

Fauna Assessment



Duncraig Senior High School

Duncraig

March 2022

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On behalf of:

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SUMMARY

This report details the results of a fauna assessment over sections of the Duncraig Senior High School, Duncraig (the survey area) (Figure 1). The survey area is approximately 2.1 hectares (ha) in size and contains a mosaic of remnant native vegetation, partly cleared land and some areas of planted vegetation.

The Duncraig Senior High School is investigating potential development opportunities for the site and the purpose of this assessment is to identify any potential constraints which may exist in relation to fauna/fauna habitat.

The field component of the fauna assessment was carried out on 25 January 2022 by Greg Harewood (Zoologist) and consisted of a daytime reconnaissance survey.

Key Findings

- The main area of remnant native vegetation in the northern section of the survey area is comprised of a banksia woodland over a shrubland or low open heath. This unit contains some emergent tuart trees in the westernmost section. A jarrah woodland (with some banksia) over a shrubland occupies the north eastern section of the survey area. The balance of the survey area contains some small areas of marri and tuart woodland and planted vegetation (endemic and non-endemic trees and shrubs).
- While some of the vegetation present within the survey area is in a good condition the small size of the remnant means that many fauna species would not persist and therefore the fauna assemblage within the survey area is likely to be depauperate in many respects, in particular with respect to ground dwelling species (e.g. native reptiles and mammals). Nonetheless the area is still likely to be utilised in some fashion by a reasonably wide range of species though most would be relatively common and widespread bird species
- Fifteen fauna species (mainly common bird species) were observed or secondary evidence of their presence recorded during the field survey. Evidence of Carnaby's black cockatoo was detected during the day survey in the form of foraging debris (banksia cones) found at a number of locations.
- No evidence of any other fauna species of conservation significance was observed. However, this does not eliminate the potential for some species to still occur, if only infrequently.
- Out of the 13 "habitat trees" identified most (9) appeared to not contain hollows of any size. Four (4) trees contained apparent or obvious hollows, three (3) of which were assessed at the time as being unlikely to be suitable for black cockatoos to currently use for nesting purposes, due to the hollows apparent small size, unsuitable orientation and/or low height above ground level. One (1) dead tree was identified as containing a hollow considered potentially suitable for black cockatoos to use for nesting purposes. The hollow appeared to be of a suitable size but marginal (i.e. possibly just big enough). No evidence of the hollow having been used by black cockatoos was observed.

- Overall woodland and shrubland vegetation within the survey area (~2.0 ha) can be regarded as having a low to moderate foraging value, the exact quality at any one location being primarily dependant on the diversity and abundance of the favoured species present. No evidence black cockatoos roosting within the survey area was noted.
- In summary one vertebrate fauna species of conservation significance (listed as State or Federal threatened/migratory species or as DBCA priority species) was positively identified as utilising the survey area for some purpose during the survey period, this being :
 - Carnaby's Black Cockatoo – Endangered (WA/Federal).

Several other 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. These species are:

- Peregrine Falcon – Schedule 7 (WA);
 - Forest Red-tailed Black Cockatoo – Vulnerable (WA/Federal);
 - Quenda – Priority 4 (DBCA).
- While the actual nature of any proposed development has not been finalised the following conclusions have been drawn on likely impacts based on observations made. Overall impacts on fauna are anticipated to be low primarily due to the relatively small area of vegetation/habitat that likely to be removed and therefore the limited number of individuals of any one species likely to be displaced. No overall change in the conservation status of any fauna species currently utilising the survey area is therefore anticipated. While some small, localised residual loss of fauna habitat may occur for some species, regional impacts on the status of any one species are anticipated to be negligible/non-existent.
 - Direct impacts on fauna species can be minimised by the implementation of a fauna management plan prior to and during clearing. The primary focus of the management plan would be hollow bearing trees possibly in use by fauna (e.g. nesting birds) and ground dwelling species such as quenda which are suspected of being present.
 - Potential impacts on fauna should be reviewed as planning progresses.

1. INTRODUCTION

This report details the results of a fauna assessment over sections of the Duncraig Senior High School, Duncraig (the survey area) (Figure 1). The survey area is approximately 2.1 hectares (ha) in size and contains a mosaic of remnant native vegetation, partly cleared land and some areas of planted vegetation.

The Duncraig Senior High School is investigating potential development opportunities for the site and the purpose of this assessment is to identify any potential constraints 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 2022). A 10 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 25 January 2022 by Greg Harewood (Zoologist) and consisted of a daytime reconnaissance survey as described in the sections below.

3.2.1 FAUNA HABITAT ASSESSMENT

Vegetation units and soils identified by Focus Vision Consulting (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 investigations. 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 12 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 aimed to identify all suitable breeding tree species within the survey area with a diameter at breast height (DBH) equal to or greater than 50 centimetres (cm). 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 (<30cm for wandoo) or an unsuitable species (these were not assessed/recorded);
- Tree \geq 50cm DBH (\geq 30cm for wandoo), no hollows seen;
- Tree \geq 50cm DBH (\geq 30cm for wandoo), one or more hollows seen, none of which were considered suitable for black cockatoos to use for nesting; or
- Tree \geq 50cm DBH (\geq 30cm for wandoo), 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 or possibly suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows or possible 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

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

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.

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.

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 2022) 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 ¹	
	BC Act/ DBCA Priority	EPBC Act
Swan Coastal Plain shield-backed trapdoor spider <i>Idiosoma sigillatum</i>	P3	-
Douglas' Broad-headed Bee <i>Hesperocolletes douglasi</i>	CR	CE
Graceful Sunmoth <i>Synemon gratiosa</i>	P4	-
Black-striped Snake <i>Neelaps calonotos</i>	P3	-
Malleefowl <i>Leipoa ocellata</i>	VU	VU
Australasian Bittern <i>Botaurus poiciloptilus</i>	EN	EN
Australian Little Bittern <i>Ixobrychus dubius</i>	P4	-
Migratory Shorebirds/Wetland Species	Various	Various
Peregrine Falcon <i>Falco peregrinus</i>	OS	-
Eastern Osprey <i>Pandion cristatus</i>	IA	Mig
Blue-billed Duck <i>Oxyura australis</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>	MI	Mig
Grey Wagtail <i>Motacilla cinerea</i>	MI	Mig
Chuditch <i>Dasyurus geoffroii</i>	VU	VU
Quenda <i>Isodon fusciventer</i>	P4	-
Water Rat <i>Hydromys chrysogaster</i>	P4	-

¹ See Appendix A for conservation status codes

5.2 FIELD SURVEYS



5.2.1 FAUNA HABITAT ASSESSMENT




The survey area is situated on the western margin of the central Swan Coastal Plain within a section of the Spearwood Dune System which is generally comprised of pale yellow sand (leached grey at surface) of varying thickness often overlaying limestone at depth.



The main area of remnant native vegetation in the northern section of the survey area is comprised of a banksia woodland over a shrubland or low open heath. This unit contains some emergent tuart trees in the westernmost section. A jarrah woodland (with some banksia) over a shrubland occupies the north eastern section of the survey area. The balance of the survey area contains some small areas of marri and tuart woodland and planted vegetation (endemic and non-endemic trees and shrubs).

Example images of the various fauna habitats present are provided in Table 2. The approximate extent of each unit is provided in Figure 2. Additional details on the nature and extent of the various identified units can be found within the flora and vegetation report (Focus Vision Consulting 2022).

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

Fauna Habitat Description	Example Image
<p>Banksia Woodland – mainly occurs in the larger block of vegetation in the northern section of the survey area. Also contains a small number of tuart trees.</p> <p>Area = ~1.06 ha (~49% of total area)</p>	 <p>70°NE (M) 50S 383140 6478789 ±16 m</p> <p>Zootopia 25 Jan 2022, 11:10:09</p>
<p>Jarrah Woodland – confined largely to the north eastern section of the survey area.</p> <p>Area = ~0.13 ha (~6% of total area)</p>	 <p>336°NW (M) 50S 383338 6478780 ±4 m</p> <p>Zootopia 25 Jan 2022, 11:19:29</p>

Fauna Habitat Description	Example Image
<p>Tuart Woodland – small area located in southern section of survey area. Some scattered tuarts also found within other units.</p> <p>Area = ~0.04 ha (~2% of total area)</p>	 <p>270°W (M) ● 50S 383132 6478660 ±12 m</p> <p>Zootopia 25 Jan 2022, 10:55:36</p>
<p>Marri Woodland – located sections of the southern block of vegetation.</p> <p>Area = ~0.05 ha (~2% of total area)</p>	 <p>35°NE (M) ● 50S 383193 6478698 ±24 m</p> <p>Zootopia 25 Jan 2022, 10:58:12</p>
<p>Planted Non-Endemic and Endemic Eucalypts - planted vegetation mainly in southern section of survey area.</p> <p>Area = ~0.28 ha (~13% of total area)</p>	 <p>289°W (M) ● 50S 383243 6478696 ±6 m</p> <p>Zootopia 25 Jan 2022, 10:48:04</p>

Fauna Habitat Description	Example Image
<p>Planted Shrublands – revegetation using non-endemic and endemic species throughout the survey area.</p> <p>Area = ~0.50 ha (~23% of total area)</p>	
<p>Grassland/Planted Acacias – North eastern section of survey area.</p> <p>Area = ~0.10 ha (~4% of total area)</p>	

While some of the vegetation present within the survey area is in a good condition the small size of the remnant means that many fauna species would not persist and therefore the fauna assemblage within the survey area is likely to be depauperate in many respects, in particular with regards to ground dwelling species (e.g. native reptiles and mammals). Nonetheless the area is still likely to be utilised in some fashion by a reasonably wide range of species though most would be relatively common and widespread bird species. Exceptions to this generalised statement would include black cockatoos, which appear to be utilising the area for foraging (see section 5.2.3).

5.2.2 FAUNA OBSERVATIONS

Fifteen 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 Carnaby’s black cockatoo was detected during the day survey in the form of foraging debris (banksia cones) found at a number of locations (see Section 5.2.3).

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

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:

- Tuart - *Eucalyptus gomphocephala*;
- Marri – *Corymbia calophylla*;
- Jarrah – *Eucalyptus marginata*;
- Dead Unidentified - *Eucalyptus* spp.; and
- Non-Endemic Eucalypts - *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 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				
				Tuart	Jarrah	Marri	Non Endemic	Dead Unidentified
13	9	3	1	6	3	1	1	2

The assessment identified 13 trees within the survey area with a DBH of ≥ 50 cm. Out of the 13 “habitat trees” identified most (9) appeared to not contain hollows of any size. Four (4) trees contained apparent or obvious hollows, three (3) of which were assessed at the time as being unlikely to be suitable for black cockatoos to currently use for nesting purposes, due to the hollows apparent small size, unsuitable orientation and/or low height above ground level.

One (1) dead tree was identified as containing a hollow considered potentially suitable for black cockatoos to use for nesting purposes. The hollow is located in an upward facing branch (i.e. “spout”). The hollow appeared to be of a suitable size but marginal (i.e. possibly just big enough). No evidence of the hollow having been used by black cockatoos was observed.

Based on available mapping, there is approximately 3,700 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, known to be or potentially used as a direct food source (e.g. seeds, flowers, nectar, bark or grubs) by one or more species of black cockatoo were recorded within the survey area:


- Candlestick Banksia - *Banksia attenuata*;
- Firewood Banksia - *Banksia menziesii*;
- Marri – *Corymbia calophylla*;
- Mountain Marri – *Corymbia haematoxylon* (planted);
- Jarrah – *Eucalyptus marginata*;
- Tuart - *Eucalyptus gompocephala*;
- Grass Tree - *Xanthorrhoea preissii*;
- Bottlebrush – *Callistemon* spp. (planted);
- Peppermint – *Agonis flexuosa*; and
- Non-endemic Eucalypt - *Eucalyptus* spp. (planted).

It should be noted that some of the above-mentioned species (e.g. tuart, peppermint and grass trees) while foraged upon on occasions would make up only a small proportion of any one bird’s diet relative to more favoured plant species such as banksia and marri. Some plant species are also only represented by a small number of specimens (e.g. marri, mountain marri) and therefore do not contribute to the overall foraging resource to a significant degree.

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 black cockatoo. This evidence was generally old but numerous and observed across the entire northern section of the survey area where *Banksia attenuata* is most common. No evidence of other plant species being foraged upon was recorded.

An example of the foraging debris observed is provided in Table 4.

Table 4: Foraging Evidence Example

Foraging Evidence Description	Example Image
<p>Banksia Cone – old foraging activity attributed to Carnaby’s Black Cockatoo.</p>	

Overall woodland and shrubland vegetation within the survey area (~2.0 ha) can be regarded as having a low to moderate foraging value, the exact quality at any one location being primarily dependant on the diversity and abundance of the favoured species present.

Based on available mapping there is about 3,700 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 Cockey Count database shows no documented roost sites within the survey area. The 2019 Great Cockey Count recorded the closest active roost, approximately 5 kilometres southwest of the survey area (Site ID: STINORR001). This roost was being used by 8 “white-tailed black cockatoos” during the April 2019 survey (Peck *et al.* 2019). There are about 40 other documented black cockatoo roost sites within 12 km of the survey area, though not all are necessarily in use at any one time.

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.

Some comments on the possible impacts of any proposed development are also provided though as no specific development plan has been put forward these are preliminary comments that should be reviewed as planning progresses.

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

- Carnaby's Black-Cockatoo *Zanda latirostris* – Endangered (*BC Act*), Endangered (*EPBC Act*).

Foraging evidence attributed to this species recorded. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm) with one tree having a potentially suitable nest hollow, though no signs of actual use noted. Vegetation within the survey area represents low to moderate quality 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, these species are:

- Peregrine Falcon *Falco peregrinus* – Other Specially Protected Fauna (*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. Listed as a potential species based on available information.
- Forest Red-tailed Black Cockatoo *Calyptorhynchus banksii naso* – Vulnerable (*BC Act*), Vulnerable (*EPBC Act*).
No evidence of this species recorded. The survey area contains areas of potential black cockatoo breeding habitat (trees with a DBH >50cm) with one tree having a potentially suitable nest hollow, though no signs of actual use noted. About half the native vegetation within the survey area represents low to moderate quality foraging habitat for this species. No evidence of roosting observed. Listed as a potential species based on available information
- Quenda *Isoodon fusciventer* – Priority 4 (DBCA)
No conclusive evidence of this species presence was recorded 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.

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 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.

While the actual nature of any proposed development has not been finalised the following conclusions have been drawn on likely impacts based on observations made.

Overall impacts on fauna are anticipated to be low primarily due to the relatively small area of vegetation/habitat that likely to be removed and therefore the limited number of individuals of any one species likely to be displaced. No overall change in the conservation status of any fauna species currently utilising the survey area is therefore anticipated. While some small, localised residual loss of fauna habitat may occur for some species, regional impacts on the status of any one species are anticipated to be negligible/non-existent.

Potential impacts on fauna should be reviewed as planning progresses.

Table 5: Likelihood of Occurrence – Fauna Species of Conservation Significance

Species	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Comments/Possible Impacts
	BC Act/ DBCA Priority	EPBC Act				
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.	Yes	Unlikely to Occur	Area is too small and isolated to support a population of this species. No significant impact on this species anticipated given small area involved.
Douglas' Broad-headed Bee <i>Hesperocolletes douglasi</i>	CR	CE	Poorly documented. Known to favour <i>Philothea spicata</i> , <i>Patersonia occidentalis</i> , two species of <i>Stylidium</i> , a species of <i>Scaevola</i> and species from Fabaceae and Myrtaceae.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Graceful Sunmoth <i>Synemon gratiosa</i>	P4	-	<i>Banksia</i> woodland or open areas of herbland, heathland and shrubland where it breeds on <i>Lomandra maritima</i> or <i>Lomandra hermaphrodita</i> .	No/Marginal	Unlikely to Occur	Area is too small and isolated to support a population of this species. No significant impact on this species anticipated given small area involved.
Black-striped Snake <i>Neelaps calonotos</i>	P3	-	Favours sandy soils supporting heath and banksia/eucalypt woodland.	Yes	Unlikely to Occur	Area is too small and isolated to support a population of this species. No significant impact on this species anticipated given small area involved.
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	Would Not Occur.	Regionally extinct. No impact on this species will occur.
Australasian Bittern <i>Botaurus poiciloptilus</i>	EN	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	Would Not Occur.	No suitable habitat. No impact on this species will occur.
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	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Migratory Shorebirds/Wetland Species/Marine Species (various reptiles, birds and mammals)	MI, 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	Would Not Occur.	No suitable habitat. No impact on this range of species will occur.

Species	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Comments/Possible Impacts
	BC Act/ DBCA Priority	EPBC Act				
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.	Yes	Possibly Occurs.	This species is uncommon but the survey area may represent part of a larger home range used by individuals of this species. No significant impact on this species anticipated given small area involved.
Eastern Osprey <i>Pandion cristatus</i>	IA	Mig	Coasts, estuaries, bays, inlets, islands, and surrounding waters, coral atolls, reefs, lagoons, rock cliffs and stacks. Ascends larger rivers.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
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	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Carnaby`s Black Cockatoo <i>Zanda latirostris</i>	EN	EN	Forests, woodlands, heathlands, farms; feeds on <i>Banksia</i> , <i>Hakea</i> and Marri.	Yes	Known to Occur	Loss/modification of small areas of habitat. No significant impact on this species anticipated given small area involved.
Baudin`s Black Cockatoo <i>Zand baudinii</i>	E	EN	Mainly eucalypt forests where it feeds primarily on the marri seeds.	Yes	Unlikely to Occur	Rarely recorded in this section of the coastal plain. No significant impact on this species anticipated given small area involved.
Forest Red-tailed Black Cockatoo <i>Calyptorhynchus banksii naso</i>	VU	VU	Eucalypt forests, feeds on marri, jarrah, blackbutt, karri, sheoak and snottygobble.	Yes	Possibly Occurs.	Loss/modification of small areas of habitat. No significant impact on this species anticipated given small area involved.
Fork-tailed Swift <i>Apus pacificus</i>	MI	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. Entirely aerial. No impact on this species will occur.
Grey Wagtail <i>Motacilla cinerea</i>	MI	Mig, Ma	In Australia, near running water in disused quarries, sandy, rocky streams in escarpments and rainforest, sewerage ponds, ploughed fields and airfields.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.
Chuditch <i>Dasyurus geoffroi</i>	VU	VU	Forest, mallee shrublands, woodland and desert. The densest populations have been found in riparian jarrah forest.	No	Would Not Occur.	Regionally extinct. No impact on this species will occur.
Quenda <i>Isoodon fusciventer</i>	P4	-	Dense scrubby, often swampy, vegetation with dense cover.	Yes	Possibly Occurs.	Loss/modification of small areas of habitat. No significant impact on this species anticipated given small area involved.
Water Rat <i>Hydromys chrysogaster</i>	P4	-	Permanent water, fresh, brackish or marine.	No	Would Not Occur.	No suitable habitat. No impact on this species will occur.

See Appendix A for conservation status codes

7. CONCLUSION

The fauna assessment at the Duncraig Senior High School 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.

While some of the vegetation present within the survey area is in a good condition the small size of the remnant means that many fauna species would not persist and therefore the fauna assemblage within the survey area is likely to be depauperate in many respects, in particular with respect to ground dwelling species (e.g. native reptiles and mammals). Nonetheless the area is still likely to be utilised in some fashion by a reasonably wide range of species though most would be relatively common and widespread bird species. Exceptions to this generalised statement would include black cockatoos, which appear to be utilising the area for foraging.

While the actual nature of any proposed development has not been finalised the following conclusions have been drawn on likely impacts based on observations made. Overall impacts on fauna are anticipated to be low primarily due to the relatively small area of vegetation/habitat that likely to be removed and therefore the limited number of individuals of any one species likely to be displaced. No overall change in the conservation status of any fauna species currently utilising the survey area is therefore anticipated. While some small, localised residual loss of fauna habitat may occur for some species, regional impacts on the status of any one species are anticipated to be negligible/non-existent.

Direct impacts on fauna species can be minimised by the implementation of a fauna management plan prior to and during clearing. The primary focus of the management plan would be hollow bearing trees possibly in use by fauna (e.g. nesting birds) and ground dwelling species such as quenda which are suspected of being present.

Potential impacts on fauna should be reviewed as planning progresses.

8. REFERENCES

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FIGURES



Legend

 Survey Area



0 25 50 75 100
Metres



Drawn: G Harewood
Date: 23-Feb-22
Scale: 1:1,500

Duncraig Senior High School
Duncraig

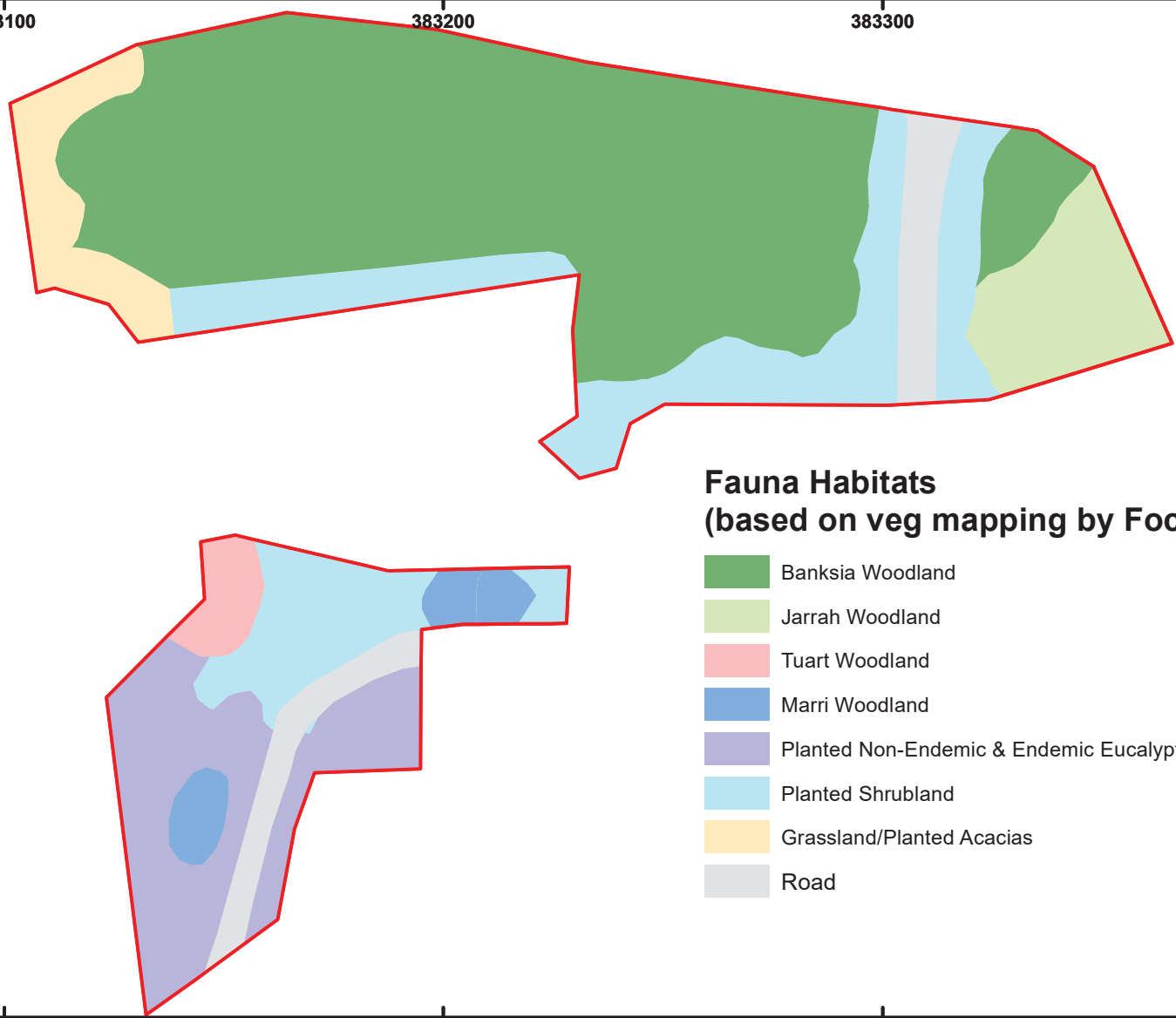
**Survey Area
Aerial Photograph**

Projection/Coordinate System: UTM/MGA Zone 50 Figure: 1

383100 383200 383300 383400

6478800

6478700

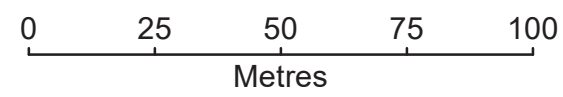


Fauna Habitats
 (based on veg mapping by Focus Vision (2022))

- Banksia Woodland
- Jarrah Woodland
- Tuart Woodland
- Marri Woodland
- Planted Non-Endemic & Endemic Eucalypts
- Planted Shrubland
- Grassland/Planted Acacias
- Road

Legend

Survey Area



Drawn: G Harewood
 Date: 01-Mar-22
 Scale: 1:1,500




Duncraig Senior High School
Duncraig

Fauna Habitats



Legend

 Survey Area

-  Habitat Tree - One or more hollows possibly suitable for Black Cockatoos
-  Habitat Tree - One or more possible hollows, none suitable for Black Cockatoos
-  Habitat Tree - No hollows observed



0 25 50 75 100
Metres



Drawn: G Harewood
Date: 01-Mar-22
Scale: 1:1,500

Duncraig Senior High School
Duncraig

Habitat Trees (DBH >50cm)

Projection/Coordinate System: UTM/MGA Zone 50 Figure: 3

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	<p>(a) Rare: Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.</p> <p>(b) Near Threatened: Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.</p> <p>(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>

*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*[™] is a checklist of taxa that have undergone an extinction risk assessment using the *IUCN Red List Categories and Criteria*.

Categories are summarized below.

Category	Code	Description
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

Duncraig Fauna 10km

Created By Guest user on 25/02/2022

Kingdom	Animalia
Current Names Only	Yes
Core Datasets Only	Yes
Method	'By Circle'
Centre	115° 45' 58" E, 31° 49' 16" S
Buffer	10km
Group By	Species Group

Species Group	Species	Records
Amphibian	8	193
Bird	254	37975
Fish	110	216
Invertebrate	109	827
Mammal	27	223
Reptile	62	1326
TOTAL	570	40760

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Amphibian				
1.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
2.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
3.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
4.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
5.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
6.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
7.	25420 <i>Myobatrachus gouldii</i> (Turtle Frog)			
8.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
Bird				
9.	24559 <i>Acanthagenys rufogularis</i> (Spiny-cheeked Honeyeater)			
10.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
11.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
12.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
13.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
14.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
15.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
16.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
17.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
18.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
19.	24310 <i>Anas castanea</i> (Chestnut Teal)			
20.	24312 <i>Anas gracilis</i> (Grey Teal)			
21.	24313 <i>Anas platyrhynchos</i> (Mallard)			
22.	<i>Anas platyrhynchos</i> subsp. <i>domesticus</i>			
23.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
24.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
25.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
26.	24506 <i>Anous tenuirostris</i> subsp. <i>melanops</i> (Australian Lesser Noddy)		T	
27.	<i>Anser anser</i>			
28.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
29.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
30.	25554 <i>Apus pacificus</i> (Fork-tailed Swift, Pacific Swift)		IA	
31.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
32.	25558 <i>Ardea ibis</i> (Cattle Egret)			
33.	24338 <i>Ardea ibis</i> subsp. <i>coromanda</i> (Cattle Egret)			
34.	25559 <i>Ardea intermedia</i> (Intermediate Egret)			
35.	41324 <i>Ardea modesta</i> (great egret, white egret)			
36.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
37.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
38.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
39.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
40.	24318 <i>Aythya australis</i> (Hardhead)			
41.	<i>Barnardius zonarius</i>			
42.	24319 <i>Biziura lobata</i> (Musk Duck)			
43.	24345 <i>Botaurus poiciloptilus</i> (Australasian Bittern)		T	
44.	24359 <i>Burhinus grallarius</i> (Bush Stone-curlew)			
45.	25713 <i>Cacatua galerita</i> (Sulphur-crested Cockatoo)			
46.	24721 <i>Cacatua galerita</i> subsp. <i>galerita</i> (Sulphur-crested Cockatoo)	Y		
47.	25714 <i>Cacatua pastinator</i> (Western Long-billed Corella)			
48.	25715 <i>Cacatua roseicapilla</i> (Galah)			
49.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
50.	24729 <i>Cacatua tenuirostris</i> (Eastern Long-billed Corella)	Y		
51.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
52.	24427 <i>Cacomantis flabelliformis</i> subsp. <i>flabelliformis</i> (Fan-tailed Cuckoo)			
53.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
54.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
55.	25738 <i>Calidris canutus</i> (Red Knot, knot)		IA	
56.	24784 <i>Calidris ferruginea</i> (Curllew Sandpiper)		T	
57.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
58.	24789 <i>Calidris subminuta</i> (Long-toed Stint)		IA	
59.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
60.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
61.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
62.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
63.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
64.	25625 <i>Carduelis carduelis</i> (Goldfinch, European Goldfinch)	Y		
65.	25575 <i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	
66.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
67.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
68.	47909 <i>Cheramoeca leucosterna</i> (White-backed Swallow)			
69.	41332 <i>Chlidonias leucopterus</i> (White-winged Black Tern, white-winged tern)		IA	
70.	<i>Chroicocephalus novaehollandiae</i>			
71.	24432 <i>Chrysococcyx lucidus</i> subsp. <i>plagosus</i> (Shining Bronze Cuckoo)			
72.	24288 <i>Circus approximans</i> (Swamp Harrier)			
73.	24289 <i>Circus assimilis</i> (Spotted Harrier)			
74.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
75.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
76.	24613 <i>Colluricincla harmonica</i> subsp. <i>rufiventris</i> (Grey Shrike-thrush)			
77.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
78.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
79.	24416 <i>Corvus bennetti</i> (Little Crow)			
80.	25592 <i>Corvus coronoides</i> (Australian Raven)			
81.	24417 <i>Corvus coronoides</i> subsp. <i>perplexus</i> (Australian Raven)			
82.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
83.	25701 <i>Coturnix ypsilophora</i> (Brown Quail)			
84.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
85.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
86.	24422 <i>Cracticus tibicen</i> subsp. <i>dorsalis</i> (White-backed Magpie)			
87.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
88.	24322 <i>Cygnus atratus</i> (Black Swan)			
89.	24323 <i>Cygnus olor</i> (Mute Swan)	Y		
90.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
91.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
92.	24687 <i>Daption capense</i> (Cape Petrel)			
93.	24325 <i>Dendrocygna eytoni</i> (Plumed Whistling Duck)			
94.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
95.	<i>Egretta garzetta</i>			
96.	<i>Egretta novaehollandiae</i>			
97.	<i>Elanus axillaris</i>			
98.	24290 <i>Elanus caeruleus</i> subsp. <i>axillaris</i> (Australian Black-shouldered Kite)			
99.	47937 <i>Eileyornis melanops</i> (Black-fronted Dotterel)			
100.	<i>Eolophus roseicapillus</i>			
101.	24652 <i>Eopsaltria georgiana</i> (White-breasted Robin)			
102.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
103.	24379 <i>Erythronyx cinctus</i> (Red-kneed Dotterel)			
104.	24368 <i>Eurostopodus argus</i> (Spotted Nightjar)			
105.	25621 <i>Falco berigora</i> (Brown Falcon)			
106.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
107.	24472 <i>Falco cenchroides</i> subsp. <i>cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
108.	25623 <i>Falco longipennis</i> (Australian Hobby)			
109.	24474 <i>Falco longipennis</i> subsp. <i>longipennis</i> (Australian Hobby)			
110.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
111.	24475 <i>Falco peregrinus</i> subsp. <i>macropus</i> (Australian Peregrine Falcon)		S	
112.	24616 <i>Falcunculus frontatus</i> subsp. <i>leucogaster</i> (Western Shrike-tit, Crested Shrike-tit)			
113.	25727 <i>Fulica atra</i> (Eurasian Coot)			
114.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
115.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
116.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
117.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
118.	24765 <i>Gallirallus philippensis</i> subsp. <i>mellori</i> (Buff-banded Rail)			
119.	42314 <i>Gavialis virescens</i> (Singing Honeyeater)			
120.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
121.	24271 <i>Gerygone fusca</i> subsp. <i>fusca</i> (Western Gerygone)			
122.	47962 <i>Glycyphila melanops</i> (Tawny-crowned Honeyeater)			
123.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
124.	25627 <i>Haematopus fuliginosus</i> (Sooty Oystercatcher)			
125.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
126.	24295 <i>Haliaeetus spheurnus</i> (Whistling Kite)			
127.	24689 <i>Halobaena caerulea</i> (Blue Petrel)			
128.	24296 <i>Hamirostra isura</i> (Square-tailed Kite)			
129.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
130.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
131.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
132.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
133.	47975 <i>Ixobrychus dubius</i> (Australian Little Bittern)		P4	
134.	24367 <i>Lalage tricolor</i> (White-winged Triller)			
135.	25637 <i>Larus novaehollandiae</i> (Silver Gull)			
136.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
137.	25638 <i>Larus pacificus</i> (Pacific Gull)			
138.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
139.	42461 <i>Limosa haemastica</i> (Hudsonian Godwit)	Y		Y
140.	30932 <i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
141.	25741 <i>Limosa limosa</i> (Black-tailed Godwit)		IA	
142.	25683 <i>Lonchura castaneothorax</i> (Chestnut-breasted Mannikin)			
143.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
144.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
145.	25650 <i>Malurus elegans</i> (Red-winged Fairy-wren)			
146.	25651 <i>Malurus lamberti</i> (Variegated Fairy-wren)			
147.	24544 <i>Malurus lamberti</i> subsp. <i>assimilis</i> (Variegated Fairy-wren)			
148.	25652 <i>Malurus leucopterus</i> (White-winged Fairy-wren)			
149.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
150.	24583 <i>Manorina flavigula</i> (Yellow-throated Miner)			
151.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
152.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
153.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
154.	<i>Microcarbo melanoleucos</i>			
155.	25693 <i>Microeca fascinans</i> (Jacky Winter)			
156.	48008 <i>Morus serrator</i> (Australasian Gannet)			
157.	25671 <i>Motacilla alba</i> (White Wagtail)			
158.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			
159.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
160.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
161.	24742 <i>Nymphicus hollandicus</i> (Cockatiel)			
162.	24497 <i>Oceanites oceanicus</i> (Wilson's Storm-petrel)		IA	
163.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
164.	41347 <i>Onychoprion anaethetus</i> (Bridled Tern)		IA	
165.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
166.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
167.	24624 <i>Pachycephala rufiventris</i> subsp. <i>rufiventris</i> (Rufous Whistler)			
168.	24692 <i>Pachyptila belcheri</i> (Slender-billed Prion)			
169.	24693 <i>Pachyptila desolata</i> (Antarctic Prion)			
170.	25707 <i>Pachyptila salvini</i> (Salvin's Prion)			
171.	24697 <i>Pachyptila vittata</i> (Broad-billed Prion)			
172.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
173.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
174.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
175.	25687 <i>Passer domesticus</i> (House Sparrow)	Y		
176.	24641 <i>Passer domesticus</i> subsp. <i>domesticus</i> (House Sparrow)	Y		Y
177.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			

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178.	48060 <i>Petrochelidon ariel</i> (Fairy Martin)			
179.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
180.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
181.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
182.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
183.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
184.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
185.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
186.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
187.	<i>Phoebetria</i> sp.			Y
188.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
189.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
190.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
191.	24842 <i>Platalea regia</i> (Royal Spoonbill)			
192.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
193.	24747 <i>Platycercus spurius</i> (Red-capped Parrot)			
194.	25721 <i>Platycercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
195.	24750 <i>Platycercus zonarius</i> subsp. <i>semitorquatus</i> (Twenty-eight Parrot)			
196.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
197.	24382 <i>Pluvialis fulva</i> (Pacific Golden Plover)		IA	
198.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
199.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
200.	24679 <i>Podargus strigoides</i> subsp. <i>brachypterus</i> (Tawny Frogmouth)			
201.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
202.	24680 <i>Podiceps cristatus</i> subsp. <i>australis</i> (Great Crested Grebe)			
203.	<i>Poephila bichenovii</i>			Y
204.	24681 <i>Poliocephalus poliocephalus</i> (Hoary-headed Grebe)			
205.	<i>Polytelis swainsonii</i>			Y
206.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
207.	24767 <i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			
208.	24769 <i>Porzana fluminea</i> (Australian Spotted Crake)			
209.	25732 <i>Porzana pusilla</i> (Baillon's Crake)			
210.	24770 <i>Porzana pusilla</i> subsp. <i>palustris</i> (Baillon's Crake)			
211.	24771 <i>Porzana tabuensis</i> (Spotless Crake)			
212.	25708 <i>Procellaria aequinoctialis</i> (White-chinned Petrel)		T	
213.	24702 <i>Pterodroma brevirostris</i> (Kerguelen Petrel)			
214.	24703 <i>Pterodroma lessonii</i> (White-headed Petrel)			
215.	25710 <i>Pterodroma macroptera</i> (Great-winged Petrel)			
216.	25711 <i>Pterodroma mollis</i> (Soft-plumaged Petrel)			
217.	24711 <i>Puffinus assimilis</i> subsp. <i>assimilis</i> (Little Shearwater)			
218.	24715 <i>Puffinus huttoni</i> (Hutton's Shearwater)		T	
219.	<i>Purpureicephalus spurius</i>			
220.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
221.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
222.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
223.	24454 <i>Rhipidura leucophrys</i> subsp. <i>leucophrys</i> (Willie Wagtail)			
224.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
225.	<i>Serinus canarius</i>			
226.	30948 <i>Smicromis brevirostris</i> (Weebill)			
227.	48116 <i>Stercorarius antarcticus</i> (Brown Skua)		P4	
228.	24517 <i>Stercorarius parasiticus</i> (Arctic jaeger, Arctic Skua)		IA	
229.	24522 <i>Sterna bergii</i> (Crested Tern)			
230.	24524 <i>Sterna dougallii</i> subsp. <i>gracilis</i> (Roseate Tern)		IA	
231.	24525 <i>Sterna fuscata</i> subsp. <i>nubilosa</i> (Sooty Tern)			
232.	25643 <i>Sterna hybrida</i> (Whiskered Tern)			
233.	24533 <i>Sterna paradisaea</i> (Arctic Tern)			
234.	48594 <i>Stemula nereis</i> (Fairy Tern)			
235.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			
236.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
237.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
238.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
239.	30950 <i>Streptopelia senegalensis</i> subsp. <i>senegalensis</i> (Laughing Turtle-Dove)	Y		
240.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
241.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
242.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
243.	34134 <i>Thalassarche carteri</i> (Indian Yellow-nosed Albatross)		T	
244.	34135 <i>Thalassarche cauta</i> (Shy Albatross)		T	
245.	34007 <i>Thalassarche chlororhynchos</i> (Atlantic Yellow-nosed Albatross)		T	
246.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	

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247.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
248.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
249.	24309 <i>Todiramphus sanctus</i> subsp. <i>sanctus</i> (Sacred Kingfisher)			
250.	48141 <i>Tribonyx ventralis</i> (Black-tailed Native-hen)			
251.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
252.	24755 <i>Trichoglossus haematodus</i> subsp. <i>moluccanus</i> (Rainbow Lorikeet)	Y		
253.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
254.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
255.	24809 <i>Tringa stagnatilis</i> (Marsh Sandpiper, little greenshank)		IA	
256.	24851 <i>Turnix velox</i> (Little Button-quail)			
257.	24852 <i>Tyto alba</i> subsp. <i>delicatula</i> (Barn Owl)			
258.	25577 <i>Vanellus miles</i> (Masked Lapwing)			
259.	24384 <i>Vanellus miles</i> subsp. <i>miles</i> (Masked Lapwing)			
260.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
261.	41351 <i>Xenus cinereus</i> (Terek Sandpiper)		IA	
262.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silveryeye)			

Fish

263.	? ?			
264.	<i>Acanthaluteres vittiger</i>			
265.	<i>Acanthistius pardalotus</i>			
266.	<i>Acanthistius serratus</i>			
267.	<i>Aetapcus maculatus</i>			
268.	<i>Amniataba caudavittata</i>			
269.	<i>Aracana aurita</i>			
270.	<i>Aulohalaelurus labiosus</i>			
271.	<i>Aulohalaelurus labiosus?</i>			
272.	<i>Aulostomus chinensis</i>			
273.	<i>Austrolabrus maculatus</i>			
274.	<i>Batrachomoeus rubricephalus</i>			
275.	<i>Brachaluteres jacksonianus</i>			
276.	<i>Caesiocorpius theagenes</i>			
277.	<i>Callogobius depressus</i>			
278.	<i>Callogobius mucosus</i>			
279.	<i>Capropygia unistriata</i>			
280.	<i>Carassius auratus</i>			
281.	<i>Carcharhinus brachyurus</i>			
282.	<i>Carcharhinus</i> sp.			
283.	34034 <i>Carcharias taurus</i> (Grey Nurse Shark)		T	
284.	<i>Centroberyx australis</i>			
285.	<i>Chaetodermis penicilligera</i>			
286.	<i>Chaetodon assarius</i>			
287.	<i>Cheilodactylus gibbosus</i>			
288.	<i>Cheilodactylus rubrolabiatus</i>			
289.	<i>Chelidonichthys kumu</i>			
290.	<i>Cleidopus gloriamaris</i>			
291.	<i>Conger wilsoni</i>			
292.	<i>Cookeolus japonicus</i>			
293.	<i>Coris auricularis</i>			
294.	<i>Crapatalus arenarius</i>			
295.	<i>Cristiceps aurantiacus</i>			
296.	<i>Cybiosarda elegans</i>			
297.	<i>Cynoglossus broadhursti</i>			
298.	<i>Dactylopus dactylopus</i>			
299.	<i>Didon nichthemerus</i>			
300.	<i>Dipulus caecus</i>			
301.	<i>Echeneis naucrates</i>			
302.	<i>Euleptorhamphus viridis</i>			
303.	<i>Filicampus tigris</i>			
304.	<i>Fistularia petimba</i>			
305.	<i>Gambusia affinis</i>			
306.	<i>Gnathanacanthus goetzei</i>			
307.	<i>Gnathophis longicaudatus</i>			
308.	<i>Gymnothorax prasinus</i>			
309.	<i>Gymnothorax woodwardi</i>			
310.	<i>Helcogramma decurrens</i>			
311.	<i>Hemiramphus robustus</i>			
312.	<i>Heteroclinus heptaeolus</i>			
313.	<i>Heteroclinus milwardi</i> (ms)			
314.	<i>Heteroclinus perspicillatus</i>			
315.	<i>Heteroclinus</i> sp.			

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316.	<i>Heterodontus portusjacksoni</i>			
317.	<i>Hyporhamphus melanochir</i>			
318.	<i>Istiblennius lineatus</i>			
319.	<i>Istiblennius meleagris</i>			
320.	<i>Kyphosus cornelii</i>			
321.	<i>Lagocephalus sceleratus</i>			
322.	<i>Lampris guttatus</i>			
323.	<i>Lotella rhacinus</i>			
324.	<i>Meuschenia freycineti</i>			
325.	<i>Muraenichthys australis</i>			
326.	<i>Muraenichthys tasmaniensis</i>			
327.	<i>Mustelus antarcticus</i>			
328.	<i>Myliobatis australis</i>			
329.	<i>Neatypus obliquus</i>			
330.	<i>Neopataecus waterhousii</i>			
331.	<i>Notolabrus parilus</i>			
332.	<i>Odax acroptilus</i>			
333.	<i>Odax cyanomelas</i>			
334.	<i>Ophichthus melanochir</i>			
335.	<i>Ophisurus serpens</i>			
336.	<i>Orectolobus n.sp</i>			Y
337.	<i>Othos dentex</i>			
338.	<i>Parablennius postocolomaculatus</i>			
339.	<i>Parapercis ramsayi</i>			
340.	<i>Parascyllium variolatum</i>			
341.	<i>Pempheris klunzingeri</i>			
342.	34039 <i>Phycodurus eques</i> (Leafy Sea Dragon)		P2	
343.	<i>Phyllophichthus xenodontus</i>			
344.	<i>Phyllopteryx taeniolatus</i>			
345.	<i>Platax teira</i>			
346.	<i>Platycephalus chauliodous</i>			
347.	<i>Platycephalus endrachtensis</i>			
348.	<i>Platycephalus sp.</i>			
349.	<i>Pseudogobius olorum</i>			
350.	<i>Pseudorhombus jenynsii</i>			
351.	<i>Pterygotrigla polyommata</i>			
352.	<i>Regalecus glesne</i>			
353.	<i>Rhycherus gloveri</i>			
354.	<i>Saurida grandisquamis</i>			
355.	<i>Scobinichthys granulatus</i>			
356.	<i>Scomber australasicus</i>			
357.	<i>Seriola lalandi</i>			
358.	<i>Sillago robusta</i>			
359.	<i>Siphonognathus argyrophanes</i>			
360.	<i>Sphyrna obtusata</i>			
361.	<i>Sphyrna zygaena</i>			
362.	<i>Stigmatopora argus</i>			
363.	<i>Strongylura leiura</i>			
364.	<i>Sutorectus tentaculatus</i>			
365.	<i>Thysanophrys cirronasus</i>			
366.	<i>Torquigener pleurogramma</i>			
367.	<i>Torquigener vicinus</i>			
368.	<i>Trachichthys australis</i>			
369.	<i>Trachinocephalus myops</i>			
370.	<i>Trachurus declivis</i>			
371.	<i>Trygonorrhina sp.</i>			Y
372.	<i>Tylosurus crocodilus</i>			

Invertebrate

373.	<i>Amblyomma triguttatum</i>			
374.	<i>Aname mainae</i>			
375.	<i>Aname tepperi</i>			
376.	<i>Arachnura higginsi</i>			
377.	<i>Araneus cyphoxis</i>			
378.	<i>Araneus eburneiventris</i>			
379.	<i>Araneus eburnus</i>			
380.	<i>Araneus senicaudatus</i>			
381.	<i>Argiope protensa</i>			
382.	<i>Argiope trifasciata</i>			
383.	<i>Artoria linnaei</i>			
384.	<i>Artoria taeniifera</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
385.	<i>Artoriopsis expollita</i>			
386.	<i>Austracantha minax</i>			
387.	<i>Australomimetes aurooculatus</i>			
388.	<i>Austrammo harveyi</i>			
389.	<i>Backobourkia brounii</i>			
390.	<i>Badumna insignis</i>			
391.	<i>Ballarra longipalpus</i>			
392.	<i>Bianor maculatus</i>			
393.	<i>Cercophonius granulatus</i>			
394.	<i>Cercophonius sulcatus</i>			
395.	<i>Cormocephalus aurantipes</i>			
396.	<i>Cormocephalus novaehollandiae</i>			
397.	<i>Cormocephalus strigosus</i>			
398.	<i>Crustulina bicrucata</i>			
399.	<i>Cryptoerithus quobba</i>			
400.	<i>Delena cancerides</i>			
401.	<i>Dingosa serrata</i>			
402.	<i>Eodelena convexa</i>			
403.	<i>Eriophora biapicata</i>			
404.	<i>Ethmostigmus rubripes</i>			
405.	<i>Gea theridioides</i>			
406.	<i>Geogarypus taylori</i>			
407.	<i>Henicops dentatus</i>			
408.	<i>Hogna crispipes</i>			
409.	<i>Hogna immansueta</i>			
410.	<i>Idiommata blackwalli</i>			
411.	48935 <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)		P3	
412.	<i>Isometroides vesus</i>			
413.	<i>Isopeda leishmanni</i>			
414.	<i>Karops jarrit</i>			
415.	<i>Lampona brevipes</i>			
416.	<i>Lampona cylindrata</i>			
417.	<i>Lamponella kimba</i>			
418.	<i>Lamponina elongata</i>			
419.	<i>Latrodectus hasseltii</i>			
420.	<i>Longepi woodman</i>			
421.	<i>Lycosa austicola</i>			Y
422.	<i>Lycosa australicola</i>			
423.	<i>Lycosa gilberta</i>			
424.	<i>Lycosa godeffroyi</i>			
425.	<i>Maratus chrysomelas</i>			
426.	<i>Maratus pavonis</i>			
427.	<i>Maratus speciosus</i>			
428.	<i>Maratus spicatus</i>			
429.	<i>Masasteron sampeyae</i>			
430.	<i>Masasteron tuart</i>			
431.	<i>Meedo harveyi</i>			
432.	<i>Missulena granulosa</i>			
433.	<i>Missulena occatoria</i>			
434.	<i>Mituliodon tarantulinus</i>			
435.	<i>Mitzoruga insularis</i>			
436.	<i>Molycrria vokes</i>			
437.	<i>Myandra bicincta</i>			
438.	<i>Myandra cambridgei</i>			
439.	<i>Myialges ancistroneae</i>			
440.	<i>Nephila edulis</i>			
441.	<i>Nicodamus mainae</i>			
442.	<i>Notiasemus glauerti</i>			
443.	<i>Ocrisiona leucocomis</i>			
444.	<i>Oecobius navus</i>			
445.	<i>Ommatoiulus moreletii</i>			
446.	<i>Ornithonyssus bacoti</i>			
447.	<i>Ostearius melanopygius</i>			
448.	<i>Paralampona marangaroo</i>			
449.	<i>Parapallene haddoni</i>			
450.	<i>Pediana occidentalis</i>			
451.	<i>Phenasteron machinosum</i>			
452.	<i>Pholcus phalangioides</i>			
453.	<i>Prionosternum nitidiceps</i>			
454.	<i>Prionosternum scutatum</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
455.	<i>Pseudolampona woodman</i>			
456.	<i>Pycnothea flynni</i>			
457.	<i>Raveniella cirrata</i>			
458.	<i>Raveniella peckorum</i>			
459.	<i>Raveniella subcirrata</i>			
460.	<i>Servaea melaina</i>			
461.	<i>Simonus lineatus</i>			Y
462.	<i>Solaenodolichopus pruvoti</i>			
463.	<i>Steatoda capensis</i>			
464.	<i>Stylopallene cheilorhynchus</i>			
465.	<i>Supunna funerea</i>			
466.	<i>Supunna picta</i>			
467.	33992 <i>Synemon gratiosa</i> (Graceful Sunmoth)		P4	
468.	<i>Synothele durokoppin</i>			
469.	<i>Synothele michaelseni</i>			
470.	<i>Synothele mullaloo</i>			
471.	<i>Tasmanicosa leuckartii</i>			
472.	<i>Tetrallycosa oraria</i>			
473.	<i>Urodacus hartmeyeri</i>			
474.	<i>Urodacus novaeollandiae</i>			
475.	<i>Urodacus planimanus</i>			
476.	<i>Urodacus woodwardii</i>			
477.	<i>Venator immansueta</i>			
478.	<i>Venatrix pullastra</i>			
479.	<i>Westrarchaea pusilla</i>			
480.	<i>Westrarchaea sinuosa</i>			
481.	<i>Zachria flavicoma</i>			

Mammal

482.	24209 <i>Arctocephalus tropicalis</i> (Subantarctic fur-seal)		T	
483.	24044 <i>Balaenoptera acutorostrata</i> (Dwarf Minke Whale)			
484.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
485.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
486.	24092 <i>Dasyurus geoffroi</i> (Chuditch, Western Quoll)		T	
487.	24043 <i>Eubalaena australis</i> (Southern Right Whale)		T	
488.	24041 <i>Felis catus</i> (Cat)	Y		
489.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
490.	24211 <i>Hydrurga leptonyx</i> (Leopard Seal)			
491.	48588 <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
492.	24070 <i>Kogia breviceps</i> (Pygmy Sperm Whale)			
493.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
494.	24051 <i>Megaptera novaeangliae</i> (Humpback Whale)		S	
495.	24077 <i>Mesoplodon densirostris</i> (Blainville's Beaked Whale)			
496.	24213 <i>Mirounga leonina</i> (Southern Elephant Seal)			
497.	24223 <i>Mus musculus</i> (House Mouse)	Y		
498.	24210 <i>Neophoca cinerea</i> (Australian Sea-lion)		T	
499.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
500.	24230 <i>Pseudomys albocinereus</i> (Ash-grey Mouse)			
501.	24243 <i>Rattus fuscipes</i> (Western Bush Rat)			
502.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
503.	24207 <i>Tachyglossus aculeatus</i> (Short-beaked Echidna)			
504.	24167 <i>Tarsipes rostratus</i> (Honey Possum, Noolbenger)			
505.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
506.	24158 <i>Trichosurus vulpecula subsp. vulpecula</i> (Common Brushtail Possum)			
507.	24069 <i>Tursiops truncatus</i> (Bottlenose Dolphin)			
508.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		

Reptile

509.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
510.	24991 <i>Aprasia repens</i> (Sand-plain Worm-lizard)			
511.	42380 <i>Brachyuropis fasciolatus subsp. fasciolatus</i> (Narrow-banded Shovel-nosed Snake)			
512.	42381 <i>Brachyuropis semifasciatus</i> (Southern Shovel-nosed Snake)			
513.	25335 <i>Caretta caretta</i> (Loggerhead Turtle)		T	
514.	43380 <i>Chelodina colliei</i> (South-western Snake-necked Turtle)			
515.	25336 <i>Chelonia mydas</i> (Green Turtle)		T	
516.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
517.	30893 <i>Cryptoblepharus buchananii</i>			
518.	25020 <i>Cryptoblepharus plagioccephalus</i>			
519.	30899 <i>Ctenophorus adelaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
520.	25027 <i>Ctenotus australis</i>			
521.	25039 <i>Ctenotus fallens</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
522.	25087 <i>Cyclodomorphus celatus</i> (Western Slender Blue-tongue)			
523.	30905 <i>Delma concinna</i> subsp. <i>concinna</i> (Javelin Legless Lizard)			
524.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
525.	24999 <i>Delma grayii</i>			
526.	25296 <i>Demansia psammophis</i> subsp. <i>reticulata</i> (Yellow-faced Whipsnake)			
527.	25346 <i>Dermodochelys coriacea</i> (Leatherback Turtle)		T	
528.	24939 <i>Diplodactylus polyophthalmus</i>			
529.	25251 <i>Echiopsis curta</i> (Bardick)			
530.	25096 <i>Egernia kingii</i> (King's Skink)			
531.	25100 <i>Egernia napoleonis</i>			
532.	25250 <i>Elapognathus coronatus</i> (Crowned Snake)			
533.	25475 <i>Hemiergis peronii</i>			
534.	25119 <i>Hemiergis quadrilineata</i>			
535.	25366 <i>Hydrophis elegans</i> (Elegant Seasnake, Bar-bellied Seasnake)			
536.	43384 <i>Hydrophis platurus</i> (Yellow-bellied Seasnake)			
537.	25133 <i>Lerista elegans</i>			
538.	25148 <i>Lerista lineopunctulata</i>			
539.	25165 <i>Lerista praepedita</i>			
540.	25005 <i>Lialis burtonis</i>			
541.	25184 <i>Menetia greyii</i>			
542.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
543.	25191 <i>Morethia lineoocellata</i>			
544.	25192 <i>Morethia obscura</i>			
545.	25344 <i>Natator depressus</i> (Flatback Turtle)		T	
546.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
547.	25249 <i>Neelaps calonotos</i> (Black-striped Snake, black-striped burrowing snake)		P3	
548.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
549.	25253 <i>Parasuta gouldii</i>			
550.	25255 <i>Parasuta nigriceps</i>			
551.	25007 <i>Pletholax gracilis</i> subsp. <i>gracilis</i> (Keeled Legless Lizard)			
552.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			
553.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
554.	25261 <i>Pseudechis australis</i> (Mulga Snake)			
555.	25511 <i>Pseudonaja affinis</i> (Dugite)			
556.	25259 <i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
557.	42416 <i>Pseudonaja mengdeni</i> (Western Brown Snake)			
558.	25008 <i>Pygopus lepidopodus</i> (Common Scaly Foot)			
559.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
560.	24936 <i>Strophurus michaelsoni</i>			
561.	25518 <i>Strophurus spinigerus</i>			
562.	24943 <i>Strophurus spinigerus</i> subsp. <i>inornatus</i>			
563.	24942 <i>Strophurus spinigerus</i> subsp. <i>spinigerus</i>			
564.	25203 <i>Tiliqua occipitalis</i> (Western Bluetongue)			
565.	25519 <i>Tiliqua rugosa</i>			
566.	25204 <i>Tiliqua rugosa</i> subsp. <i>aspera</i>			
567.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
568.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			
569.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
570.	25526 <i>Varanus tristis</i> (Racehorse 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

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



EPBC Act Protected Matters Report

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	20
Listed Migratory Species:	12

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	1
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	2
Key Ecological Features (Marine):	None
Biologically Important Areas:	1
Bioregional Assessments:	None
Ecological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[Resource Information](#)

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

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

Community Name	Threatened Category	Presence Text
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community may 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	Threatened Category	Presence Text
BIRD		
Botaurus poiciloptilus Australasian Bittern 1001	Endangered	Species or species habitat may occur within area
Calidris canutus Red not not	Endangered	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper	Critically Endangered	Species or species habitat may occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo arrak 0	Vulnerable	Species or species habitat likely to occur within area
Charadrius leschenaultii Greater Sand Plover Large Sand Plover	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Leipoa ocellata Malleefowl [REDACTED]	Vulnerable	Species or species habitat may occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed [REDACTED] Ruskoeye Bar-tailed [REDACTED]	Critically Endangered	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew [REDACTED] Far Eastern Curlew [REDACTED]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [REDACTED]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [REDACTED]	Vulnerable	Species or species habitat may occur within area
Canda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo [REDACTED] Short-billed Black-cockatoo [REDACTED]	Endangered	Species or species habitat known to occur within area
INSECT		
Lesperocolletes douglasi Douglas' Broad-headed Bee [REDACTED] Rottnest Bee [REDACTED]	Critically Endangered	Species or species habitat may occur within area
MAMMAL		
Dasyurus geoffroyi Chuditch [REDACTED] Eastern Quoll [REDACTED]	Vulnerable	Species or species habitat may occur within area
PLANT		
Andersonia gracilis Slender Andersonia [REDACTED]	Endangered	Species or species habitat may occur within area
Diuris micrantha Dwarf Bee-orchid [REDACTED]	Vulnerable	Species or species habitat likely to occur within area
Diuris purdiei Purdie's Donkey-orchid [REDACTED]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Drakaea elastica Lossy-leaved Hammer Orchid Lossy-leaved Hammer Orchid arty Hammer Orchid	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid	Vulnerable	Species or species habitat may occur within area
Eucalyptus argutifolia Manchep Mallee abling Hill Mallee	Vulnerable	Species or species habitat may occur within area
Macarthuria keigheryi Keighery's Macarthuria	Endangered	Species or species habitat may occur within area

Listed Migratory Species Resource Information

Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift		Species or species habitat likely to occur within area
Sterna dougallii Roseate Tern		Foraging/feeding or related behaviour likely to occur within area

Migratory Terrestrial Species

Motacilla cinerea Grey Wagtail		Species or species habitat may occur within area
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Migratory Wetlands Species

Actitis hypoleucos Common Sandpiper		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper		Species or species habitat may occur within area
Calidris canutus Red Knot	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Calidris ferruginea Curlew Sandpiper □□□□	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper □□□□		Species or species habitat may occur within area
Charadrius leschenaultii Greater Sand Plover □□ Large Sand Plover □ Vulnerable □□□□		Species or species habitat likely to occur within area
Limosa lapponica Bar-tailed Godwit □□□□		Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew □ Far Eastern Curlew □□□□	Critically Endangered	Species or species habitat may occur within area
Tringa nebularia Common Greenshank □□ Greenshank □□2□		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		
Actitis hypoleucos Common Sandpiper □□□□0□□		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift □□□□		Species or species habitat likely to occur within area overfly marine area
Bubulcus ibis as Ardea ibis Cattle Egret □□□□21□		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Calidris acuminata Sharp-tailed Sandpiper [REDACTED]		Species or species habitat may occur within area
Calidris canutus Red [REDACTED]not [REDACTED]not [REDACTED]	Endangered	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [REDACTED]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [REDACTED]		Species or species habitat may occur within area overfly marine area
Charadrius leschenaultii [REDACTED]reater Sand Plover [REDACTED]arge Sand Plover [REDACTED]ulnerable [REDACTED]		Species or species habitat likely to occur within area
[REDACTED]aliaeetus leucogaster [REDACTED]hite-bellied Sea-Eagle [REDACTED]		Species or species habitat likely to occur within area
[REDACTED]mosa lapponica Bar-tailed [REDACTED]odwit [REDACTED]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [REDACTED]0 [REDACTED]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea [REDACTED]rey [REDACTED] agtail [REDACTED]2 [REDACTED]		Species or species habitat may occur within area overfly marine area
Numenius madagascariensis Eastern Curlew [REDACTED]Far Eastern Curlew [REDACTED]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe 0000	Endangered	Species or species habitat likely to occur within area overfly marine area
Sterna dougallii Roseate Tern 01		Foraging/feeding or related behaviour likely to occur within area
Tringa nebularia Common Greenshank Greenshank 02		Species or species habitat likely to occur within area overfly marine area

Extra Information

EPBC Act Referrals [Resource Information](#)

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Nava-1 Cable System	2001-10	Controlled Action	Completed

Not controlled action

Improving rabbit biocontrol: releasing another strain of RHD to sthru two thirds of Australia	201-22	Not Controlled Action	Completed
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Biologically Important Areas

Scientific Name	Behaviour	Presence
Seabirds		
Sterna dougallii Roseate Tern 01	Foraging	Known to occur

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 (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

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 (MANT 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 0.0 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 (1990s-early 2000s), distributions were defined by degree blocks (100 or 200 map sheets) to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions.

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 Eastern 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](#)
- [-Eastern 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 VERTEBRATE FAUNA LISTING

Observed Vertebrate Fauna Listing

Duncraig Senior High School

Compiled by Greg Harewood - Feb 2022

Class Family Species	Common Name	Conservation Status
Reptilia		
Scincidae Skinks		
<i>Cryptoblepharus buchananii</i>	Fence Skink	LC
Aves		
Accipitridae Kites, Goshawks, Eagles, Harriers		
<i>Accipiter fasciatus</i>	Brown Goshawk	Bp LC
Psittacidae Parrots		
<i>Cacatua roseicapilla</i>	Galah	LC
<i>Calyptorhynchus latirostris</i>	Carnaby's Cockatoo	EN EN Bp EN
<i>Trichoglossus moluccanus</i>	Rainbow Lorikeet	Introduced
Meliphagidae Honeyeaters, Chats		
<i>Anthochaera carunculata</i>	Red Wattlebird	LC
<i>Lichenostomus virescens</i>	Singing Honeyeater	LC
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater	Bp LC
Dicruridae Monarchs, Magpie Lark, Flycatchers, Fantails, Drongo		
<i>Grallina cyanoleuca</i>	Magpie-lark	LC
<i>Rhipidura leucophrys</i>	Willie Wagtail	LC
Cracticidae Currawongs, Magpies & Butcherbirds		
<i>Cracticus tibicen</i>	Australian Magpie	LC
<i>Cracticus torquatus</i>	Grey Butcherbird	LC

BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Bush Forever Decreaser Species - Bh = habitat specialists, Bp = wide ranging species, Be = extinct in Perth Coastal Plain Region, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, IUCN Red List Category Definitions LC = Least Concern - see <http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria> for others.

Class Family Species	Common Name	Conservation Status
Corvidae Ravens, Crows		
<i>Corvus coronoides</i>	Australian Raven	LC
Zosteropidae White-eyes		
<i>Zosterops lateralis</i>	Silvereye	LC
Mammalia		
Leporidae Rabbits, Hares		
<i>Oryctolagus cuniculus</i>	Rabbit	Introduced

BC Act Status - S1 to S7, EPBC Act Status - CR = Critically Endangered, EN = Endangered, VU = Vulnerable, EX = Extinct, DBCA Priority Status - P1 to P4, Bush Forever Decreaser Species - Bh = habitat specialists, Bp = wide ranging species, Be = extinct in Perth Coastal Plain Region, Int. Agmts - CA = CAMBA, JA = JAMBA, RK = ROKAMBA, IUCN Red List Category Definitions LC = Least Concern - see <http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria> for others.

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	Tree Height (m)	DBH (cm)	Number of Hollows	Estimated Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt001	50J	383207	6478696	Marri	15-20	>50	0					
wpt002	50J	383147	6478630	Tuart	15-20	>50	0					
wpt003	50J	383139	6478623	Tuart	15-20	>50	0					
wpt004	50J	383127	6478635	Unknown Euc	15-20	>50	0					
wpt005	50J	383143	6478689	Tuart	15-20	>50	0					
wpt006	50J	383143	6478690	Tuart	15-20	>50	0					
wpt007	50J	383147	6478699	Tuart	15-20	>50	0					
wpt008	50J	383226	6478779	Dead Unknown	15-20	>50	2+	Small-Large	Bees	No Signs	No	Accommodating branches too small
wpt009	50J	383138	6478772	Tuart	15-20	>50	2+	Medium-Large	No Signs	No Signs	No	Accommodating branches too small
wpt010	50J	383128	6478782	Dead Unknown	15-20	>50	2+	Medium-Large (cockatoo)	No Signs	No Signs	Yes	One large spout possibly suitable but appears marginal in size
wpt011	50J	383344	6478774	Dead Jarrah	10-15	>50	0					
wpt012	50J	383356	6478774	Jarrah	10-15	>50	0					
wpt013	50J	383329	6478751	Jarrah	10-15	>50	2+	Small	No Signs	No Signs	No	

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This fauna assessment report (“the report”) has been prepared in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Greg Harewood (“the Author”). In some circumstances the scope of services may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints. In accordance with the scope of services, the Author has relied upon the data and has conducted environmental field monitoring and/or testing in the preparation of the report. The nature and extent of monitoring and/or testing conducted is described in the report.

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