

Fauna Habitat Assessment



Oats Street Level Crossing Removal Project

Carlisle

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FINAL

On behalf of:

Public Transport Authority
C/- Aurora Environmental
Dilhorn House, 2 Bulwer Street
PERTH WA 6000

Prepared by:

Greg Harewood
Zoologist
PO Box 755
BUNBURY WA 6231
M: 0402 141 197
E: gharewood@iinet.net.au

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SUMMARY

This report details the results of a fauna habitat assessment of a 25.9 hectare (ha) area of land associated with the Public Transport Authority's (PTA) proposed Oats Street Level Crossing Removal Project (subject site). The assessment was primarily undertaken for the purposes of identifying the presence of conservation significant fauna species and/or their habitat and includes a literature review and field reconnaissance survey.

A list of potential conservation significant fauna species considered likely to occur in the general vicinity of the subject site has been compiled from information obtained during the literature review. Their likelihood of occurrence was assessed based on the results of the field reconnaissance survey and habitat assessment.

The subject site is situated in an established residential and commercial area in the middle section of the central Swan Coastal Plain. Most of the area has been cleared of native vegetation and is now mainly comprised of roads, rail lines, carparks, retail, residential and other associated infrastructure.

Vegetation within the subject site is largely confined to road verges and residential gardens. Vegetation along road verges is comprised of grassland or planted exotic, non-endemic and native endemic trees and shrubs of variable composition and density.

Overall fauna values of the subject site are rated as extremely low given the highly degraded nature of most of the area. Fauna biodiversity within the subject site would be depauperate, however given the presence of some vegetation the area still has value for some fauna species able to persist in degraded habitats of this type.

Most of the fauna species likely to be present would be common, widespread species (mainly birds), with a few exceptions (e.g. occasional presence of Black Cockatoos). Almost all of conservation significant species identified as having been previously recorded in the wider area could not persist in the subject site primarily due to a complete lack of suitable habitat (i.e. quality and/or extent) and/or known local extinction.

Eight fauna species, all birds, were observed during the field survey. The limited number of fauna species observed can be attributed to the small size of the subject site, the limited extent of vegetation and its generally highly degraded state. No species of conservation significance were positively identified as utilising the subject site during the field survey.

Based on habitats present it has been determined that four species of conservation significance may possibly occur at times (Forest Red-tailed Black Cockatoo, Carnaby's Black Cockatoo, Baudin's Black Cockatoo and Peregrine Falcon) though their current status on-site and/or in the general area is difficult to assess because they were not sighted during the survey period and no evidence of use of the subject site was found. Given the limited extent of suitable habitat present it can however be expected that these species only occur occasionally and then only for brief periods.

The Black Cockatoo habitat tree assessment identified 15 trees with a Diameter at Breast Height (DBH) of ≥ 50 cms within the subject site. No trees appeared to contain hollows of any size and no evidence of any breeding activity by Black Cockatoos was noted.

No evidence of Black Cockatoos foraging on any plant species with the subject site was observed during the survey period. It is difficult to estimate the extent of Black Cockatoo foraging habitat within the subject site given most trees and shrubs are represented by scattered/isolated specimens some of which are located amongst non-favoured species, but an examination of aerial photographs suggests its total extent would be less than 1 ha in size.

No evidence of Black Cockatoos roosting within trees located inside the subject site was observed during the survey period.

While fauna species of conservation significance are unlikely to be significantly affected by the proposed development the potential impacts on these species and/or their habitat should be taken into consideration during ongoing planning.

1. INTRODUCTION

This report details the results of a fauna habitat assessment of a 25.9 ha area of land associated with the Public Transport Authorities (PTA) proposed Oats Street Level Crossing Removal Project (subject site). The fauna assessment of the proposed Oats Street Level Crossing Removal Project area was primarily undertaken for the purposes of identifying the presence of conservation significant fauna species and/or their habitat.

The information contained within this report will be incorporated into an overall environmental impact assessment and approvals advice report being prepared by Aurora Environmental.

2. SCOPE OF WORKS

Desktop Assessment:

The scope of works (with respect to fauna) defined by the PTA was to conduct a desktop review of publicly available information and reports to assess the potential presence of conservation significant fauna and their habitat within the subject site.

Reconnaissance Fauna Survey:

The scope of works (with respect to fauna) defined by the PTA was to conduct a reconnaissance fauna survey, in accordance with *Technical Guidance - Terrestrial Fauna Surveys* (EPA 2016a) and *Technical Guidance – Sampling Methods for Terrestrial Vertebrate Fauna* (EPA 2016b) to identify:

- The presence or potential presence of conservation significant fauna species (e.g. Threatened or Priority Fauna) within the environmental survey boundary (including mapping).
- Assess habitats suitable for conservation significant fauna species.
- Fauna habitat types within the environmental survey boundary (including mapping).

The scope of works defined by the PTA was to conduct a targeted Black Cockatoo¹ habitat survey to:

- Identify Black Cockatoo habitat (foraging, breeding, roosting habitat) within the environmental survey boundary, including GPS locations of breeding habitat trees.
- Identify breeding trees suitable for Black Cockatoo nesting, as outlined in the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* referral guidelines (DSEWPaC 2012).
- Search trees for evidence of Black Cockatoo use (e.g. wear around hollows, feathers, chewing, scarring and scratch marks on trunks and branches).

3. METHOD

3.1 LITERATURE REVIEW

A list of fauna recorded or likely to occur within the subject site 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 2018). A 10-kilometre (km) buffer around a central point was applied to capture previous fauna records within the immediate vicinity;
- *EPBC Act* Protected Matters database for fauna of national environmental significance (DotEE 2018). The minimum buffer (1 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 *Wildlife Conservation Act 1950 (WC Act)*), those species recognised under international treaties (CAMBA, JAMBA and the Bonn Convention) and Priority Fauna (as listed by DBCA).

¹ Note: For the purposes of this report the term Black Cockatoo is in reference to all three species i.e. Baudin's Black Cockatoo (*Calyptrorhynchus baudinii*), Carnaby's Black Cockatoo (*Calyptrorhynchus latirostris*) and the Forest Red-tailed Black Cockatoo (*Calyptrorhynchus banksii naso*), unless stated otherwise.

3.2 FIELD SURVEYS

The field component of the fauna assessment was carried out on the 27 September 2018 by Greg Harewood (Zoologist) and consisted of a reconnaissance survey, described in the sections below.

3.2.1 FAUNA HABITAT ASSESSMENT

The objective of the habitat assessment was to assess if it was likely that species of conservation significance would utilise the habitats identified within the subject site.

During the field survey, fauna habitats within the survey area were assessed and specific elements identified, which informed the likelihood of listed conservation significant species utilising the area and fauna habitat of significance.

Vegetation units, landforms and soils observed during the site reconnaissance survey have been used to define broad fauna habitat types across the subject site.

3.2.2 FAUNA OBSERVATIONS

The objective of the habitat assessment was to assess if it was likely that species of conservation significance would utilise the habitats identified within the subject site.

During the field survey, fauna habitats within the survey area were assessed and specific elements identified, which informed the likelihood of listed conservation significant species utilising the area and fauna habitat of significance.

Vegetation units, landforms and soils observed during the site reconnaissance survey have been used to define broad fauna habitat types across the subject site.

3.2.3 BLACK COCKATOO HABITAT ASSESSMENT

The following methods were employed to comply with the defined scope of works and are based on DSEWPaC (2012) guidelines which states that surveys for Carnaby's, Baudin's and Forest Red-tailed Black Cockatoo habitat should:

- be done by a suitably qualified person with experience in vegetation or cockatoo surveys, depending on the type of survey being undertaken;
- maximise the chance of detecting the species' habitat and/or signs of use;
- determine the context of the site within the broader landscape—for example, the amount and quality of habitat nearby and in the local region (for example, within 10 km);
- account for uncertainty and error (false presence and absences); and
- include collation of existing data on known locations of breeding and feeding birds and night roost locations.

DSEWPac (2012) places habitats used by Black Cockatoos into the following three categories:

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

3.2.3.1 Breeding Habitat Assessment

The Black Cockatoo breeding habitat assessment identified all suitable breeding tree species within the subject site that have a Diameter at Breast Height (DBH) equal to or greater than 50cm. The DBH of each tree was estimated using a pre-made 50 cm “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 over the threshold DBH was recorded with a GPS and details of 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.

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 appears big enough for a Black Cockatoo to use for nesting).

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

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

- Tree ≥ 50 cm DBH, one or more hollows seen, with at least one considered suitable for Black Cockatoos to use for nesting.

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

Generally, any tree which is alive or dead that contains one or more possible hollows (cavities within the trunk or branches) suitable for occupation by Black Cockatoo for the purpose of nesting/breeding. Apparent 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, was 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).

A review of available literature was also carried out to determine the location/extent of any known/likely Black Cockatoo breeding habitat in the vicinity.

3.2.3.2 Foraging Habitat Assessment

The location and nature of Black Cockatoo foraging evidence (e.g. chewed fruits around base of trees) observed during the field survey was recorded. The nature and extent of potential foraging habitat present was also documented irrespective of the presence of any actual foraging evidence. Foraging habitat is represented by plant species that are known to provide a food source for Black Cockatoos. This can be in the form of seeds, flowers and also boring grubs that are extracted from some plant species.

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

3.2.3.3 Night Roosting Habitat Assessment

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

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

4. SURVEY LIMITATIONS

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

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

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

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

5. RESULTS

5.1 LITERATURE REVIEW

The literature review identified a number of fauna species of conservation significance as potentially occurring in the general area. Table 1 lists the species in question. The NatureMap (DBCA 2018) and Protected Matters Search Tool (DotEE 2018) results, used as a primary source for compiling this listing, are held within Appendix B.

Table 1: Conservation significant fauna previously recorded or potentially occurring within the general vicinity of the subject site.²

Species	Conservation Status	
	WC Act/ DBCA Priority	EPBC Act
Carter's Freshwater Mussel <i>Westralunio carteri</i>	S3	VU
Graceful Sunmoth <i>Synemon gratiosa</i>	P4	-
Guildford Springtail <i>Australotomurus morbidus</i>	P3	-
Inornate Trapdoor Spider <i>Euoplos inornatus</i>	P3	-
Unnamed bee <i>Glossurocolletes bilobatus</i>	P2	-
Unnamed bee <i>Leioproctus douglasiellus</i>	S2	CR
Short-tongued Bee <i>Neopasiphae simplicior</i>	S2	CR
Dell's Skink <i>Ctenotus delli</i>	P4	-
Coastal Plains Skink <i>Ctenotus ora</i>	P3	-

² See Appendix A for conservation status codes

Species	Conservation Status	
	WC Act/ DBCA Priority	EPBC Act
Perth Slider <i>Lerista lineata</i>	P3	-
Black-striped Snake <i>Neelaps calonotos</i>	P3	-
Western Swamp Tortoise <i>Pseudemydura umbrina</i>	CR	CR
Malleefowl <i>Leipoa ocellata</i>	S3	VU
Australasian Bittern <i>Botaurus poiciloptilus</i>	S2	EN
Australian Little Bittern <i>Ixobrychus dubius</i>	P4	-
Black Bittern <i>Ixobrychus dubius</i>	P2	-
Migratory Shorebirds/Wetland & Marine Species	Various	Various
Hooded Plover <i>Thinornis rubricollis</i>	P4	-
Blue-billed Duck <i>Oxyura australis</i>	P4	-
Glossy Ibis <i>Plegadis falcinellus</i>	S5	Mig, Ma
Eastern Osprey <i>Pandion haliaetus</i>	S5	Mig, Ma
Peregrine Falcon <i>Falco peregrinus</i>	S7	-
Grey Falcon <i>Falco hypoleucos</i>	S3	-
Masked Owl <i>Tyto novaehollandiae novaehollandiae</i>	P3	-
Carnaby's Black Cockatoo <i>Calyptorhynchus latirostris</i>	S2	EN
Baudin's Black Cockatoo <i>Calyptorhynchus baudinii</i>	S2	EN
Forest Red-tailed Black Cockatoo <i>Calyptorhynchus banksia naso</i>	S3	VU
Muir's Corella <i>Cacatua pastinator pastinator</i>	S6	-
Western Bristlebird <i>Dasyornis longirostris</i>	S3	EN
Fork-tailed Swift <i>Apus pacificus</i>	S5	Mig
Grey Wagtail <i>Motacilla cinerea</i>	S5	Mig
Chuditch <i>Dasyurus geoffroii</i>	S3	VU
South-western Brush-tailed Phascogale <i>Phascogale tapoatafa wambenger</i>	S6	-
Numbat <i>Myrmecobius fasciatus</i>	S3	VU

Species	Conservation Status	
	WC Act/ DBCA Priority	EPBC Act
Bilby <i>Macrotis lagotis</i>	S3	VU
Quenda <i>Isodon fusciventer</i>	P4	-
Western Ringtail Possum <i>Pseudocheirus occidentalis</i>	S1	CR
Western Brush Wallaby <i>Notamacropus irma</i>	P4	-
Water Rat <i>Hydromys chrysogaster</i>	P4	-

5.2 FIELD SURVEYS

5.2.1 FAUNA HABITAT ASSESSMENT

The subject site is situated in the middle of an established residential and commercial area in the middle section of the central Swan Coastal Plain. Most of the area has been cleared of native vegetation and is now mainly comprised of roads, rail lines, carparks, retail, residential and other associated infrastructure.



Vegetation within the subject site is largely confined to road verges and residential gardens. Vegetation along road verges is comprised of grassland or planted exotic, non-endemic and native endemic trees and shrubs of variable composition and density. Example images of the vegetation present are provided in Table 2.



The individual remnant native trees and groves of trees, while limited in extent, support the primary fauna habitat value. These areas vary in quality, with most areas being totally degraded and lacking significant native groundcover/shrubs and microhabitats such as hollow logs.

Overall fauna values of the subject site can be rated as being extremely low given the highly degraded nature the majority of the area. Fauna biodiversity within the subject site would be depauperate, however, given the presence of some vegetation the area still has value for some fauna species able to persist in degraded habitats of this type.

Most of the fauna species likely to be present would be common, widespread species (mainly birds), with a few exceptions (e.g. Black Cockatoos). The vast majority of conservation significant species previously recorded in the wider area would not persist in the subject site primarily due to a complete lack of suitable habitat (i.e. quality and/or extent).

Table 2: Example images of the fauna habitats within the Subject site

Fauna Habitat Description	Example Image
<p>Totally cleared (some with occasional scattered trees and shrubs) – roads, railway reserve, parking areas, footpaths, vacant blocks, road verges with bare ground or grassland.</p>	
	
<p>Planted non-endemic/exotic trees and shrubs along road verges and in gardens of various composition and density.</p>	
	

Fauna Habitat Description	Example Image
<p>Scattered remnant, regrowth or planted native vegetation along road verges and in railway reserve – Marri, Mountain Marri, Peppermint or Grass Trees over bare ground or open grassland.</p>	
	

5.2.2 FAUNA OBSERVATIONS

Eight fauna species, all birds, were observed during the field survey (see Appendix C). The limited number of fauna species observed can be attributed to the small size of the subject site, the limited extent of vegetation and its generally highly degraded state.

No evidence of any of the conservation significant fauna species identified during the literature review was observed. However, this does not eliminate the potential for some species to still occur, if only infrequently.

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 subject site comprised the following species:

- Marri – *Corymbia calophylla* (some specimens possibly mountain marri – *Corymbia haematoxylon*); and
- Planted non-endemic eucalypts (various unidentified species);

A summary of the habitat trees observed is provided in Table 3 below. The location of habitat trees is shown in Figure 2.

The assessment identified 15 trees within the subject site with a DBH of ≥ 50 cm. No trees appeared to contain hollows of any size and no evidence of any breeding activity by Black Cockatoos was noted.

The distribution of the various habitat tree species is shown in Figure 3. Additional details on each habitat tree observed can be found in Appendix D.

Table 3: Summary of Habitat Trees (DBH ≥ 50 cm) within the subject site

Total Number of Habitat Trees (DBH ≥ 50 cm)	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>Possibly Suitable</u> for Black Cockatoos	Tree Species	
				Marri	Non-Endemic Eucalyptus
15	15	0	0	8	7

Based on available mapping there is about 2,845 ha of remnant native vegetation within 10 kilometres of the subject site. Much of this is likely to also contain “potential” breeding habitat as defined by DotEE (i.e. suitable tree species with a DBH ≥ 50 cm).

5.2.3.2 Foraging Habitat Assessment

The following flora species known to be or are potentially used as a direct food source (e.g. seeds, flowers, nectar, bark or grubs) by one or more species of Black Cockatoo were recorded within the subject site:

- Marri – *Corymbia calophylla* (some specimens possibly mountain marri – *Corymbia haematoxylon*);
- Grass tree – *Xanthorrhoea preissii*;
- Peppermint – *Agonis flexuosa*; and
- Pine - *Pinus* spp.

It should be noted that some of the above-mentioned species (e.g. Peppermint, Grass Trees) while foraged upon on occasions are only likely to make up a very small proportion of any one birds diet relative to more favoured plant species such as Marri. Most tree species are also only represented by a small number of specimens and therefore the overall foraging resource is small.

No evidence of Black Cockatoos foraging on any plant species within the subject site was observed during the survey period.

It is difficult to estimate the extent of Black Cockatoo foraging habitat within the subject site given most trees and shrubs are represented by scattered/isolated specimens some of which are located amongst non-favoured species, but an examination of aerial photographs suggests its total extent would be less than 1 ha in size.

Based on available mapping there is about 2,845 ha of remnant native vegetation within 10 kilometres of the subject site. Much of this has the potential 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 inside the subject site was observed during the survey period.

A review of the 2018 Great Cocky Count database shows no documented roost sites within the subject site, however one registered site (VICEASR002) is located in a park adjacent to the eastern boundary of the railway reserve. No roosting activity has been recorded here during the last nine Great Cocky Counts (Peck *et al.* 2018).

The closest active roost (2017) is located ~1.8 km west of the subject site. This site was in use by 116 red-tailed Black Cockatoos during the 2017 Great Cocky Count. Another 70 documented roost sites (but not necessarily in current use) occur within 10 km of the subject site (Peck *et al.* 2018).

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 4.

Table 4: Likelihood of Occurrence – Fauna Species of Conservation Significance (continues on following pages).³

Species	Conservation Status		Habitat Present	Likelihood of Occurrence
	WC Act/ DBCA Priority	EPBC Act		
Carter's Freshwater Mussel <i>Westralunio carteri</i>	S3	VU	No	Would Not Occur

³ See Appendix A for conservation status codes

Species	Conservation Status		Habitat Present	Likelihood of Occurrence
	WC Act/ DBCA Priority	EPBC Act		
Graceful Sunmoth <i>Synemon gratiosa</i>	P4	-	No	Would Not Occur
Guildford springtail <i>Australotomurus morbidus</i>	P3	-	No	Would Not Occur
Inornate Trapdoor Spider <i>Euoplos inornatus</i>	P1	-	No	Would Not Occur
Unnamed bee <i>Glossurocolletes bilobatus</i>	P2	-	No	Would Not Occur
Unnamed bee <i>Leioproctus douglasiellus</i>	S2	CR	No	Would Not Occur
Short-tongued Bee <i>Neopasiphae simplicior</i>	S2	CR	No	Would Not Occur
Dell's Skink <i>Ctenotus delli</i>	P4	-	No	Would Not Occur
Coastal Plains Skink <i>Ctenotus ora</i>	P3	-	No	Would Not Occur
Perth Slider <i>Lerista lineata</i>	P3	-	No/Very Marginal	Unlikely to Occur
Black-striped Snake <i>Neelaps calonotos</i>	P3	-	No	Would Not Occur
Western Swamp Tortoise <i>Pseudemydura umbrina</i>	CR	CR	No	Would Not Occur
Malleefowl <i>Leipoa ocellata</i>	S3	VU	No	Would Not Occur/Regionally Extinct
Australasian Bittern <i>Botaurus poiciloptilus</i>	S2	EN	No	Would Not Occur
Australian Little Bittern <i>Ixobrychus dubius</i>	P4	-	No	Would Not Occur
Black Bittern <i>Ixobrychus dubius</i>	P2	-	No	Would Not Occur
Migratory Shorebirds/Wetland & Marine Species	Various	Various	No	Would Not Occur
Hooded Plover <i>Thinornis rubricollis</i>	P4	-	No	Would Not Occur
Blue-billed Duck <i>Oxyura australis</i>	P4	-	No	Would Not Occur
Glossy Ibis <i>Plegadis falcinellus</i>	S5	Mig, Ma	No	Would Not Occur
Eastern Osprey <i>Pandion haliaetus</i>	S5	Mig, Ma	No	Would Not Occur
Peregrine Falcon <i>Falco peregrinus</i>	S7	-	Yes	Possibly Occurs (on rare occasions)
Grey Falcon <i>Falco hypoleucos</i>	S3	-	No	Would Not Occur

Species	Conservation Status		Habitat Present	Likelihood of Occurrence
	WC Act/ DBCA Priority	EPBC Act		
Masked Owl <i>Tyto novaehollandiae novaehollandiae</i>	P3	-	No	Would Not Occur
Carnaby's Black Cockatoo <i>Calyptorhynchus latirostris</i>	S2	EN	Yes/Marginal	Possibly Occurs
Baudin's Black Cockatoo <i>Calyptorhynchus baudinii</i>	S2	EN	Yes/Marginal	Possibly Occurs
Forest Red-tailed Black Cockatoo <i>Calyptorhynchus banksia naso</i>	S3	VU	Yes/Marginal	Possibly Occurs
Muir's Corella <i>Cacatua pastinator pastinator</i>	S6	-	No	Would Not Occur
Western Bristlebird <i>Dasyornis longirostris</i>	S3	EN	No	Would Not Occur/Regionally Extinct
Fork-tailed Swift <i>Apus pacificus</i>	S5	Mig	Yes	Unlikely to Occur except very rarely
Grey Wagtail <i>Motacilla cinerea</i>	S5	Mig	No	Would Not Occur
Chuditch <i>Dasyurus geoffroii</i>	S3	VU	No	Would Not Occur
South-western Brush-tailed Phascogale <i>Phascogale tapoatafa wambenger</i>	S6	-	No	Would Not Occur
Numbat <i>Myrmecobius fasciatus</i>	S3	VU	No	Would Not Occur/Regionally Extinct
Bilby <i>Macrotis lagotis</i>	S3	VU	No	Would Not Occur/Regionally Extinct
Quenda <i>Isodon fusciventer</i>	P4	-	No	Would Not Occur
Western Ringtail Possum <i>Pseudocheirus occidentalis</i>	S1	CR	No	Would Not Occur/Regionally Extinct
Western Brush Wallaby <i>Notamacropus irma</i>	P4	-	No	Would Not Occur/Regionally Extinct
Water Rat <i>Hydromys chrysogaster</i>	P4	-	No	Would Not Occur

No fauna species of conservation significance (listed as State or Federal threatened/migratory species or as DBCA priority species) were positively identified as using the subject site during the survey period. This to a certain extent is a reflection of the sites degraded nature and total lack of or limited extent of habitat suitable for most species.

Several species of conservation significance may possibly utilise the subject site for some purpose at times but their current 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 found.

These species are:

- *Calyptorhynchus banksii naso* Forest Red-tailed Black Cockatoo – S3 (WC Act), Vulnerable (EPBC Act)
May occur occasionally but favoured habitat is limited in quality and extent. Small areas of vegetation within the subject site represent foraging habitat for this species, though no evidence of use observed. Larger trees ($\geq 50\text{cm}$ DBH) can be considered potential breeding habitat, though no existing hollows or actual breeding activity was evident. No evidence of roosting observed.
- *Calyptorhynchus latirostris* Carnaby's Black Cockatoo – S2 (WC Act), Endangered (EPBC Act)
May occur occasionally but favoured habitat is limited in quality and extent. Small areas of vegetation within the subject site represent foraging habitat for this species, though no evidence of use observed. Larger trees ($\geq 50\text{cm}$ DBH) can be considered potential breeding habitat, though no existing hollows or actual breeding activity was evident. No evidence of roosting observed.
- *Calyptorhynchus baudinii* Baudin's Black Cockatoo – S2 (WC Act), Endangered (EPBC Act)
May occur occasionally but favoured habitat is limited in quality and extent. Small areas of vegetation within the subject site represent foraging habitat for this species, though no evidence of use observed. Larger trees ($\geq 50\text{cm}$ DBH) can be considered potential breeding habitat, though no existing hollows or actual breeding activity was evident. No evidence of roosting observed.
- *Falco peregrinus* Peregrine Falcon – S7 (WC Act)
Uncommon so unlikely to be resident in the area but subject site may form part of larger home range. Only likely to occur very infrequently when foraging in air space over the subject site and then only for brief periods. Unlikely to breed in the area.

A number of other species of conservation significance (as listed in Table 4), while possibly present in the wider area (e.g. Darling Range forest areas) are not listed as potentially occurring within the subject site primarily due to a complete lack of suitable habitat (quality and extent) and/or known local/regional extinction.

7. CONCLUSION

The fauna assessment of the proposed Oats Street Level Crossing Removal Project area was primarily undertaken for the purposes of identifying the presence of conservation significant fauna species and/or their habitat.

No species of conservation significance were positively identified as utilising the subject site during the field survey. Based on habitats present it has been determined that four species of conservation significance may possibly occur at times (Forest Red-tailed Black Cockatoo, Carnaby's Black Cockatoo, Baudin's Black Cockatoo and Peregrine Falcon) though their current status on-site and/or in the general area is difficult to assess because they were not sighted during the survey period and no evidence of use of the subject site

was found. Given the limited extent of suitable habitat present it can however be expected that these species only occur occasionally and then only for brief periods.

The potential impact to conservation significant species from the proposed development will vary depending on their current degree of utilisation/population densities and preferred habitat requirements (e.g. quantity and quality of potential foraging habitat that will be affected when clearing of the site is undertaken).

The potential impacts on these species and/or their habitat should be taken into consideration during ongoing planning.

8. REFERENCES

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FIGURES



Legend

Subject Site



0 100 200 300 400 500
Metres



Drawn: G Harewood

Date: Oct 2018

Scale: 1: 50,000

Projection/Coordinate System: UTM/MGA Zone 50

Oats Street
Level Crossing Removal Project
Public Transport Authority

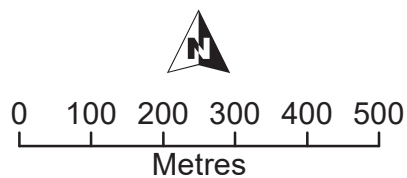
Aerial Photograph

Figure: 1



Legend

- Subject Site
- Habitat Tree - No hollows seen



Drawn: G Harewood
Date: Oct 2018
Scale: 1: 50,000

Projection/Coordinate System: UTM/MGA Zone 50

**Oats Street
Level Crossing Removal Project
Public Transport Authority**

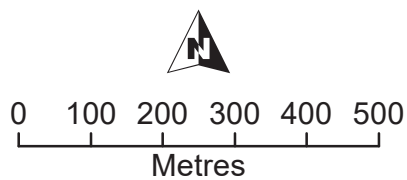
**Habitat Trees
(DBH > 50cm)**

Figure: 2



Legend

- Subject Site
- Marri/Mt Marri
- Unknown Non-Endemic Eucalypt



**Oats Street
 Level Crossing Removal Project
 Public Transport Authority**

Habitat Tree Species

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 asterix are matters of national environmental significance (NES) under the *EPBC Act*.

Wildlife Conservation (Specially Protected Fauna) Notice 2017 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.
Schedule 2 (S2) Endangered species	EN	Threatened species considered to be facing a very high risk of extinction in the wild.
Schedule 3 (S3) Vulnerable species	VU	Threatened species considered to be facing a high risk of extinction in the wild.
Schedule 4 (S4) Presumed extinct species	EX	Species which have been adequately searched for and there is no reasonable doubt that the last individual has died.
Schedule 5 (S5) Migratory birds protected under an international agreement	IA	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

DBCA & EPBC DATABASE SEARCH RESULTS

NatureMap - Oats Street

Created By Greg Harewood on 29/09/2018

Kingdom Animalia
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 115° 54' 56" E, 31° 59' 10" S
Buffer 10km
Group By Species Group

Species Group	Species	Records
Amphibian	12	742
Bird	313	96883
Fish	94	223
Invertebrate	186	1569
Mammal	39	629
Reptile	78	1975
TOTAL	722	102021

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Amphibian				
1.	25398 <i>Crinia georgiana</i> (Quacking Frog)			
2.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
3.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
4.	25409 <i>Heleioporus barycragus</i> (Hooting Frog)			
5.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
6.	25412 <i>Heleioporus psammophilus</i> (Sand Frog)			
7.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
8.	25378 <i>Litoria adalaidensis</i> (Slender Tree Frog)			
9.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
10.	25420 <i>Myobatrachus gouldii</i> (Turtle Frog)			
11.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
12.	25434 <i>Pseudophryne occidentalis</i> (Western Toadlet)			
Bird				
13.	24559 <i>Acanthagenys rufogularis</i> (Spiny-cheeked Honeyeater)			
14.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
15.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
16.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
17.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
18.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
19.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
20.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
21.	24283 <i>Accipiter fasciatus</i> subsp. <i>didimus</i> (Brown Goshawk)			
22.	24282 <i>Accipiter fasciatus</i> subsp. <i>fasciatus</i> (Brown Goshawk)			
23.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
24.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
25.	25544 <i>Aegotheles cristatus</i> (Australian Owlet-nightjar)			
26.	24301 <i>Aegotheles cristatus</i> subsp. <i>cristatus</i> (Australian Owlet-nightjar)			
27.	<i>Agapornis</i> sp.			Y
28.	24310 <i>Anas castanea</i> (Chestnut Teal)			
29.	24311 <i>Anas clypeata</i> (Northern Shoveler)			Y
30.	24312 <i>Anas gracilis</i> (Grey Teal)			
31.	24313 <i>Anas platyrhynchos</i> (Mallard)			
32.	<i>Anas platyrhynchos</i> subsp. <i>domesticus</i>			
33.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
34.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
35.	<i>Anas superciliosa</i> subsp. <i>x platyrhynchos</i>			Y
36.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
37.	24506 <i>Anous tenuirostris</i> subsp. <i>melanops</i> (Australian Lesser Noddy)		T	
38.	<i>Anser anser</i>			
39.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			

	Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
40.	24562	<i>Anthochaera lunulata</i> (Western Little Wattlebird)			
41.	25670	<i>Anthus australis</i> (Australian Pipit)			
42.	24599	<i>Anthus australis</i> subsp. <i>australis</i> (Australian Pipit)			
43.	25554	<i>Apus pacificus</i> (Fork-tailed Swift, Pacific Swift)		IA	
44.	24285	<i>Aquila audax</i> (Wedge-tailed Eagle)			
45.		<i>Ara ararauna</i>			Y
46.	25557	<i>Ardea garzetta</i> (Little Egret)			
47.	24337	<i>Ardea garzetta</i> subsp. <i>nigripes</i> (Little Egret)			
48.	25558	<i>Ardea ibis</i> (Cattle Egret)			
49.	25559	<i>Ardea intermedia</i> (Intermediate Egret)			
50.	41324	<i>Ardea modesta</i> (great egret, white egret)			
51.	24340	<i>Ardea novaehollandiae</i> (White-faced Heron)			
52.	24341	<i>Ardea pacifica</i> (White-necked Heron)			
53.	25560	<i>Ardea sacra</i> (Eastern Reef Egret, Eastern Reef Heron)			
54.	24610	<i>Ardeotis australis</i> (Australian Bustard)			
55.		<i>Argusianus argus</i>			Y
56.	25566	<i>Artamus cinereus</i> (Black-faced Woodswallow)			
57.	24352	<i>Artamus cinereus</i> subsp. <i>melanops</i> (Black-faced Woodswallow)			
58.	24353	<i>Artamus cyanopterus</i> (Dusky Woodswallow)			
59.	24356	<i>Artamus personatus</i> (Masked Woodswallow)			
60.	24318	<i>Aythya australis</i> (Hardhead)			
61.		<i>Barnardius zonarius</i>			
62.	24319	<i>Biziura lobata</i> (Musk Duck)			
63.	24345	<i>Botaurus poiciloptilus</i> (Australasian Bittern)		T	
64.	24359	<i>Burhinus grallarius</i> (Bush Stone-curlew)			
65.	25713	<i>Cacatua galerita</i> (Sulphur-crested Cockatoo)			
66.	24721	<i>Cacatua galerita</i> subsp. <i>galerita</i> (Sulphur-crested Cockatoo)	Y		
67.	25714	<i>Cacatua pastinator</i> (Western Long-billed Corella)			
68.	24724	<i>Cacatua pastinator</i> subsp. <i>pastinator</i> (Muir's Corella, Muir's Corella (Western Corella SW WA))		S	
69.	25715	<i>Cacatua roseicapilla</i> (Galah)			
70.	25716	<i>Cacatua sanguinea</i> (Little Corella)			
71.	24727	<i>Cacatua sanguinea</i> subsp. <i>westralensis</i> (Little Corella)			
72.	24729	<i>Cacatua tenuirostris</i> (Eastern Long-billed Corella)	Y		
73.	25598	<i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
74.	24427	<i>Cacomantis flabelliformis</i> subsp. <i>flabelliformis</i> (Fan-tailed Cuckoo)			
75.	42307	<i>Cacomantis pallidus</i> (Pallid Cuckoo)			
76.	24779	<i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
77.	25738	<i>Calidris canutus</i> (Red Knot, knot)		IA	
78.	24784	<i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
79.	24786	<i>Calidris melanotos</i> (Pectoral Sandpiper)		IA	
80.	24788	<i>Calidris ruficollis</i> (Red-necked Stint)		IA	
81.	24789	<i>Calidris subminuta</i> (Long-toed Stint)		IA	
82.	24790	<i>Calidris tenuirostris</i> (Great Knot)		T	
83.	25717	<i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
84.	24731	<i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
85.	24733	<i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
86.	24734	<i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
87.	48400	<i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
88.	25625	<i>Carduelis carduelis</i> (Goldfinch, European Goldfinch)	Y		
89.	24480	<i>Carduelis carduelis</i> subsp. <i>britannica</i> (Goldfinch)	Y		
90.	25575	<i>Charadrius leschenaultii</i> (Greater Sand Plover)		IA	
91.	25576	<i>Charadrius mongolus</i> (Lesser Sand Plover)		T	
92.	24377	<i>Charadrius ruficapillus</i> (Red-capped Plover)			
93.	24321	<i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
94.	47909	<i>Cheramoeca leucosterna</i> (White-backed Swallow)			
95.		<i>Chroicocephalus novaehollandiae</i>			
96.	24431	<i>Chrysococcyx basalis</i> (Horsfield's Bronze Cuckoo)			
97.	25601	<i>Chrysococcyx lucidus</i> (Shining Bronze Cuckoo)			
98.	24432	<i>Chrysococcyx lucidus</i> subsp. <i>plagosus</i> (Shining Bronze Cuckoo)			
99.	24288	<i>Circus approximans</i> (Swamp Harrier)			
100.	24774	<i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
101.		<i>Collocalia esculenta</i>			
102.	25675	<i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
103.	24613	<i>Colluricincla harmonica</i> subsp. <i>rufiventris</i> (Grey Shrike-thrush)			
104.	24399	<i>Columba livia</i> (Domestic Pigeon)	Y		
105.	24361	<i>Coracina maxima</i> (Ground Cuckoo-shrike)			
106.	25568	<i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
107.	24362 <i>Coracina novaehollandiae</i> subsp. <i>novaehollandiae</i> (Black-faced Cuckoo-shrike)			
108.	24416 <i>Corvus bennetti</i> (Little Crow)			
109.	25592 <i>Corvus coronoides</i> (Australian Raven)			
110.	24417 <i>Corvus coronoides</i> subsp. <i>perplexus</i> (Australian Raven)			
111.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
112.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
113.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
114.	24422 <i>Cracticus tibicen</i> subsp. <i>dorsalis</i> (White-backed Magpie)			
115.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
116.	24322 <i>Cygnus atratus</i> (Black Swan)			
117.	24323 <i>Cygnus olor</i> (Mute Swan)	Y		
118.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
119.	30902 <i>Dacelo novaeguineae</i> subsp. <i>novaeguineae</i> (Laughing Kookaburra)	Y		
120.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
121.	24606 <i>Daphoenositta chrysoptera</i> subsp. <i>pileata</i> (Varied Sittella, Black-capped Sittella)			
122.	24440 <i>Dasyornis longirostris</i> (Western Bristlebird)		T	
123.	24325 <i>Dendrocygna eytoni</i> (Plumed Whistling Duck)			
124.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
125.	<i>Egretta garzetta</i>			
126.	<i>Egretta novaehollandiae</i>			
127.	<i>Elanus axillaris</i>			
128.	25540 <i>Elanus caeruleus</i> (Black-shouldered Kite)			
129.	24290 <i>Elanus caeruleus</i> subsp. <i>axillaris</i> (Australian Black-shouldered Kite)			
130.	47937 <i>Elseymornis melanops</i> (Black-fronted Dotterel)			
131.	<i>Eolophus roseicapillus</i>			
132.	24651 <i>Eopsaltria australis</i> subsp. <i>griseogularis</i> (Western Yellow Robin)			
133.	24567 <i>Epthianura albiglans</i> (White-fronted Chat)			
134.	24379 <i>Erythronyx cinctus</i> (Red-kneed Dotterel)			
135.	24818 <i>Eudyptula minor</i> subsp. <i>novaehollandiae</i> (Little Penguin)			
136.	24368 <i>Eurostopodus argus</i> (Spotted Nightjar)			
137.	25591 <i>Eurystomus orientalis</i> (Dollarbird)			
138.	25621 <i>Falco berigora</i> (Brown Falcon)			
139.	24471 <i>Falco berigora</i> subsp. <i>berigora</i> (Brown Falcon)			
140.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
141.	24472 <i>Falco cenchroides</i> subsp. <i>cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
142.	24473 <i>Falco hypoleucos</i> (Grey Falcon)		T	
143.	25623 <i>Falco longipennis</i> (Australian Hobby)			
144.	24474 <i>Falco longipennis</i> subsp. <i>longipennis</i> (Australian Hobby)			
145.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
146.	24475 <i>Falco peregrinus</i> subsp. <i>macropus</i> (Australian Peregrine Falcon)		S	
147.	<i>Fringilla coelebs</i>			Y
148.	25727 <i>Fulica atra</i> (Eurasian Coot)			
149.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
150.	<i>Gallicolumba jobiensis</i>			Y
151.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
152.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
153.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
154.	24765 <i>Gallirallus philippensis</i> subsp. <i>mellori</i> (Buff-banded Rail)			
155.	<i>Gallus gallus</i>			
156.	42314 <i>Gavialis virescens</i> (Singing Honeyeater)			
157.	24401 <i>Geopelia cuneata</i> (Diamond Dove)			
158.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
159.	24271 <i>Gerygone fusca</i> subsp. <i>fusca</i> (Western Gerygone)			
160.	30918 <i>Glossopsitta concinna</i> (Musk Lorikeet)	Y		
161.	47962 <i>Glyciphila melanops</i> (Tawny-crowned Honeyeater)			
162.	<i>Gracula religiosa</i>			
163.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
164.	25627 <i>Haematopus fuliginosus</i> (Sooty Oystercatcher)			
165.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
166.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
167.	24295 <i>Haliastur spheurnus</i> (Whistling Kite)			
168.	24689 <i>Halobaena caerulea</i> (Blue Petrel)			
169.	24296 <i>Hamirostra isura</i> (Square-tailed Kite)			
170.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
171.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
172.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
173.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
174.	34001 <i>Hylacola cauta</i> subsp. <i>whitlocki</i> (Shy Groundwren)			
175.	47975 <i>Ixobrychus dubius</i> (Australian Little Bittern)		P4	
176.	24347 <i>Ixobrychus flavicollis</i> subsp. <i>australis</i> (Black Bittern (southwest subpop.), Australian)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
	<i>Black Bittern</i>)		P2	
177.	24367 <i>Lalage tricolor</i> (White-winged Triller)			
178.	24510 <i>Larus dominicanus</i> (Kelp Gull)			
179.	25637 <i>Larus novaehollandiae</i> (Silver Gull)			
180.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
181.	24557 <i>Leipoa ocellata</i> (Malleefowl)		T	
182.	25659 <i>Lichenostomus leucotis</i> (White-eared Honeyeater)			
183.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
184.	24582 <i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
185.	30932 <i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
186.	25741 <i>Limosa limosa</i> (Black-tailed Godwit)		IA	
187.	<i>Lophoictinia isura</i>			
188.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
189.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
190.	25651 <i>Malurus lamberti</i> (Variegated Fairy-wren)			
191.	25652 <i>Malurus leucopterus</i> (White-winged Fairy-wren)			
192.	24551 <i>Malurus pulcherrimus</i> (Blue-breasted Fairy-wren)			
193.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
194.	24583 <i>Manorina flavigula</i> (Yellow-throated Miner)			
195.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
196.	24838 <i>Megalurus gramineus</i> subsp. <i>gramineus</i> (Little Grassbird)			
197.	47997 <i>Melanodryas cucullata</i> (Hooded Robin)			
198.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
199.	24586 <i>Melithreptus brevirostris</i> subsp. <i>leucogenys</i> (Brown-headed Honeyeater)			
200.	24587 <i>Melithreptus chloropsis</i> (Western White-naped Honeyeater)			
201.	24736 <i>Melopsittacus undulatus</i> (Budgerigar)			
202.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
203.	<i>Microcarbo melanoleucos</i>			
204.	48008 <i>Morus serrator</i> (Australasian Gannet)			
205.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			
206.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
207.	24739 <i>Neophema petrophila</i> (Rock Parrot)			
208.	25747 <i>Ninox connivens</i> (Barking Owl)			
209.	<i>Ninox novaeseelandiae</i> subsp. <i>rufigaster</i>			Y
210.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
211.	<i>Numenius madagascariensis</i> subsp. <i>cyanopus</i>			
212.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
213.	24742 <i>Nymphicus hollandicus</i> (Cockatiel)			
214.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
215.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
216.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
217.	24624 <i>Pachycephala rufiventris</i> subsp. <i>rufiventris</i> (Rufous Whistler)			
218.	24692 <i>Pachyptila belcheri</i> (Slender-billed Prion)			
219.	24693 <i>Pachyptila desolata</i> (Antarctic Prion)			
220.	25707 <i>Pachyptila salvini</i> (Salvin's Prion)			
221.	24696 <i>Pachyptila turtur</i> (Fairy Prion)			
222.	<i>Padda oryzivora</i>			
223.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
224.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
225.	24625 <i>Pardalotus punctatus</i> subsp. <i>punctatus</i> (Spotted Pardalote)			
226.	24626 <i>Pardalotus punctatus</i> subsp. <i>xanthopyge</i> (Yellow-rumped Pardalote)			
227.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
228.	24630 <i>Pardalotus striatus</i> subsp. <i>westraliensis</i> (Striated Pardalote)			
229.	<i>Paroaria coronata</i>			Y
230.	25687 <i>Passer domesticus</i> (House Sparrow)	Y		
231.	24649 <i>Pelecanoides urinatrix</i> subsp. <i>exsul</i> (Common Diving Petrel)			
232.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
233.	48060 <i>Petrochelidon ariel</i> (Fairy Martin)			
234.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
235.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
236.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
237.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
238.	24664 <i>Phalacrocorax carbo</i> subsp. <i>novaehollandiae</i> (Great Cormorant)			
239.	24665 <i>Phalacrocorax fuscescens</i> (Black-faced Cormorant)			
240.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
241.	24666 <i>Phalacrocorax melanoleucos</i> subsp. <i>melanoleucos</i> (Little Pied Cormorant)			
242.	<i>Phalacrocorax</i> sp.			
243.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
244.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
245.	24668 <i>Phalacrocorax varius</i> subsp. <i>hypoleucos</i> (Pied Cormorant)			

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246.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
247.	24462 <i>Phoebastria fusca</i> (Sooty Albatross)		T	
248.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
249.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
250.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
251.	24842 <i>Platalea regia</i> (Royal Spoonbill)			
252.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
253.	24745 <i>Platycercus icterotis</i> subsp. <i>icterotis</i> (Western Rosella)			
254.	24747 <i>Platycercus spurius</i> (Red-capped Parrot)			
255.	25721 <i>Platycercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
256.	24750 <i>Platycercus zonarius</i> subsp. <i>semitorquatus</i> (Twenty-eight Parrot)			
257.	24751 <i>Platycercus zonarius</i> subsp. <i>zonarius</i> (Port Lincoln Parrot)			
258.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
259.	24382 <i>Pluvialis fulva</i> (Pacific Golden Plover)		IA	
260.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
261.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
262.	24679 <i>Podargus strigoides</i> subsp. <i>brachypterus</i> (Tawny Frogmouth)			
263.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
264.	24680 <i>Podiceps cristatus</i> subsp. <i>australis</i> (Great Crested Grebe)			
265.	<i>Poephila cincta</i>			
266.	24681 <i>Poliiocephalus poliocephalus</i> (Hoary-headed Grebe)			
267.	30854 <i>Polytelis anthopeplus</i> subsp. <i>westralis</i> (Regent Parrot)			
268.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
269.	24767 <i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			
270.	24769 <i>Porzana fluminea</i> (Australian Spotted Crake)			
271.	25732 <i>Porzana pusilla</i> (Baillon's Crake)			
272.	24770 <i>Porzana pusilla</i> subsp. <i>palustris</i> (Baillon's Crake)			
273.	24771 <i>Porzana tabuensis</i> (Spotless Crake)			
274.	<i>Psephotus dissimilis</i>			Y
275.	48085 <i>Psittacula krameri</i> (Indian Ringnecked Parrot, Rose-ringed Parakeet)	Y		
276.	<i>Psittacus erithacus</i>			Y
277.	24702 <i>Pterodroma brevirostris</i> (Kerguelen Petrel)			
278.	24703 <i>Pterodroma lessonii</i> (White-headed Petrel)			
279.	25710 <i>Pterodroma macroptera</i> (Great-winged Petrel)			
280.	24711 <i>Puffinus assimilis</i> subsp. <i>assimilis</i> (Little Shearwater)			
281.	24716 <i>Puffinus pacificus</i> (Wedge-tailed Shearwater)		IA	
282.	42344 <i>Pumella albitrons</i> (White-fronted Honeyeater)			
283.	<i>Purpureicephalus spurius</i>			
284.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
285.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
286.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
287.	24454 <i>Rhipidura leucophrys</i> subsp. <i>leucophrys</i> (Willie Wagtail)			
288.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
289.	<i>Serinus canarius</i>			
290.	30948 <i>Smicromis brevirostris</i> (Weebill)			
291.	24645 <i>Stagonopleura oculata</i> (Red-eared Firetail)			
292.	24522 <i>Sterna bergii</i> (Crested Tern)			
293.	24525 <i>Sterna fuscata</i> subsp. <i>nubilosa</i> (Sooty Tern)			
294.	48594 <i>Sternula nereis</i> (Fairy Tern)			
295.	48595 <i>Sternula nereis</i> subsp. <i>nereis</i> (Fairy Tern)		T	
296.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			
297.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
298.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
299.	30951 <i>Streptopelia chinensis</i> subsp. <i>tigrina</i> (Spotted Turtle-Dove)	Y		
300.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
301.	30950 <i>Streptopelia senegalensis</i> subsp. <i>senegalensis</i> (Laughing Turtle-Dove)	Y		
302.	25752 <i>Sturnus vulgaris</i> (Common Starling)	Y		
303.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
304.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
305.	<i>Tachybaptus</i> sp.			
306.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
307.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
308.	48135 <i>Thinornis rubricollis</i> (Hooded Plover, Hooded Dotterel)		P4	
309.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
310.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
311.	24309 <i>Todiramphus sanctus</i> subsp. <i>sanctus</i> (Sacred Kingfisher)			
312.	48141 <i>Tribonyx ventralis</i> (Black-tailed Native-hen)			
313.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
314.	24755 <i>Trichoglossus haematodus</i> subsp. <i>moluccanus</i> (Rainbow Lorikeet)	Y		

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315.	24754	<i>Trichoglossus haematodus</i> subsp. <i>rubritorquis</i> (Red-collared Lorikeet)			
316.	24806	<i>Tringa glareola</i> (Wood Sandpiper)		IA	
317.	24808	<i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
318.	48147	<i>Turnix varius</i> (Painted Button-quail)			
319.	25762	<i>Tyto alba</i> (Barn Owl)			
320.	24852	<i>Tyto alba</i> subsp. <i>delicatula</i> (Barn Owl)			
321.	24855	<i>Tyto novaehollandiae</i> subsp. <i>novaehollandiae</i> (Masked Owl (southwest))		P3	
322.	25577	<i>Vanellus miles</i> (Masked Lapwing)			
323.	24386	<i>Vanellus tricolor</i> (Banded Lapwing)			
324.	41351	<i>Xenus cinereus</i> (Terek Sandpiper)		IA	
325.	25765	<i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			

Fish

326.		? ?			
327.		<i>Acanthopagrus butcheri</i>			
328.		<i>Achoerodus gouldii</i>			
329.		<i>Afurcagobius suppositus</i>			
330.		<i>Aldrichetta forsteri</i>			
331.		<i>Anguilla australis</i>			
332.		<i>Anoplocapros lenticularis</i>			
333.		<i>Apogon rueppellii</i>			
334.		<i>Apogon victoriae</i>			
335.		<i>Aracana aurita</i>			
336.		<i>Arenigobius bifrenatus</i>			
337.		<i>Argyrosomus japonicus</i>			
338.		<i>Arripis truttacea</i>			
339.		<i>Atherinomorus vaigiensis</i>			
340.		<i>Atherinosoma elongata</i>			
341.		<i>Atherinosoma presbyteroides</i>			
342.		<i>Atherinosoma wallacei</i>			
343.		<i>Bostockia porosa</i>			
344.		<i>Carassius auratus</i>			
345.		<i>Carcharhinus leucas</i>			
346.		<i>Cheilodactylus gibbosus</i>			
347.		<i>Chelidonichthys kumu</i>			
348.		<i>Chelmonops curiosus</i>			
349.		<i>Cleidopus gloriamaris</i>			
350.		<i>Cnidoglanis macrocephalus</i>			
351.		<i>Coris auricularis</i>			
352.		<i>Craterocephalus mugiloides</i>			
353.		<i>Cynoglossus maculipinnis</i>			
354.		<i>Dactylopus dactylopus</i>			
355.		<i>Diodon nichthemerus</i>			
356.		<i>Echeneis naucrates</i>			
357.		<i>Edelia vittata</i>			
358.		<i>Elops hawaiiensis</i>			
359.		<i>Engraulis australis</i>			
360.		<i>Enoplosus armatus</i>			
361.		<i>Epinephelides armatus</i>			
362.		<i>Favonigobius lateralis</i>			
363.		<i>Filicampus tigris</i>			
364.		<i>Galaxias maculatus</i>			
365.	34028	<i>Galaxias occidentalis</i> (Western Minnow)			
366.		<i>Gambusia affinis</i>			
367.		<i>Gerres subfasciatus</i>			
368.		<i>Gobiomorphus coxii</i>			
369.		<i>Gonorynchus greyi</i>			
370.		<i>Gymnapistes marmoratus</i>			
371.		<i>Gymnothorax richardsoni</i>			
372.		<i>Hippocampus elongatus</i>			
373.		<i>Histrio histrio</i>			
374.		<i>Hyporhamphus regularis</i>			
375.		<i>Microcanthus strigatus</i>			
376.		<i>Mugil cephalus</i>			
377.		<i>Muraenichthys</i> sp.			
378.		<i>Muraenichthys tasmaniensis</i>			
379.		<i>Nannoperca vittata</i>			
380.		<i>Nematalosa come</i>			
381.		<i>Neosebastes pandus</i>			
382.		<i>Notolabrus parilus</i>			
383.		<i>Ophisurus serpens</i>			

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384.	<i>Orectolobus ornatus</i>			
385.	<i>Papillogobius punctatus</i>			Y
386.	<i>Parablennius postoculomaculatus</i>			
387.	<i>Parma microlepis</i>			
388.	<i>Pegasus volitans</i>			
389.	<i>Pempheris klunzingeri</i>			
390.	<i>Phalloceros caudimaculatus</i>			
391.	<i>Phalloceros harpagos</i>			Y
392.	34039 <i>Phycodurus eques</i> (Leafy Sea Dragon)		P2	
393.	<i>Phyllopteryx taeniolatus</i>			
394.	<i>Platax teira</i>			
395.	<i>Platycephalus endrachtensis</i>			
396.	<i>Plotosus unicolor</i>			Y
397.	<i>Pseudocaranx dentex</i>			
398.	<i>Pseudogobius olorum</i>			
399.	<i>Pseudorhombus jenynsii</i>			
400.	<i>Rachycentron canadum</i>			
401.	<i>Scomberoides lysan</i>			
402.	<i>Scorpius aequipinnis</i>			
403.	<i>Scorpius georgianus</i>			
404.	<i>Seriola hippos</i>			
405.	<i>Sillago burrus</i>			
406.	<i>Sillago schomburgkii</i>			
407.	<i>Sparidentex hasta</i>			Y
408.	<i>Stigmatopora argus</i>			
409.	<i>Sutorectus tentaculatus</i>			
410.	<i>Tandanus bostocki</i>			
411.	<i>Threpterus maculosus</i>			
412.	<i>Thysanophrys cirronasus</i>			
413.	<i>Tilodon sexfasciatum</i>			
414.	<i>Torquigener pleurogramma</i>			
415.	<i>Trachurus novaezelandiae</i>			
416.	<i>Tridentiger trigonocephalus</i>			
417.	<i>Trygonoptera ovalis</i>			
418.	<i>Trygonorrhina fasciata</i>			
419.	<i>Urocampus carinirostris</i>			

Invertebrate

420.	<i>Acercella falcipes</i>			
421.	<i>Aganippe raphiduca</i>			
422.	<i>Akamptogonus novarae</i>			
423.	<i>Allothreua maculata</i>			
424.	<i>Amblyomma albolimbatum</i>			
425.	<i>Amblyomma triguttatum</i>			
426.	<i>Aname mainae</i>			
427.	<i>Aname tepperi</i>			
428.	<i>Anisops hyperion</i>			
429.	<i>Arachnura higginsi</i>			
430.	<i>Araneus cyphoxis</i>			
431.	<i>Araneus eburneiventris</i>			
432.	<i>Araneus senicaudatus</i>			
433.	<i>Araneus talipedatus</i>			
434.	<i>Argiope protensa</i>			
435.	<i>Argiope trifasciata</i>			
436.	<i>Artema atlanta</i>			
437.	<i>Artoria linnaei</i>			
438.	<i>Artoria taeniifera</i>			
439.	<i>Artoriopsis eccentrica</i>			
440.	<i>Artoriopsis exposita</i>			
441.	<i>Artoriopsis joergi</i>			
442.	<i>Aureocrypta lugubris</i>			
443.	<i>Austracantha minax</i>			
444.	48574 <i>Australotomurus morbidus</i> (cemetery springtail, Guildford springtail)		P3	
445.	<i>Austrammo harveyi</i>			
446.	<i>Backobourkia heroine</i>			
447.	<i>Badumna insignis</i>			
448.	<i>Ballarra longipalpus</i>			
449.	<i>Ceinidae</i> sp.			
450.	<i>Celaenia excavata</i>			
451.	<i>Ceratopogonidae</i> sp.			
452.	<i>Cercophonius granulatus</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
453.	<i>Cercophonius sulcatus</i>			
454.	33939 <i>Cherax cainii</i> (Marron)			
455.	<i>Cherax destructor</i>			
456.	<i>Cherax quinquecarinatus</i>			
457.	<i>Chironominae</i> sp.			
458.	<i>Coenagrionidae</i> sp.			
459.	<i>Copidognathus cooki</i>			Y
460.	<i>Corixidae</i> sp.			
461.	<i>Cormocephalus aurantiipes</i>			
462.	<i>Cormocephalus novaehollandiae</i>			
463.	<i>Cormocephalus rubriceps</i>			
464.	<i>Cormocephalus strigosus</i>			
465.	<i>Cormocephalus turneri</i>			
466.	<i>Crustulina bicrucata</i>			
467.	<i>Cryptoerithus quobba</i>			
468.	<i>Cyclosa trilobata</i>			
469.	<i>Deinopis unicolor</i>			Y
470.	<i>Delena cancerides</i>			
471.	<i>Dingosa murata</i>			
472.	<i>Dingosa serrata</i>			
473.	<i>Dinocambala ingens</i>			
474.	<i>Dytiscidae</i> sp.			
475.	<i>Eodelena lapidicola</i>			
476.	<i>Eriophora biapicata</i>			
477.	<i>Ethmostigmus rubripes</i>			
478.	<i>Eucyrtops lator</i>			
479.	<i>Eulimnadia</i> sp.			
480.	48579 <i>Euoplos inornatus</i> (inornate trapdoor spider (northern Jarrah Forest))		P3	
481.	<i>Eupograptus kottae</i>			
482.	<i>Eurytion incisunguis</i>			Y
483.	<i>Gea theridioides</i>			
484.	<i>Geogarypus taylori</i>			
485.	48581 <i>Glossurocolletes bilobatus</i> (a short-tongued bee (southwest), short-tongued bee)		P2	
486.	<i>Gripopterygidae</i> sp.			
487.	<i>Hasarius adansoni</i>			
488.	<i>Hebridae</i> sp.			
489.	<i>Hemicorduliidae</i> sp.			
490.	<i>Henicops dentatus</i>			
491.	<i>Heurodes turritus</i>			
492.	<i>Hogna crispipes</i>			
493.	<i>Hogna immansueta</i>			
494.	<i>Holasteron perth</i>			
495.	<i>Holasteron wamuseum</i>			Y
496.	<i>Holconia insignis</i>			Y
497.	<i>Holconia westralia</i>			
498.	<i>Holocnemus pluchei</i>			
499.	<i>Hydrophilidae</i> sp.			
500.	<i>Hypoblemum</i> sp.			Y
501.	<i>Idiommatia blackwalli</i>			
502.	<i>Idiosoma hirsutum</i>			Y
503.	<i>Isometroides vesus</i>			
504.	<i>Isopeda leishmanni</i>			
505.	<i>Isopedella cana</i>			
506.	<i>Isopedella tindalei</i>			
507.	<i>Ixodes tasmani</i>			Y
508.	<i>Kangarosa ludwigi</i>			
509.	<i>Kangarosa properipes</i>			
510.	<i>Karaops jarrit</i>			
511.	<i>Lampona brevipes</i>			
512.	<i>Lampona cylindrata</i>			
513.	<i>Latrodectus hasselti</i>			
514.	<i>Latrodectus hasseltii</i>			
515.	33983 <i>Leioproctus douglasiellus</i> (a short-tongued bee)		T	
516.	<i>Leptoceridae</i> sp.			
517.	<i>Leucauge dromedaria</i>			Y
518.	<i>Libellulidae</i> sp.			
519.	<i>Longepi woodman</i>			
520.	<i>Lycosa ariadnae</i>			
521.	<i>Lycosa australicola</i>			
522.	<i>Lycosa gilberta</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
523.	<i>Lycosa godeffroyi</i>			
524.	<i>Lynceus</i> sp.			
525.	<i>Maratus pavonis</i>			
526.	<i>Masasteron maini</i>			
527.	<i>Missulena granulosa</i>			
528.	<i>Missulena occatoria</i>			
529.	<i>Mituliodon tarantulinus</i>			
530.	<i>Mitzoruga insularis</i>			
531.	<i>Myandra bicincta</i>			
532.	<i>Myandra cambridgei</i>			
533.	33984 <i>Neopasiphae simplicior</i> (a short-tongued bee)		T	
534.	<i>Nephila edulis</i>			
535.	<i>Nicodamus mainae</i>			
536.	<i>Notiasemus glauerti</i>			
537.	<i>Notonectidae</i> sp.			
538.	<i>Nunciella aspera</i>			
539.	<i>Ocrisiona leucocomis</i>			
540.	<i>Oecobius navus</i>			
541.	<i>Oligochaeta</i> sp.			
542.	<i>Ommatoiulus moreleti</i>			
543.	<i>Ommatoiulus moreletii</i>			
544.	<i>Opopaea</i> sp.			Y
545.	<i>Oratemnus curtus</i>			
546.	<i>Orthocladinae</i> sp.			
547.	<i>Ostearius melanopygius</i>			
548.	<i>Oxidus gracilis</i>			
549.	<i>Oxyopes gracilipes</i>			
550.	<i>Palaemonidae</i> sp.			
551.	<i>Pediana occidentalis</i>			
552.	<i>Phenasteron longiconductor</i>			
553.	<i>Pholcus phalangoides</i>			
554.	<i>Phreatoicidae</i> sp.			
555.	<i>Phryganoporus candidus</i>			
556.	<i>Phryganoporus gausapatus</i> subsp. <i>occidentalis</i>			Y
557.	<i>Physidae</i> sp.			
558.	<i>Physocyclus globosus</i>			
559.	<i>Pinkfloydia harveii</i>			
560.	<i>Planorbidae</i> sp.			
561.	<i>Poltys lacinosus</i>			
562.	<i>Polygonarea repanda</i>			Y
563.	<i>Raveniella cirrata</i>			
564.	<i>Raveniella peckorum</i>			
565.	<i>Scolopendra laeta</i>			
566.	<i>Scolopendra morsitans</i>			
567.	<i>Scytodes thoracica</i>			
568.	<i>Servaea melaina</i>			
569.	<i>Simaetha tenuior</i>			
570.	<i>Simuliidae</i> sp.			
571.	<i>Siphonotus flavomarginatus</i>			
572.	<i>Smeringopus natalensis</i>			
573.	<i>Smeringopus natalensis?</i>			Y
574.	<i>Solaenodolichopus pruvoti</i>			
575.	<i>Steatoda capensis</i>			
576.	<i>Steatoda grossa</i>			
577.	<i>Storena formosa</i>			
578.	<i>Storena sinuosa</i>			
579.	<i>Supunna funerea</i>			
580.	<i>Supunna picta</i>			
581.	33992 <i>Synemon gratiosa</i> (Graceful Sunmoth)		P4	
582.	<i>Synothele durokoppin</i>			
583.	<i>Synothele michaelsoni</i>			
584.	<i>Synothele rastelloides</i>			
585.	<i>Synsphyronus magnus</i>			
586.	<i>Tabanidae</i> sp.			
587.	<i>Tamopsis facialis</i>			
588.	<i>Tamopsis perthensis</i>			
589.	<i>Tanypodinae</i> sp.			
590.	<i>Tasmanicosa leuckartii</i>			
591.	<i>Tegenaria atrica</i>			Y
592.	<i>Tetragnatha demissa</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
593.	<i>Thereuopoda lesueurii</i>			
594.	<i>Tipulidae</i> sp.			
595.	<i>Trichocycclus balladong</i>			
596.	<i>Urodacus novaehollandiae</i>			
597.	<i>Urodacus planimanus</i>			
598.	<i>Venator immansueta</i>			
599.	<i>Venatrix pullastra</i>			
600.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
601.	<i>Westrarchaea spinosa</i>			
602.	<i>Xysticus periscelis</i>			Y
603.	<i>Zachria flavicoma</i>			
604.	<i>Zebraplatys fractivittata</i>			
605.	unknown unknown			Y

Mammal

606.	24209 <i>Arctocephalus tropicalis</i> (Subantarctic fur-seal)		T	
607.	24251 <i>Bos taurus</i> (European Cattle)	Y		
608.	25454 <i>Canis lupus</i> (Dog, Dingo)	Y		
609.	30883 <i>Canis lupus</i> subsp. <i>familiaris</i> (Dog)	Y		
610.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
611.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
612.	24187 <i>Chalinolobus morio</i> (Chocolate Wattled Bat)			
613.	24092 <i>Dasyurus geoffroyi</i> (Chuditch, Western Quoll)		T	
614.	24258 <i>Equus caballus</i> (Horse)	Y		
615.	24041 <i>Felis catus</i> (Cat)	Y		
616.	30916 <i>Funambulus pennanti</i> (Indian Palm Squirrel)	Y		
617.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
618.	48588 <i>Isoodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
619.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
620.	24168 <i>Macrotis lagotis</i> (Bilby, Dalgyte, Ninu)		T	
621.	24223 <i>Mus musculus</i> (House Mouse)	Y		
622.	24042 <i>Mustela putorius</i> (European Polecat, Ferret)	Y		
623.	24146 <i>Myrmecobius fasciatus</i> (Numbat, Walpurti)		T	
624.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
625.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
626.	24195 <i>Nyctophilus gouldi</i> (Gould's Long-eared Bat)			
627.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
628.	34016 <i>Ovis aries</i> (Sheep)			
629.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
630.	24234 <i>Pseudomys delicatulus</i> (Delicate Mouse)			
631.	24173 <i>Pteropus scapulatus</i> (Little Red Flying-fox)			
632.	24243 <i>Rattus fuscipes</i> (Western Bush Rat)			
633.	24244 <i>Rattus norvegicus</i> (Brown Rat)	Y		
634.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
635.	<i>Sminthopsis murina</i>			
636.	24259 <i>Sus scrofa</i> (Pig)	Y		
637.	24207 <i>Tachyglossus aculeatus</i> (Short-beaked Echidna)			
638.	24167 <i>Tarsipes rostratus</i> (Honey Possum, Noolbenger)			
639.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
640.	24158 <i>Trichosurus vulpecula</i> subsp. <i>vulpecula</i> (Common Brushtail Possum)			
641.	30954 <i>Tursiops aduncus</i> (Indo-Pacific Bottlenose Dolphin)			
642.	24069 <i>Tursiops truncatus</i> (Bottlenose Dolphin)			
643.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
644.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		

Reptile

645.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
646.	25241 <i>Antaresia stimsoni</i> subsp. <i>stimsoni</i> (Stimson's Python)			
647.	24990 <i>Aprasia pulchella</i> (Granite Worm-lizard)			
648.	24991 <i>Aprasia repens</i> (Sand-plain Worm-lizard)			
649.	42380 <i>Brachyurophis fasciolatus</i> subsp. <i>fasciolatus</i> (Narrow-banded Shovel-nosed Snake)			
650.	42381 <i>Brachyurophis semifasciatus</i> (Southern Shovel-nosed Snake)			
651.	43380 <i>Chelodina colliei</i> (South-western Snake-necked Turtle)			
652.	25336 <i>Chelonia mydas</i> (Green Turtle)		T	
653.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
654.	30893 <i>Cryptoblepharus buchananii</i>			
655.	25020 <i>Cryptoblepharus plagiocephalus</i>			
656.	30899 <i>Ctenophorus adalaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
657.	24883 <i>Ctenophorus ornatus</i> (Ornate Crevice-Dragon)			
658.	25027 <i>Ctenotus australis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
659.	25035 <i>Ctenotus delli</i> (Dell's skink, Darling Range southwest Ctenotus)		P4	
660.	25039 <i>Ctenotus fallens</i>			
661.	25040 <i>Ctenotus gemmula</i> (Jewelled South-west Ctenotus (Swan Coastal Plain subpop P3), skink)			
662.	25047 <i>Ctenotus impar</i>			
663.	25049 <i>Ctenotus labillardieri</i>			
664.	41641 <i>Ctenotus ora</i> (Coastal Plains Skink)		P3	
665.	25087 <i>Cyclodomorphus celatus</i> (Western Slender Blue-tongue)			
666.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
667.	24999 <i>Delma grayii</i>			
668.	25296 <i>Demansia psammophis</i> subsp. <i>reticulata</i> (Yellow-faced Whipsnake)			
669.	25325 <i>Dendrelaphis punctulata</i> (Green Tree Snake)			
670.	25346 <i>Dermochelys coriacea</i> (Leatherback Turtle)		T	
671.	24929 <i>Diplodactylus granariensis</i> subsp. <i>granariensis</i>			
672.	24939 <i>Diplodactylus polyophthalmus</i>			
673.	25251 <i>Echiopsis curta</i> (Bardick)			
674.	25096 <i>Egernia kingii</i> (King's Skink)			
675.	25100 <i>Egernia napoleonis</i>			
676.	25250 <i>Elapognathus coronatus</i> (Crowned Snake)			
677.	24959 <i>Gehyra variegata</i>			
678.	25232 <i>Hemidactylus frenatus</i> (Asian House Gecko)	Y		
679.	25115 <i>Hemiergis initialis</i> subsp. <i>initialis</i>			
680.	25475 <i>Hemiergis peronii</i>			
681.	25119 <i>Hemiergis quadrilineata</i>			
682.	24961 <i>Heteronotia binoei</i> (Bynoe's Gecko)			
683.	25131 <i>Lerista distinguenda</i>			
684.	25133 <i>Lerista elegans</i>			
685.	25137 <i>Lerista gerrardii</i>			
686.	25147 <i>Lerista lineata</i> (Perth Slider, Lined Skink)		P3	
687.	25148 <i>Lerista lineopunctulata</i>			
688.	25165 <i>Lerista praepedita</i>			
689.	25005 <i>Lialis burtonis</i>			
690.	42413 <i>Lissolepis luctuosa</i> (Western Swamp Skink)			
691.	42414 <i>Lucasium alboguttatum</i>			
692.	25184 <i>Menetia greyii</i>			
693.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
694.	25191 <i>Morethia lineocellata</i>			
695.	25192 <i>Morethia obscura</i>			
696.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
697.	25249 <i>Neelaps calonotos</i> (Black-striped Snake, black-striped burrowing snake)		P3	
698.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
699.	25253 <i>Parasuta gouldii</i>			
700.	25255 <i>Parasuta nigriceps</i>			
701.	25007 <i>Pletholax gracilis</i> subsp. <i>gracilis</i> (Keeled Legless Lizard)			
702.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			
703.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
704.	25261 <i>Pseudechis australis</i> (Mulga Snake)			
705.	25345 <i>Pseudemydura umbrina</i> (Western Swamp Tortoise, Western Swamp Turtle)		T	
706.	25511 <i>Pseudonaja affinis</i> (Dugite)			
707.	25259 <i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
708.	42416 <i>Pseudonaja mengdeni</i> (Western Brown Snake)			
709.	25263 <i>Pseudonaja modesta</i> (Ringed Brown Snake)			
710.	25264 <i>Pseudonaja nuchalis</i> (Gwardar, Northern Brown Snake)			
711.	25008 <i>Pygopus lepidopodus</i> (Common Scaly Foot)			
712.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
713.	24943 <i>Strophurus spinigerus</i> subsp. <i>inornatus</i>			
714.	24942 <i>Strophurus spinigerus</i> subsp. <i>spinigerus</i>			
715.	25203 <i>Tiliqua occipitalis</i> (Western Bluetongue)			
716.	25519 <i>Tiliqua rugosa</i>			
717.	25204 <i>Tiliqua rugosa</i> subsp. <i>aspera</i>			
718.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
719.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			
720.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
721.	25225 <i>Varanus rosenbergi</i> (Heath Monitor)			
722.	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

Name ID Species Name		Naturalised	Conservation Code	¹ Endemic To Query Area
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.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 29/09/18 15:33:13

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[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

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Summary

Matters of National Environmental 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:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	20
Listed Migratory Species:	9

Other Matters Protected by the EPBC Act

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

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <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 Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	14
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	None
Regional Forest Agreements:	None
Invasive Species:	39
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	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.

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community may occur within area

Listed Threatened Species [\[Resource Information \]](#)

Name	Status	Type of Presence
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Birds

[Botaurus poiciloptilus](#)

Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area
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[Calidris ferruginea](#)

Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
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[Calyptorhynchus banksii naso](#)

Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
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[Calyptorhynchus latirostris](#)

Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
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[Leipoa ocellata](#)

Malleefowl [934]	Vulnerable	Species or species habitat may occur within area
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[Numenius madagascariensis](#)

Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
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[Rostratula australis](#)

Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
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Mammals

[Dasyurus geoffroii](#)

Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area
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[Pseudocheirus occidentalis](#)

Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat may occur within area
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Plants

[Andersonia gracilis](#)

Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
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Name	Status	Type of Presence
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat may occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat may occur within area
Eremophila glabra subsp. chlorella [84927]	Endangered	Species or species habitat may occur within area
Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909]	Endangered	Species or species habitat may occur within area
Lepidosperma rostratum Beaked Lepidosperma [14152]	Endangered	Species or species habitat likely to occur within area
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area
Thelymitra dedmaniarum Cinnamon Sun Orchid [65105]	Endangered	Species or species habitat may occur within area
Thelymitra stellata Star Sun-orchid [7060]	Endangered	Species or species habitat may occur within area

Listed Migratory Species	[Resource Information]
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* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species	[Resource Information]	
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species

Name	Threatened	Type of Presence
Pandion haliaetus Osprey [952]		habitat may occur within area Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area

Extra Information

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Funambulus pennantii Northern Palm Squirrel, Five-striped Palm Squirrel [129]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Asparagus declinatus Bridal Veil, Bridal Veil Creeper, Pale Berry Asparagus Fern, Asparagus Fern, South African Creeper [66908]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species

Name	Status	Type of Presence
Genista sp. X Genista monspessulana Broom [67538]		habitat likely to occur within area Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892] Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Sagittaria platyphylla Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area
Reptiles		
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

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.

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

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Coordinates

-31.98623 115.91552

Acknowledgements

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

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

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

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

APPENDIX C

OBSERVED FAUNA LISTING

Fauna Observed During Survey Period

Oats Street

Compiled by Greg Harewood - Oct 2018

Class Family Species	Common Name	Conservation Status
Aves		
Columbidae Pigeons, Doves		
<i>Streptopelia senegalensis</i>	Laughing Turtle-Dove	Introduced
Psittacidae Parrots		
<i>Cacatua roseicapilla</i>	Galah	LC
Pardalotidae Pardalotes		
<i>Pardalotus striatus</i>	Striated Pardalote	LC
Meliphagidae Honeyeaters, Chats		
<i>Anthochaera carunculata</i>	Red Wattlebird	LC
<i>Lichenostomus virescens</i>	Singing Honeyeater	LC
<i>Lichmera indistincta</i>	Brown Honeyeater	LC
Cracticidae Currawongs, Magpies & Butcherbirds		
<i>Cracticus tibicen</i>	Australian Magpie	LC
Corvidae Ravens, Crows		
<i>Corvus coronoides</i>	Australian Raven	LC

WC 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	Occupancy	Potential Cockatoo Nest Hollow	Comments
wpt011	50J	398184	6459664	Marri	15-20	>50	0		No Signs	No	Possibly Mountain Marri
wpt012	50J	398213	6459637	Marri	15-20	>50	0		No Signs	No	Possibly Mountain Marri
wpt013	50J	398460	6459421	Marri	15-20	>50	0		No Signs	No	Possibly Mountain Marri
wpt014	50J	398525	6459361	Marri	20+	>50	0		No Signs	No	
wpt015	50J	398019	6459810	Marri	15-20	>50	0		No Signs	No	Possibly Mountain Marri
wpt016	50J	397809	6460043	Marri	15-20	>50	0		No Signs	No	
wpt017	50J	397263	6460968	Unknown Euc	10-15	>50	0		No Signs	No	
wpt018	50J	397150	6461082	Marri	10-15	>50	0		No Signs	No	Possibly Mountain Marri
wpt019	50J	397571	6460563	Unknown Euc	15-20	>50	0		No Signs	No	
wpt020	50J	397575	6460555	Unknown Euc	15-20	>50	0		No Signs	No	
wpt021	50J	397577	6460556	Unknown Euc	15-20	>50	0		No Signs	No	
wpt022	50J	397572	6460556	Unknown Euc	15-20	>50	0		No Signs	No	
wpt023	50J	397606	6460491	Marri	15-20	>50	0		No Signs	No	
wpt024	50J	397549	6460623	Unknown Euc	20+	>50	0		No Signs	No	
wpt025	50J	397541	6460638	Unknown Euc	20+	>50	0		No Signs	No	

DISCLAIMER

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.

The conclusions 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 preparing the report. Also it should be recognised that site conditions, can change with time.

Within the limitations imposed by the scope of services, the field assessment and preparation of this report have been undertaken and performed in a professional manner, in accordance with generally accepted practices and using a degree of skill and care ordinarily exercised by reputable environmental consultants under similar circumstances. No other warranty, expressed or implied, is made.

In preparing the report, the Author has relied upon data, surveys, analyses, designs, plans and other information provided by the Client and other individuals and organisations, most of which are referred to in the report (“the data”). Except as otherwise stated in the report, the Author has not verified the accuracy of completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report (“conclusions”) are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. The Author will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to the Author.

The report has been prepared for the benefit of the Client and no other party. The Author assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of the Author or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own enquiries and obtain independent advice in relation to such matters.

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