoary-headed Grebe)			
193.	25722 <i>Polytelis anthopeplus</i> (Regent Parrot)			
194.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
195.	24767 <i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			
196.	24769 <i>Porzana fluminea</i> (Australian Spotted Crake)			
197.	25732 <i>Porzana pusilla</i> (Baillon's Crake)			
198.	24771 <i>Porzana tabuensis</i> (Spotless Crake)			
199.	24703 <i>Pterodroma lessonii</i> (White-headed Petrel)			
200.	42344 <i>Purnella albifrons</i> (White-fronted Honeyeater)			
201.	<i>Purpureicephalus spurius</i>			
202.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
203.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
204.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
205.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
206.	30948 <i>Smicronis brevirostris</i> (Weebill)			
207.	24645 <i>Stagonopleura oculata</i> (Red-eared Firetail)			
208.	24525 <i>Sterna fuscata</i> subsp. <i>nubilosa</i> (Sooty Tern)			
209.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			
210.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
211.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
212.	30951 <i>Streptopelia chinensis</i> subsp. <i>tigrina</i> (Spotted Turtle-Dove)	Y		
213.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
214.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
215.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
216.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
217.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
218.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
219.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
220.	24309 <i>Todiramphus sanctus</i> subsp. <i>sanctus</i> (Sacred Kingfisher)			
221.	48141 <i>Tribonyx ventralis</i> (Black-tailed Native-hen)			
222.	<i>Trichoglossus chlorolepidotus</i>			
223.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
224.	24755 <i>Trichoglossus haematodus</i> subsp. <i>moluccanus</i> (Rainbow Lorikeet)	Y		
225.	24754 <i>Trichoglossus haematodus</i> subsp. <i>rubitorquis</i> (Red-collared Lorikeet)			
226.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
227.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
228.	48147 <i>Turnix varius</i> (Painted Button-quail)			
229.	24852 <i>Tyto alba</i> subsp. <i>delicatula</i> (Barn Owl)			
230.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
231.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			
Fish				
232.	<i>Acanthaluteres brownii</i>			
233.	<i>Acentrogobius bifrenatus</i>			
234.	<i>Aldrichetta forsteri</i>			
235.	<i>Amniataba caudavittata</i>			
236.	<i>Atherinosoma wallacei</i>			
237.	<i>Carcharhinus leucas</i>			
238.	<i>Cnidoglanis macrocephalus</i>			
239.	<i>Engraulis australis</i>			
240.	<i>Favonigobius</i> sp.			
241.	34028 <i>Galaxias occidentalis</i> (Western Minnow)			
242.	34027 <i>Galaxiella nigrostriata</i> (Black-stripe Minnow, black-striped dwarf galaxias)		T	
243.	34030 <i>Geotria australis</i> (Pouched Lamprey)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
			P3	
244.	<i>Gerres subfasciatus</i>			
245.	<i>Gonorynchus greyi</i>			
246.	<i>Monacanthus chinensis</i>			
247.	<i>Mugil cephalus</i>			
248.	<i>Nannoperca vittata</i>			
249.	<i>Neatypus obliquus</i>			
250.	<i>Platycephalus indicus</i>			
251.	<i>Rhabdosargus sarba</i>			
252.	<i>Scobinichthys granulatus</i>			
253.	<i>Tridentiger trigonocephalus</i>			
254.	<i>Urocampus carinirostris</i>			
Invertebrate				
255.	<i>Acariformes sp.</i>			
256.	<i>Akamptogonus novarae</i>			
257.	<i>Allothereua maculata</i>			
258.	<i>Amblyomma triguttatum</i>			
259.	<i>Aname mainae</i>			
260.	<i>Aname tepperi</i>			
261.	<i>Ancylidae sp.</i>			
262.	<i>Arachnura higginsii</i>			
263.	<i>Araneus senicaudatus</i>			
264.	<i>Argiope protensa</i>			
265.	<i>Argiope trifasciata</i>			
266.	<i>Artoria linnaei</i>			
267.	<i>Artoriopsis exposita</i>			
268.	<i>Asadipus kunderang</i>			
269.	<i>Austracantha minax</i>			
270.	<i>Australomimetes auriculatus</i>			
271.	48574 <i>Australotomurus morbidus</i> (cemetery springtail, Guildford springtail)		P3	
272.	<i>Austrogomphus (Zephyrogomphus) lateralis</i>			
273.	<i>Backobourkia brounii</i>			
274.	<i>Backobourkia heroine</i>			
275.	<i>Badumna insignis</i>			
276.	<i>Baetidae sp.</i>			
277.	<i>Ballara longipalpus</i>			
278.	<i>Bigenditia zuytdorp</i>			
279.	<i>Brentidae sp.</i>			
280.	<i>Caenidae sp.</i>			
281.	<i>Carabidae sp.</i>			
282.	<i>Ceinidae sp.</i>			
283.	<i>Celaenia excavata</i>			
284.	<i>Ceratopogonidae sp.</i>			
285.	<i>Cercophonius sulcatus</i>			
286.	<i>Cethegus fugax</i>			
287.	33939 <i>Cherax cainii</i> (Marron)			
288.	<i>Cherax destructor</i>			
289.	<i>Cherax quinquecarinatus</i>			
290.	<i>Cherax sp.</i>			
291.	<i>Chironominae sp.</i>			
292.	<i>Cladocera (unident.)</i>			
293.	<i>Clinohelea sp. 1</i> (SAP)			
294.	<i>Corduliidae sp.</i>			
295.	<i>Corixidae sp.</i>			
296.	<i>Cormocephalus aurantiipes</i>			
297.	<i>Cormocephalus turneri</i>			
298.	<i>Culicidae sp.</i>			
299.	<i>Curculionidae sp.</i>			
300.	<i>Cyrtophora parnasia</i>			
301.	<i>Dingosa serrata</i>			
302.	<i>Dinocambala ingens</i>			
303.	<i>Dolichopodidae sp.</i>			
304.	<i>Dugesidae sp.</i>			
305.	<i>Dytiscidae sp.</i>			
306.	<i>Echomina F group</i>			
307.	<i>Erigone prominens</i>			
308.	<i>Eriophora biapicata</i>			
309.	<i>Eupograptus kottae</i>			
310.	<i>Glossiphoniidae sp.</i>			
311.	<i>Gomphidae sp.</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
312.	<i>Gripopterygidae sp.</i>			
313.	<i>Gyrinidae sp.</i>			
314.	<i>Harpacticoida sp</i>			
315.	<i>Hemicloea sublimbata</i>			
316.	<i>Hemicordulia tau</i>			
317.	<i>Hemicorduliidae sp.</i>			
318.	<i>Hogna crispipes</i>			
319.	<i>Hogna kuyani</i>			
320.	<i>Holasteron perth</i>			
321.	<i>Holconia westralia</i>			
322.	<i>Holocnemus pluchei</i>			
323.	<i>Hydrophilidae sp.</i>			
324.	<i>Hydroptilidae sp.</i>			
325.	<i>Hypoblemum sp.</i>			Y
326.	<i>Idiomata blackwalli</i>			
327.	48935 <i>Idiosoma sigillatum (Swan Coastal Plain shield-backed trapdoor spider)</i>		P3	
328.	<i>Isometroides vescus</i>			
329.	<i>Isopeda leishmanni</i>			
330.	<i>Isopeda magna</i>			
331.	<i>Isopedella cana</i>			
332.	<i>Isopedella tindalei</i>			
333.	<i>Lampona cylindrata</i>			
334.	<i>Lampona yanchep</i>			
335.	<i>Lamponella ainslie</i>			
336.	<i>Latrodectus hasselti</i>			
337.	<i>Latrodectus hasseltii</i>			
338.	<i>Lepidoptera sp.</i>			
339.	<i>Leptoceridae sp.</i>			
340.	<i>Leptophlebiidae sp.</i>			
341.	<i>Libellulidae sp.</i>			
342.	<i>Limnochares australica</i>			
343.	<i>Lycosa ariadnae</i>			
344.	<i>Lycosa godeffroyi</i>			
345.	<i>Lymnaeidae sp.</i>			
346.	<i>Maratus pavonis</i>			
347.	<i>Maratus spicatus</i>			
348.	<i>Masasteron mas</i>			
349.	<i>Microvelia sp.</i>			
350.	<i>Missulena granulosa</i>			
351.	<i>Missulena occatoria</i>			
352.	<i>Mituliodon tarantulinus</i>			
353.	<i>Monohalea sp. 4 (SAP)</i>			
354.	<i>Myandra bicincta</i>			
355.	<i>Nematoda sp.</i>			
356.	<i>Nephila edulis</i>			
357.	<i>Nicodamus mainae</i>			
358.	<i>Notiasemus glauerti</i>			
359.	<i>Notsodipus muckera</i>			
360.	<i>Occiperipatoides gilesii</i>			
361.	<i>Oecobius navus</i>			
362.	<i>Oligochaeta sp.</i>			
363.	<i>Ommatoiulus moreleti</i>			
364.	<i>Oniscidae sp.</i>			
365.	<i>Opopaea sp.</i>			Y
366.	<i>Orthoclaadiinae SO3 sp. A (SAP)</i>			
367.	<i>Orthoclaadiinae sp.</i>			
368.	<i>Ostracoda (unident.)</i>			
369.	<i>Oxyethira sp.</i>			
370.	<i>Paracyclops sp.</i>			
371.	<i>Paralampona marangaroo</i>			
372.	<i>Paralimnophyes pullulus (V42)</i>			
373.	<i>Paramelitidae sp.</i>			
374.	<i>Pentasteron securifer</i>			
375.	<i>Pholcus phalangoides</i>			
376.	<i>Physidae sp.</i>			
377.	<i>Pinkfloydia harveii</i>			
378.	<i>Planorbidae sp.</i>			
379.	<i>Procladius paludicola</i>			
380.	<i>Raveniella cirrata</i>			
381.	<i>Raveniella peckorum</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
382.	<i>Richardsonianidae</i> sp.			
383.	<i>Rotifera</i> sp.			
384.	<i>Sandalodes superbus</i>			
385.	<i>Scirtidae</i> sp.			
386.	<i>Scolopendra laeta</i>			
387.	<i>Scytodes thoracica</i>			
388.	<i>Servaea melaina</i>			
389.	<i>Simuliidae</i> sp.			
390.	<i>Smeringopus natalensis</i>			
391.	<i>Smeringopus natalensis?</i>			Y
392.	<i>Steatoda capensis</i>			
393.	<i>Steatoda grossa</i>			
394.	<i>Sternopriscus</i> sp.			
395.	<i>Stratiomyidae</i> sp.			
396.	<i>Styloniscidae</i> sp.			
397.	<i>Supunna funerea</i>			
398.	<i>Supunna picta</i>			
399.	33992 <i>Synemon gratiosa</i> (Graceful Sunmoth)		P4	
400.	<i>Synothele durokoppin</i>			
401.	<i>Synothele michaelsoni</i>			
402.	<i>Tabanidae</i> sp.			
403.	<i>Talitridae</i> sp.			
404.	<i>Tamopsis perthensis</i>			
405.	<i>Tanypodinae</i> sp.			
406.	<i>Tanytarsus barbitarsis</i>			
407.	<i>Tasmanicosa leuckartii</i>			
408.	<i>Tetragnatha luteocincta</i>			Y
409.	<i>Tipulidae</i> sp.			
410.	<i>Urodacus armatus</i>			
411.	<i>Urodacus novaehollandiae</i>			
412.	<i>Urodacus planimanus</i>			
413.	<i>Venator immansueta</i>			
414.	<i>Venatrix pullastra</i>			
415.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
416.	<i>Westrarchaea spinosa</i>			
417.	unknown unknown			Y

Mammal

418.	47713 <i>Austronomus australis</i> (White-striped Free-tailed Bat)			
419.	25452 <i>Bettongia penicillata</i> (Woylie, Brush-tailed Bettong)		T	
420.	24162 <i>Bettongia penicillata</i> subsp. <i>ogilbyi</i> (Woylie, Brush-tailed Bettong)		T	
421.	24251 <i>Bos taurus</i> (European Cattle)	Y		
422.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
423.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
424.	24092 <i>Dasyurus geoffroi</i> (Chuditch, Western Quoll)		T	
425.	24258 <i>Equus caballus</i> (Horse)	Y		
426.	24189 <i>Falsistrellus mackenziei</i> (Western False Pipistrelle, Western Falsistrelle)		P4	
427.	24041 <i>Felis catus</i> (Cat)	Y		
428.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
429.	48588 <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
430.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
431.	24135 <i>Macropus robustus</i> subsp. <i>erubescens</i> (Euro, Biggada)			
432.	24168 <i>Macrotis lagotis</i> (Bilby, Dalgyte, Ninu)		T	
433.	24223 <i>Mus musculus</i> (House Mouse)	Y		
434.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
435.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
436.	34016 <i>Ovis aries</i> (Sheep)			
437.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
438.	24230 <i>Pseudomys albocinereus</i> (Ash-grey Mouse)			
439.	24243 <i>Rattus fuscipes</i> (Western Bush Rat)			
440.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
441.	24207 <i>Tachyglossus aculeatus</i> (Short-beaked Echidna)			
442.	24167 <i>Tarsipes rostratus</i> (Honey Possum, Noolbenger)			
443.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
444.	24158 <i>Trichosurus vulpecula</i> subsp. <i>vulpecula</i> (Common Brushtail Possum)			
445.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
446.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		

Reptile

447.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
448.	44629 <i>Anilius australis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
449.	25319 <i>Antaresia stimsoni</i> subsp. <i>orientalis</i> (Stimson's Python)			
450.	25241 <i>Antaresia stimsoni</i> subsp. <i>stimsoni</i> (Stimson's Python)			
451.	24990 <i>Aprasia pulchella</i> (Granite Worm-lizard)			
452.	24991 <i>Aprasia repens</i> (Sand-plain Worm-lizard)			
453.	42380 <i>Brachyuropis fasciolatus</i> subsp. <i>fasciolatus</i> (Narrow-banded Shovel-nosed Snake)			
454.	42381 <i>Brachyuropis semifasciatus</i> (Southern Shovel-nosed Snake)			
455.	43380 <i>Chelodina colliei</i> (South-western Snake-necked Turtle)			
456.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
457.	25456 <i>Crenadactylus ocellatus</i> (Clawless Gecko)			
458.	24918 <i>Crenadactylus ocellatus</i> subsp. <i>ocellatus</i> (Clawless Gecko)			
459.	30893 <i>Cryptoblepharus buchananii</i>			
460.	25020 <i>Cryptoblepharus plagiocephalus</i>			
461.	30899 <i>Ctenophorus adelaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
462.	24883 <i>Ctenophorus ornatus</i> (Ornate Crevice-Dragon)			
463.	25027 <i>Ctenotus australis</i>			
464.	25039 <i>Ctenotus fallens</i>			
465.	25040 <i>Ctenotus gemmula</i> (Jewelled South-west Ctenotus (Swan Coastal Plain subpop P3), skink)			
466.	25047 <i>Ctenotus impar</i>			
467.	25049 <i>Ctenotus labillardieri</i>			
468.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
469.	24999 <i>Delma grayii</i>			
470.	25296 <i>Demansia psammophis</i> subsp. <i>reticulata</i> (Yellow-faced Whipsnake)			
471.	25469 <i>Diplodactylus granariensis</i>			
472.	24929 <i>Diplodactylus granariensis</i> subsp. <i>granariensis</i>			
473.	44654 <i>Diplodactylus lateroides</i> (Speckled Stone Gecko)			
474.	24939 <i>Diplodactylus polyophthalmus</i>			
475.	25251 <i>Echiopsis curta</i> (Bardick)			
476.	25096 <i>Egernia kingii</i> (King's Skink)			
477.	25100 <i>Egernia napoleonis</i>			
478.	25250 <i>Elapognathus coronatus</i> (Crowned Snake)			
479.	24959 <i>Gehyra variegata</i>			
480.	25474 <i>Hemiergis initialis</i>			
481.	25115 <i>Hemiergis initialis</i> subsp. <i>initialis</i>			
482.	25475 <i>Hemiergis peronii</i>			
483.	25119 <i>Hemiergis quadrilineata</i>			
484.	25133 <i>Lerista elegans</i>			
485.	25165 <i>Lerista praepedita</i>			
486.	25005 <i>Lialis burtonis</i>			
487.	25184 <i>Menetia greyii</i>			
488.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
489.	25191 <i>Morethia lineocellata</i>			
490.	25192 <i>Morethia obscura</i>			
491.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
492.	25249 <i>Neelaps calonotos</i> (Black-striped Snake, black-striped burrowing snake)		P3	
493.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
494.	25253 <i>Parasuta gouldii</i>			
495.	25255 <i>Parasuta nigriceps</i>			
496.	25007 <i>Pletholax gracilis</i> subsp. <i>gracilis</i> (Keeled Legless Lizard)			
497.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			
498.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
499.	25261 <i>Pseudechis australis</i> (Mulga Snake)			
500.	25345 <i>Pseudemydura umbrina</i> (Western Swamp Tortoise, Western Swamp Turtle)		T	
501.	25511 <i>Pseudonaja affinis</i> (Dugite)			
502.	25259 <i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
503.	42416 <i>Pseudonaja mengdeni</i> (Western Brown Snake)			
504.	25263 <i>Pseudonaja modesta</i> (Ringed Brown Snake)			
505.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
506.	25518 <i>Strophurus spinigerus</i>			
507.	24943 <i>Strophurus spinigerus</i> subsp. <i>inornatus</i>			
508.	24942 <i>Strophurus spinigerus</i> subsp. <i>spinigerus</i>			
509.	25203 <i>Tiliqua occipitalis</i> (Western Bluetongue)			
510.	25519 <i>Tiliqua rugosa</i>			
511.	25204 <i>Tiliqua rugosa</i> subsp. <i>aspera</i>			
512.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
513.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			
514.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
515.	25225 <i>Varanus rosenbergi</i> (Heath Monitor)			
516.	25526 <i>Varanus tristis</i> (Racehorse Monitor)			

Name ID Species Name

Naturalised

Conservation Code

¹Endemic To Query Area

Conservation Codes

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

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

Appendix C

Black Cockatoo Foraging Plants



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

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

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

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

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

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

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

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

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

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Appendix D

Conservation Significant Species and Likelihood of
Occurrence Assessment



Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
Birds					
<i>Diomedea amsterdamensis</i>	Amsterdam albatross	CR	EN (MI)	The Amsterdam albatross is a marine, pelagic seabird. It nests in open patchy vegetation (among tussocks, ferns or shrubs) near exposed ridges or hillocks (Weimerskirch et al. 1985). It sleeps and rests on ocean waters when not breeding (Marchant and Higgins 1990)	Unlikely No suitable habitat occurs in the site.
<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.	Unlikely No suitable habitat occurs in the site.
<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).	Unlikely No suitable habitat occurs in the site.
<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).	Unlikely No suitable habitat occurs in the site.
<i>Rostratula australis</i>	Australian painted snipe	EN	EN	Mainly shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans (Marchant and Higgins 1993).	Unlikely No suitable habitat occurs in the site.
<i>Limosa lapponica</i>	Bar-tailed godwit	MI (& VU or CR at subsp. level)	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).	Unlikely No suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Zanda baudinii</i>	Baudin's cockatoo	EN	EN	Mainly eucalypt forests. Attracted to seeding <i>Corymbia calophylla</i> , <i>Banksia</i> spp., <i>Hakea</i> spp., and to fruiting apples and pears (Johnstone and Storr 1998).	Possible Areas of primary foraging habitat present within site.
<i>Ixobrychus flavicollis australis</i>	Black bittern	P2	-	Freshwater pools, swamps and lagoons, well-screened with trees. Occasionally feeding by day but mainly sheltering in dense waterside vegetation (<i>Melaleuca</i> spp., <i>Eucalyptus camaldulensis</i> , <i>Pandanus</i> spp. and long grass) (Johnstone and Storr 1998).	Unlikely No suitable habitat occurs in the site.
<i>Thalassarche melanophris</i>	Black-browed albatross	EN	VU (MI)	Seas of south and west coasts. Visitor to Western Australian mainland from January to early November (mostly May to September). Breeds on southern subantarctic and antarctic islands (Johnstone and Storr 1998).	Unlikely No suitable habitat occurs in the site.
<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).	Unlikely No suitable habitat occurs in the site.
<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).	Unlikely No suitable habitat occurs in the site.
<i>Thalassarche melanophris impavida</i>	Campbell albatross	VU	VU (MI)	Scarce visitor to south-western and western Australian seas. Breeds on Campbell Island.	Unlikely No suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Zanda 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).	Recorded Foraging evidence found within the site.
<i>Hydroprogne caspia</i>	Caspian tern	MI	MI	Mainly sheltered areas, estuaries (when not laden with silt) and tidal creeks; occasionally near-coastal saltlakes (including saltwork ponds) and brackish pools in lower courses of rivers; rarely fresh waters.	Unlikely No suitable habitat occurs in the site.
<i>Tringa nebularia</i>	Common greenshank	MI	MI	Mudflats, estuaries, saltmarshes, margins of lakes, wetlands, claypans (fresh and saline), commercial saltfields, sewage ponds (Pizzey & Knight 2012).	Unlikely No suitable habitat occurs in the site.
<i>Actitis hypoleucos</i>	Common sandpiper	MI	MI	Edge of sheltered waters salt or fresh, e.g. estuaries, mangrove creeks, rocky coasts, near-coastal saltlakes (including saltwork ponds), river pools, lagoons, claypans, drying swamps, flood waters, dams and sewage ponds. Preferring situations where low perches are available (Johnstone & Storr 1998).	Unlikely No suitable habitat occurs in the site.
<i>Thalasseus bergii</i>	Crested tern	MI	MI	Mainly blue-water seas (especially within 3 km of land), including southern estuaries in summer and autumn (when free of silt); also tidal creeks in north, but not penetrating far into larger estuaries.	Unlikely No suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Calidris ferruginea</i>	Curlew sandpiper	CR	CR (MI)	Mainly shallows of estuaries and near-coastal saltlakes (including saltwork ponds) and drying near-coastal freshwater lakes and swamps. Also beaches and near-coastal sewage ponds.	Unlikely No suitable habitat occurs in the site.
<i>Numenius madagascariensis</i>	Eastern curlew	CR	CR (MI)	Mainly tidal mudflats; also reef flats, sandy beaches and rarely near-coastal lakes (including saltwork ponds) (Johnstone and Storr 1998).	Unlikely No suitable habitat occurs in the site.
<i>Pachyptila turtur subantarctica</i>	Fairy prion	-	VU	Breeds on subantarctic islands and is presumed to frequent subtropical waters during non-breeding period (TSSC 2015).	Unlikely No suitable habitat occurs in the site.
<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.	Recorded Foraging evidence found within the site.
<i>Plegadis falcinellus</i>	Glossy Ibis	MI	MI	Well-vegetated wetlands, wet pasture, ricefields, floodwaters, floodplains, brackish or occasionally saline wetlands, mangroves, mudflats and occasionally dry grassland (Pizzey & Knight 2012).	Unlikely No suitable habitat occurs in the site.
<i>Calidris tenuirostris</i>	Great knot	CR	CR (MI)	Mud or sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds.	Unlikely No suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Charadrius leschenaultii</i>	Great sand plover	VU	VU (MI)	Wide sandy or shelly beaches, sandpits, tidal mudflats, reefs, sand cays, mangroves, saltmarsh, dune wilderness, bare paddocks, seldom far inland (Pizzey & Knight 2012).	Unlikely No suitable habitat occurs in the site.
<i>Pluvialis squatarola</i>	Grey Plover	MI	MI	Mudflats, saltmarsh, tidal reefs and estuaries, rarely inland (Pizzey and Knight 2012).	Unlikely No suitable habitat occurs in the site.
<i>Motacilla cinerea</i>	Grey wagtail	MI	MI	In Australia mostly near running water in disused quarries, sandy and rocky streams in escarpments and rainforests, sewage ponds, ploughed fields and airfields (Pizzey & Knight 2012).	Unlikely No suitable habitat occurs in the site.
<i>Elanus scriptus</i>	Letter-winged kite	P4	-	Open to sparsely wooded country and grassland near tree-lined streams or watercourses (Johnstone and Storr 1998).	Unlikely No suitable habitat occurs in the site.
<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).	Unlikely Site is located outside of current known distribution. No longer occurs on Swan Coastal Plain
<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.	Unlikely No suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Cacatua pastinator pastinator</i>	Muir's corella	CD	-	Wheat and sheep farming country with remnant native forest. Species is restricted to the south-west corner of WA, near Lake Muir (DPaW 2015).	Unlikely Site occurs outside of current known population. Restricted to the lower south-west.
<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).	Unlikely No suitable habitat occurs in the site.
<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.	Unlikely No suitable habitat occurs in the site.
<i>Pandion haliaetus</i>	Osprey	MI	MI	Coasts, estuaries, bays, inlets, islands, and surrounding waters; coral atolls, reefs, lagoons, rock cliffs, stacks (Pizzey & Knight 2012).	Unlikely No suitable habitat occurs in the site.
<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).	Possible May opportunistically occur in or fly over the site on commute or while searching for prey.
<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).	Unlikely No suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Falco peregrinus</i>	Peregrine falcon	OS	-	Mainly found around cliffs along coasts, rivers, ranges and around wooded watercourses and lakes (Johnstone and Storr 1998).	Possible May opportunistically occur in or fly over the site on commute or while searching for prey.
<i>Calidris canutus</i>	Red knot	EN	EN (MI)	Mud and sand flats in estuaries and on sheltered coasts. Also near-coastal saltlakes, including saltwork ponds.	Unlikely No suitable habitat occurs in the site.
<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).	Unlikely No suitable habitat occurs in the site.
<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).	Unlikely No suitable habitat occurs in the site.
<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.	Unlikely No suitable habitat occurs in the site.
<i>Thalassarche cauta</i>	Shy albatross	VU	VU (MI)	Scarce visitor (late May to mid-October) to southwestern and western seas. Breeds on islands off Tasmania and south New Zealand (Johnstone and Storr 1998).	Unlikely No suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<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).	Unlikely No suitable habitat occurs in the site.
<i>Diomedea epomophora</i>	Southern royal albatross	VU	VU (MI)	Rare visitor to Western Australian seas; it breeds on subantarctic islands south of New Zealand (Johnstone and Storr 1998).	Unlikely No suitable habitat occurs in the site.
<i>Diomedea exulans</i>	Wandering albatross	VU	VU (MI)	Marine, pelagic and aerial species. It breeds on Macquarie Island and feeds in Australian portions of the Southern Ocean (DoE 2018).	Unlikely No suitable habitat occurs in the site.
<i>Thalassarche steadi</i>	White-capped albatross	VU	VU (MI)	Marine species that occurs in subantarctic and subtropical waters. It reaches tropical areas associated with the cool Humboldt Current off South America (Marchant & Higgins 1990). The species has been noted in shelf-waters around breeding islands and over adjacent rises. During the non-breeding season, birds have been observed over continental shelves around continents. The species occurs both inshore and offshore (Marchant 1977) and enters harbours and bays (Jehl 1973). Birds gather to scavenge at commercial fishing grounds.	Unlikely No suitable habitat occurs in the site.
<i>Tringa glareola</i>	Wood sandpiper	MI	MI	Mainly shallow fresh waters (lagoons, swamps, claypans, river pools, dams, bore overflows and sewage ponds); occasionally brackish swamps, rarely saltlakes and estuaries (Pizzey & Knight).	Unlikely No suitable habitat occurs in the site.
Fish					

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Galaxiella nigrostriata</i>	Black-stripe minnow	EN	EN	Seasonally dry coastal wetlands. Permanent or ephemeral spring-fed headwater streams, ponds, roadside ditches and small creeks in sandy wetland areas with thick vegetation. Also occurs in the shallow areas of some freshwater lakes with thick vegetation. The water is usually highly tannin-stained and acidic (pH 4.5-6.5) (Bray and Gomon 2017).	Unlikely No suitable habitat occurs in the site.
Invertebrates					
<i>Westralunio carteri</i>	Carter's freshwater mussel	VU	VU	Occurs in greatest abundance in slower flowing streams with stable sediments that are soft enough for burrowing amongst woody debris and exposed tree roots. Also occupies lentic systems including large water supply dams and even on-stream farm dams. Salinity tolerance quite low (Morgan et al. 2011).	Unlikely No suitable habitat occurs in the site.
<i>Australotomurus morbidus</i>	Cemetery springtail	P3	-	Unknown.	Unlikely Four known populations in WA. Closest population 8km south-east.
<i>Hesperocolletes douglasi</i>	Douglas's broad-headed bee	CR	CR	Banksia woodland vegetation (Pille Arnold 2019).	Possible Suitable habitat recorded within the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<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 <i>Lomandra maritima</i> . Banksia woodland on Spearwood and Bassendean dunes, where the second known host plant <i>L. hermaphrodita</i> is widespread (DEC 2011).	Possible <i>Lomandra hermaphrodita</i> historically recorded within the site.
<i>Idiosoma sigillatum</i>	Swan Coastal Plain shield-backed trapdoor spider	P3	-	Widely distributed in sandy areas on the Swan Coastal Plain and on Rottnest Island (Prince 2003).	Possible Suitable habitat recorded within the site.
Mammals					
<i>Macrotis lagotis</i>	Bilby	VU	VU	Open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises and hummock grassland (<i>spinifex</i>) growing on sandplains and dunes, drainage systems, salt lake systems and other alluvial areas (DBCA 2017a).	Unlikely Site occurs outside of current known population. No longer found on the Swan Coastal Plain.
<i>Dasyurus geoffroii</i>	Chuditch	VU	VU	Wide range of habitats from woodlands, dry sclerophyll forests, riparian vegetation, beaches and deserts. Appears to utilise native vegetation along roadsides in the wheatbelt (DEC 2012b).	Unlikely No suitable habitat occurs in the site.
<i>Macroderma gigas</i>	Ghost bat	VU	VU	Requires undisturbed roost caves or mineshafts, usually complex systems with several openings (Menkhorst and Knight 2011).	Unlikely No suitable habitat occurs in the site.
<i>Isoodon fusciventer</i>	Quenda	P4	-	Dense scrubby, often swampy, vegetation with dense cover up to one metre high (DEC 2012)	Possible Suitable habitat occurs in the site.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<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).	Unlikely No suitable habitat occurs in the site.
<i>Phascogale tapoatafa wambenger</i>	South-western brush-tailed phascogale	CD	-	Dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover (Triggs 2003).	Unlikely Site occurs outside of current known distribution. Generally occurs further south and in the Jarrah forest.
<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).	Unlikely Site occurs outside of current known population. Closest population 100km south-east.
<i>Notamacropus irma</i>	Western brush wallaby	P4	-	Dry sclerophyll forest, Banksia spp. woodlands and shrublands, typically favouring dense low vegetation that provides dense cover (Christensen and Strahan 1983).	Unlikely No suitable habitat occurs in the site.
<i>Falsistrellus mackenziei</i>	Western false pipistrelle	P4	-	High rainfall forests dominated by jarrah, karri, marri, and tuart. Occupies hollow logs for breeding and resting (Van Dyck and Strahan 2008). Also known to utilise Banksia woodland on the Swan Coastal Plain (Hosken and O'Shea 1995).	Unlikely Site occurs outside current known distribution. No sightings north of Mandurah since 1993.

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<i>Pseudocheirus occidentalis</i>	Western ringtail possum	CR	CR	On the Swan Coastal Plain in Agonis flexuosa woodlands and Agonis flexuosa/ Eucalyptus gomphocephala forests. Also Eucalyptus marginata forests (DBCA 2017).	Unlikely Site occurs outside current known distribution. Closest population approx. 100km south.
<i>Bettongia penicillata ogilbyi</i>	Woylie	CR	EN	Woodlands and adjacent heaths with a dense understorey of shrubs, particularly Gastrolobium spp. (TSSC 2018).	Unlikely Site occurs outside current known distribution. Closest population approx. 140km south-east.
Reptiles					
<i>Neelaps calonotos</i>	Black-striped snake	P3	-	Coastal and near-coastal dunes, sandplains supporting heathlands and Banksia spp. woodlands (Bush et al. 2002).	Possible Suitable habitat recorded within the site.
<i>Ctenotus gemmula (Swan Coastal Plain population)</i>	Jewelled sandplain ctenotus	P3	-	Species inhabits low vegetation in Banksia woodlands where it shelters in leaf litter under trees and shrubs and abandoned stick-ant nests (Bush et al. 2010).	Unlikely No recent sightings occur close to the site.
<i>Pseudemydura umbrina</i>	Western swamp tortoise	CR	CR	Clay based ephemeral swamps (Bush et al. 2002).	Unlikely No suitable habitat occurs in the site.
<p><i>Note: CE=critically endangered, EN=endangered, VU=vulnerable, CD=conservation dependent, MI=migratory, OS=other specially protected, P1=Priority 1, P2=Priority 2, P3=Priority 3, P4=Priority 4. Species recorded or considered to potentially occur within the site are shaded green.</i></p>					
References					
Bush, B., Maryan, B., Browne-Cooper, R. and Robinson, D. 2007, Reptiles and Frogs in the Bush: Southwestern Australia, UWA Press, Nedlands.					

Species name	Common name	Level of significance		Habitat	Likelihood of occurrence
		WA	EPBC Act		
<p>Bray, D. J. and Gomon, M. F. 2018, Pouch Lamprey, <i>Geotria australis</i>.</p> <p>Christensen, P. and Strahan, R. 1984, The Australian Museum Complete Book of Australian Mammals, Angus and Robertson Publishers, Sydney.</p> <p>Cronin, L. 2007, Cronin's Key Guide to Australian Wildlife, Oxford University Press, Oxford, United Kingdom.</p> <p>Department of Biodiversity, Conservation and Attractions (DBCA) 2017, Fauna Profile: Western Ringtail Possum <i>Pseudocheirus occidentalis</i>, Perth, Western Australia.</p> <p>Johnstone, R. E. and Storr, G. M. 1998, Handbook of Western Australian Birds. Volume 1 - Non-Passerines (Emu to Dollarbird), Western Australian Museum, Perth.</p> <p>Marchant, S. and Higgins, P. J. 1993, Handbook of Australian, New Zealand and Antarctic Birds. Volume two - Raptors to Lapwings, Oxford University Press, Melbourne, Victoria.</p> <p>Morgan, D. L., Beatty, S. J., Klunzinger, M. W., Allen, M. G. and Burnham, Q. E. 2011, Field Guide to the Freshwater Fishes, Crayfishes and Mussels of South Western Australia, SERCUL, Perth, Western Australia.</p> <p>Morcombe, M. 2004, Field Guide to Australian Birds, Steve Parish Publishing, Archerfield, Queensland.</p> <p>Nevill, S. 2005, Guide to the Wildlife of the Perth Region, Simon Nevill Publications, Perth, Western Australia.</p> <p>Pizzey, G. and Knight, F. 2012, The Fieldguide to the Birds of Australia, Harper Collins Publishers, Sydney, Australia.</p> <p>Rentz, D. C. F. 1993, Tettigoniidae of Australia 2. The Austrosaginae, Zaprochilinae and Phasmodinae, CSIRO.</p> <p>Threatened Species Scientific Committee (TSSC) 2018, Conservation advice for <i>Bettongia penicillata</i> (woylie), Department of the Environment, Canberra.</p> <p>Triggs, B. 2003, Tracks, Scats and Other Traces A Field Guide to Australian Mammals, Oxford University Press Australia, Melbourne, Victoria.</p> <p>Department of Environment and Conservation (DEC) 2012, Fauna profiles, Quenda <i>Isoodon obesulus</i> (Shaw, 1797), Perth.</p> <p>Van Dyck, S. and Strahan, R. 2008, The Mammals of Australia, Queensland Museum, Brisbane.</p> <p>Wilson, S. and Swan, G. 2008, A Complete Guide to Reptiles of Australia, Reed New Holland, Sydney.</p>					

Appendix E

Species List



Category	Status	Species name	Common name	Record type
Birds		<i>Gumnorhina tibicen</i>	Australian magpie	Sight
		<i>Corvus coronoides</i>	Australian raven	Call
		<i>Banardius zonarius</i>	Australian ringneck	Sight
		<i>Coracina novaehollandiae</i>	Black-faced cuckoo-shrike	Sight, call
	EN	<i>Zanda latirostris</i>	Carnaby's black cockatoo	Foraging evidence
		<i>Neophema elegans</i>	Elegant parrot	Sight
	VU	<i>Calyptorhynchus banksii naso</i>	Forest Red-Tailed black cockatoo	Foraging evidence
		<i>Rhipidura albiscapa</i>	Grey fantail	Sight
		<i>Phylidonyris novaehollandiae</i>	New holland honeyeater	Sight, call
		<i>Anas superciliosa</i>	Pacific black duck	Sight
		<i>Cracticus nigrogularis</i>	Pied butcherbird	Sight
		<i>Merops ornatus</i>	Rainbow bee-eater	Sight
		<i>Anthochaera careculata</i>	Red wattlebird	Call
		<i>Purpureicephalus spurius</i>	Red-capped parrot	Foraging evidence
		<i>Pachycephala rufiventris</i>	Rufous whistler	Call
		<i>Malurus splendens</i>	Splendid fairy wren	Sight
		<i>Spilopelia chinensis</i>	Spotted dove	Sight
		<i>Sericornis frontalis</i>	Spotted scrubwren	Sight
		<i>Petrochelidon nigricans</i>	Tree martin	Sight
		<i>Smicrornis brevirostris</i>	Weebill	Sight
	<i>Gerygone fusca</i>	Western gerygone	Call	
	<i>Anthochaera lunulata</i>	Western wattlebird	Sight	
	<i>Haliastur sphenurus</i>	Whistling kite	Call	
Mammals		<i>Macropus fuliginosus</i>	Western grey kangaroo	Sight
	*, DP	<i>Oryctolagus cuniculus</i>	Rabbit	Tracks, scats
Reptile		<i>Tiliqua rugosa</i>	Bobtail	Track
		<i>Pseudonaja affinis</i>	Dugite	Sight
		<i>Cryptoblepharus buehananii</i>	Buchanan's snake-eyed skink	Sight

Note: * denotes introduced fauna species, DP=declared pest under the BAM Act, VU = Vulnerable, EN = Endangered

Appendix F

Black Cockatoo Habitat Tree Data



Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
1913	402753.84	6476819.33	61	<i>Corymbia calophylla</i>	No suitable hollow/s	MS	
3081	402940.96	6476825.76	53	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
3082	402923.77	6476822.05	120	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
3086	402906.90	6476804.59	84	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
3100	402868.15	6476779.62	62	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
3101	402867.35	6476784.04	52	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
3106	402857.02	6476776.19	68	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
633	403048.80	6477221.65	52	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
634	403131.26	6477429.62	54	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
635	403126.89	6477431.57	74	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
636	403107.59	6477420.75	69	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
637	403099.78	6477426.00	66	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
638	403059.64	6477347.13	53	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
640	403184.56	6477306.74	58	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
643	403184.65	6477257.07	70	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
645	403200.89	6477119.98	60	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
646	403267.69	6477101.99	87	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
647	403285.82	6477166.68	68	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
648	403334.49	6477153.17	64	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
651	403393.75	6477131.11	63	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
652	403412.89	6476957.36	50	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
653	403395.20	6476907.19	102	<i>Corymbia calophylla</i>	Potentially suitable hollow/s	SCM	
654	403402.96	6476916.91	50	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
661	403447.45	6476683.97	58	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
666	402883.97	6476988.29	64	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
668	402987.95	6476940.27	94	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
670	403226.83	6476797.86	61	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
674	403304.37	6476622.99	62	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
675	403472.78	6476657.61	51	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
682	403045.12	6476919.75	61	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
696	402522.33	6477101.93	60	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
698	402521.64	6477115.12	64	<i>Corymbia calophylla</i>	No suitable hollow/s	SCM	
701	403035.90	6477485.81	69	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
702	403030.75	6477480.11	64	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
703	403018.81	6477481.77	54	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
704	403002.47	6477527.95	53	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
705	403004.88	6477523.87	60	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
706	403015.74	6477525.42	60	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
708	402974.93	6477458.30	57	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
709	402971.25	6477456.16	57	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
710	402890.86	6477521.58	60	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
711	402844.32	6477478.46	59	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
712	402910.69	6477566.33	52	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
716	403182.08	6477700.70	70	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
717	403177.53	6477711.63	64	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
718	402755.35	6477569.41	70	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
719	402749.43	6477564.58	83	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
720	402719.10	6477619.84	69	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
721	402674.86	6477583.72	63	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
722	402602.68	6477560.53	65	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
724	402521.30	6477509.54	85	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
729	402566.45	6477469.29	67	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
730	402593.68	6477481.52	67	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
732	402665.65	6477437.86	59	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
733	402664.91	6477425.54	55	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
734	402678.29	6477391.75	60	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
735	402674.35	6477387.94	65	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
736	402673.67	6477379.84	65	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
738	402562.56	6477271.04	66	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
739	402648.97	6477309.66	53	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
741	402664.20	6477351.26	58	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
742	402483.71	6477332.48	79	<i>Corymbia calophylla</i>	Potentially suitable hollow/s	NAW	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
743	402491.18	6477342.75	60	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
744	402526.81	6477377.79	88	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
745	402572.66	6477443.41	73	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
746	402552.62	6477441.00	68	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
747	402501.45	6477397.06	51	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
748	402495.12	6477405.87	51	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
749	402484.27	6477413.08	75	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
750	402470.25	6477444.32	54	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
751	402425.65	6477376.83	70	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
797	402810.63	6476877.51	54	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
801	403256.36	6477732.44	54	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
806	403267.52	6477693.30	69	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
807	403219.88	6477696.40	52	<i>Corymbia calophylla</i>	Potentially suitable hollow/s	ASF	
808	403210.77	6477688.78	98	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
809	403194.82	6477674.77	53	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
810	403191.51	6477674.18	88	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
811	403166.55	6477651.33	64	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
812	403165.44	6477679.04	79	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
813	403204.46	6477706.12	65	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
815	402751.64	6477281.70	68	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
816	402733.33	6477285.74	77	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
817	402774.49	6477326.48	63	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
818	402675.32	6477205.48	78	<i>Corymbia calophylla</i>	No suitable hollow/s	ASF	
821	402829.29	6476875.69	83	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
824	402850.08	6476898.95	140	<i>Corymbia calophylla</i>	No suitable hollow/s	NAW	
954	402988.91	6477280.28	54	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
955	402977.93	6477280.51	72	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
956	403003.94	6477282.42	52	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
957	403009.49	6477285.57	59	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
964	403336.69	6477362.38	76	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
965	403321.36	6477352.48	67	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
966	403315.60	6477360.63	64	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	termite damage near base
967	403313.66	6477325.02	88	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
968	403326.30	6477330.35	62	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
969	403342.57	6477320.75	55	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
970	403352.29	6477314.08	65	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
972	403366.06	6477298.02	65	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
974	403349.21	6477288.66	61	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
975	403335.08	6477301.61	65	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
980	403405.46	6477134.66	92	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
981	403437.58	6476979.21	51	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
982	403450.95	6476925.79	55	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
988	403509.49	6476688.66	60	<i>Corymbia calophylla</i>	No suitable hollow/s	SKP	
0	403191.38	6476872.96	50	<i>Eucalyptus gomphocephala</i>	No suitable hollow/s	SCM	Inside locked compound, not measured but looks large enough. Likely planted
0	403179.80	6476872.72	50	<i>Eucalyptus gomphocephala</i>	No suitable hollow/s	SCM	Inside locked compound, not measured but looks large enough. Likely planted
0	403265.05	6476815.58	50	<i>Eucalyptus gomphocephala</i>	No suitable hollow/s	SCM	Inside locked compound, not measured but looks large enough. Likely planted
0	403261.89	6476851.61	50	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	Inside locked compound, not measured but looks large enough
0	403155.48	6476837.76	50	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	Inside locked compound, not measured but looks large enough
1671	402714.93	6476900.11	50	<i>Eucalyptus marginata</i>	No suitable hollow/s	MS	
1672	402710.96	6476900.07	61	<i>Eucalyptus marginata</i>	No suitable hollow/s	MS	
1683	402784.40	6476899.66	99	<i>Eucalyptus marginata</i>	No suitable hollow/s	MS	
1876	403070.06	6476633.64	50	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
1882	403085.71	6476660.06	50	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
1883	403091.48	6476660.34	61	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
3006	402953.26	6476635.86	64	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
3054	402958.02	6476653.31	54	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
3058	402985.54	6476674.63	59	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
3059	402973.00	6476659.44	71	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
3093	402898.15	6476789.88	96	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
549	403003.99	6476715.71	50	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
568	403046.62	6476620.23	59	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
655	403406.58	6476874.26	110	<i>Eucalyptus marginata</i>	Potentially suitable hollow/s	SCM	
656	403404.21	6476854.84	97	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
657	403397.34	6476850.23	63	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
658	403388.65	6476848.04	73	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
659	403423.80	6476824.21	106	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
663	403347.12	6476856.86	110	<i>Eucalyptus marginata</i>	Potentially suitable hollow/s	SCM	
664	403357.91	6476846.43	52	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
669	403003.52	6476935.65	68	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
671	403237.91	6476756.83	54	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
672	403268.33	6476772.86	69	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
673	403290.51	6476728.17	68	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
676	403276.39	6476810.96	78	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
680	403239.71	6476896.86	60	<i>Eucalyptus marginata</i>	No suitable hollow/s	SCM	
715	403125.30	6477710.03	89	<i>Eucalyptus marginata</i>	No suitable hollow/s	NAW	
827	402882.67	6476855.36	69	<i>Eucalyptus marginata</i>	No suitable hollow/s	NAW	
983	403420.95	6476825.07	107	<i>Eucalyptus marginata</i>	No suitable hollow/s	SKP	
989	403337.86	6476846.01	100	<i>Eucalyptus marginata</i>	No suitable hollow/s	SKP	
991	403311.63	6476897.54	114	<i>Eucalyptus marginata</i>	No suitable hollow/s	SKP	
1000	402439.46	6477078.53	52	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
1601	402677.73	6477040.99	72	<i>Eucalyptus rudis</i>	No suitable hollow/s	MS	
1603	402678.64	6477035.68	58	<i>Eucalyptus rudis</i>	No suitable hollow/s	MS	
1610	402669.79	6477019.85	84	<i>Eucalyptus rudis</i>	No suitable hollow/s	MS	
1634	402535.22	6476900.07	56	<i>Eucalyptus rudis</i>	No suitable hollow/s	MS	
601	402862.54	6477052.49	164	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
602	402862.00	6477039.63	51	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
603	402895.24	6477017.88	67	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
604	402902.66	6477062.96	51	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
605	402944.08	6477066.57	66	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
606	402945.97	6477107.60	124	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
607	402937.68	6477113.07	77	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
608	402893.78	6477092.14	58	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
609	402899.53	6477114.59	52	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
610	402927.78	6477139.36	108	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
611	402933.68	6477155.82	71	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
612	402925.14	6477158.18	51	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
613	402930.57	6477154.90	73	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
614	402937.43	6477159.74	53	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
615	402938.22	6477165.95	85	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
616	402934.01	6477170.79	77	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
617	402931.14	6477183.95	74	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
618	402888.19	6477142.20	63	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
619	402916.24	6477198.45	69	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
620	402927.38	6477201.10	65	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
621	402932.88	6477200.38	101	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
622	402927.66	6477202.43	60	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
623	402928.54	6477209.43	52	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
624	402933.49	6477215.68	140	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
625	402930.26	6477217.31	98	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
626	402926.03	6477224.37	179	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
627	402919.64	6477209.90	54	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
628	402979.88	6477194.17	74	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
629	402999.80	6477219.30	56	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
630	402995.66	6477246.87	62	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
631	402993.48	6477256.82	50	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
632	403013.94	6477235.29	76	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
642	403095.50	6477207.23	61	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
686	402608.42	6477085.34	57	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
687	402606.04	6477086.21	56	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
688	402610.76	6477068.07	70	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
689	402606.90	6477076.24	87	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
690	402595.31	6477070.14	90	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
691	402540.44	6477048.34	56	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
692	402492.13	6476983.91	53	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
693	402480.83	6476967.40	66	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
694	402468.63	6476946.33	89	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
695	402475.40	6476990.96	56	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
699	402568.94	6477117.01	168	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
700	402567.95	6477101.70	77	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
713	402909.63	6477697.80	113	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
725	402358.62	6477370.09	93	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
752	402346.15	6477377.51	100	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
753	402361.16	6477341.85	108	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
754	402372.16	6477359.14	80	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
755	402374.69	6477351.40	55	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
756	402381.41	6477351.57	71	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
757	402389.04	6477345.88	94	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
758	402384.82	6477341.19	61	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
759	402388.81	6477339.45	72	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
760	402405.90	6477323.98	115	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
761	402637.10	6477164.43	70	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
762	402635.99	6477162.09	86	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
763	402604.75	6477172.77	70	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
764	402601.18	6477179.61	70	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
765	402593.96	6477193.18	85	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
766	402559.35	6477199.72	90	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
767	402557.14	6477213.34	106	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
768	402545.66	6477216.11	73	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
769	402542.96	6477222.07	55	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
770	402541.85	6477228.60	109	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
771	402269.05	6477284.77	124	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
772	402273.92	6477289.91	60	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
773	402337.76	6477283.65	64	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
774	402292.25	6477273.13	72	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
775	402276.21	6477258.45	72	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
776	402277.80	6477270.11	64	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
777	402302.55	6477254.49	58	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
778	402366.11	6477238.35	69	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
779	402370.70	6477233.30	64	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
780	402377.04	6477144.67	99	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
781	402330.44	6477158.64	62	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
782	402356.34	6477111.22	63	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
783	402434.62	6477099.88	90	<i>Eucalyptus rudis</i>	No suitable hollow/s	NAW	
814	402790.16	6477261.55	58	<i>Eucalyptus rudis</i>	No suitable hollow/s	ASF	
819	402674.92	6477128.43	54	<i>Eucalyptus rudis</i>	No suitable hollow/s	ASF	
934	402817.44	6477078.67	62	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
936	402828.65	6477113.70	62	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
938	402819.45	6477136.45	62	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
939	402843.84	6477149.32	81	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
940	402865.47	6477153.62	58	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
943	402876.25	6477224.12	58	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
945	402891.17	6477188.01	55	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
947	402902.16	6477216.61	52	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
948	402915.54	6477233.25	64	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
949	402927.79	6477238.69	65	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
951	402935.65	6477257.83	64	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
953	402938.41	6477236.35	57	<i>Eucalyptus rudis</i>	No suitable hollow/s	SKP	
992	402571.95	6477099.19	61	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	

Tag No.	Eastings	Northing	DBH (cm)	Species	Category	Recorder	Notes
993	402571.20	6477088.54	75	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
994	402537.13	6477078.57	102	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
995	402580.66	6477098.71	77	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
996	402501.10	6477154.83	84	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
997	402478.65	6477167.70	88	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
998	402482.85	6477123.17	61	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
999	402427.86	6477114.67	119	<i>Eucalyptus rudis</i>	No suitable hollow/s	SCM	
583	403063.47	6476679.47	68	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
639	403172.74	6477356.07	79	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
660	403424.10	6476752.15	52	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
662	403358.02	6476765.17	53	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
665	403356.85	6476879.01	52	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
681	403138.02	6476882.93	54	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
683	403094.81	6476968.77	82	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
685	403305.43	6476983.39	85	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SCM	
714	402922.49	6477679.29	103	<i>Eucalyptus todtiana</i>	No suitable hollow/s	NAW	
803	403219.93	6477751.16	60	<i>Eucalyptus todtiana</i>	No suitable hollow/s	ASF	
804	403210.17	6477773.58	65	<i>Eucalyptus todtiana</i>	No suitable hollow/s	ASF	
805	403224.29	6477730.81	68	<i>Eucalyptus todtiana</i>	No suitable hollow/s	ASF	
984	403476.41	6476794.66	156	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SKP	
985	403477.24	6476736.02	78	<i>Eucalyptus todtiana</i>	Potentially suitable hollow/s	SKP	
987	403496.96	6476711.93	107	<i>Eucalyptus todtiana</i>	No suitable hollow/s	SKP	
1680	402760.38	6476917.94	81	Stag	Potentially suitable hollow/s	MS	
641	403186.14	6477329.81	82	Stag	No suitable hollow/s	SCM	
644	403194.00	6477178.90	58	Stag	No suitable hollow/s	SCM	
649	403367.87	6477136.19	76	Stag	No suitable hollow/s	SCM	
650	403386.20	6477129.16	108	Stag	No suitable hollow/s	SCM	
667	402930.24	6476978.64	64	Stag	No suitable hollow/s	SCM	
677	403273.54	6476852.39	119	Stag	Potentially suitable hollow/s	SCM	
678	403284.47	6476857.26	59	Stag	No suitable hollow/s	SCM	
679	403301.82	6476844.35	55	Stag	No suitable hollow/s	SCM	

Tag No.	Easting	Northing	DBH (cm)	Species	Category	Recorder	Notes
684	403065.15	6477002.86	91	Stag	No suitable hollow/s	SCM	
697	402517.66	6477104.99	58	Stag	Potentially suitable hollow/s	SCM	
707	403003.02	6477519.42	64	Stag	No suitable hollow/s	NAW	
723	402599.99	6477615.60	70	Stag	No suitable hollow/s	NAW	
728	402537.78	6477458.37	69	Stag	No suitable hollow/s	NAW	
737	402613.27	6477252.67	72	Stag	Potentially suitable hollow/s	NAW	
740	402648.10	6477331.82	74	Stag	No suitable hollow/s	NAW	
802	403232.71	6477751.51	84	Stag	Potentially suitable hollow/s	ASF	
826	402857.46	6476849.36	71	Stag	No suitable hollow/s	NAW	
958	403015.22	6477289.84	71	Stag	Potentially suitable hollow/s	SKP	
986	403489.62	6476727.83	61	Stag	No suitable hollow/s	SKP	
990	403330.03	6476863.23	101	Stag	No suitable hollow/s	SKP	

