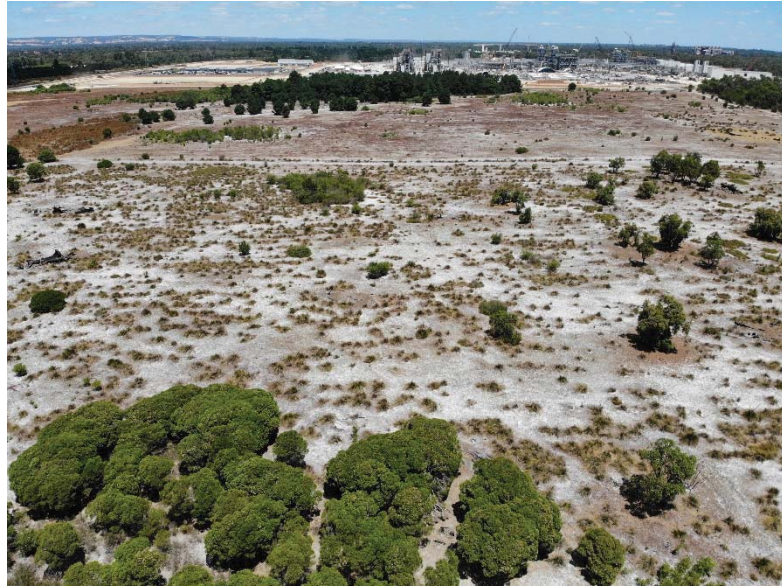


# Fauna Assessment



## Albemarle Kemerton Project

### Kemerton

March 2022

V2

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## SUMMARY

This report details the results of a fauna assessment over sections of land adjacent to the existing Albemarle Kemerton Plant site (the survey area). The survey area covers about 166 hectares (ha) and consists of a mosaic of remnant native bushland, partly cleared bushland, cleared land and pine plantations.

Albemarle Lithium Pty Ltd are investigating potential development opportunities for the site and the purpose of this assessment is to identify any potential constraints on any development which may exist in relation to fauna/fauna habitat.

The fauna assessment has included a literature review and a field reconnaissance survey. The field component of the fauna assessment was carried out on 24 January 2022 by Greg Harewood (Zoologist).

### **Key Findings**

- The remnant native vegetation onsite is mainly comprised of various densities of jarrah marri, *Banksia*, and sheoak over an open shrubland or low open heath. The main area of remnant vegetation is in the western section of the survey area. The balance of the subject site is either partly cleared (including some regrowth) or totally cleared, apart from various areas of sedgeland, paperbark, *Kunzea* tall shrubland and pine plantations (some partly harvested).
- The largest continuous area of remnant native vegetation in the western section of the survey area, which makes up about 30% of the survey area, has the best value as fauna habitat given it remains in very good to excellent condition and contains many hollow bearing trees. A high percentage of the predicted fauna species are likely to utilise this area.
- The balance of the survey area (~70%) has been subject to vary degrees of historical disturbance (e.g. partial clearing, fragmentation) and therefore fauna habitat values vary though generally these areas, along with the totally cleared areas and pine plantations, lack many natural attributes and would only be utilised by generally common and widespread fauna species with non-specific requirements which allow them to persist in disturbed/highly disturbed habitats.
- The survey area was found to contain 429 potential “black cockatoo breeding habitat trees” (DBH >50cm). Seventeen (17) of these trees were assessed at the time of the survey to possibly have large enough hollows for black cockatoos to use for nesting, though this assessment was based on the size of the entrance into an apparent hollow only. No actual evidence of any hollows being used by black cockatoos for nesting (currently or previously) was seen.
- All areas of remnant native vegetation containing, jarrah, marri and/or banksia within the survey area can be regarded as foraging habitat for black cockatoos, though its quality varies. The area of jarrah and banksia woodland in the western section of the survey area (47.3 ha (~29% of total survey area) represents high quality foraging habitat given the

dominance of these favoured plant species in addition to some marri and sheoak and a range of shrub species.

- The black cockatoo foraging habitat value in other sections of the survey area varies from negligible to moderate depending in the degree of disturbance and/or floral composition.
- In summary three vertebrate fauna species of conservation significance were positively identified as utilising the survey area:
  - Forest Red-tailed Black Cockatoo – Vulnerable (WA/Federal);
  - Carnaby’s Black Cockatoo – Endangered (WA/Federal);
  - Baudin’s Black Cockatoo – Endangered (WA/Federal).
- Several additional species of conservation significance may also utilise the survey area, though, as no evidence of their presence was identified during the field survey, their status in the area remains uncertain:
  - Swan Coastal Plain Shield-backed Trapdoor Spider - Priority 3 (DBCA Priority Species);
  - Coastal Plains Skink – Priority 3 (DBCA Priority Species);
  - Perth Lined Skink - Priority 3 (DBCA Priority Species);
  - Peregrine Falcon – Schedule 7 (WA);
  - Masked Owl – Priority 3 (DBCA Priority Species);
  - Quenda – Priority 4 (DBCA Priority Species);
  - South-western Brush-tailed Phascogale - Schedule 6 (WA);
  - Western Ringtail Possum – Critically Endangered (WA/Federal);
  - Western Brush Wallaby - Priority 4 (DBCA Priority Species);
  - Western False Pipistrelle – Priority 4 (DBCA Priority Species).
- The presence or potential presence of these species and/or their habitat will need to be taken into consideration during ongoing project planning.

## 1. INTRODUCTION

This report details the results of a fauna assessment over sections of land adjacent to the existing Albemarle Kemerton Plant site (the survey area) (Figure 1). The survey area covers about 166 hectares (ha) and consists of a mosaic of remnant native bushland, partly cleared bushland, cleared land and pine plantations (Figure 2).

Albemarle Lithium Pty Ltd are investigating potential development opportunities for the site and the purpose of this assessment is to identify any potential constraints on any development which may exist in relation to fauna/fauna habitat.

## 2. SCOPE OF WORKS

The scope of works was to conduct a “basic” fauna assessment and carry out a targeted survey for black cockatoo habitat. The assessment has therefore involved:

1. A basic (Level 1) Fauna Assessment (EPA 2020);
2. Targeted searches for black cockatoo habitat/site use (habitat trees, existing and potential nest hollows, foraging and roosting habitat); and
3. Report for summarising methods and results.

Note: For the purposes of this proposal the term black cockatoo is in reference to Baudin's black cockatoo *Zanda baudinii*, Carnaby's black cockatoo *Zanda latirostris* and the forest red-tailed black cockatoo *Calyptorhynchus banksii naso*.

## 3. METHODS

### 3.1 LITERATURE REVIEW – FAUNA SPECIES OF CONSERVATION SIGNIFICANCE

A list of conservation significant fauna recorded or likely to occur within the survey area has been compiled by a review of available databases and literature including, but not limited to the following data sources:

- Department of Biodiversity, Conservation and Attractions (DBCA) Threatened Fauna Database (NatureMap) (DBCA 2021). A 20 km buffer around the survey area was applied to capture previous fauna records within the immediate vicinity;
- *EPBC Act* Protected Matters database for fauna of national environmental significance (DAWE 2022). The minimum buffer (0 km) was applied to this search as the databases contains distribution data (areas) and not actual fauna records; and
- Literature search and review of other fauna surveys in the vicinity.

The conservation status of each species has been based on current lists produced under Federal and State Acts (EPBC Act and the *Biodiversity Conservation Act 2016 (BC Act)*), those species recognised under international treaties (CAMBA, JAMBA and the Bonn Convention) and Priority Fauna (as listed by the DBCA).

## **3.2 FIELD SURVEYS**

The field component of the fauna assessment was carried out on 24 January 2022 by Greg Harewood (Zoologist) and consisted of a daytime reconnaissance and targeted habitat surveys as described in the sections below.

### **3.2.1 FAUNA HABITAT ASSESSMENT**

Vegetation units and soils identified by Ecoedge (2022) during a recent reconnaissance and targeted flora and vegetation survey have been used to define broad scale fauna habitats across the survey area. This information has been supplemented with observations made during the site reconnaissance survey.

The main objective of the assessment was to determine if it were likely that species of conservation significance would utilise the habitats identified as occurring within the survey area based on their documented habitat preference and current known distribution.

### **3.2.2 FAUNA OBSERVATIONS**

Evidence of the presence or likely presence of fauna species of conservation significance (or suitable habitat) was searched for and recorded concurrent with other site surveys. Opportunistic observations of all fauna species were made during all field survey work and recorded where positive species identifications were made.

This aspect of the assessment included but was not limited to:

- Undertaking a series of transects across the survey area.
- Searching for evidence (i.e. individuals, tracks, scats, calls) of potential conservation significant species under logs, rocks and leaf litter.
- Observing bird species with binoculars.

### **3.2.3 BLACK COCKATOO HABITAT ASSESSMENT**

The following methods were employed to comply with the defined scope of works and are based on Commonwealth of Australia (2012) guidelines which state that surveys for Carnaby's, Baudin's and forest red-tailed black cockatoo habitat should:

- be done by a suitably qualified person with experience in vegetation or cockatoo surveys, depending on the type of survey being undertaken;
- maximise the chance of detecting the species' habitat and/or signs of use;



- determine the context of the site within the broader landscape—for example, the amount and quality of habitat nearby and in the local region (for example, within 10 km);
- account for uncertainty and error (false presence and absences); and
- include collation of existing data on known locations of breeding and feeding birds and night roost locations.

The Commonwealth of Australia (2012) places habitats used by black cockatoos into the following three categories:

- Breeding Habitat;
- Foraging Habitat; and
- Night Roosting Habitat.

### 3.2.3.1 Breeding Habitat Assessment

The black cockatoo breeding habitat assessment identified all suitable breeding tree species within the survey area that had a diameter at breast height (DBH) equal to or greater than 50cm. The DBH of each tree was estimated using a pre-made “caliper”.

Target tree species included marri, jarrah, tuart and flooded gum and any other *Corymbia/Eucalyptus* species of a suitable size that was present. Peppermints, *Banksia*, sheoak and *Melaleuca* tree species (for example) were not assessed as they typically do not develop hollows used by black cockatoos.

The location of each tree identified as being over the threshold DBH was recorded with a GPS and details on tree species, number and size of hollows (if any) noted. Trees observed to contain hollows (of any size/type) were marked with “H” using spray paint.

Hollow/potential hollows were placed into one of four categories, based on the size of the apparent hollow entrance, these being:

- Small = ~<5cm diameter (i.e. entrance too small for a black cockatoo);
- Medium = ~5cm-10cm diameter (i.e. entrance too small for a black cockatoo);
- Large = ~>10cm diameter (entrance large enough for a black cockatoo but hollow appears unsuitable for nesting i.e. wrong orientation, appears too small, too low or too shallow); or
- Large (cockatoo) = ~>10cm diameter (entrance and apparent hollow appears big enough and suitably sized/orientated for a black cockatoo to use for nesting).



Based on this assessment, trees present within the survey area were placed into one of four categories:

- Tree <50cm DBH or an unsuitable species (these were not assessed/recorded);
- Tree  $\geq$ 50cm DBH, no hollows seen;
- Tree  $\geq$ 50cm DBH, one or more hollows seen, none of which were considered suitable for black cockatoos to use for nesting; or
- Tree  $\geq$ 50cm DBH, one or more hollows seen, with at least one considered suitable for black cockatoos to use for nesting.

For the purposes of this assessment, a tree containing a potential black cockatoo nest hollow was defined as:

*Generally, any tree which is alive or dead that contains one or more visible hollows (cavities within the trunk or branches) or possible hollows suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows that had an entrance greater than about 10cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk, were recorded as a “potential nest hollow”.*

Identified hollows were examined using binoculars for evidence of actual use by black cockatoos (e.g. chewing around hollow entrance, scarring and scratch marks on trunks and branches). Details recorded included hollow size, height, type, orientation, comments on suitability and any evidence of use.

Trees with possible nest hollows were also scratched and raked with a large stick in attempt to flush any sitting birds from hollows and calls of chicks were listened for.

A review of available literature was carried out to determine the location/extent of any known/likely black cockatoo breeding habitat areas in the vicinity of the survey area.

### **3.2.3.2 Foraging Habitat Assessment**

The location and nature of black cockatoo foraging evidence (e.g. chewed fruits around base of trees) observed during the field survey was recorded. The nature and extent of potential foraging habitat present was also documented irrespective of the presence of any actual foraging evidence.

Foraging habitat is represented by plant species that are known to provide a food source for black cockatoos. This can be in the form of seeds, flowers and also boring grubs that are extracted from some plant species.

A review of available literature was carried out to determine the location/extent of any known/likely black cockatoo foraging habitat areas in the vicinity.

### **3.2.3.3 Night Roosting Habitat Assessment**

Direct and indirect evidence of black cockatoos roosting within trees on site was noted where observed (e.g. branch clippings, droppings or moulted feathers).

A review of available literature was carried out to determine the location/extent of any known/likely black cockatoo roosting habitat areas in the vicinity.

## **4. SURVEY LIMITATIONS**

No seasonal sampling was carried out as part of this fauna assessment. The conclusions presented are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of the field assessments. It should be recognised that site conditions can change with time.

Lack of observational data on some species should also not necessarily be taken as an indication that a species is absent from the site or does not utilise it for some purpose at times.

During the survey, habitat trees with hollows were searched for. It should be noted that identifying hollows suitable for fauna species from ground level has limitations. Generally, the full characteristics of any hollow seen are not fully evident (e.g. internal dimensions). It is also difficult to locate all hollows within all trees as some are not observable from ground level.

The location of observations was recorded using a handheld GPS. The accuracy of the GPS cannot be guaranteed above a level of about 5 to 10 metres, though it should be noted that in some circumstance the accuracy can increase or decrease beyond this range.

## **5. RESULTS**

### **5.1 LITERATURE REVIEW – FAUNA SPECIES OF CONSERVATION SIGNIFICANCE**

The literature review identified multiple fauna species of conservation significance as potentially occurring in the general area as listed in Table 1. The NatureMap (DBCA 2021) and Protected Matter Search Tool (DAWE 2022) results, used as a primary source for compiling this listing, are held within Appendix B.

Because of the proximity of the survey area to the ocean a number of conservation significant marine species have appeared in database searches (Appendix B). These species have been excluded from the assessment as they would not under normal circumstances occur within the survey area.

**Table 1: Conservation significant fauna previously recorded or potentially occurring within the general vicinity of survey area.**

Species	Conservation Status <sup>1</sup>	
	BC Act/ DBCA Priority	EPBC Act
Carter's Freshwater Mussel <i>Westralunio carteri</i>	VU	VU
Black stripe Minnow <i>Galaxiella nigrostriata</i>	EN	EN
Swan Coastal Plain Shield-backed Trapdoor Spider <i>Idiosoma sigillatum</i>	P3	-
Pouched Lamprey <i>Geotria australis</i>	P3	-
Coastal Plains Skink <i>Ctenotus ora</i>	P3	-
Lined Skink <i>Lerista lineata</i>	P3	-
Malleefowl <i>Leipoa ocellata</i>	S3	VU
Australasian Bittern <i>Botaurus poiciloptilus</i>	EN	EN
Australian Little Bittern <i>Ixobrychus dubius</i>	P4	-
Migratory Shorebirds/Wetland Species	Various	Various
Eastern Osprey <i>Pandion cristatus</i>	IA	Mig, Ma
Peregrine Falcon <i>Falco peregrinus</i>	OS	-
Grey Falcon <i>Falco hypoleucos</i>	VU	VU
Masked Owl <i>Tyto novaehollandiae novaehollandiae</i>	P3	-
Blue-billed Duck <i>Oxyura australis</i>	P4	-
Hooded Plover <i>Thinornis rubricollis</i>	P4	-
Carnaby's Black Cockatoo <i>Zanda latirostris</i>	EN	EN
Baudin's Black Cockatoo <i>Zanda baudinii</i>	EN	EN
Forest Red-tailed Black Cockatoo <i>Calyptorhynchus banksii naso</i>	VU	VU
Fork-tailed Swift <i>Apus pacificus</i>	IA	Mig
Grey Wagtail <i>Motacilla cinerea</i>	IA	Mig

<sup>1</sup> See Appendix A for conservation status codes

Species	Conservation Status <sup>1</sup>	
	BC Act/ DBCA Priority	EPBC Act
Chuditch <i>Dasyurus geoffroii</i>	VU	VU
Quenda <i>Isoodon fusciventer</i>	P4	-
South-western Brush-tailed Phascogale <i>Phascogale tapoatafa wambenger</i>	CD	-
Numbat <i>Myrmecobius fasciatus</i>	EN	EN
Western Ringtail Possum <i>Pseudocheirus occidentalis</i>	CR	CE
Quokka <i>Setonix brachyurus</i>	VU	VU
Woylie <i>Bettongia penicillata ogilbyi</i>	CR	EN
Western Brush Wallaby <i>Notamacropus irma</i>	P4	-
Water Rat <i>Hydromys chrysogaster</i>	P4	-
Western False Pipistrelle <i>Falsistrellus mackenziei</i>	P4	-

## 5.2 FIELD SURVEYS

### 5.2.1 FAUNA HABITAT ASSESSMENT




The survey area is situated on the western margin of the Swan Coastal Plain within a section of the Bassendean Dune System which is generally comprised of leached grey sands of varying thickness overlaying sandy clays of the Guildford Formation.

The remnant native vegetation onsite is mainly comprised of various densities of jarrah marri, *Banksia*, and sheoak over an open shrubland or low open heath. The main area of remnant vegetation is in the western section of the survey area (see Figures 2 and 3). The balance of the survey area is either partly cleared (including some regrowth) or totally cleared, apart from various areas of sedgeland, paperbark, *Kunzea* tall shrubland and pine plantations (some partly harvested).




Descriptions and examples images of the main fauna habitats/dominant vegetation present within the survey area are provided in Table 2. The location and extent of the identified habitat units (based on vegetation mapping by Ecoedge 2022) are shown in Figure 3.






Table 2: Example images of the fauna habitats within the survey area

Fauna Habitat Description	Example Image
<p><b>EmBaBiMW</b></p> <p>Jarraah open woodland over <i>Banksia</i> low woodland over an open tall shrubland over a medium/low shrubland over and open forbland and open sedgeland on grey sand on slopes and ridge.</p> <p>Area – 47.3 ha (28.5%)</p>	
<p><b>EmCcXbMW</b></p> <p>Jarraah open woodland (and occasional marri) over an open tall shrubland over a low open shrubland over an open grassland and open forbland on grey sand on flats.</p> <p>Area – 19.2 ha (11.6%)</p>	
<p><b>KgJhTOS</b></p> <p>Tall open shrubland (with scattered jarraah and marri) over scattered shrubs over a very open grassland and scattered forbs on grey sand on flats.</p> <p>Area – 10.8 ha (6.5%)</p>	



Fauna Habitat Description	Example Image
<p><b>XbEcOS</b></p> <p>Scattered jarrah and <i>Nuytsia floribunda</i> over an open/very open shrubland over an open grassland and scattered forbs on grey sand on flats.</p> <p>Area – 41.1 ha (24.8%)</p>	 <p>19°N (M) ● 50S 384263 6326511 ±4 m</p> <p>24 Jan 2022 11:58:50</p>
<p><b>MpLILW</b></p> <p>Low woodland of paperbark over an open shrubland over a low open shrubland/sedgeland and very open forbland on grey-brown sand in seasonal wetlands.</p> <p>Area – 0.1 ha (0.1%)</p>	 <p>263°W (M) ● 50S 384597 6326542 ±6 m</p> <p>24 Jan 2022 12:53:09</p>
<p><b>MpAsLW</b></p> <p>Low woodland of paperbark over a tall open/open shrubland over a low shrubland and open forbland on grey sand in depressions.</p> <p>Area – 2.3 ha (1.4%)</p>	 <p>2°N (M) ● 50S 384305 6326046 ±2 m</p> <p>24 Jan 2022 11:58:25</p>

Fauna Habitat Description	Example Image
<p><b>MpAsOLW</b></p> <p>Very open/open low woodland of paperbark (with scattered <i>Pinus</i> sp) over a shrubland/open low shrubland over sparse forbland on grey-brown sand in broad damplands.</p> <p>Area – 1.2 ha (0.7%)</p>	 <p>250°SW (M) ● 50S 385022 6325695 ±3 m</p> <p>Zootopia 24 Jan 2022, 11:23:00</p>
<p><b>JpR</b></p> <p>Closed to open sedgeland with scattered tall shrubs over sparse forbland on grey sand in broad damplands.</p> <p>Area – 6.1 ha (3.7%)</p>	 <p>93°E (M) ● 50S 384781 6325762 ±4 m</p> <p>Zootopia 24 Jan 2022, 11:35:33</p>
<p><b>Cleared</b></p> <p>Grassland with scattered regrowth.</p> <p>Area – 27.6 ha (16.7%)</p>	 <p>336°NW (M) ● 50S 384713 6325944 ±6 m</p> <p>Zootopia 24 Jan 2022, 11:30:25</p>



Fauna Habitat Description	Example Image
<p><b>Pine</b></p> <p>Plantations of <i>Pinus</i> spp.</p> <p>Area – 10.0 ha (6.1%)</p>	
<p><b>Non-Endemic Eucalyptus</b></p> <p>Planted non-endemic eucalypts.</p> <p>Area – 0.2 ha (0.1%)</p>	
<p><b>Manmade Dam/Drains</b></p> <p>Shallow, seasonally inundated dams and drains.</p> <p>Area – 0.1 ha (0.1%)</p>	

Fauna habitat values vary considerably across the survey area. Fauna habitat values have been severely compromised in areas of cleared land and pine plantations, which make up about 23% of the survey area, given the removal of most of the original native

vegetation. Fauna habitat values are highest in the area of jarrah/banksia woodland (EmBaBiMW) which occupies about 30% of the survey area in the west.

The balance of the survey area (~49%) has been subject to vary degrees of historical disturbance (e.g. partial clearing, fragmentation) and therefore fauna habitat values vary though generally these areas, along with the totally cleared areas and pine plantations, lack many natural attributes and would only be utilised by generally common and widespread fauna species with non-specific requirements which allow them to persist in disturbed/highly disturbed habitats. For example, hollow bearing trees are almost completely absent from these areas though the vegetation does have some value as black cockatoo foraging habitat given the presence of some jarrah and to a lesser extent marri trees (in addition to some marri and sheoak).

As indicated the largest continuous area of remnant native vegetation in the western section of the survey area, which makes up about 30% of the survey area, has the best value as fauna habitat given it remains in very good to excellent condition and contains many hollow bearing trees. A high percentage of the predicted fauna species are likely to utilise this area. In particular it represents high quality foraging habitat for black cockatoos in addition to containing significant areas of what can be regarded as potential breeding habitat.

## **5.2.2 FAUNA OBSERVATIONS**

Twenty seven fauna species (mainly common bird species) were observed or secondary evidence of their presence recorded during the field survey. A full listing of the species observed is held on Appendix C.

Evidence of the forest red-tailed black cockatoo, Carnaby's black cockatoo and Baudin's black cockatoo was detected during the day survey in the form of various types of foraging debris found at a number of locations (see Section 5.2.3). Several Carnaby's black cockatoo individuals were also heard calling and flying overhead during the field survey.

No evidence of any other fauna species of conservation significance was observed.

Appendix C, in addition to listing observed species, also contains a list of other vertebrate fauna species considered likely to occur (under the assumption that suitable habitat occurs and that the species in question are locally extant). The majority of the species listed are only likely to occur in the larger area of good quality native vegetation (EmBaBiMW) which is confined to the western side of the survey area.

## 5.2.3 BLACK COCKATOO HABITAT ASSESSMENT

### 5.2.3.1 Breeding Habitat Assessment

Trees considered potentially suitable for black cockatoos to use as nesting habitat (subject to a suitable hollow being present and other factors) found within the survey area comprised the following species:

- Jarrah – *Eucalyptus marginata*;
- Marri – *Corymbia calophylla*; and
- Dead Unidentified - *Eucalyptus* spp.

A summary of the habitat trees observed is provided in Table 3. The locations of habitat trees are shown in Figure 3.

**Table 3: Summary of potential habitat trees (DBH  $\geq$ 50cm) within the survey area**

Total Number of Habitat Trees (DBH > 50cm)	Number of Habitat Trees with <u>No Hollows Observed</u>	Number of Habitat Trees with <u>Possible Hollows</u> considered <u>Unsuitable</u> for Black Cockatoos	Number of Habitat Trees with <u>Possible Hollows</u> considered <u>Potentially suitable</u> for Black Cockatoos	Tree Species		
				Jarrah	Marri	Dead Unidentified
429	235	177	17	416	7	6

The assessment identified 429 trees within the survey area with a DBH of  $\geq$ 50cm. One hundred and ninety-four (194) of the 429 trees were observed to contain hollows or possible hollows of some type. Seventeen (17) of these trees were assessed at the time of the survey to possibly have large enough hollows for black cockatoos to use for nesting, though this assessment was based on the size of the entrance into an apparent hollow only. No actual evidence of any hollows being used by black cockatoos for nesting (currently or previously) was seen.

Additional details on each habitat tree observed can be found in Appendix D.

Based on available mapping, there is approximately 12,900 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2021). Much of this is likely to contain “potential” breeding habitat as defined by DAWE (i.e. suitable tree species with a DBH  $\geq$ 50cm).

### 5.2.3.2 Foraging Habitat Assessment


The following flora species were observed within the survey area and are known to be or are potentially used as a direct food source (e.g. seeds, flowers, nectar, bark or grubs) by one or more species of black cockatoo:

- Candlestick Banksia - *Banksia attenuata*;
- Holly-leaved Banksia - *Banksia ilicifolia*;
- Jarrah - *Eucalyptus marginata*;
- Marri - *Corymbia calophylla*;
- Sheoak - *Allocasuarina fraseriana*;
- Pine - *Pinus* spp. (introduced);
- Non-endemic *Eucalyptus* spp. (planted);
- Balga - *Xanthorrhoea preissii*; and
- Peppermint – *Agonis flexuosa*.





The main foraging evidence left by black cockatoos observed with the survey area was in the form of chewed *Banksia attenuata* cones. This evidence was attributed to Carnaby's or Baudin's black cockatoo. This evidence was extremely numerous and observed across the entire western section of the survey area where *Banksia attenuata* dominates. Other less commonly observed foraging evidence observed included pine cones, marri and sheoak which in each case was attributed to one or two of the three black cockatoo species known to frequent the area depending on the nature of the evidence seen. Despite being a common tree species in the area no evidence of jarrah be foraged upon by black cockatoos was recorded.

Examples of the foraging debris observed and the species attributed to the activity are provided in Table 4.

**Table 4: Foraging Evidence Examples**

Foraging Evidence Description	Example Image
Pine Cone – foraging activity attributed to Carnaby's Black Cockatoo.	



Foraging Evidence Description	Example Image
Banksia Cone – foraging activity attributed to either Baudin’s Black Cockatoo or Carnaby’s Black Cockatoo.	
Marri fruits – foraging activity attributed to Baudin’s Black Cockatoo.	
Marri fruits – foraging activity attributed to the Forest Red-tailed Black Cockatoo.	
Sheoak fruits – foraging activity attributed to the Forest Red-tailed Black Cockatoo or Carnaby’s Black Cockatoo.	

All areas of remnant native vegetation containing, jarrah, marri and/or banksia within the survey area can be regarded as foraging habitat for black cockatoos, though its quality varies.

The area of jarrah and banksia woodland in the western section of the survey area (47.3 ha (~29% of total survey area) represents high quality foraging habitat given the dominance of these favoured plant species in addition to some marri and sheoak and a range of shrub species.

Other areas of remnant native vegetation with some foraging value (EmCcXbMW and XbEcOS) have been partly cleared/thinned and as a consequence their original foraging quality has been reduced to varying degrees. These areas can be regarded as having a low to moderate foraging quality depending on the density of favoured species. Combined, these areas cover about 60 ha (~36% of the total survey area).

The survey area contains about 10.0 ha of pine plantation (~6% of the total survey area). The foraging value of pine plantations varies with age and density and therefore assigning a quality rating can be difficult however observations made during the survey period (including several examples of foraging activity) suggest a moderate to high quality rating would be appropriate in this case.

The balance of the remnant native vegetation (~20ha/12%) and cleared areas (28 ha/16.7%) have negligible to low foraging value.

Based on available mapping there is about 12,900 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2021). Much of this is likely to represent black cockatoo foraging habitat of some type.

### **5.2.3.3 Night Roosting Habitat Assessment**

No evidence of black cockatoos roosting within trees located within the survey area was observed during the survey period. It is difficult to determine if trees or groves of trees within the survey area represent potential roosting habitat as a range of factors, not all of which can be observed, determine suitability. Some of the larger trees (including non-endemics) may be suitable for roosting but as indicated no actual evidence of use was seen.

A review of the 2019 Great Cocky Count database (Peck *et al.* 2019). shows no documented roost sites within the survey area. Ten documented roost sites do however occur within 12 km of the survey area, though not all are necessarily in current use.

## **6. CONSERVATION SIGNIFICANT FAUNA SPECIES**

Based on the information gathered during the site reconnaissance survey and the documented distribution and habitat preferences of the species of conservation significance identified as potentially being present in the general area, their likelihood of occurrence has been assessed. A summary of this assessment is presented in Table 5.

Three fauna species of conservation significance (listed as State or Federal threatened/migratory species or as DBCA priority species) were positively identified as utilising the survey area for some purpose during the survey period:

- Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso* – S3 (BC Act), Vulnerable (EPBC Act).  
Foraging evidence attributed to this species observed. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm). Over half of the vegetation within the survey area represents foraging habitat for this species. No evidence of roosting observed.
- Carnaby's Black-Cockatoo *Zanda latirostris* – S2 (BC Act), Endangered (EPBC Act).  
Foraging evidence attributed to this species observed. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm). Over half of the vegetation within the survey area represents foraging habitat for this species. No evidence of roosting observed.
- Baudin's Black-Cockatoo *Zanda baudinii* – S2 (BC Act), Endangered (EPBC Act).  
Foraging evidence attributed to this species observed. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm). Over half of the vegetation within the survey area represents foraging habitat for this species. No evidence of roosting observed.

Several additional species of conservation significance may utilise the survey area for some purpose at times, but their status on-site and/or in the general area is difficult to determine because they were not sighted during the field survey, or evidence of use was not observed:

- Swan Coastal Plain Shield-backed Trapdoor Spider *Idiosoma sigillatum* - P3 (DBCA Priority Species)  
Status of this species within the survey area is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information but only likely in areas of best quality native vegetation (i.e. EmBaBiMW).
- Coastal Plains Skink *Ctenotus ora* – P3 (DBCA Priority Species)  
Status of this species within the survey area is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information but only likely in areas of best quality native vegetation (i.e. EmBaBiMW).



- Perth Lined Skink *Lerista lineata* - P3 (DBCA Priority Species)  
Status of this species within the survey area is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information but only likely in areas of best quality native vegetation (i.e. EmBaBiMW).
- Peregrine Falcon *Falco peregrinus* – S7 (BC Act)  
This species potentially utilises some sections of the survey area as part of a much larger home range though it is only likely to occur infrequently. All areas represent potential foraging habitat for this species. Listed as a potential species based on available information.
- Masked Owl *Tyto novaehollandiae* – P3 (DBCA Priority Species)  
Status in the general area is difficult to determine. May utilise woodland areas within and near the survey area for roosting and may forage in more open areas. Probably only present occasionally and for short periods. Some of the identified hollow bearing trees represent possible nest sites. Listed as a potential species based on available information.
- Quenda *Isoodon fusciventer* – P4 (DBCA Priority Species)  
Very likely to occur in areas where the densest ground cover vegetation occurs (i.e. areas of dense low shrubland and sedgelands). Listed as a potential species based on available information.
- South-western Brush-tailed Phascogale *Phascogale tapoatafa wambenger* – S6 (BC Act)  
Status of this species within the survey area is difficult to determine without a detailed survey, however, given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. Listed as a potential species based on available information.
- Western Ringtail Possum *Pseudocheirus occidentalis* – Critically Endangered (BC Act), Critically Endangered (EPBC Act)  
No evidence of this species recorded during the survey period but known to occur in the general area though it appears to be more commonly encountered west of Forrest Highway. Listed as a potential species based on available information.
- Western Brush Wallaby *Notamacropus irma* - P4 (DBCA Priority Species)  
Known to occur in the Kemerton area and given the presence of suitable habitat it must be assumed to be present, though probably only occasionally and in low numbers. Listed as a potential species based on available information.

- Western False Pipistrelle *Falsistrellus mackenziei* – P4 (DBCA Priority Species)  
Status of this species within the survey area is difficult to determine, however, given the location is within its documented range, some recent nearby records and the presence of habitat that appears suitable it must be assumed to be present. All sections of the survey area represent potential foraging habitat for this species and any hollow bearing trees represent possible day time roost sites. Listed as a potential species based on available information.

A number of other species of conservation significance (as listed in Table 5), while possibly present in the larger bush remnants in the wider area (e.g. Yalgorup/Darling Range) are not listed as potentially occurring within the survey area primarily due to a complete lack of suitable habitat (quality and extent) and/or known local/regional extinction.

**Table 5: Likelihood of Occurrence – Fauna Species of Conservation Significance** (See Appendix A for conservation status codes)

Species	Conservation Status		Habitat Preferences	Type and Extent of Suitable Habitat Present	Likelihood of Occurrence	Comments
	BC Act/ DBCA Priority	EPBC Act				
Carter's Freshwater Mussel <i>Westralunio carteri</i>	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.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.
Black stripe Minnow <i>Galaxiella nigrostriata</i>	EN	EN	Permanent or ephemeral pools, roadside ditches and small creeks in sandy, thickly vegetated wetland areas. Water is usually darkly tannin stained and acidic (pH 4.6 – 6.5)	No suitable habitat identified.	Would Not Occur.	Wetland habitat present appears very marginal in quality and it has been concluded that this species would not persist within the survey area.
Pouched Lamprey <i>Geotria australis</i>	P3	-	This species lives in mud burrows in the upper reaches of coastal streams for the first four years of life until migrating to the sea. Adults migrate up to 60km upstream during spawning.	No suitable habitat identified.	Would Not Occur.	No suitable habitat.
Swan Coastal Plain Shield-backed Trapdoor Spider <i>Idiosoma sigillatum</i>	P3	-	Burrows of this species usually found in <i>Banksia</i> woodland and heathland on sandy soils.	EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	May occur though there are no records of this species in this area, possibly due to a lack of surveys.
Coastal Plains Skink <i>Ctenotus ora</i>	P3	-	Sandy substrates with low vegetation (including heath) in open <i>Eucalyptus/Corymbia</i> woodland over <i>Banksia</i> .	EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	May occur – recorded in nearby areas.
Lined Skink <i>Lerista lineata</i>	P3	-	Inhabits loose white sands and leaf litter under areas of shrubs and heath particularly in association with banksias.	EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	May occur – recorded in nearby areas.
Malleefowl <i>Leipoa ocellata</i>	VU	VU	Mainly scrubs and thickets of mallee <i>Eucalyptus</i> spp., boree <i>Melaleuca lanceolata</i> and bowgada <i>Acacia linophylla</i> , also dense litter forming shrublands.	No suitable habitat identified.	Would Not Occur.	Regionally extinct. This species has not been recorded on the coastal plain for over 60 years.
Australasian Bittern <i>Botaurus poiciloptilus</i>	CR	EN	Freshwater wetlands, occasionally estuarine; prefers heavy vegetation such as beds of tall dense <i>Typha</i> , <i>Baumea</i> and sedges in freshwater swamps.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.
Australian Little Bittern <i>Ixobrychus dubius</i>	P4	-	Dense vegetation surrounding/within freshwater pools, swamps and lagoons, well screened with trees. Shelters in dense beds of <i>Typha</i> , <i>Baumea</i> and tall rushes in freshwater swamps around lakes and along rivers.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.

Species	Conservation Status		Habitat Preferences	Type and Extent of Suitable Habitat Present	Likelihood of Occurrence	Comments
	BC Act/ DBCA Priority	EPBC Act				
Migratory Shorebirds/Wetland Species/Marine Species (various reptiles, birds and mammals)	IA, Various	Ma, Mig, Various	Varies between species but includes open ocean, beaches and permanent/temporary wetlands varying from billabongs, swamps, lakes, floodplains, sewerage farms, saltwork ponds, estuaries, lagoons, mudflats sandbars, pastures, airfields, sports fields and lawns.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this range species and they would not persist within the survey area.
Hooded Plover <i>Thinornis rubricollis</i>	P4	-	Broad sandy ocean beaches and bays, coastal and inland salt lakes.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.
Eastern Osprey <i>Pandion haliaetus</i>	IA	Ma, Mig	Coasts, estuaries, bays, inlets, islands, and surrounding waters, coral atolls, reefs, lagoons, rock cliffs and stacks. Ascends larger rivers.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.
Peregrine Falcon <i>Falco peregrinus</i>	OS	-	Diverse from rainforest to arid shrublands, from coastal heath to alpine Mainly about cliffs along coasts, rivers and ranges and about wooded watercourses and lakes.	Potentially forages in all areas (166ha -100%). Potential breeding habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	This species is uncommon but the survey area may represent part of a larger home range used by individuals of this species.
Grey Falcon <i>Falco hypoleucos</i>	VU	VU	Lightly treed plains, gibber deserts, sand ridges, pastoral lands, timbered water courses but seldom in driest deserts	No suitable habitat identified.	Would Not Occur.	Rarely if ever recorded in the lower south west.
Masked Owl (SW population) <i>Tyto n. novaehollandiae</i>	P3	-	Roosts and nests in heavy forest, hunts over open woodlands and farmlands.	Potentially forages in all areas (166ha -100%). Potential breeding/roosting habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	This species is uncommon but may occur, if only occasionally.
Blue-billed Duck <i>Oxyura australis</i>	P4	-	Well vegetated freshwater swamps, large dams and lakes, winters on more open water. Occasionally salt lakes and estuaries freshened by floodwaters.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.

Species	Conservation Status		Habitat Preferences	Type and Extent of Suitable Habitat Present	Likelihood of Occurrence	Comments
	BC Act/ DBCA Priority	EPBC Act				
Carnaby's Black Cockatoo <i>Zanda latirostris</i>	EN	EN	Forests, woodlands, heathlands, farms; feeds on <i>Banksia</i> , <i>Hakea</i> and Marri.	Potentially forages/roosts in all areas containing eucalypts, banksia and/or pines (118ha - 71%). Potential breeding habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Known to Occur	Commonly recorded in the general area. Survey area contains potential breeding, foraging and roosting habitat.
Baudin's Black Cockatoo <i>Zanda baudinii</i>	EN	EN	Mainly eucalypt forests where it feeds primarily on the marri seeds.	Potentially forages/roosts in all areas containing eucalypts, banksia and/or pines (118 ha - 71%), Potential breeding habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Known to Occur	Often recorded in the general area. Survey area contains potential breeding, foraging and roosting habitat.
Forest Red-tailed Black Cockatoo <i>Calyptorhynchus banksii naso</i>	VU	VU	Eucalypt forests, feeds on marri, jarrah, blackbutt, karri, sheoak and snottygobble.	Potentially forages/roosts in all areas containing eucalypts (66 ha - 40%), Potential breeding habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Known to Occur	Commonly recorded in the general area. Survey area contains potential breeding, foraging and roosting habitat.
Fork-tailed Swift <i>Apus pacificus</i>	IA	Ma, Mig	Low to very high airspace over varied habitat from rainforest to semi desert.	Yes	Unlikely to Occur, Flyover only on very rare occasions.	May occur very occasionally for brief periods but almost entirely aerial.
Grey Wagtail <i>Motacilla cinerea</i>	IA	Mig, Ma	In Australia, near running water in disused quarries, sandy, rocky streams in escarpments and rainforest, sewerage ponds, ploughed fields and airfields.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.
Chuditch <i>Dasyurus geoffroii</i>	VU	VU	Forest, mallee shrublands, woodland and desert. The densest populations have been found in riparian jarrah forest.	Yes	Unlikely to Occur	Locally extinct. Very rarely recorded on the coastal plain. Occasional transients only.
Quenda <i>Isodon fusciventer</i>	P4	-	Dense scrubby, often swampy, vegetation with dense cover.	Potential habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	Likely to persist in areas with dense ground cover

Species	Conservation Status		Habitat Preferences	Type and Extent of Suitable Habitat Present	Likelihood of Occurrence	Comments
	BC Act/ DBCA Priority	EPBC Act				
South-west Brush-tailed Phascogale <i>Phascogale tapoatafa wambenger</i>	CD	-	Dry sclerophyll forests and open woodlands that contain hollow-bearing trees but a sparse ground cover.	Potential habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	May occur in areas with hollow bearing trees – recorded in nearby areas.
Numbat <i>Myrmecobius fasciatus</i>	EN	EN	Generally found in habitats dominated by eucalypts that provide hollow logs and branches for shelter and termites for food.	No suitable habitat identified.	Would Not Occur.	Locally extinct. This species has not been recorded on the coastal plain for over 100 years.
Western Ringtail Possum <i>Pseudocheirus occidentalis</i>	CR	CE	Coastal peppermint, coastal peppermint-tuart, jarrah-marri associations, sheoak woodland, and eucalypt woodland and mallee.	Potential habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	No evidence of this species observed suggesting it is absent or only occurs in low densities.
Quokka <i>Setonix brachyurus</i>	VU	VU	Currently restricted to densely vegetated coastal heaths, swamps, riverine habitats including tea-tree thickets on sandy soils along creek systems.	No suitable habitat identified.	Would Not Occur.	This species is locally extinct/no suitable habitat.
Woylie <i>Bettongia penicillata ogibyi</i>	CR	EN	Open sclerophyll forest and woodland with a low, dense, understorey of tussock grasses or woody scrub.	No suitable habitat identified.	Would Not Occur.	This species is locally extinct/no suitable habitat.
Western Brush Wallaby <i>Macropus irma</i>	P4	-	Open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets.	Potential habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	May occur occasionally in low numbers within woodland areas – known from nearby areas.
Western False Pipistrelle <i>Falsistrellus mackenziei</i>	P4	-	Wet sclerophyll forest dominated by karri and in high rainfall zones of the jarrah and marri forest.	Potentially forages in all areas (166 ha (100%)). Potential roosting habitat largely confined to EmBaBiMWv (47.3 ha - 28.5%)	Possibly Occurs.	Assumed to be present given some recent nearby records and the presence of suitable habitat.
Water Rat <i>Hydromys chrysogaster</i>	P4	-	Permanent water, fresh, brackish or marine.	No suitable habitat identified.	Would Not Occur.	There is no suitable habitat for this species and it would not persist within the survey area.

## 7. CONCLUSION

The fauna assessment within the survey area was primarily undertaken to document black cockatoo habitat and to determine the possible presence of other conservation significant fauna species and/or their habitat, so as to identify any potential constraints on any future development.

Fauna habitat values vary considerably across the survey area. The largest continuous area of remnant native vegetation in the western section of the survey area, which makes up about 30% of the survey area, has the best value as fauna habitat given it remains in very good to excellent condition and contains many hollow bearing trees. A high percentage of the predicted fauna species are likely to utilise this area.

Other sections of the survey area have been subject to varying degrees of disturbance and therefore fauna habitat values vary though generally these areas, along with the totally cleared areas and pine plantations, lack many natural attributes and would only be utilised by generally common and widespread fauna species with non-specific requirements which allow them to persist in disturbed/highly disturbed habitats.

The survey area was found to contain 429 potential “black cockatoo breeding habitat trees” (DBH  $\geq$ 50cm). Seventeen (17) of these trees were assessed at the time of the survey to possibly have large enough hollows for black cockatoos to use for nesting, though this assessment was based on the size of the entrance into an apparent hollow only. No actual evidence of any hollows being used by black cockatoos for nesting (currently or previously) was seen.

All areas of remnant native vegetation containing, jarrah, marri and/or banksia within the survey area can be regarded as foraging habitat for black cockatoos, though its quality varies. The area of jarrah and banksia woodland in the western section of the survey area (47.3 ha (~29% of total survey area) represents high quality foraging habitat given the dominance of these favoured plant species in addition to some marri and sheoak and a range of shrub species.

The black cockatoo foraging habitat value in other sections of the survey area varies from negligible to moderate depending in the degree of disturbance and/or floral composition.

Three fauna species of conservation significance (listed as State or Federal threatened/migratory species or as DBCA priority species) were positively identified as utilising the survey area for some purpose during the survey period (three species of black cockatoos). Several additional species of conservation significance may also utilise the survey area for some purpose at times, but their status on-site and/or in the general area is difficult to determine because they were not sighted during the field survey, or evidence of use was not observed

The presence or potential presence of these species and/or their habitat will need to be taken into consideration during ongoing project planning.



## 8. REFERENCES

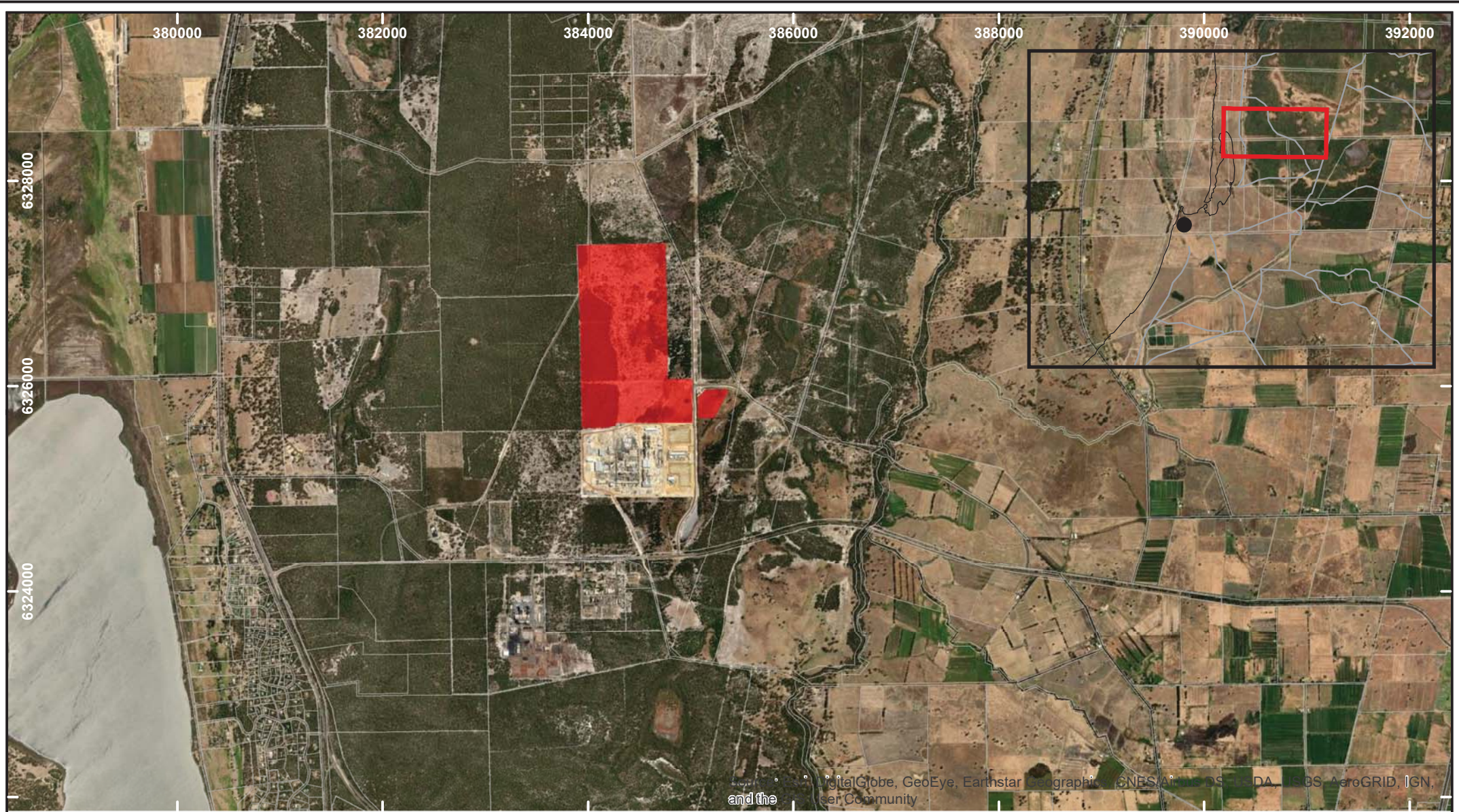
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# FIGURES





Source: DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**Legend**

 Survey Area



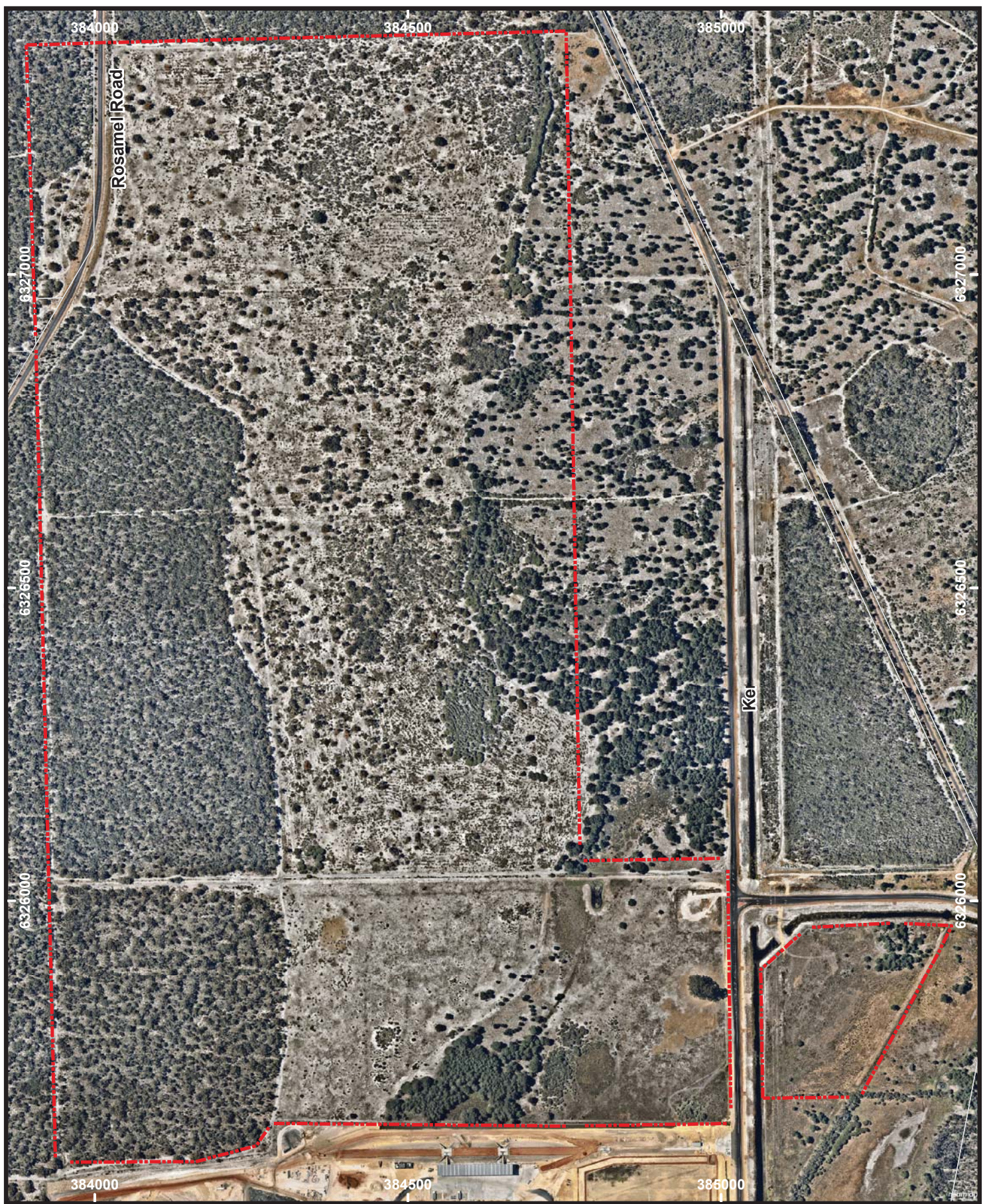
Drawn: G Harewood  
Date: 02-Feb-22  
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Albamarle Kemerton Project  
Kemerton

**Survey Area  
and  
Surrounds**

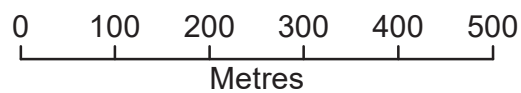
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**Legend**

 Survey Area

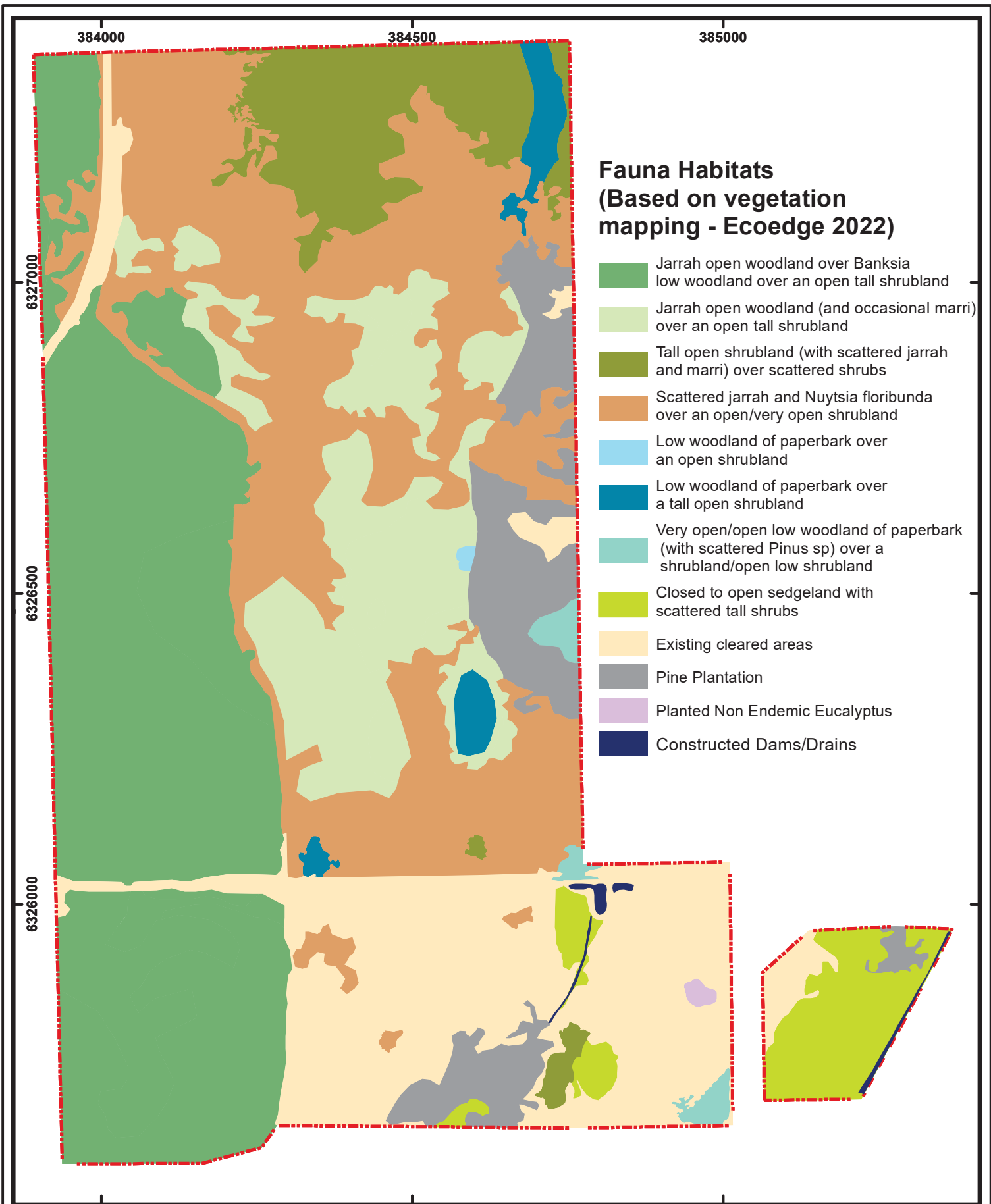


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Scale: 1:8,000

Albemarle Kemerton Project  
Kemerton

**Survey Area  
Aerial Photograph**



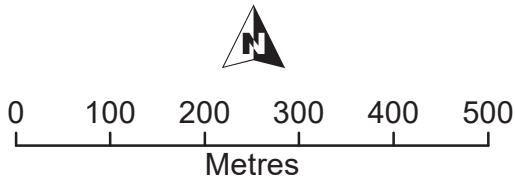


### Fauna Habitats (Based on vegetation mapping - Ecoedge 2022)

- Jarrah open woodland over Banksia low woodland over an open tall shrubland
- Jarrah open woodland (and occasional marri) over an open tall shrubland
- Tall open shrubland (with scattered jarrah and marri) over scattered shrubs
- Scattered jarrah and *Nuytsia floribunda* over an open/very open shrubland
- Low woodland of paperbark over an open shrubland
- Low woodland of paperbark over a tall open shrubland
- Very open/open low woodland of paperbark (with scattered *Pinus* sp) over a shrubland/open low shrubland
- Closed to open sedgeland with scattered tall shrubs
- Existing cleared areas
- Pine Plantation
- Planted Non Endemic Eucalyptus
- Constructed Dams/Drains

### Legend

Survey Area

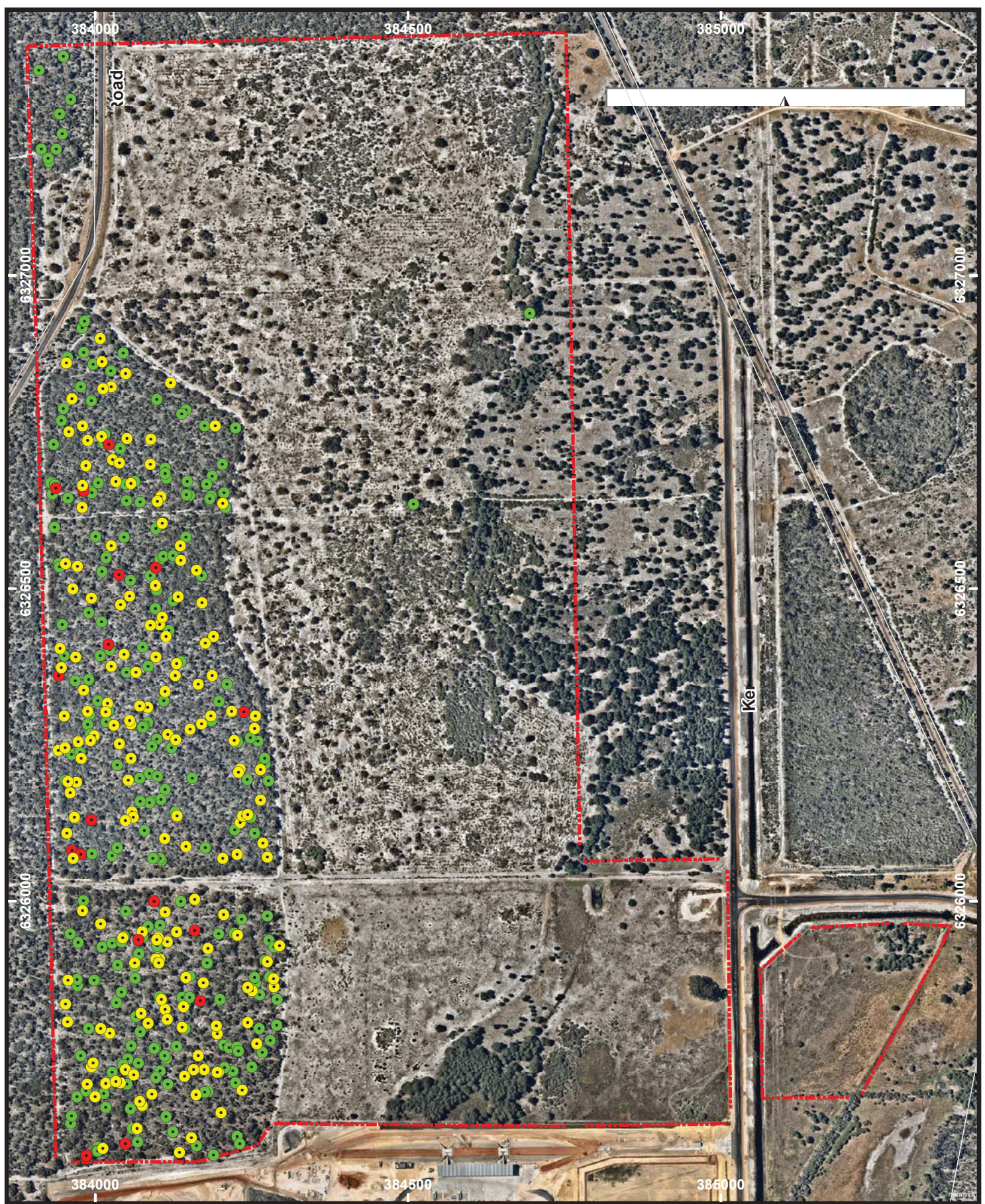


Drawn: G Harewood  
Date: 14-Mar-22  
Scale: 1:8,000

Albamarle Kemerton Project  
Kemerton




### Fauna Habitats





## Legend

 Survey Area

-  Habitat Tree - One or more large hollows possibly suitable for black cockatoos (17)
-  Habitat Tree - One or more possible small/medium hollows (176)
-  Habitat Tree - No hollows seen (236)



Drawn: G Harewood

Date: 08-Feb-22

Scale: 1:8,000

Projection/Coordinate System: UTM/MGA Zone 50

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Kemerton

## Habitat Trees (DBH >50cm)

Figure: 4



# **APPENDIX A**

## **CONSERVATION CATEGORIES**

## EPBC Act (1999) Threatened Fauna Categories

Threatened fauna may be listed under Section 178 of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* in any one of the following categories:

Category	Code	Description
Extinct	E	There is no reasonable doubt that the last member of the species has died.
*Extinct in the wild	EW	A species (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
*Critically Endangered	CE	A species is facing an extremely high risk of extinction in the wild in the immediate future.
*Endangered	EN	A species: (a) is not critically endangered; and (b) is facing a very high risk of extinction in the wild in the near future.
*Vulnerable	VU	A species (a) is not critically endangered or endangered; and (b) is facing a high risk of extinction in the wild in the medium-term future.
Conservation Dependent	CD	A species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered
*Migratory	Migratory	(a) 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 (c) 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.
Marine	Ma	Species in the list established under s248 of the <i>EPBC Act</i>

Note: Only species in those categories marked with an asterisk are matters of national environmental significance (NES) under the *EPBC Act*.

## Wildlife Conservation (Specially Protected Fauna) Notice 2018 Categories

Published as Specially Protected under the *Wildlife Conservation Act 1950*, and listed under Schedules 1 to 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

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

Category	Code	Description
Schedule 1 (S1) Critically Endangered species	CR	Threatened species considered to be facing an extremely high risk of extinction in the wild in the immediate future.
Schedule 2 (S2) Endangered species	EN	Threatened species considered to be facing a very high risk of extinction in the wild in the near future.
Schedule 3 (S3) Vulnerable species	VU	Threatened species considered to be facing a high risk of extinction in the wild in the medium-term future.
Schedule 4 (S4) Presumed extinct species	EX	Species which have been adequately searched for and there is no reasonable doubt that the last member of the species has died.
Schedule 5 (S5) Migratory birds protected under an international agreement	MI	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds.
Schedule 6 (S6) Fauna that is of special conservation need as conservation dependent fauna	CD	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened.
Schedule 7 (S7) Other specially protected fauna.	OS	Fauna otherwise in need of special protection to ensure their conservation.

## Western Australian DBCA Priority Fauna Categories

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

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

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

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

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

## ***IUCN Red List Threatened Species Categories***

The *IUCN Red List of Threatened Species*<sup>™</sup> is a checklist of taxa that have undergone an extinction risk assessment using the *IUCN Red List Categories and Criteria*.

Categories are summarized below.

<b>Category</b>	<b>Code</b>	<b>Description</b>
Extinct	EX	Taxa for which there is no reasonable doubt that the last individual has died.
Extinct in the Wild	EW	Taxa which is known only to survive in cultivation, in captivity or and as a naturalised population well outside its past range and it has not been recorded in known or expected habitat despite exhaustive survey over a time frame appropriate to its life cycle and form.
Critically Endangered	CR	Taxa facing an extremely high risk of extinction in the wild.
Endangered	EN	Taxa facing a very high risk of extinction in the wild.
Vulnerable	VU	Taxa facing a high risk of extinction in the wild.
Near Threatened	NT	Taxa which has been evaluated but does not qualify for CR, EN or VU now but is close to qualifying or likely to qualify in the near future.
Least Concern	LC	Taxa which has been evaluated but does not qualify for CR, EN, VU, or NT but is likely to qualify for NT in the near future.
Data Deficient	DD	Taxa for which there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution and/or population status.
Not Evaluated	NE	Taxa which has not been evaluated.

A full list of categories and their meanings are available at:

<http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria>

**APPENDIX B**  
**NATUREMAP DATABASE SEARCH**  
**AND**  
**PROTECTED MATTERS SEARCH TOOL RESULTS**

# NatureMap

Kemerton - Created on 22/11/2021

**Kingdom** Animalia  
**Current Names Only** Yes  
**Core Datasets Only** Yes  
**Method** 'By Circle'  
**Centre** 115° 45' 36" E, 33° 11' 38" S  
**Buffer** 20km  
**Group By** Species Group

Species Group	Species	Records
Amphibian	11	249
Bird	196	7362
Fish	16	102
Invertebrate	105	377
Mammal	34	1461
Reptile	42	872
<b>TOTAL</b>	<b>404</b>	<b>10423</b>

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
<b>Amphibian</b>				
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.	25404 <i>Geocrinia leai</i> (Ticking Frog)			
6.	25408 <i>Heleioporus albopunctatus</i> (Western Spotted Frog)			
7.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
8.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
9.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
10.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
11.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
<b>Bird</b>				
12.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
13.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
14.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
15.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
16.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
17.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
18.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
19.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
20.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
21.	25544 <i>Aegotheles cristatus</i> (Australian Owllet-nightjar)			
22.	24310 <i>Anas castanea</i> (Chestnut Teal)			
23.	24312 <i>Anas gracilis</i> (Grey Teal)			
24.	24313 <i>Anas platyrhynchos</i> (Mallard)			
25.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
26.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
27.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
28.	24506 <i>Anous tenuirostris</i> subsp. <i>melanops</i> (Australian Lesser Noddy)		T	
29.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
30.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
31.	25670 <i>Anthus australis</i> (Australian Pipit)			
32.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
33.	25558 <i>Ardea ibis</i> (Cattle Egret)			
34.	41324 <i>Ardea modesta</i> (great egret, white egret)			
35.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
36.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
37.	24610 <i>Ardeotis australis</i> (Australian Bustard)			
38.	25736 <i>Arenaria interpres</i> (Ruddy Turnstone)			
39.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)		IA	

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
40.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
41.	24318 <i>Aythya australis</i> (Hardhead)			
42.	<i>Barnardius zonarius</i>			
43.	24319 <i>Biziura lobata</i> (Musk Duck)			
44.	24345 <i>Botaurus poiciloptilus</i> (Australasian Bittern)		T	
45.	24721 <i>Cacatua galerita</i> subsp. <i>galerita</i> (Sulphur-crested Cockatoo)	Y		
46.	25714 <i>Cacatua pastinator</i> (Western Long-billed Corella)			
47.	25715 <i>Cacatua roseicapilla</i> (Galah)			
48.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
49.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
50.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
51.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
52.	25738 <i>Calidris canutus</i> (Red Knot, knot)		IA	
53.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
54.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
55.	24790 <i>Calidris tenuirostris</i> (Great Knot)		T	
56.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
57.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
58.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
59.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
60.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
61.	25575 <i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	
62.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
63.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
64.	<i>Chroicocephalus novaehollandiae</i>			
65.	25601 <i>Chrysococcyx lucidus</i> (Shining Bronze Cuckoo)			
66.	24432 <i>Chrysococcyx lucidus</i> subsp. <i>plagiosus</i> (Shining Bronze Cuckoo)			
67.	24288 <i>Circus approximans</i> (Swamp Harrier)			
68.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
69.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
70.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
71.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
72.	25592 <i>Corvus coronoides</i> (Australian Raven)			
73.	24417 <i>Corvus coronoides</i> subsp. <i>perplexus</i> (Australian Raven)			
74.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
75.	25701 <i>Coturnix ypsilophora</i> (Brown Quail)			
76.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
77.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
78.	24422 <i>Cracticus tibicen</i> subsp. <i>dorsalis</i> (White-backed Magpie)			
79.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
80.	24322 <i>Cygnus atratus</i> (Black Swan)			
81.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
82.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
83.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
84.	24470 <i>Dromaius novaehollandiae</i> (Emu)			
85.	<i>Egretta garzetta</i>			
86.	<i>Egretta novaehollandiae</i>			
87.	<i>Elanus axillaris</i>			
88.	47937 <i>Elsseyornis melanops</i> (Black-fronted Dotterel)			
89.	<i>Eolophus roseicapillus</i>			
90.	24651 <i>Eopsaltria australis</i> subsp. <i>griseogularis</i> (Western Yellow Robin)			
91.	24567 <i>Epthianura albiglans</i> (White-fronted Chat)			
92.	24379 <i>Erythronyx cinctus</i> (Red-kneed Dotterel)			
93.	25746 <i>Eudyptula minor</i> (Little Penguin)			
94.	24818 <i>Eudyptula minor</i> subsp. <i>novaehollandiae</i> (Little Penguin)			
95.	25621 <i>Falco berigora</i> (Brown Falcon)			
96.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
97.	24472 <i>Falco cenchroides</i> subsp. <i>cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
98.	25623 <i>Falco longipennis</i> (Australian Hobby)			
99.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
100.	25727 <i>Fulica atra</i> (Eurasian Coot)			
101.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
102.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
103.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
104.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
105.	24765 <i>Gallirallus philippensis</i> subsp. <i>mellori</i> (Buff-banded Rail)			
106.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
107.	24481 <i>Glareola maldivarum</i> (Oriental Pratincole)		IA	



Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
108.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
109.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
110.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
111.	24295 <i>Haliaeetus spheurnus</i> (Whistling Kite)			
112.	24296 <i>Hamirostra isura</i> (Square-tailed Kite)			
113.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
114.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
115.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
116.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
117.	47975 <i>Ixobrychus dubius</i> (Australian Little Bittern)		P4	
118.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
119.	25638 <i>Larus pacificus</i> (Pacific Gull)			
120.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
121.	30932 <i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
122.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
123.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
124.	25650 <i>Malurus elegans</i> (Red-winged Fairy-wren)			
125.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
126.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
127.	24587 <i>Melithreptus chloropsis</i> (Western White-naped Honeyeater)			
128.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
129.	<i>Microcarbo melanoleucos</i>			
130.	48008 <i>Morus serrator</i> (Australasian Gannet)			
131.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			
132.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
133.	24739 <i>Neophema petrophila</i> (Rock Parrot)			
134.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
135.	25742 <i>Numenius phaeopus</i> (Whimbrel)		IA	
136.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
137.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
138.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
139.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
140.	24624 <i>Pachycephala rufiventris</i> subsp. <i>rufiventris</i> (Rufous Whistler)			
141.	24693 <i>Pachyptila desolata</i> (Antarctic Prion)			
142.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
143.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
144.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
145.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
146.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
147.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
148.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
149.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
150.	24664 <i>Phalacrocorax carbo</i> subsp. <i>novaehollandiae</i> (Great Cormorant)			
151.	24665 <i>Phalacrocorax fuscescens</i> (Black-faced Cormorant)			
152.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
153.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
154.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
155.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
156.	25587 <i>Phaps elegans</i> (Brush Bronzewing)			
157.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
158.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
159.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
160.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
161.	24747 <i>Platycercus spurius</i> (Red-capped Parrot)			
162.	25721 <i>Platycercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
163.	24750 <i>Platycercus zonarius</i> subsp. <i>semitorquatus</i> (Twenty-eight Parrot)			
164.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
165.	24382 <i>Pluvialis fulva</i> (Pacific Golden Plover)		IA	
166.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
167.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
168.	24679 <i>Podargus strigoides</i> subsp. <i>brachypterus</i> (Tawny Frogmouth)			
169.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
170.	24681 <i>Poliiocephalus poliocephalus</i> (Hoary-headed Grebe)			
171.	25722 <i>Polytelis anthopeplus</i> (Regent Parrot)			
172.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
173.	24767 <i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			
174.	24769 <i>Porzana fluminea</i> (Australian Spotted Crane)			
175.	25732 <i>Porzana pusilla</i> (Baillon's Crane)			
176.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
177.	<i>Purpurecephalus spurius</i>			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
178.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
179.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
180.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
181.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
182.	30948 <i>Smicrornis brevirostris</i> (Weebill)			
183.	24522 <i>Sterna bergii</i> (Crested Tern)			
184.	48594 <i>Sternula nereis</i> (Fairy Tern)			
185.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			
186.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
187.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
188.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
189.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
190.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
191.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
192.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
193.	48135 <i>Thinornis rubricollis</i> (Hooded Plover, Hooded Dotterel)		P4	
194.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
195.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
196.	48141 <i>Tribonyx ventralis</i> (Black-tailed Native-hen)			
197.	24803 <i>Tringa brevipes</i> (Grey-tailed Tattler)		P4	
198.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
199.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
200.	24809 <i>Tringa stagnatilis</i> (Marsh Sandpiper, little greenshank)		IA	
201.	48147 <i>Turnix varius</i> (Painted Button-quail)			
202.	24852 <i>Tyto alba</i> subsp. <i>delicatula</i> (Barn Owl)			
203.	24855 <i>Tyto novaehollandiae</i> subsp. <i>novaehollandiae</i> (Masked Owl (southwest))		P3	
204.	25577 <i>Vanellus miles</i> (Masked Lapwing)			
205.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
206.	41351 <i>Xenus cinereus</i> (Terek Sandpiper)		IA	
207.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			
<b>ish</b>				
208.	<i>Carassius auratus</i>			
209.	34031 <i>Carcharodon carcharias</i> (Great White Shark)		T	
210.	<i>Edelia vittata</i>			
211.	<i>Elops hawaiiensis</i>			
212.	34028 <i>Galaxias occidentalis</i> (Western Minnow)			
213.	34027 <i>Galaxiella nigrostriata</i> (Black-stripe Minnow, black-striped dwarf galaxias)		T	
214.	<i>Gambusia affinis</i>			
215.	34030 <i>Geotria australis</i> (Pouched Lamprey)		P3	
216.	<i>Macroramphosus scolopax</i>			
217.	<i>Muraenichthys tasmaniensis</i>			
218.	<i>Nannoperca vittata</i>			
219.	<i>Ophisurus serpens</i>			
220.	<i>Parablennius postocolomaculatus</i>			
221.	<i>Pseudogobius olorum</i>			
222.	<i>Rachycentron canadum</i>			
223.	<i>Scobinichthys granulatus</i>			
<b>Invertebrate</b>				
224.	<i>Acariformes</i> sp.			
225.	<i>Aeshnidae</i> sp.			
226.	<i>Amblyomma triguttatum</i>			
227.	<i>Aname mainae</i>			
228.	<i>Aname tepperi</i>			
229.	<i>Arachnura higginsii</i>			
230.	<i>Araneus cyphoxis</i>			
231.	<i>Araneus eburneiventris</i>			
232.	<i>Araneus senicaudatus</i>			
233.	<i>Araneus senicaudatus</i> subsp. <i>simplex</i>			Y
234.	<i>Argiope protensa</i>			
235.	<i>Argiope trifasciata</i>			
236.	<i>Austracantha minax</i>			
237.	<i>Backbourkia brounii</i>			
238.	<i>Backbourkia heroine</i>			
239.	<i>Badumna insignis</i>			
240.	<i>Baetidae</i> sp.			
241.	<i>Caenidae</i> sp.			
242.	<i>Calamoecia clitellata</i>			
243.	<i>Ceratopogonidae</i> sp.			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
244.	33939 <i>Cherax cainii</i> (Marron)			
245.	<i>Cherax destructor</i>			
246.	<i>Cherax quinquecarinatus</i>			
247.	<i>Chironominae</i> sp.			
248.	<i>Coenagrionidae</i> sp.			
249.	<i>Corduliidae</i> sp.			
250.	<i>Corixidae</i> sp.			
251.	<i>Cormocephalus aurantiipes</i>			
252.	<i>Cormocephalus strigosus</i>			
253.	<i>Culicidae</i> sp.			
254.	<i>Dolichopodidae</i> sp.			
255.	<i>Dugesidae</i> sp.			
256.	<i>Dytiscidae</i> sp.			
257.	<i>Ecnomidae</i> sp.			
258.	<i>Ephydriidae</i> sp.			
259.	<i>Eriophora biapicata</i>			
260.	<i>Erpobdellidae</i> sp.			
261.	<i>Gomphidae</i> sp.			
262.	<i>Gripopterygidae</i> sp.			
263.	<i>Gyrinidae</i> sp.			
264.	<i>Hemicorduliidae</i> sp.			
265.	<i>Henicops dentatus</i>			
266.	<i>Hogna crispipes</i>			
267.	<i>Hydrobiosidae</i> sp.			
268.	<i>Hydrophiliidae</i> sp.			
269.	<i>Hydropsychidae</i> sp.			
270.	<i>Hydroptilidae</i> sp.			
271.	<i>Hypsimetopodidae</i> sp.			
272.	<i>Hyriidae</i> sp.			
273.	48935 <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)		P3	
274.	<i>Isopeda leishmanni</i>			
275.	<i>Ixodes australiensis</i>			
276.	<i>Kangarosa properipes</i>			
277.	<i>Laetesia mollita</i>			
278.	<i>Lampona cylindrata</i>			
279.	<i>Latrodectus hasseltii</i>			
280.	<i>Leptoceridae</i> sp.			
281.	<i>Leptophlebiidae</i> sp.			
282.	<i>Libellulidae</i> sp.			
283.	<i>Lymnaeidae</i> sp.			
284.	<i>Maratus pavonis</i>			
285.	<i>Mesoveliidae</i> sp.			
286.	<i>Missulena granulosa</i>			
287.	<i>Missulena occatoria</i>			
288.	<i>Mituliodon tarantulinus</i>			
289.	<i>Nephila edulis</i>			
290.	<i>Nicodamus mainae</i>			
291.	<i>Notonectidae</i> sp.			
292.	<i>Nunciella aspera</i>			
293.	<i>Oecobius navus</i>			
294.	<i>Oligochaeta</i> sp.			
295.	<i>Oniscidae</i> sp.			
296.	<i>Oniscigastridae</i> sp.			
297.	<i>Orthocladinae</i> sp.			
298.	<i>Palaemonidae</i> sp.			
299.	<i>Parastacidae</i> sp.			
300.	<i>Pentastemon intermedium</i>			
301.	<i>Perthiidae</i> sp.			
302.	<i>Phryganoporus candidus</i>			
303.	<i>Physidae</i> sp.			
304.	<i>Raveniella arenacea</i>			
305.	<i>Raveniella peckorum</i>			
306.	<i>Scirtidae</i> sp.			
307.	<i>Scolopendra laeta</i>			
308.	<i>Simuliidae</i> sp.			
309.	<i>Sphaeriidae</i> sp.			
310.	<i>Steatoda capensis</i>			
311.	<i>Steatoda grossa</i>			
312.	<i>Styloniscidae</i> sp.			
313.	<i>Supunna picta</i>			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
314.	<i>Synsphyronus magnus</i>			
315.	<i>Synthemistidae sp.</i>			
316.	<i>Talitridae sp.</i>			
317.	<i>Tanypodinae sp.</i>			
318.	<i>Tasmanicosa leuckartii</i>			
319.	<i>Telephlebiidae sp.</i>			
320.	<i>Temnocephalidea sp.</i>			
321.	<i>Tetralycosa oraria</i>			
322.	<i>Tipulidae sp.</i>			
323.	<i>Trachycosmus sculptilis</i>			
324.	<i>Urodacus similis</i>			
325.	<i>Veliidae sp.</i>			
326.	<i>Venator immansueta</i>			
327.	<i>Venatrix pullastra</i>			
328.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
<b>Mammal</b>				
329.	24088 <i>Antechinus flavipes subsp. leucogaster</i> (Yellow-footed Antechinus, Mardo)			
330.	24208 <i>Arctocephalus forsteri</i> (New Zealand Fur Seal, long-nosed fur-seal)		S	
331.	24209 <i>Arctocephalus tropicalis</i> (Subantarctic fur-seal)		T	
332.	24162 <i>Bettongia penicillata subsp. ogilbyi</i> (Woylie, Brush-tailed Bettong)		T	
333.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
334.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattleed Bat)			
335.	24092 <i>Dasyurus geoffroii</i> (Chuditch, Western Quoll)		T	
336.	24043 <i>Eubalaena australis</i> (Southern Right Whale)		T	
337.	24189 <i>Falsistrellus mackenziei</i> (Western False Pipistrelle, Western Falsistrelle)		P4	
338.	24041 <i>Felis catus</i> (Cat)	Y		
339.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
340.	48588 <i>Isoodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
341.	24071 <i>Kogia sima</i> (Dwarf Sperm Whale)			Y
342.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
343.	24051 <i>Megaptera novaeangliae</i> (Humpback Whale)		S	
344.	24213 <i>Mirounga leonina</i> (Southern Elephant Seal)			
345.	24223 <i>Mus musculus</i> (House Mouse)	Y		
346.	24146 <i>Myrmecobius fasciatus</i> (Numbat, Walpurti)		T	
347.	24210 <i>Neophoca cinerea</i> (Australian Sea-lion)		T	
348.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
349.	24195 <i>Nyctophilus gouldi</i> (Gould's Long-eared Bat)			
350.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
351.	48070 <i>Phascogale tapoatafa subsp. wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
352.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
353.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
354.	24145 <i>Setonix brachyurus</i> (Quokka)		T	
355.	24111 <i>Sminthopsis gilberti</i> (Gilbert's Dunnart)			
356.	<i>Sminthopsis murina</i>			
357.	24259 <i>Sus scrofa</i> (Pig)	Y		
358.	24158 <i>Trichosurus vulpecula subsp. vulpecula</i> (Common Brushtail Possum)			
359.	30954 <i>Tursiops aduncus</i> (Indo-Pacific Bottlenose Dolphin)			
360.	24069 <i>Tursiops truncatus</i> (Bottlenose Dolphin)			
361.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
362.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		
<b>Reptile</b>				
363.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
364.	24990 <i>Aprasia pulchella</i> (Granite Worm-lizard)			
365.	25335 <i>Caretta caretta</i> (Loggerhead Turtle)		T	
366.	43380 <i>Chelodina colliei</i> (South-western Snake-necked Turtle)			
367.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
368.	30893 <i>Cryptoblepharus buchananii</i>			
369.	25027 <i>Ctenotus australis</i>			
370.	25039 <i>Ctenotus fallens</i>			
371.	25047 <i>Ctenotus impar</i>			
372.	25049 <i>Ctenotus labillardieri</i>			
373.	41641 <i>Ctenotus ora</i> (Coastal Plains Skink)		P3	
374.	25296 <i>Demansia psammophis subsp. reticulata</i> (Yellow-faced Whipsnake)			
375.	24939 <i>Diplodactylus polyophthalmus</i>			
376.	25251 <i>Echiopsis curta</i> (Bardick)			
377.	25096 <i>Egernia kingii</i> (King's Skink)			
378.	25100 <i>Egernia napoleonis</i>			
379.	25250 <i>Elapognathus coronatus</i> (Crowned Snake)			

Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
380.	25115 <i>Hemiergis initialis</i> subsp. <i>initialis</i>			
381.	25117 <i>Hemiergis peronii</i> subsp. <i>peronii</i>			
382.	25119 <i>Hemiergis quadrilineata</i>			
383.	43384 <i>Hydrophis platurus</i> (Yellow-bellied Seasnake)			
384.	25131 <i>Lerista distinguenda</i>			
385.	25133 <i>Lerista elegans</i>			
386.	25147 <i>Lerista lineata</i> (Perth Slider, Lined Skink)		P3	
387.	25005 <i>Lialis burtonis</i>			
388.	25184 <i>Menetia greyii</i>			
389.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
390.	25191 <i>Morethia lineocellata</i>			
391.	25192 <i>Morethia obscura</i>			
392.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
393.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
394.	25253 <i>Parasuta gouldii</i>			
395.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			
396.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
397.	25511 <i>Pseudonaja affinis</i> (Dugite)			
398.	25259 <i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
399.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
400.	25519 <i>Tiliqua rugosa</i>			
401.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
402.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			
403.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
404.	25225 <i>Varanus rosenbergi</i> (Heath Monitor)			

**Conservation Codes**

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

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



# 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: 01-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](#).

<a href="#">World Heritage Properties:</a>	None
<a href="#">National Heritage Places:</a>	None
<a href="#">Wetlands of International Importance (Ramsar)</a>	1
<a href="#">Great Barrier Reef Marine Park:</a>	None
<a href="#">Commonwealth Marine Area:</a>	None
<a href="#">Listed Threatened Ecological Communities:</a>	2
<a href="#">Listed Threatened Species:</a>	25
<a href="#">Listed Migratory Species:</a>	10

## 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.

<a href="#">Commonwealth Lands:</a>	None
<a href="#">Commonwealth Heritage Places:</a>	None
<a href="#">Listed Marine Species:</a>	14
<a href="#">Whales and Other Cetaceans:</a>	None
<a href="#">Critical Habitats:</a>	None
<a href="#">Commonwealth Reserves Terrestrial:</a>	None
<a href="#">Australian Marine Parks:</a>	None
<a href="#">Habitat Critical to the Survival of Marine Turtles:</a>	None

## Extra Information

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

<a href="#">State and Territory Reserves:</a>	None
<a href="#">Regional Forest Agreements:</a>	None
<a href="#">Nationally Important Wetlands:</a>	None
<a href="#">EPBC Act Referrals:</a>	9
<a href="#">Key Ecological Features (Marine):</a>	None
<a href="#">Biologically Important Areas:</a>	None
<a href="#">Bioregional Assessments:</a>	None
<a href="#">Geological and Bioregional Assessments:</a>	None

# Details

## Matters of National Environmental Significance

### Wetlands of International Importance (Ramsar Wetlands)

[\[ Resource Information \]](#)

Ramsar Site Name

[Peel-yalgorup system](#)

Proximity

Within 10km of Ramsar site

### Listed Threatened Ecological Communities

[\[ Resource Information \]](#)

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

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

Community Name

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

Threatened Category

Endangered

Presence Text

Community likely to occur within area

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

Critically Endangered

Community likely to occur within 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

BIRD

[Botaurus poiciloptilus](#)

Australasian Bittern [1001]

Threatened Category

Endangered

Presence Text

Species or species habitat likely to occur within area

[Calidris canutus](#)

Red Knot, Knot [855]

Endangered

Species or species habitat may occur within area

[Calidris ferruginea](#)

Curlew Sandpiper [856]

Critically Endangered

Species or species habitat likely to occur within area

[Calyptorhynchus banksii naso](#)

Forest Red-tailed Black-Cockatoo, Karrak [67034]

Vulnerable

Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area
<a href="#">Falco hypoleucos</a> Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area
<a href="#">Leipoa ocellata</a> Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
<a href="#">Sternula nereis nereis</a> Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
<a href="#">Zanda baudinii listed as Calyptorhynchus baudinii</a> Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]	Endangered	Breeding likely to occur within area
<a href="#">Zanda latirostris listed as Calyptorhynchus latirostris</a> Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Species or species habitat known to occur within area
<b>FISH</b>		
<a href="#">Galaxiella nigrostriata</a> Blackstriped Dwarf Galaxias, Black-stripe Minnow [88677]	Endangered	Species or species habitat may occur within area
<b>MAMMAL</b>		
<a href="#">Dasyurus geoffroii</a> Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Pseudocheirus occidentalis</a> Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat likely to occur within area
<b>PLANT</b>		

Scientific Name	Threatened Category	Presence Text
<a href="#">Andersonia gracilis</a> Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
<a href="#">Caladenia huegelii</a> King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat may occur within area
<a href="#">Caladenia procera</a> Carbunup King Spider Orchid [68679]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Diuris drummondii</a> Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat likely to occur within area
<a href="#">Diuris micrantha</a> Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Diuris purdiei</a> Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area
<a href="#">Drakaea elastica</a> Glossy-leafed Hammer Orchid, Glossy-leafed Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area
<a href="#">Drakaea micrantha</a> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat known to occur within area
<a href="#">Synaphea sp. Fairbridge Farm (D. Papenfus 696)</a> Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Synaphea sp. Serpentine (G.R. Brand 103)</a> [86879]	Critically Endangered	Species or species habitat may occur within area

Listed Migratory Species	<a href="#">[ Resource Information ]</a>	
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		

Scientific Name	Threatened Category	Presence Text
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area
<b>Migratory Terrestrial Species</b>		
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area
<b>Migratory Wetlands Species</b>		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat likely to occur within area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area



## Other Matters Protected by the EPBC Act

Listed Marine Species		[ Resource Information ]
Scientific Name	Threatened Category	Presence Text
Bird		
<a href="#">Actitis hypoleucos</a> Common Sandpiper [59309]		Species or species habitat likely to occur within area
<a href="#">Apus pacificus</a> Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
<a href="#">Bubulcus ibis as Ardea ibis</a> Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
<a href="#">Calidris acuminata</a> Sharp-tailed Sandpiper [874]		Species or species habitat likely to occur within area
<a href="#">Calidris canutus</a> Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area
<a href="#">Calidris ferruginea</a> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area
<a href="#">Calidris melanotos</a> Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
<a href="#">Charadrius leschenaultii</a> Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area
<a href="#">Haliaeetus leucogaster</a> White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
<a href="#">Merops ornatus</a> Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
<a href="#">Motacilla cinerea</a> Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
<a href="#">Numenius madagascariensis</a> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
<a href="#">Rostratula australis as Rostratula benghalensis (sensu lato)</a> Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
<a href="#">Tringa nebularia</a> Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area

## Extra Information

EPBC Act Referrals			[ <a href="#">Resource Information</a> ]
Title of referral	Reference	Referral Outcome	Assessment Status
<b>Controlled action</b>			
<a href="#">Albemarle Lithium hydroxide manufacturing plant, Kemerton, WA</a>	2017/8099	Controlled Action	Post-Approval
<a href="#">Kemerton SIA Road and Drainage project, near Australind, WA</a>	2018/8237	Controlled Action	Post-Approval
<a href="#">Yarragadee Water Supply Development</a>	2005/2073	Controlled Action	Completed
<b>Not controlled action</b>			
<a href="#">Albemarle Lateral Gas Pipeline, Kemerton, WA</a>	2019/8387	Not Controlled Action	Completed
<a href="#">Benger Solar Farm Connection Project - WA</a>	2020/8763	Not Controlled Action	Completed
<a href="#">Improving rabbit biocontrol: releasing another strain of RHDV,</a>	2015/7522	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
<b>Not controlled action</b>			
<a href="#"><u>sthrn two thirds of Australia</u></a>			
<a href="#"><u>INDIGO Central Submarine Telecommunications Cable</u></a>	2017/8127	Not Controlled Action	Completed
<a href="#"><u>Kemerton Lateral Gas Pipeline Project</u></a>	2005/2388	Not Controlled Action	Completed
<b>Not controlled action (particular manner)</b>			
<a href="#"><u>INDIGO Marine Cable Route Survey (INDIGO)</u></a>	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval

# Caveat

## 1 PURPOSE

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

The report contains the mapped locations of:

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

## 2 DISCLAIMER

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

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

## 3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

## 4 LIMITATIONS

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

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

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

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

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

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



# Acknowledgements

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

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

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

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

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# **APPENDIX C**

## **OBSERVED AND PREDICTED VERTEBRATE FAUNA LISTING**

# Observed and Potential Vertebrate Fauna Listing

## ALBEMARLE KEMERTON PROJECT

Compiled by Greg Harewood - Feb 2022

Recorded (Captured/Recorded/Sighted/Heard/Signs) = X

Approximate centroid = 33.193226° and 115.760128°

A = Harewood, G. (2022). Fauna Assessment Albemarle Kemerton Project - Kemerton. Unpublished report for GHD.

B = GHD (2017). Biological Assessment - Additional Area Assessment - Kemerton Strategic Industrial Area. Unpublished letter report for Albemarle Lithium Pty Ltd

C = Harewood, G. (2016). Fauna Assessment Lot 510 (part) Kemerton Industrial Park. Unpublished report for RPS Australia Asia Pacific.

D = GHD (2015). Waterloo Urban and Industrial Expansion. Flora and Fauna Survey. Unpublished report for Shire of Dardanup.

E = Harewood, G. (2015). Fauna Survey (Level 2) Dampier to Bunbury Natural Gas Pipeline Corridor. Bristol Road to Clifton Road. Unpublished report for Aurora Environmental.

F = Harewood, G. (2010). Kemerton Industrial Core - Fauna Survey. Unpublished report for Landcorp.

G = 360 Environmental Pty Ltd (2008). Southern Seawater Desalination Project 2007, Terrestrial Flora and Fauna Survey Report. Unpublished report for the Water Corporation.

H = Bamford Consulting Ecologists (2008). Fauna Assessment of the Proposes South Binningup Development. Unpublished report for RPS Consulting/Mirvac.

I = Western Wildlife (2009). Lot 76 Binningup Rd, Binningup: Fauna Survey 2008. Unpublished report for Niche Consulting.

J = DBCA (2021). NatureMap Database search. "By Circle" Centre - 115° 45' 36" E, 33° 11' 38" S; Accessed 22/11/2021.

Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
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### Amphibia

#### Myobatrachidae

Ground or Burrowing Frogs

<i>Crinia georgiana</i>	Quacking Frog	LC				X	X					X
<i>Crinia glauerti</i>	Clicking Frog	LC				X	X					X
<i>Crinia insignifera</i>	Squelching Froglet	LC				X	X	X				X
<i>Geocrinia leai</i>	Ticking Frog	LC					X					X
<i>Heleioporus eyrei</i>	Moaning Frog	LC				X	X	X	X	X	X	X
<i>Limnodynastes dorsalis</i>	Western Banjo Frog	LC				X	X	X	X	X	X	X
<i>Pseudophryne guentheri</i>	Crawling Toadlet	LC					X					X

BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, IUCN Red List Category Definitions LC = Least Concern - see Appendix A and <https://www.iucnredlist.org/resources/categories-and-criteria> for others.



Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Hylidae</b>												
Tree or Water-Holding Frogs												
<i>Litoria adelaidensis</i>	Slender Tree Frog	LC				X	X	X				X
<i>Litoria moorei</i>	Motorbike Frog	LC				X	X	X		X	X	X
<b>Reptilia</b>												
<b>Diplodactylidae</b>												
Geckoes												
<i>Strophurus spinigerus</i>	Soft Spiny-tailed Gecko	LC							X			X
<b>Gekkonidae</b>												
Geckoes												
<i>Christinus marmoratus</i>	Marbled Gecko	LC					X	X	X	X	X	X
<b>Pygopodidae</b>												
Legless Lizards												
<i>Aprasia repens</i>	Sandplain Worm Lizard	LC										X
<i>Delma fraseri</i>	Fraser's Legless Lizard	LC							X		X	X
<i>Delma grayii</i>	Side-barred Delma	LC										X
<i>Lialis burtonis</i>	Burton's Legless Lizard	LC					X	X	X	X	X	X
<i>Pygopus lepidopus</i>	Common Scaly Foot	LC										X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Agamidae</b>												
Dragon Lizards												
<i>Ctenophorus adelaidensis</i>	Southern Heath Dragon	LC							X	X		X
<i>Pogona minor</i>	Western Bearded Dragon	LC					X	X	X	X	X	X
<b>Varanidae</b>												
Monitor's or Goanna's												
<i>Varanus gouldii</i>	Sand Monitor	LC					X	X	X			X
<i>Varanus rosenbergi</i>	Heath Monitor	LC					X	X				X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Scincidae</b>												
Skinks												
<i>Acritoscincus trilineatum</i>	Southwestern Cool Skink	LC					X	X			X	
<i>Cryptoblepharus buchananii</i>	Buchanan's Snake-eyed Skink	LC	X	X	X		X	X			X	X
<i>Ctenotus australis</i>	Western Ctenotus	LC								X	X	X
<i>Ctenotus fallens</i>	West Coast Ctenotus	LC							X			X
<i>Ctenotus impar</i>	Odd-striped Ctenotus	LC					X	X				X
<i>Ctenotus ora</i>	Coastal Plains Skink	P3					X	X				X
<i>Egernia kingii</i>	King's Skink	LC				X			X			
<i>Egernia napoleonis</i>	Salmon-bellied Skink	LC				X	X	X				X
<i>Hemiergis quadrilineata</i>	Two-toed Mulch Skink	LC		X			X	X	X	X	X	X
<i>Lerista elegans</i>	West Coast Four-toed Lerista	LC					X	X	X	X	X	X
<i>Lerista lineata</i>	Perth Lined Lerista	P3						X	X	X	X	X
<i>Lerista lineopunctulata</i>	Line-spotted Robust Lerista	LC							X			
<i>Menetia greyii</i>	Dwarf Skink	LC		X		X	X	X	X	X	X	X
<i>Morethia lineoocellata</i>	West Coast Pale-flecked Morethia	LC				X	X	X	X	X	X	X
<i>Morethia obscura</i>	Shrubland Pale-flecked Morethia	LC										X
<i>Tiliqua rugosa</i>	Bobtail	LC		X	X		X	X	X	X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Typhlopidae</b> Blind Snakes												
<i>Anilius australis</i>	Southern Blind Snake	LC						X	X		X	
<b>Boidae</b> Pythons, Boas												
<i>Morelia imbricata</i>	SW Carpet Python	LC										
<b>Elapidae</b> Elapid Snakes												
<i>Echiopsis curta</i>	Bardick	LC								X		
<i>Neelaps bimaculatus</i>	Black-naped Snake	LC						X	X		X	X
<i>Notechis scutatus</i>	Tiger Snake	LC					X	X	X			X
<i>Pseudonaja affinis</i>	Dugite	LC			X	X	X	X	X			X
<i>Simoselaps bertholdi</i>	Jan's Banded Snake	LC					X		X		X	X
<i>Suta gouldii</i>	Gould's Hooded Snake	LC						X			X	X
<b>Aves</b>												
<b>Casuariidae</b> Emus, Cassowaries												
<i>Dromaius novaehollandiae</i>	Emu	LC	X		X		X	X				X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Phasianidae</b>												
Quails, Pheasants												
<i>Coturnix pectoralis</i>	Stubble Quail	LC										X
<i>Coturnix ypsilophora</i>	Brown Quail	LC										X
<b>Anatidae</b>												
Geese, Swans, Ducks												
<i>Anas gracilis</i>	Grey Teal	LC				X	X		X	X		X
<i>Anas superciliosa</i>	Pacific Black Duck	LC			X	X	X		X	X		X
<i>Chenonetta jubata</i>	Australian Wood Duck	LC			X	X	X	X		X	X	X
<i>Tadorna tadornoides</i>	Australian Shelduck	LC				X			X	X	X	X
<b>Ardeidae</b>												
Herons, Egrets, Bitterns												
<i>Ardea alba</i>	Great Egret	CA JA								X		
<i>Ardea ibis</i>	Cattle Egret	CA JA										X
<i>Ardea novaehollandiae</i>	White-faced Heron	LC				X	X	X		X		X
<i>Ardea pacifica</i>	White-necked Heron	LC				X	X					X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Threskiornithidae</b>												
Ibises, Spoonbills												
<i>Platalea flavipes</i>	Yellow-billed Spoonbill	LC				X	X					X
<i>Threskiornis molucca</i>	Australian White Ibis	LC				X	X	X				
<i>Threskiornis spinicollis</i>	Straw-necked Ibis	LC				X	X	X		X		X
<b>Accipitridae</b>												
Kites, Goshawks, Eagles, Harriers												
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk	LC										X
<i>Accipiter fasciatus</i>	Brown Goshawk	LC				X		X	X			X
<i>Aquila audax</i>	Wedge-tailed Eagle	LC			X		X	X	X			X
<i>Aquila morphnoides</i>	Little Eagle	LC								X	X	
<i>Circus approximans</i>	Swamp Harrier	LC						X				X
<i>Elanus caeruleus</i>	Black-shouldered Kite	LC				X		X		X		X
<i>Haliastur sphenurus</i>	Whistling Kite	LC					X	X				X
<i>Hamirostra isura</i>	Square-tailed Kite	LC		X				X		X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Falconidae</b> Falcons												
<i>Falco berigora</i>	Brown Falcon	LC				X				X		X
<i>Falco cenchroides</i>	Australian Kestrel	LC			X	X	X	X	X	X		X
<i>Falco longipennis</i>	Australian Hobby	LC										X
<i>Falco peregrinus</i>	Peregrine Falcon	S7 LC				X			X			X
<b>Turnicidae</b> Button-quails												
<i>Turnix varia</i>	Painted Button-quail	LC			X		X		X		X	
<b>Charadriidae</b> Lapwings, Plovers, Dotterels												
<i>Vanellus tricolor</i>	Banded Lapwing	LC										X
<b>Columbidae</b> Pigeons, Doves												
<i>Columba livia</i>	Domestic Pigeon	Introduced					X					
<i>Ocyphaps lophotes</i>	Crested Pigeon	LC	X	X	X	X	X	X		X	X	X
<i>Phaps chalcoptera</i>	Common Bronzewing	LC	X	X	X	X	X	X	X	X	X	X
<i>Phaps elegans</i>	Brush Bronzewing	LC										X
<i>Streptopelia senegalensis</i>	Laughing Turtle-Dove	Introduced								X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Psittacidae</b>												
Parrots												
<i>Cacatua roseicapilla</i>	Galah	LC		X		X	X	X	X	X	X	X
<i>Cacatua sanguinea</i>	Little Corella	LC				X		X			X	X
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	S3 VU LC	X	X	X	X	X	X			X	X
<i>Glossopsitta porphyrocephala</i>	Purple-crowned Lorikeet	LC								X	X	
<i>Neophema elegans</i>	Elegant Parrot	LC	X			X	X	X	X			X
<i>Platycercus icterotis icterotis</i>	Western Rosella (western ssp)	LC										
<i>Platycercus spurius</i>	Red-capped Parrot	LC	X	X	X	X	X	X		X	X	X
<i>Platycercus zonarius</i>	Australian Ringneck	LC		X	X	X	X	X	X	X	X	X
<i>Polytelis anthopeplus</i>	Regent Parrot	LC				X	X	X		X		X
<i>Zanda baudinii</i>	Baudin's Black-Cockatoo	S2 EN EN	X					X				X
<i>Zanda latirostris</i>	Carnaby's Black-Cockatoo	S2 EN EN	X		X		X	X	X	X		X
<b>Cuculidae</b>												
Parasitic Cuckoos												
<i>Cacomantis flabelliformis</i>	Fan-tailed Cuckoo	LC									X	X
<i>Chrysococcyx basalis</i>	Horsfield's Bronze Cuckoo	LC		X								X
<i>Chrysococcyx lucidus</i>	Shining Bronze Cuckoo	LC			X		X	X	X		X	X
<i>Cuculus pallidus</i>	Pallid Cuckoo	LC				X						

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Strigidae</b> Hawk Owls												
<i>Ninox novaeseelandiae</i>	Boobook Owl	LC			X	X	X	X	X	X	X	
<b>Tytonidae</b> Barn Owls												
<i>Tyto alba</i>	Barn Owl	LC										X
<i>Tyto n. novaehollandiae</i>	Masked Owl (SW pop)	P3										
<b>Podargidae</b> Frogmouths												
<i>Podargus strigoides</i>	Tawny Frogmouth	LC						X			X	X
<b>Caprimulgidae</b> Nightjars												
<i>Eurostopodus argus</i>	Spotted Nightjar	LC										X
<b>Aegothelidae</b> Owlet-nightjars												
<i>Aegotheles cristatus</i>	Australian Owlet-nightjar	LC										X
<b>Halcyonidae</b> Tree Kingfishers												
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Introduced	X	X	X	X	X	X		X	X	X
<i>Todiramphus sanctus</i>	Sacred Kingfisher	LC			X	X	X	X			X	X

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<b>Meropidae</b> Bee-eaters												
<i>Merops ornatus</i>	Rainbow Bee-eater	JA LC		X	X		X	X	X		X	X
<b>Maluridae</b> Fairy Wrens, GrassWrens												
<i>Malurus splendens</i>	Splendid Fairy-wren	LC	X	X	X	X	X	X	X	X	X	X
<b>Acanthizidae</b> Thornbills, Geryones, Fieldwrens & Whitefaces												
<i>Acanthiza apicalis</i>	Broad-tailed Thornbill	LC	X	X			X	X	X	X	X	X
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	LC				X	X	X			X	X
<i>Acanthiza inornata</i>	Western Thornbill	LC			X							X
<i>Gerygone fusca</i>	Western Gerygone	LC	X	X	X	X	X	X	X	X	X	X
<i>Sericornis maculatus</i>	Spotted Scrubwren	LC		X			X	X	X	X	X	X
<i>Smicromnis brevirostris</i>	Weebill	LC	X	X	X	X	X	X	X	X	X	X
<b>Pardalotidae</b> Pardalotes												
<i>Pardalotus punctatus</i>	Spotted Pardalote	LC				X	X					X
<i>Pardalotus striatus</i>	Striated Pardalote	LC	X	X	X	X	X	X	X	X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Meliphagidae</b>												
Honeyeaters, Chats												
<i>Acanthorhynchus superciliosus</i>	Western Spinebill	LC		X	X	X	X	X				X
<i>Anthochaera carunculata</i>	Red Wattlebird	LC		X	X	X	X	X	X	X	X	X
<i>Anthochaera lunulata</i>	Western Little Wattlebird	LC		X							X	
<i>Epthianura albifrons</i>	White-fronted Chat	LC				X						X
<i>Lichenostomus virescens</i>	Singing Honeyeater	LC		X		X			X		X	
<i>Lichmera indistincta</i>	Brown Honeyeater	LC		X	X	X	X	X	X		X	X
<i>Phylidonyris melanops</i>	Tawny-crowned Honeyeater	LC						X				
<i>Phylidonyris nigra</i>	White-cheeked Honeyeater	LC										
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	LC		X		X		X	X	X		X
<b>Petroicidae</b>												
Australian Robins												
<i>Eopsaltria australis</i>	Western Yellow Robin	LC						X				X
<i>Petroica multicolor</i>	Scarlet Robin	LC		X	X		X	X				
<b>Neosittidae</b>												
Sitellas												
<i>Daphoenositta chrysoptera</i>	Varied Sittella	LC										X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Pachycephalidae</b>												
Crested Shrike-tit, Crested Bellbird, Shrike Thrushes, Whistlers												
<i>Colluricincla harmonica</i>	Grey Shrike-thrush	LC			X	X	X	X	X		X	X
<i>Pachycephala occidentalis</i>	Western Whistler	LC		X	X		X	X	X	X	X	
<i>Pachycephala rufiventris</i>	Rufous Whistler	LC		X	X	X	X				X	X
<b>Dicruridae</b>												
Monarchs, Magpie Lark, Flycatchers, Fantails, Drongo												
<i>Grallina cyanoleuca</i>	Magpie-lark	LC	X			X	X	X		X	X	X
<i>Rhipidura fuliginosa</i>	Grey Fantail	LC	X	X	X	X	X	X	X	X	X	
<i>Rhipidura leucophrys</i>	Willie Wagtail	LC	X	X		X	X	X	X	X	X	X
<b>Campephagidae</b>												
Cuckoo-shrikes, Trillers												
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	LC		X	X	X	X	X	X	X	X	X
<i>Lalage tricolor</i>	White-winged Triller	LC							X			
<b>Artamidae</b>												
Woodswallows, Butcherbirds, Currawongs												
<i>Artamus cinereus</i>	Black-faced Woodswallow	LC	X	X		X		X				X
<i>Artamus cyanopterus</i>	Dusky Woodswallow	LC				X	X					X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Cracticidae</b>												
Currawongs, Magpies & Butcherbirds												
<i>Cracticus tibicen</i>	Australian Magpie	LC	X	X	X	X	X	X		X	X	X
<i>Cracticus torquatus</i>	Grey Butcherbird	LC	X	X	X	X	X	X	X	X	X	X
<i>Strepera versicolor</i>	Grey Currawong	LC				X		X				X
<b>Corvidae</b>												
Ravens, Crows												
<i>Corvus coronoides</i>	Australian Raven	LC	X	X	X	X	X	X	X	X	X	X
<b>Motacillidae</b>												
Old World Pipits, Wagtails												
<i>Anthus australis</i>	Australian Pipit	LC				X		X				X
<b>Dicaeidae</b>												
Flowerpeckers												
<i>Dicaeum hirundinaceum</i>	Mistletoebird	LC										X
<b>Hirundinidae</b>												
Swallows, Martins												
<i>Hirundo neoxena</i>	Welcome Swallow	LC		X		X	X	X			X	X
<i>Hirundo nigricans</i>	Tree Martin	LC		X			X	X		X	X	

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<b>Sylviidae</b>												
Old World Warblers												
<i>Cincloramphus cruralis</i>	Brown Songlark	LC										
<i>Cincloramphus mathewsi</i>	Rufous Songlark	LC	X			X	X					
<b>Zosteropidae</b>												
White-eyes												
<i>Zosterops lateralis</i>	Silvereye	LC	X	X		X	X	X	X	X	X	X
<b>Mammalia</b>												
<b>Tachyglossidae</b>												
Echidnas												
<i>Tachyglossus aculeatus</i>	Echidna	LC										
<b>Dasyuridae</b>												
Carnivorous Marsupials												
<i>Phascogale tapoatafa wambenger</i>	South-western Brush-tailed Phascogale	S6 NT					X	X				X
<b>Peramelidae</b>												
Bandicoots												
<i>Isodon fusciventer</i>	Quenda	P4 LC			X		X	X				X
<b>Phalangeridae</b>												
Brush-tail Possums, Cuscuses												
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	LC	X	X	X	X	X	X	X	X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Burramyidae</b> Pygmy Possums												
<i>Cercartetus concinnus</i>	Western Pygmy-possum	LC						X				X
<b>Pseudocheiridae</b> Ringtail Possums												
<i>Pseudocheirus occidentalis</i>	Western Ringtail Possum	S1 CR CR				X		X	X			X
<b>Macropodidae</b> Kangaroos, Wallabies												
<i>Macropus fuliginosus</i>	Western Grey Kangaroo	LC	X	X	X	X	X	X	X	X	X	X
<i>Notamacropus irma</i>	Western Brush Wallaby	P4 LC					X	X				X
<b>Molossidae</b> Freetail Bats												
<i>Austronomus australis</i>	White-striped Free-tailed Bat	LC					X	X	X	X		X
<i>Ozimops kitcheneri</i>	Western Free-tailed Bat	LC					X	X	X	X		X

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<b>Vespertilionidae</b>												
Ordinary Bats												
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat	LC					X	X	X			X
<i>Chalinolobus morio</i>	Chocolate Wattled Bat	LC					X	X				X
<i>Falsistrellus mackenziei</i>	Western False Pipistrelle	P4 NT					X	X				X
<i>Nyctophilus geoffroyi</i>	Lesser Long-eared Bat	LC					X	X				X
<i>Nyctophilus gouldi</i>	Gould's Long-eared Bat	LC					X					
<i>Nyctophilus major major</i>	Western Long-eared Bat	LC					X	X				
<i>Vespadelus regulus</i>	Southern Forest Bat	LC					X	X		X		X
<b>Muridae</b>												
Rats, Mice												
<i>Mus musculus</i>	House Mouse	Introduced					X		X	X	X	X
<i>Rattus rattus</i>	Black Rat	Introduced					X					X
<b>Canidae</b>												
Dogs, Foxes												
<i>Canis lupus familiaris</i>	Dog	Introduced					X	X	X			
<i>Vulpes vulpes</i>	Red Fox	Introduced		X	X	X	X	X	X	X	X	X
<b>Felidae</b>												
Cats												
<i>Felis catus</i>	Cat	Introduced				X	X	X		X	X	X

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Class Family Species	Common Name	Conservation Status	A	B	C	D	E	F	G	H	I	J
<b>Suidae</b>												
Pigs												
<i>Sus scrofa</i>	Pig	Introduced		X	X		X	X				X
<b>Leporidae</b>												
Rabbits, Hares												
<i>Oryctolagus cuniculus</i>	Rabbit	Introduced	X	X	X	X	X	X	X	X	X	X

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# **APPENDIX D**

## **HABITAT TREE DETAILS**



Habitat Trees

DBH >50cm

Datum - GDA94

Entrance Size Ranges - Small = >5cm, Medium = 5 to 10cm, Large = >10cm

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt001	50H	384008	6326900	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt002	50H	384011	6326863	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt003	50H	383997	6326859	Jarrah	>50	20+	0					
wpt004	50H	384045	6326876	Jarrah	>50	15-20	0					
wpt005	50H	384049	6326844	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt006	50H	384050	6326844	Jarrah	>50	5-10	1	Large	No Signs	No Signs	No	Too Low and shallow
wpt007	50H	384121	6326828	Jarrah	>50	15-20	2+	Medium-Large	No Signs	No Signs	No	Too Low and shallow
wpt008	50H	384145	6326785	Jarrah	>50	15-20	0					
wpt009	50H	384138	6326779	Jarrah	>50	15-20	0					
wpt010	50H	384175	6326760	Jarrah	>50	10-15	0					
wpt011	50H	384192	6326760	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt013	50H	384224	6326757	Jarrah	>50	15-20	0					
wpt014	50H	384203	6326698	Jarrah	>50	20+	0					
wpt015	50H	384187	6326679	Jarrah	>50	20+	0					
wpt016	50H	384178	6326667	Jarrah	>50	20+	0					
wpt017	50H	384186	6326648	Jarrah	>50	15-20	0					
wpt018	50H	384206	6326653	Jarrah	>50	15-20	0					
wpt019	50H	384204	6326636	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt020	50H	384208	6326629	Jarrah	>50	15-20	0					
wpt021	50H	384183	6326643	Jarrah	>50	15-20	0					
wpt022	50H	384151	6326649	Jarrah	>50	15-20	0					
wpt023	50H	384146	6326650	Jarrah	>50	15-20	0					
wpt024	50H	384147	6326671	Jarrah	>50	10-15	0					
wpt025	50H	384114	6326676	Jarrah	>50	15-20	0					
wpt026	50H	384111	6326690	Jarrah	>50	15-20	0					
wpt027	50H	384112	6326692	Jarrah	>50	15-20	0					
wpt028	50H	384112	6326683	Dead Jarrah	>50	0-5	0					
wpt029	50H	384105	6326647	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt030	50H	384100	6326639	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt031	50H	384072	6326638	Jarrah	>50	15-20	0					
wpt032	50H	384050	6326640	Jarrah	>50	5-10	0					
wpt033	50H	384057	6326668	Jarrah	>50	15-20	2+	Small-Large	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt034	50H	384063	6326671	Jarrah	>50	15-20	0					
wpt035	50H	384049	6326667	Jarrah	>50	15-20	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt036	50H	384033	6326671	Jarrah	>50	15-20	2+	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt037	50H	383994	6326655	Jarrah	>50	15-20	0					
wpt038	50H	384005	6326669	Jarrah	>50	15-20	0					
wpt039	50H	383995	6326653	Jarrah	>50	15-20	0					
wpt040	50H	383980	6326665	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt041	50H	383982	6326656	Dead Unknown	>50	15-20	2+	Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt042	50H	383979	6326630	Dead Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt043	50H	383957	6326645	Jarrah	>50	15-20	0					
wpt044	50H	383937	6326660	Dead Jarrah	>50	20+	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt045	50H	383932	6326651	Jarrah	>50	15-20	0					
wpt046	50H	383929	6326669	Jarrah	>50	20+	0					
wpt047	50H	383936	6326666	Jarrah	>50	15-20	0					
wpt048	50H	383934	6326730	Jarrah	>50	15-20	0					
wpt049	50H	383958	6326750	Dead Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt050	50H	383946	6326768	Jarrah	>50	20+	0					
wpt051	50H	383949	6326787	Jarrah	>50	15-20	0					
wpt052	50H	383963	6326803	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt053	50H	383977	6326822	Jarrah	>50	15-20	0					
wpt054	50H	383980	6326760	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt055	50H	383954	6326860	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt056	50H	383956	6326869	Jarrah	>50	15-20	0					
wpt057	50H	383982	6326877	Jarrah	>50	15-20	0					
wpt058	50H	384012	6326819	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt059	50H	384026	6326823	Jarrah	>50	10-15	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt060	50H	383994	6326800	Jarrah	>50	20+	0					
wpt061	50H	384016	6326746	Jarrah	>50	15-20	0					
wpt062	50H	384010	6326743	Jarrah	>50	15-20	2+	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt063	50H	384014	6326732	Jarrah	>50	15-20	0					
wpt065	50H	384022	6326731	Dead Jarrah	>50	15-20	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt066	50H	384028	6326706	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt067	50H	384039	6326701	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt068	50H	383985	6326696	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt069	50H	383988	6326736	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt070	50H	384040	6326724	Jarrah	>50	15-20	0					
wpt071	50H	384051	6326740	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt072	50H	384089	6326739	Dead Jarrah	>50	20+	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt073	50H	384088	6326699	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt074	50H	384098	6326802	Dead Jarrah	>50	15-20	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt075	50H	384025	6326847	Jarrah	>50	15-20	0					
wpt076	50H	383979	6326917	Jarrah	>50	20+	0					
wpt077	50H	383983	6326927	Jarrah	>50	20+	0					
wpt111	50H	383233	6324992	Jarrah	>50	15-20	0					
wpt112	50H	383247	6324990	Jarrah	>50	15-20	0					
wpt115	50H	384162	6326529	Dead Jarrah	>50	0-5	1	Large	No Signs	No Signs	No	Too shallow
wpt116	50H	384170	6326520	Jarrah	>50	20+	0					
wpt117	50H	384171	6326477	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt118	50H	384189	6326423	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt119	50H	384176	6326413	Dead Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt120	50H	384118	6326433	Jarrah	>50	15-20	0					
wpt121	50H	384113	6326423	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt122	50H	384103	6326442	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Wedge-tailed Eagle Nest
wpt123	50H	384107	6326454	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt124	50H	384096	6326467	Jarrah	>50	15-20	0					
wpt125	50H	384088	6326441	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt126	50H	384010	6326447	Jarrah	>50	20+	0					
wpt127	50H	383990	6326462	Jarrah	>50	15-20	0					
wpt128	50H	383994	6326485	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt129	50H	383947	6326442	Jarrah	>50	15-20	0					
wpt130	50H	383964	6326499	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt131	50H	383972	6326535	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt132	50H	383953	6326540	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt133	50H	383942	6326540	Jarrah	>50	15-20	0					
wpt134	50H	383943	6326534	Jarrah	>50	15-20	0					
wpt135	50H	383935	6326598	Jarrah	>50	20+	0					
wpt136	50H	384001	6326583	Jarrah	>50	20+	0					
wpt137	50H	384026	6326568	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt138	50H	384018	6326549	Jarrah	>50	15-20	0					
wpt139	50H	384011	6326527	Jarrah	>50	20+	0					
wpt140	50H	384038	6326522	Jarrah	>50	15-20	2+	Medium-Large	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt141	50H	384056	6326513	Jarrah	>50	15-20	0					
wpt142	50H	384275	6325977	Jarrah	>50	20+	0					
wpt143	50H	384055	6326488	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt144	50H	384041	6326474	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt145	50H	384098	6326497	Jarrah	>50	15-20	0					
wpt146	50H	384096	6326505	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt147	50H	384088	6326520	Jarrah	>50	15-20	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt148	50H	384278	6325937	Jarrah	>50	20+	0					
wpt149	50H	384097	6326533	Dead Jarrah	>50	20+	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt150	50H	384103	6326545	Jarrah	>50	20+	0					
wpt151	50H	384104	6326547	Jarrah	>50	15-20	0					
wpt152	50H	384109	6326551	Jarrah	>50	15-20	0					
wpt153	50H	384046	6326582	Jarrah	>50	15-20	0					
wpt154	50H	384097	6326596	Jarrah	>50	15-20	0					
wpt155	50H	384107	6326604	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt156	50H	384145	6326582	Jarrah	>50	15-20	0					
wpt157	50H	384136	6326568	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt158	50H	384125	6326552	Jarrah	>50	15-20	0					
wpt159	50H	384137	6326545	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt160	50H	384133	6326486	Jarrah	>50	10-15	1	Large	No Signs	No Signs	No	Too shallow
wpt161	50H	384125	6326481	Jarrah	>50	15-20	0					
wpt162	50H	384286	6325927	Jarrah	>50	15-20	0					
wpt163	50H	384295	6325929	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt164	50H	384275	6325903	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt165	50H	384272	6325905	Jarrah	>50	15-20	0					
wpt166	50H	384279	6325879	Jarrah	>50	15-20	0					
wpt167	50H	384285	6325876	Jarrah	>50	10-15	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt168	50H	384286	6325863	Jarrah	>50	15-20	2+	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt169	50H	384291	6325843	Jarrah	>50	15-20	0					
wpt170	50H	384263	6325850	Jarrah	>50	20+	0					
wpt171	50H	384244	6325862	Jarrah	>50	20+	2+	Small-Large (cockatoo)	Ducks	No Signs	No	Wood Duck feathers
wpt172	50H	384251	6325857	Jarrah	>50	15-20	2+	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt173	50H	384256	6325869	Jarrah	>50	15-20	0					
wpt174	50H	384255	6325878	Jarrah	>50	20+	0					
wpt175	50H	384244	6325806	Dead Unknown	>50	20+	1	Large	No Signs	No Signs	No	Too shallow
wpt176	50H	384262	6325797	Jarrah	>50	10-15	0					
wpt177	50H	384290	6325802	Jarrah	>50	15-20	0					
wpt178	50H	384280	6325778	Jarrah	>50	20+	0					
wpt179	50H	384258	6325772	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt180	50H	384267	6325759	Jarrah	>50	20+	0					
wpt181	50H	384250	6325735	Jarrah	>50	20+	0					
wpt182	50H	384220	6325729	Jarrah	>50	20+	0					
wpt183	50H	384224	6325710	Jarrah	>50	20+	0					
wpt184	50H	384235	6325698	Dead Unknown	>50	5-10	2+	Large	No Signs	No Signs	No	Too shallow
wpt185	50H	384201	6325662	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt186	50H	384227	6325624	Jarrah	>50	20+	0					
wpt187	50H	384231	6325612	Jarrah	>50	15-20	0					
wpt188	50H	384189	6325594	Jarrah	>50	15-20	0					
wpt189	50H	384162	6325609	Jarrah	>50	15-20	0					
wpt190	50H	384154	6325622	Dead Jarrah	>50	10-15	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt191	50H	384135	6325599	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt192	50H	384124	6325631	Jarrah	>50	15-20	0					
wpt193	50H	384068	6325616	Jarrah	>50	15-20	0					
wpt194	50H	384067	6325637	Jarrah	>50	15-20	2+	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt195	50H	384060	6325636	Jarrah	>50	15-20	0					
wpt196	50H	384048	6325612	Dead Unknown	>50	20+	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt197	50H	384012	6325605	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt198	50H	384004	6325607	Jarrah	>50	15-20	0					
wpt199	50H	384003	6325601	Jarrah	>50	15-20	0					
wpt200	50H	384004	6325601	Jarrah	>50	15-20	0					
wpt201	50H	383986	6325593	Jarrah	>50	20+	2+	Medium-Large	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt202	50H	383961	6325645	Jarrah	>50	20+	0					
wpt203	50H	383962	6325657	Jarrah	>50	15-20	0					
wpt204	50H	383971	6325687	Jarrah	>50	15-20	0					
wpt205	50H	383985	6325697	Jarrah	>50	15-20	0					
wpt206	50H	384000	6325688	Jarrah	>50	20+	1	Large	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt207	50H	384017	6325670	Jarrah	>50	15-20	0					
wpt208	50H	384014	6325693	Dead Jarrah	>50	0-5	0					
wpt209	50H	384017	6325709	Jarrah	>50	5-10	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt210	50H	383987	6325708	Jarrah	>50	20+	2+	Small-Medium	Ducks	No Signs	No	Pacific Black Duck Feathers
wpt211	50H	383997	6325742	Jarrah	>50	15-20	2+	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt212	50H	383994	6325735	Jarrah	>50	15-20	1	Large	No Signs	No Signs	No	Too shallow
wpt213	50H	383977	6325753	Jarrah	>50	15-20	0					
wpt214	50H	383990	6325797	Jarrah	>50	15-20	0					
wpt215	50H	383956	6325807	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt216	50H	383953	6325836	Jarrah	>50	20+	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt217	50H	383972	6325865	Jarrah	>50	15-20	0					
wpt218	50H	383971	6325875	Jarrah	>50	15-20	0					
wpt219	50H	383957	6325874	Dead Jarrah	>50	20+	2+	Medium	Bees	No Signs	No	Internal dimensions of hollows unknown
wpt220	50H	383973	6325934	Jarrah	>50	15-20	0					
wpt221	50H	383960	6325948	Jarrah	>50	15-20	0					
wpt222	50H	383980	6325985	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt223	50H	383981	6326001	Jarrah	>50	15-20	0					



Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt224	50H	384009	6325964	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt225	50H	384049	6325984	Jarrah	>50	15-20	0					
wpt226	50H	384094	6326000	Jarrah	>50	20+	2+	Medium-Large	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt227	50H	384112	6325983	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt228	50H	384137	6326000	Jarrah	>50	15-20	0					
wpt229	50H	384159	6326003	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt230	50H	384205	6325979	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt231	50H	384234	6325971	Jarrah	>50	15-20	0					
wpt232	50H	384222	6325949	Jarrah	>50	15-20	0					
wpt233	50H	384228	6325946	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt234	50H	384199	6325843	Jarrah	>50	15-20	0					
wpt235	50H	384194	6325801	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt236	50H	384195	6325788	Jarrah	>50	10-15	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt237	50H	384205	6325770	Jarrah	>50	15-20	0					
wpt238	50H	384214	6325766	Jarrah	>50	15-20	0					
wpt239	50H	384227	6325767	Jarrah	>50	15-20	0					
wpt240	50H	384229	6325760	Jarrah	>50	15-20	0					
wpt241	50H	384207	6325734	Jarrah	>50	15-20	0					
wpt242	50H	384197	6325727	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt243	50H	384195	6325726	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt244	50H	384174	6325731	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt245	50H	384157	6325730	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt246	50H	384165	6325753	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt247	50H	384180	6325696	Jarrah	>50	15-20	0					
wpt248	50H	384175	6325695	Jarrah	>50	15-20	0					
wpt249	50H	384161	6325691	Jarrah	>50	20+	2+	Small-Medium	Bees	No Signs	No	Internal dimensions of hollows unknown
wpt250	50H	384113	6325656	Jarrah	>50	15-20	0					
wpt251	50H	384116	6325707	Jarrah	>50	15-20	0					
wpt252	50H	384143	6325720	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt253	50H	384114	6325749	Jarrah	>50	15-20	0					
wpt254	50H	384111	6325753	Jarrah	>50	15-20	0					
wpt255	50H	384130	6325768	Jarrah	>50	15-20	0					
wpt256	50H	384144	6325796	Jarrah	>50	15-20	0					
wpt257	50H	384139	6325799	Dead Unknown	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt258	50H	384141	6325831	Marri	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt259	50H	384144	6325835	Jarrah	>50	15-20	0					
wpt260	50H	384139	6325846	Jarrah	>50	15-20	0					
wpt261	50H	384151	6325846	Jarrah	>50	15-20	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt262	50H	384168	6325841	Jarrah	>50	20+	2+	Medium-Large	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt263	50H	384151	6325880	Jarrah	>50	15-20	0					
wpt264	50H	384173	6325870	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt265	50H	384145	6325878	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt266	50H	384179	6325900	Marri	>50	20+	0					
wpt267	50H	384179	6325901	Jarrah	>50	15-20	0					
wpt268	50H	384180	6325925	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt269	50H	384197	6325948	Jarrah	>50	15-20	0					
wpt270	50H	384159	6325953	Jarrah	>50	20+	2+	Medium-Large	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt271	50H	384130	6325951	Jarrah	>50	20+	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt272	50H	384115	6325935	Jarrah	>50	15-20	1	Large	No Signs	No Signs	No	Too shallow
wpt273	50H	384101	6325941	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt274	50H	384098	6325938	Marri	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt275	50H	384099	6325929	Jarrah	>50	15-20	0					
wpt276	50H	384097	6325908	Marri	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt277	50H	384103	6325908	Marri	>50	20+	2+	Small	Bees	No Signs	No	Internal dimensions of hollows unknown
wpt278	50H	384102	6325901	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt279	50H	384063	6325896	Jarrah	>50	20+	0					
wpt280	50H	384063	6325902	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt281	50H	384064	6325877	Jarrah	>50	15-20	0					
wpt282	50H	384103	6325847	Jarrah	>50	15-20	0					
wpt283	50H	384106	6325843	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt284	50H	384112	6325827	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt285	50H	384115	6325811	Jarrah	>50	15-20	2+	Small-Large	Ducks	No Signs	No	Pacific Black Duck Nesting
wpt286	50H	384085	6325805	Jarrah	>50	15-20	2+	Small-Large	No Signs	No Signs	No	Too low and shallow
wpt287	50H	384073	6325821	Jarrah	>50	15-20	2+	Small-Large	No Signs	No Signs	No	Too low and shallow
wpt288	50H	384065	6325815	Jarrah	>50	15-20	0					
wpt289	50H	384072	6325791	Jarrah	>50	15-20	0					
wpt290	50H	384058	6325769	Jarrah	>50	15-20	0					
wpt291	50H	384096	6325766	Jarrah	>50	15-20	0					
wpt292	50H	384094	6325764	Jarrah	>50	15-20	0					
wpt293	50H	384069	6325742	Jarrah	>50	15-20	0					
wpt294	50H	384052	6325748	Jarrah	>50	15-20	0					
wpt295	50H	384045	6325738	Jarrah	>50	15-20	0					
wpt296	50H	384048	6325731	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt297	50H	384062	6325722	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt298	50H	384051	6325708	Jarrah	>50	20+	0					
wpt299	50H	384104	6325729	Jarrah	>50	20+	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt300	50H	384097	6325718	Jarrah	>50	15-20	0					
wpt301	50H	384091	6325692	Dead Jarrah	>50	15-20	2+	Small	Bees	No Signs	No	Internal dimensions of hollows unknown
wpt302	50H	384075	6325674	Dead Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt303	50H	384071	6325680	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt304	50H	384056	6325669	Jarrah	>50	15-20	0					
wpt305	50H	384040	6325710	Jarrah	>50	10-15	1	Large	No Signs	No Signs	No	Too low and shallow
wpt306	50H	384033	6325712	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt307	50H	384024	6325711	Jarrah	>50	15-20	0					
wpt308	50H	384027	6325726	Jarrah	>50	15-20	0					
wpt309	50H	384023	6325789	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt310	50H	384009	6325797	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt311	50H	384034	6325838	Jarrah	>50	15-20	0					
wpt312	50H	384042	6325854	Jarrah	>50	15-20	0					
wpt313	50H	384000	6325873	Jarrah	>50	20+	0					
wpt314	50H	383998	6325874	Jarrah	>50	20+	0					
wpt315	50H	384036	6325898	Jarrah	>50	15-20	0					
wpt316	50H	384011	6325927	Jarrah	>50	20+	0					
wpt317	50H	384027	6325933	Jarrah	>50	20+	0					
wpt318	50H	384042	6325935	Jarrah	>50	20+	0					
wpt319	50H	384044	6325941	Jarrah	>50	10-15	2+	Medium-Large	No Signs	No Signs	No	Too low and shallow
wpt320	50H	384046	6325944	Jarrah	>50	20+	0					
wpt321	50H	384069	6325938	Jarrah	>50	20+	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt322	50H	384070	6325916	Jarrah	>50	15-20	0					
wpt323	50H	384076	6325943	Jarrah	>50	20+	0					
wpt324	50H	384075	6325951	Jarrah	>50	20+	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt325	50H	384085	6325960	Jarrah	>50	15-20	0					
wpt326	50H	384275	6326070	Jarrah	>50	0-5	1	Large	No Signs	No Signs	No	Too low and shallow
wpt327	50H	384104	6325961	Jarrah	>50	15-20	0					
wpt337	50H	384268	6326093	Dead Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt338	50H	384255	6326109	Jarrah	>50	20+	0					
wpt339	50H	384223	6326114	Jarrah	>50	15-20	0					
wpt340	50H	384232	6326125	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt341	50H	384236	6326136	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt342	50H	384249	6326135	Jarrah	>50	15-20	0					
wpt343	50H	384244	6326138	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt344	50H	384264	6326162	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt345	50H	384243	6326195	Jarrah	>50	15-20	0					
wpt346	50H	384229	6326206	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt347	50H	384232	6326212	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt348	50H	384264	6326210	Jarrah	>50	20+	2+	Medium-Large	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt349	50H	384277	6326192	Jarrah	>50	15-20	0					
wpt350	50H	384268	6326219	Jarrah	>50	5-10	0					
wpt351	50H	384272	6326220	Jarrah	>50	20+	0					
wpt352	50H	384271	6326229	Jarrah	>50	20+	0					
wpt353	50H	384260	6326256	Jarrah	>50	15-20	0					
wpt354	50H	384248	6326261	Jarrah	>50	20+	0					
wpt355	50H	384255	6326276	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt356	50H	384228	6326255	Jarrah	>50	15-20	0					
wpt357	50H	384222	6326257	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt358	50H	384238	6326302	Jarrah	>50	20+	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt359	50H	384256	6326296	Jarrah	>50	15-20	1	Large	No Signs	No Signs	No	Too low and shallow
wpt360	50H	384218	6326304	Jarrah	>50	10-15	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt361	50H	384198	6326319	Jarrah	>50	15-20	0					
wpt362	50H	384211	6326347	Jarrah	>50	20+	0					
wpt363	50H	384187	6326361	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt364	50H	384165	6326347	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt365	50H	384137	6326383	Dead Jarrah	>50	20+	0					
wpt366	50H	384130	6326380	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt367	50H	384128	6326361	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt368	50H	384112	6326335	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt369	50H	384110	6326321	Jarrah	>50	15-20	0					
wpt370	50H	384097	6326390	Jarrah	>50	10-15	1	Large	No Signs	No Signs	No	Too low and shallow
wpt371	50H	384085	6326376	Jarrah	>50	10-15	0					
wpt372	50H	384076	6326406	Jarrah	>50	15-20	0					
wpt373	50H	384046	6326394	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt374	50H	384023	6326402	Jarrah	>50	15-20	0					
wpt375	50H	384021	6326410	Jarrah	>50	15-20	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Too low and shallow?
wpt376	50H	384008	6326392	Jarrah	>50	15-20	0					
wpt377	50H	384026	6326376	Jarrah	>50	20+	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt378	50H	383969	6326390	Jarrah	>50	20+	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt379	50H	383951	6326393	Jarrah	>50	15-20	0					
wpt380	50H	383944	6326404	Jarrah	>50	20+	2+	Small-Large	No Signs	No Signs	No	Too low and shallow
wpt381	50H	383946	6326374	Jarrah	>50	15-20	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt382	50H	383942	6326360	Jarrah	>50	15-20	2+	Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt383	50H	383968	6326353	Jarrah	>50	15-20	0					
wpt384	50H	383990	6326355	Jarrah	>50	20+	0					

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt385	50H	383982	6326337	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt386	50H	384004	6326320	Jarrah	>50	15-20	0					
wpt387	50H	384020	6326316	Jarrah	>50	15-20	1	Large	No Signs	No Signs	No	Too low and shallow
wpt388	50H	384050	6326366	Jarrah	>50	15-20	0					
wpt389	50H	384065	6326366	Dead Unknown	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt390	50H	384084	6326310	Jarrah	>50	20+	1	Large	No Signs	No Signs	No	Unsuitable angle
wpt391	50H	384071	6326312	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt392	50H	384084	6326286	Jarrah	>50	15-20	0					
wpt393	50H	384078	6326280	Jarrah	>50	15-20	0					
wpt394	50H	384076	6326278	Jarrah	>50	15-20	0					
wpt395	50H	384058	6326284	Jarrah	>50	15-20	0					
wpt396	50H	384057	6326284	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt397	50H	384055	6326289	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt398	50H	384030	6326281	Dead Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt399	50H	384018	6326287	Jarrah	>50	15-20	0					
wpt400	50H	384021	6326305	Jarrah	>50	15-20	0					
wpt401	50H	384017	6326302	Jarrah	>50	0-5	2+	Medium-Large	No Signs	No Signs	No	Too low and shallow
wpt402	50H	383988	6326303	Jarrah	>50	20+	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt403	50H	383991	6326298	Jarrah	>50	20+	0					
wpt404	50H	383951	6326296	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt405	50H	383988	6326282	Jarrah	>50	20+	0					
wpt406	50H	383993	6326266	Jarrah	>50	20+	0					
wpt407	50H	383999	6326264	Jarrah	>50	10-15	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt408	50H	383993	6326257	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt409	50H	383973	6326255	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt410	50H	383952	6326245	Jarrah	>50	20+	2+	Medium-Large	No Signs	No Signs	No	Too low and shallow
wpt411	50H	383941	6326241	Jarrah	>50	20+	1	Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt412	50H	383962	6326234	Jarrah	>50	20+	0					
wpt413	50H	383976	6326238	Jarrah	>50	15-20	0					
wpt414	50H	383978	6326228	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt415	50H	383970	6326190	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt416	50H	383957	6326191	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt417	50H	383953	6326193	Jarrah	>50	15-20	0					
wpt418	50H	383960	6326173	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt419	50H	383967	6326135	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt420	50H	383994	6326130	Dead Jarrah	>50	20+	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt421	50H	383955	6326108	Jarrah	>50	15-20	1	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt422	50H	383963	6326081	Jarrah	>50	20+	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown

Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt423	50H	383965	6326068	Dead Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt424	50H	383977	6326075	Jarrah	>50	15-20	2+	Small-Large (cockatoo)	No Signs	No Signs	Yes	Internal dimensions of hollows unknown
wpt425	50H	383995	6326076	Jarrah	>50	15-20	0					
wpt426	50H	384027	6326073	Jarrah	>50	15-20	0					
wpt427	50H	384035	6326085	Jarrah	>50	15-20	0					
wpt428	50H	384079	6326113	Jarrah	>50	20+	0					
wpt429	50H	384111	6326100	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt430	50H	384106	6326065	Jarrah	>50	15-20	0					
wpt431	50H	384104	6326069	Jarrah	>50	15-20	0					
wpt432	50H	384094	6326068	Jarrah	>50	15-20	0					
wpt433	50H	384092	6326069	Jarrah	>50	15-20	0					
wpt434	50H	384145	6326087	Jarrah	>50	10-15	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt435	50H	384176	6326085	Jarrah	>50	15-20	0					
wpt436	50H	384204	6326068	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt437	50H	384227	6326075	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt438	50H	384170	6326283	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt439	50H	384186	6326289	Dead Jarrah	>50	15-20	0					
wpt440	50H	384185	6326296	Dead Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt441	50H	384152	6326275	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt442	50H	384116	6326267	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt443	50H	384129	6326258	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt444	50H	384122	6326245	Jarrah	>50	20+	0					
wpt445	50H	384098	6326259	Jarrah	>50	15-20	0					
wpt446	50H	384091	6326247	Jarrah	>50	15-20	0					
wpt447	50H	384057	6326229	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt448	50H	384039	6326252	Jarrah	>50	15-20	2+	Small	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt449	50H	384035	6326218	Jarrah	>50	15-20	0					
wpt450	50H	384053	6326193	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt451	50H	384071	6326196	Jarrah	>50	15-20	0					
wpt452	50H	384087	6326204	Jarrah	>50	15-20	0					
wpt453	50H	384100	6326200	Jarrah	>50	15-20	0					
wpt454	50H	384112	6326179	Jarrah	>50	15-20	0					
wpt455	50H	384155	6326197	Jarrah	>50	15-20	0					
wpt456	50H	384131	6326136	Jarrah	>50	15-20	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt457	50H	384128	6326143	Jarrah	>50	10-15	0					
wpt458	50H	384105	6326163	Jarrah	>50	15-20	0					
wpt459	50H	384089	6326160	Jarrah	>50	15-20	0					
wpt460	50H	384087	6326157	Jarrah	>50	15-20	0					



Waypoint Number	Zone	mE	mN	Tree Species	DBH (cm)	Tree Height (m)	Number of Hollows	Estimated Hollow Entrance Size Range	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt461	50H	384072	6326160	Jarrah	>50	15-20	0					
wpt462	50H	384059	6326143	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt463	50H	384061	6326134	Jarrah	>50	20+	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt464	50H	384048	6326129	Dead Jarrah	>50	10-15	2+	Small-Medium	No Signs	No Signs	No	Internal dimensions of hollows unknown
wpt465	50H	384694	6326940	Marri	>50	20+	0					
wpt466	50H	384509	6326635	Marri	>50	20+	0					
wpt467	50H	383961	6327282	Jarrah	>50	10-15	0					
wpt468	50H	383949	6327351	Jarrah	>50	10-15	0					
wpt469	50H	383910	6327328	Jarrah	>50	10-15	0					
wpt470	50H	383943	6327259	Jarrah	>50	5-10	0					
wpt471	50H	383947	6327227	Jarrah	>50	10-15	0					
wpt472	50H	383938	6327203	Dead Jarrah	>50	15-20	0					
wpt473	50H	383926	6327182	Jarrah	>50	10-15	0					
wpt474	50H	383925	6327187	Dead Jarrah	>50	15-20	0					
wpt475	50H	383914	6327203	Jarrah	>50	10-15	0					

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