

FAUNA ASSESSMENT

LOT 150 RUNNYMEDE ROAD
BINNINGUP

PREPARED FOR:

McDOUGALL QUARRIES PTY LTD

JUNE 2022

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LOT 150 RUNNYMEDE ROAD BINNINGUP FAUNA ASSESSMENT

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EXECUTIVE SUMMARY

This report details the results of a fauna assessment of approximately 19.31 hectares (ha) of parkland cleared native vegetation in the southwest corner of Lot 150 Runnymede Road, Binningup (Figure 1, Figure 2). The results of this fauna assessment will be utilised for land use planning and also by regulatory authorities to assess the potential impacts any proposal imposes on native fauna and fauna habitats of the site during relevant approval processes.

The scope of these works was to conduct a basic fauna assessment of the survey area, as well as complete a targeted survey for black cockatoo habitat and western ringtail possums. These surveys have been completed to satisfy requirements of *Technical Guidance - Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA 2020).

The field component of the fauna assessment was carried out on 24 February 2022 (day time survey) and 1 March 2022 (night time survey) by Greg Harewood (Zoologist). MBS Environmental (Senior Environmental Scientist Dr Kirsi Kauhanen) also visited the site on 18 January 2022 and botanical consultant Ecoedge undertook a reconnaissance level flora and vegetation survey of the site on 1 February 2022.

The survey area included approximately 9.82 ha of native vegetation, comprising mainly degraded Marri woodland with some Jarrah-Marri-Banksia woodland. The third fauna habitat type was cleared land. The majority of the vegetation was in a Degraded condition, with 1.12 ha in Good and 0.05 ha in Very Good condition.

The overall fauna habitat quality of the survey area was low due to the remaining native vegetation being limited to small patches and isolated trees, with limited native ground cover. Many of the trees were relatively recent regrowth from previous selective logging and not old enough to form hollows. Limited debris or logs were available on ground as these have been regularly removed as part of maintaining the cleared areas and reducing fuel loads. Considering the nature of the habitat available, the fauna assemblage present in the survey area would be depauperate in comparison to the surrounding areas of better quality habitat, in particular in relation to ground dwelling reptile and mammal species.

The subject site was found to contain 92 potential "black cockatoo breeding habitat trees" (DBH >50 cm). One tree appeared to contain two spouts with larger entrances (greater than ~10 cm) that appeared big enough to possibly allow the entry of a black cockatoo into a suitably sized and orientated branch/trunk, though it showed no sign of current or previous use by cockatoos for this purpose. Sections of the subject site represent black cockatoo foraging habitat mainly given the presence of jarrah and marri, though the exact extent is difficult to quantify given the tree species in question vary in density from area to area. No existing roosting trees (trees used at night by black cockatoos to rest) were positively identified during the survey.

The subject site does contain restricted areas of what superficially looks like suitable habitat for the WRP, however no evidence of the species utilising the subject site was found during the day or night surveys (i.e., no dreys, scats or individuals). This would suggest that they were either absent from the area surveyed or present in very low densities. WRPs have therefore been listed as a potential species as a precautionary measure, but they may in fact not use the site except on rare occasions.

One conservation significant fauna species was positively identified (Forest red-tailed black cockatoo) and two are considered likely to occur (Carnaby's cockatoo and Baudin's cockatoo). A further seven significant fauna species are considered to have some potential to occur (Coastal Plains Skink, Perth Lined Lerista, Peregrine Falcon, South-Western Brush-tailed Phascogale, Western Ringtail Possum, Western Brush Wallaby and Western False Pipistrelle).

The potential impacts on fauna species of conservation significance and/or their habitat will need to be taken into consideration during ongoing planning and construction phases of the proposed project. If approval for the project is obtained it is recommended that a fauna relocation program be implemented prior to and during clearing works to ensure direct impact on fauna are minimised.

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1. INTRODUCTION

This report details the results of a fauna assessment over a part of Lot 150 Runnymede Road, Binningup, in the Shire of Harvey (Figure 1). The survey area comprised approximately 19.31 hectares (ha) of parkland cleared native vegetation in the southwest corner of the property (Figure 2). The survey was undertaken for the landowner, McDougall Quarries Pty Ltd, that is considering the option of sand extraction within the survey area. Information obtained as part of this fauna assessment will be used in conjunction with other environmental investigations to guide project planning, which will aim to minimise potential environmental impacts. The results of this fauna assessment report will also be utilised by regulatory authorities to assess the potential impacts any proposal on native fauna and fauna habitats of the site during relevant approval processes.

2. SCOPE OF WORKS

The scope of these works was to conduct a basic fauna assessment and a targeted survey for black cockatoo habitat and western ringtail possums. These surveys have been completed in accordance with *Technical Guidance - Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA 2020) and relevant federal guidance. For the purposes of this report the term black cockatoo is in reference to Baudin's black cockatoo (*Calyptorhynchus baudinii*), Carnaby's black cockatoo (*Calyptorhynchus latirostris*) and the Forest Red-Tailed Black Cockatoo (*Calyptorhynchus banksii naso*).

The basic fauna assessment included a desktop assessment and a low intensity field survey to map and describe fauna habitat types and undertake opportunistic fauna observations.

The targeted black cockatoo habitat assessment was inclusive of foraging, breeding, and roosting habitat evaluation, covering suitable habitat trees, existing and potential nest hollows and evidence of foraging and roosting within the survey area.

The targeted western ringtail possum survey covered day and night time searches for suitable habitat and evidence of use (foraging, refuge and dispersal habitat and individuals).



Scale: 1:100000
 Original Size: A4
 Image: Copernicus Sentinel Data 2020
 Grid: GDA94

McDougall Quarries Pty Ltd
 150 Runnymede Road
 Binningup

Figure 1
Location Plan

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Legend

- Survey Area
- Property Boundary (Cadastral)

Scale: 1: 5,000
 Original Size: A4
 Aerial Image Date: Nov 2021
 Grid: GDA94 / MGA zone 50

0 75 150 m

McDougall Quarries Pty Ltd
 150 Runnymede Road
 Binningup

Figure 2

Survey Area

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3. METHODOLOGY

3.1 DESKTOP ASSESSMENT

3.1.1 Database Searches

Fauna species with potential to occur in the survey area, in particular conservation significant fauna, were identified based on following database searches:

- NatureMap database with 10 km search buffer (DBCA 2021).
- DBCA Threatened and Priority Fauna database with 10 km search buffer (DBCA 2022).
- Protected Matters Search Tool (DAWE 2022).

Search results for the first two databases include known records of the species within the search area whereas the latter also covers species that may occur if suitable habitat is available. It is noted that some of the records are old and may represent populations that are no longer present (e.g., local extinctions). Also, the data may contain errors. Therefore, information from these sources should be taken as indicative only and verified against other information sources.

3.1.2 Previous Fauna Surveys

There are no known previous fauna surveys of the current survey area, however several fauna surveys have been undertaken in the surrounding areas. The following relatively recent reports that are publicly available have been used as additional evidence to assess the potential occurrence of significant fauna in the survey area.

- 360 Environmental. 2013. Australind Piggery Flora, Vegetation and Fauna Survey. Prepared for GD Pork.
- Bamford Consulting Ecologists. 2020. Kemerton Strategic Industrial Area Fauna Assessment. Prepared for Development WA.
- Dell, J. and Hyder, B. 2009. An Assessment of the Avifauna of the Area between Dawesville and Binningup, Southern Swan Coastal Plain. Prepared for Environmental Protection Authority.
- Eco Logical. 2020. Winter 2020 Ecological Assessments – Bengel Switchyard. Prepared for South Energy.
- Eco Logical. 2017. Kemerton Industrial Area Spring Flora and Fauna Survey. Prepared for S2V Consulting.
- Eco Logical. 2017. Kemerton Strategic Industrial Area Flora and Fauna Survey. Prepared for LandCorp.
- GHD. 2021. Flora and Fauna Spring Survey Brine Pipeline and Outfall. Prepared for Harvey Water.
- Harewood, G. 2020. Fauna Assessment of Lot 4 Runnymede Road, Wellesley. Prepared for B&J Catalano Pty Ltd.
- Harewood, G. 2018. Fauna Assessment of Lot 5 Wellesley Road, Wellesley. Prepared for Carbone Brothers Pty Ltd.
- Harewood, G. 2017. Fauna Assessment for Lot 43 Stanley Road, Kemerton. Prepared for Peel Resource Recovery.
- Harewood, G. 2009. Fauna Assessment (Level 1) and Targeted Fauna Survey (Western Ringtail Possum and Southern Brush-tailed Phascogale) in the Mine Expansion Area. Prepared for Kemerton Silica Pty Ltd.
- Hyder, B. and Dell, J. 2009. An Assessment of the Non-Volant Mammal Fauna of the Area Between Dawesville and Binningup, Southern Swan Coastal Plain. Prepared for Environmental Protection Authority.
- SW Environmental. 2020. Level 1 and Targeted Fauna Survey of Lots 6 and 8 Old Coast Road, Myalup. Prepared for Patane Produce.

3.2 SITE SURVEYS

The field component of the fauna assessment was carried out on 24 February 2022 (day time survey) and 1 March 2022 (night time survey) by Greg Harewood (Zoologist). MBS Environmental (Senior Environmental Scientist Dr Kirsi Kauhanen) also visited the site on 18 January 2022 and botanical consultant Ecoedge undertook a reconnaissance level flora and vegetation survey of the site on 1 February 2022.

3.2.1 Fauna Habitat Assessment

Vegetation units identified by Ecoedge (2022) have been used together with landform and soil information to define broad scale fauna habitats across the survey area. This information has been supplemented with observations made during field surveys by Greg Harewood and Kirsi Kauhanen.

As part of the desktop assessment, available information on the habitat requirements of the species of conservation significance listed as possibly occurring was researched. During the daytime survey, the habitats within the survey area were assessed and specific elements identified, to determine the likelihood of significant fauna occurring and the likely overall value of the habitats for fauna locally and regionally.

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

3.2.2 Black Cockatoo Habitat Assessment

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

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

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

- Breeding Habitat.
- Foraging Habitat.
- Night Roosting Habitat.

3.2.2.1 Black Cockatoo Breeding Habitat

The black cockatoo breeding habitat assessment identified all suitable breeding tree species within the survey area 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 "calliper".

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

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

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

- Small = ~<5 cm diameter (i.e., entrance too small for a black cockatoo).
- Medium = ~5 cm – 10 cm diameter (i.e., entrance too small for a black cockatoo).
- Large = ~>10 cm 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).
- Large (cockatoo) = ~>10 cm diameter (entrance and apparent hollow appears big enough and suitably sized/orientated for a black cockatoo to use for nesting).

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

- Tree <50 cm DBH of an unsuitable species (these were not assessed/recorded).
- Tree >50 cm DBH, no hollows seen.
- Tree >50 cm DBH, one or more hollows seen, none of which were considered suitable for black cockatoos to use for nesting.
- 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 visible hollows (cavities within the trunk or branches) or possible hollows suitable for occupation by black cockatoo for the purpose of nesting/breeding. Hollows that had an entrance greater than about 10 cm in diameter and would allow the entry of a black cockatoo into a suitably orientated and sized branch/trunk, were recorded as a "potential nest hollow".

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

Trees with possible nest hollows were also scratched and raked with a large stick in attempt to flush any sitting birds from hollows and calls of chicks were listened for. Where the assessment was inconclusive, and if possible, trees identified as having potential nest hollows were subsequently examined and photographed using a drone (DJI Mavic Air).

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

3.2.2.2 Black Cockatoo Foraging Habitat

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.

3.2.2.3 Black Cockatoo Roosting Habitat

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.

3.2.3 Western Ringtail Possum Survey

3.2.3.1 Diurnal Survey

A diurnal survey to locate and record dreys, obvious tree hollows, scats and individual WRPs was completed and involved a series of traverses on foot across the survey area.

3.2.3.2 Nocturnal Survey

A single nocturnal survey to locate and record individual WRPs was completed. This involved a series of transects across the survey area, on foot using a LED head torch to locate animals by way of eyeshine.

3.2.3.3 Habitat Assessment

Description and delineation of the spatial extent and quality of WRP habitat within the survey area is provided, based upon field survey observations.

3.2.4 Fauna Observations

The likelihood or evidence of conservation significant fauna (inclusive of suitable habitat) was investigated and recorded concurrent with other site surveys. Opportunistic observations of any significant fauna species were recorded during all field survey work.

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

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

3.3 LIKELIHOOD OF OCCURRENCE

A likelihood of occurrence assessment for significant fauna was undertaken on the basis of the desktop assessment findings combined with the site survey findings.

4. SURVEY CONSTRAINTS

Seasonal sampling was not in the scope of this fauna assessment. The conclusions presented are based upon field observations conducted during a limited period of time. These results are inherently indicative of the environmental condition of the site at the time of the field assessment. It should be noted that site conditions can change with time, and this may alter the fauna composition and suitability of the site.

Several fauna species are reported with potential to occur based upon the presence of suitable habitat (quality and extent) within the site or in the immediately adjacent land. There is potential that certain fauna species may not have been observed or detected during the field assessment due to:

- Seasonal inactivity.
- Lack of survey in microhabitat.
- Cryptic species avoiding detection.
- Transient and widely distributed species are not present during the field assessment.

The lack of observational records of species that align with these factors should not necessarily be taken as an indication of absence or unlikely to utilise relevantly suitable fauna habitats within the site at times.

The habitat requirements and ecology of several species known to occur in the surrounding area is often poorly understood or documented. It can therefore be difficult to report species as unlikely or not known to occur based on an apparent lack of suitable habitat or microhabitats within the subject site. As a consequence of this limitation, the likelihood of occurrence list is likely an overestimation of species that actually utilise the survey site in some capacity. Some species may be present within the surrounding area but only utilise the subject site in a vagrant or transient nature.

In light of these survey limitations, a precautionary approach has been adopted for this assessment. Any fauna species that would possibly occur within the subject area or immediately adjacent land has been assumed to have some potential to occur, as identified through desktop reviews, local experts/residents and/or the habitat knowledge of the authors.

The black cockatoo habitat assessment analysed trees with evident hollows. It should be recognised that identifying hollows suitable for fauna utilisation from ground level imposes several limitations. The complete characteristics of any hollow cannot be accurately recorded, as internal dimensions are impossible to observe. In addition, not all hollows within all trees would be observed as some would naturally be concealed from ground level.

Observational data was recorded utilising a handheld GPS unit. The accuracy of the GPS cannot be guaranteed beyond a level of 5 to 10 metres, though it should be noted that this accuracy can increase or decrease as a result of favourable environmental conditions and other circumstances that influence the range of the unit.

5. RESULTS

5.1 DESKTOP ASSESSMENT

Desktop search results are provided in Appendix 2 and Appendix 3. The results included a range of conservation significant marine, migratory, wetland, riverine and shoreline species for which no suitable habitat is available within the survey area or immediate surrounds. These species were excluded from further consideration. This left 12 species of conservation significant with known records in the local area including:

- Baudin's cockatoo (*Calyptorhynchus baudinii*) - T(EN)
- Carnaby's cockatoo (*Calyptorhynchus latirostris*) - T(EN)
- Coastal Plains Skink (*Ctenotus ora*) - P3
- Chuditch (*Dasyurus geoffroi*) - T(VU)
- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) - T(VU)
- Peregrine falcon (*Falco peregrinus*) - OS
- Perth lined skink (*Lerista lineata*) - P3
- Quenda (*Isodon fusciventer*) - P4
- South-western brush-tailed phascogale (*Phascogale tapoatafa wambenger*) - CD
- Western brush wallaby (*Notamacropus irma*) - P4
- Western false pipistrelle (*Falsistrellus mackenziei*) - P4
- Western ringtail possum (*Pseudocheirus occidentalis*) - T(CR)

5.2 SITE SURVEYS

5.2.1 Fauna Habitats

The survey area is located in the central section of the southern Swan Coastal Plain. The Swan Coastal Plain (SWA) was classified as part of the Interim Biogeographic Regionalisation for Australia (IBRA) and is in broad terms described as a:

"Low lying coastal plain mainly covered with Woodlands. It is dominated by Banksia or Tuart on sandy soils, Allocasuarina obesa on outwash plains, and paperbark in swampy areas. In the east, the plain rises to duricrusted Mesozoic sediments dominated by Jarrah Woodland. Warm Mediterranean. Three phases of marine sand dune development provide relief. The outwash plains, once dominated by A. obesa – Marri Woodlands and Melaleuca shrublands, are extensive only in the south." (Thackway and Cresswell, 1996).

The survey area itself is within a further defined subregion of the SWA referred to as the Swan Coastal Plain subregion or the Perth subregion (SWA2). This is defined as:




"Colluvial and aeolian sands, alluvial river flats, coastal limestone. Heath and/or Tuart woodlands on limestone, Banksia and Jarrah - Banksia woodlands on Quaternary marine dunes of various ages, Marri on colluvial and alluvials. Includes a complex series of seasonal wetlands and also includes Rottnest, Carnac and Garden Islands etc. Rainfall ranges between 600 and 1000 mm annually and the climate is Mediterranean". The subregion has an area of about 1, 333,900 ha (Mitchell *et al.* 2002).

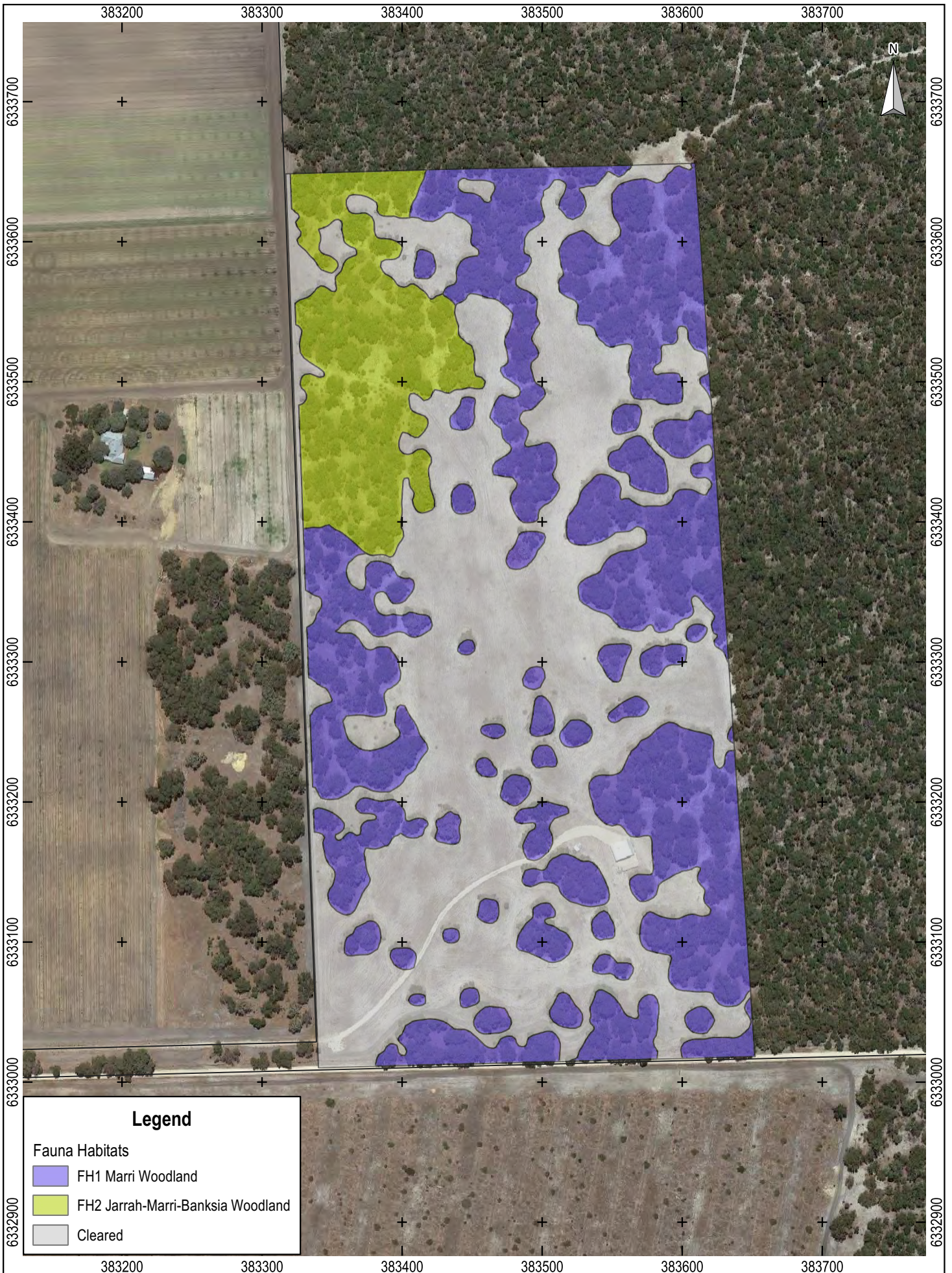
The total area surveyed was approximately 19.31 hectares in size of which approximately 9.82 ha was vegetated to some degree. Two native vegetation units were identified within the survey area, and these reflect the fauna habitat types described in Table 1. The third fauna habitat type was cleared land. The majority of the vegetation was in Degraded condition, with 1.12 ha in Good and 0.05 ha in Very Good condition.

The overall fauna habitat quality of the survey area was low due to the remaining native vegetation being limited to small patches and isolated trees, with limited native ground cover. Many of the trees were relatively recent regrowth from previous selective logging and not old enough to form hollows. Limited debris or logs were available on ground as these have been regularly removed as part of maintaining the cleared areas and reducing fuel loads. Considering the nature of the habitat available, the fauna assemblage present in the survey area would be depauperate in comparison to the surrounding areas of better quality habitat, in particular in relation to ground dwelling reptile and mammal species.

Based on available vegetation mapping it is estimated that there is approximately 17,347 ha of native vegetation within 12 km the survey area (DPIRD 2020). Coherent remnant native vegetation present within the survey area (total ~9.82 ha) makes up 0.06% of this total.

Table 1: Main Fauna Habitats within Survey Area

Fauna Habitat Description	Example Image
<p>FH1 Marri Woodland: <i>Corymbia calophylla</i> (with occasional <i>Eucalyptus marginata</i> subsp. <i>marginata</i> and <i>Agonis flexuosa</i> var. <i>flexuosa</i>) Woodland to Open Forest over <i>Acacia longifolia</i> Isolated Tall Shrubs over <i>Ehrharta calycina</i>, <i>Avena</i> spp. Open Grassland with <i>Trachyandra divaricata</i>, <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i> Sparse to Open Herbland over sand (covering 7.61 ha)</p>	
<p>FH2 Jarrah-Marri-Banksia Woodland: <i>Corymbia calophylla</i>, <i>Eucalyptus marginata</i> subsp. <i>marginata</i> (with occasional <i>Banksia attenuata</i> and <i>Agonis flexuosa</i> var. <i>flexuosa</i>) Woodland to Open Forest over <i>Xanthorrhoea brunonis</i> Low Sparse Shrubland over <i>Ehrharta calycina</i>, <i>Avena</i> spp. Open Grassland with <i>Trachyandra divaricata</i>, <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i> Sparse to Open Herbland over sand (covering 2.21 ha)</p>	
<p>FH3 Cleared: Cleared sandy soil covered in pasture grasses and other introduced flora species (covering 9.49 ha).</p>	



Legend

Fauna Habitats

- FH1 Marri Woodland
- FH2 Jarrah-Marri-Banksia Woodland
- Cleared

Scale: 1: 3,500
 Original Size: A4
 Grid: GDA94 / MGA zone 50

0 50 100 m

McDougall Quarries Pty Ltd
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Figure 3

Fauna Habitats

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5.2.2 Black Cockatoo Habitat Assessment

5.2.2.1 Black Cockatoo Breeding Habitat

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

- Jarrah - *Eucalyptus marginata*;
- Marri – *Corymbia calophylla*; and
- Dead unidentified species.

A summary of the potential black cockatoo habitat trees using DAWE criteria i.e., DBH >50 cm (Commonwealth of Australia 2012) observed within the survey area is provided in Table 2 below and their location shown in Figure 4.

Table 2: Summary of Black Cockatoo Habitat Trees in the Survey Area

Total Number of Habitat Trees Recorded	Number of Trees with <u>No Hollows Observed</u>	Number of Trees with Hollows Considered <u>Unsuitable</u>	Number of Trees with Hollows Considered <u>Possibly Suitable</u>	Tree Species		
				Marri	Jarrah	Dead Unknown
92	91	0	1	74	16	2

The assessment identified 92 trees within the survey area with a DBH of >50 cm. The vast majority of these trees (91) appeared to not contain hollows of any size. One tree (Dead Unknown) appeared to contain two large potential spouts classified as Large (cockatoo), considered suitably sized and orientated for black cockatoos to use for nesting purposes, but no actual signs of use were noted, and the hollows were only observed from the ground. Additional details on each tree observed can be found in Appendix 4.

Based on available mapping, there is approximately 17,347 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2021). Much of this is likely to contain “potential” breeding habitat as defined by DAWE (i.e., suitable tree species with a DBH >50cm).

5.2.2.2 Black Cockatoo Foraging Habitat

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



- Marri – *Corymbia calophylla*;
- Jarrah – *Eucalyptus marginata*;
- Banksia spp.
- Grey Stinkwood - *Jacksonia furcellata*; and
- Peppermint – *Agonis flexuosa*.

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

Evidence of black cockatoos foraging was observed during the field survey at two opportunistic locations, not attributed to individual trees. The evidence was in the form of chewed fruits from marri fruits. The foraging activity

was attributed to the forest red-tailed black cockatoo. Examples of the foraging debris observed are provided in Table 3.

Table 3: Black Cockatoo Foraging Evidence

Foraging Evidence Description	Example Image
Marri fruits - foraging activity attributed to the Forest Red-tailed Black Cockatoo	
Jarrah fruits - foraging activity attributed to the Forest Red-tailed Black Cockatoo	

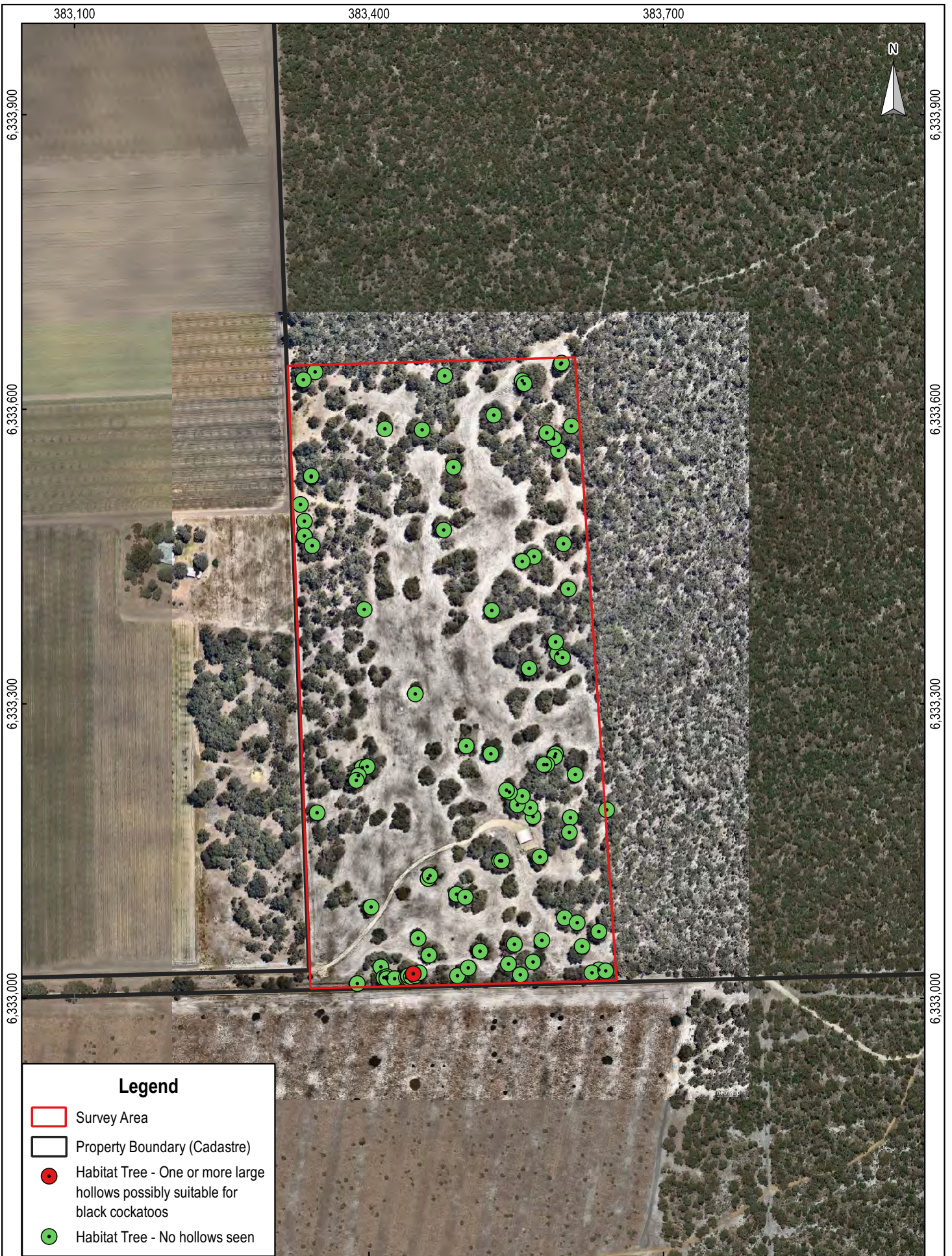
Quality foraging habitat within the survey area can mainly be defined as the areas containing the densest areas of vegetation comprising Marri, and Jarrah with some Banksia. The vegetation is mostly degraded, and parkland cleared with native vegetation limited to small patches and isolated trees. While black cockatoo foraging species are present, the nature and density of the vegetation results in the foraging habitat being considered of low to moderate value for all three black cockatoo species.

Based on available mapping there is approximately 17.347 ha of remnant native vegetation within 12 km of the survey area (DPIRD 2021). Much of this is likely to represent black cockatoo foraging habitat of some type.

5.2.2.3 Black Cockatoo Roosting Habitat

No evidence of black cockatoo roosting within trees located within the survey area was observed during the field survey.

There are vast areas of similar habitat in vegetation bordering the subject site and it can be reasonably expected that these areas contain many roosting options for black cockatoos.



Legend

- Survey Area
- Property Boundary (Cadastral)
- Habitat Tree - One or more large hollows possibly suitable for black cockatoos
- Habitat Tree - No hollows seen

Scale: 1: 5,000
 Original Size: A4
 Aerial Image Date: Nov 2021
 Grid: GDA94 / MGA zone 50

0 75 150 m

McDougall Quarries Pty Ltd
 150 Runnymede Road
 Binningup

Figure 4
Habitat Trees (DBH>50cm)

Martinick Bosch Sell Pty Ltd
 4 Cook St
 West Perth WA 6005
 Australia
 t: +61 8 9226 3166
 info@mbsenvironmental.com.au
 www.mbsenvironmental.com.au



5.2.3 Western Ringtail Possum Survey

The subject site does contain what superficially looks like suitable habitat for the species (i.e. peppermint trees), however no evidence of western ringtail possums utilising the subject site was found during the day or night surveys i.e., no dreys, no scats and no individuals. This would suggest that they were either absent from the area surveyed or present in very low densities.

WRPs have been listed as a potential species for the site as a precautionary measure, but they may in fact not use the site, except on rare occasions. Previous surveys carried out by in this general area (i.e., south on Runnymede Road and Wellesley Road) have also failed to find individuals of the species, though it is very likely to occur at some locations, in particular along the Wellesley/Brunswick Rivers further to the south and eastwards of the survey area. The surrounding area vegetation contains suitable habitat that would be considered more likely to support this species in comparison to the survey area.

5.2.4 Fauna Observations

A total of 14 fauna species (mainly common bird species) were observed, or secondary evidence of their presence recorded during the field survey. A full listing of the species observed is provided in Appendix 5.

Evidence of the Forest Red-tailed Black Cockatoo (vulnerable) constituted the singular conservation significant fauna species recorded within the survey area. No evidence of any other fauna species of conservation significance was observed. However, this does not eliminate the potential for some species to still occur, if only infrequently.

As noted in Section 5.2.1, considering the nature of the habitat available, the fauna assemblage present in the survey area would be depauperate in comparison to the surrounding areas of better quality habitat, in particular in relation to ground dwelling reptile and mammal species.

5.3 SIGNIFICANT FAUNA LIKELIHOOD OF OCCURRENCE

Based on information gathered during the basic site survey and the documented distribution and habitat preferences of the species of conservation significance identified as potentially occurring in the general area, their likelihood of occurrence in the survey area was assessed as summarised in Appendix 6.

One significant fauna species was positively identified during the survey as occurring within the survey area:

- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) - T(VU). Foraging evidence attributed to this species was detected. The survey area contains areas of potential black cockatoo breeding habitat (trees with DBH \geq 50 cm), but the number of possibly suitable hollows is low (two recorded in one tree). The majority of the native vegetation within the survey area represents low to moderate quality foraging habitat for the species. No evidence of roosting was observed.

Two significant fauna species were assessed as likely to occur in the survey area:

- Baudin's Cockatoo (*Calyptorhynchus baudinii*) - T(EN). No evidence of this species was recorded. The survey area contains areas of potential black cockatoo breeding habitat (trees with DBH \geq 50 cm), but the number of possibly suitable hollows is low (two recorded in one tree). The majority of the native vegetation within the survey area represents low to moderate quality foraging habitat for the species. No evidence of roosting was observed.
- Carnaby's Cockatoo (*Calyptorhynchus latirostris*) - T(EN). No evidence of this species was recorded. The survey area contains areas of potential black cockatoo breeding habitat (trees with DBH \geq 50 cm), but the number of possibly suitable hollows is low (two recorded in one tree). The majority of the native vegetation within the survey area represents low to moderate quality foraging habitat for the species. No evidence of roosting was observed.

Several additional species of conservation significance may utilise the survey area for some purpose at times, but their status on site and/or in the general area is difficult to determine because they were not sighted during the field survey and no evidence of their use of the area observed either:

- Coastal Plains Skink (*Ctenotus ora*) - P3. Status of this species in the survey is difficult to determine without a detailed survey, however given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable, the species is considered to have potential to occur.
- Perth Lined Lerista (*Lerista lineata*) - P3. Status of this species in the survey is difficult to determine without a detailed survey, however given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable, the species is considered to have potential to occur.
- Peregrine Falcon (*Falco peregrinus*) - OS. The species potentially utilises some sections of the survey area as part of a much larger home range though it is only likely to occur infrequently. Also has potential to breed in the area though no evidence of nesting was observed.
- South-western Brush-tailed Phascogale (*Phascogale tapoatafa wambenger*) - CD. Status of this species in the survey is difficult to determine without a detailed survey, however given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable, the species is considered to have potential to occur.
- Western Ringtail Possum (*Pseudocheirus occidentalis*) - T(CR). The species or evidence of it was not recorded in the survey area despite targeted day time and night time searches. The species is known to occur in the general area, however, appears to be more commonly encountered west of the Forrest Highway. Listed as a potential species to occur based on available information.
- Western Brush Wallaby (*Notamacropus irma*) - P4. Known to occur in the Kemerton area and given the presence of suitable habitat, it is considered to have the potential to occur, though probably only occasionally and in low numbers.
- Western False Pipistrelle (*Falsistrellus mackenziei*) - P4. Status of this species in the survey is difficult to determine without a targeted survey, however given the location within its documented range, some recent nearby records and the presence of habitat that appears suitable, the species is considered to have potential to occur.

A number of other species of conservation significance, while possibly present in the general area were not considered to have potential to occur within the survey area due to known localised extinction, lack of suitable habitat and/or the presence of feral predators.

6. CONCLUSION

The fauna assessment within the subject site was undertaken for the purposes of delineating and characterising the fauna habitats and faunal assemblages present. Targeted black cockatoo and western ringtail possum assessments were also carried out.

The overall fauna habitat quality of the survey area was low due to the remaining native vegetation being limited to small patches and isolated trees, with limited native ground cover. Considering the nature of the habitat available, the fauna assemblage present in the survey area would be depauperate in comparison to the surrounding areas of better quality habitat, in particular in relation to ground dwelling reptile and mammal species.

The subject site was found to contain 92 potential "black cockatoo breeding habitat trees" (DBH >50 cm). One tree appeared to contain two spouts with larger entrances (greater than ~10 cm) that appeared big enough to possibly allow the entry of a black cockatoo into a suitably sized and orientated branch/trunk, though it showed no sign of current or previous use by cockatoos for this purpose. Sections of the subject site represent black cockatoo foraging habitat mainly given the presence of jarrah and marri, though the exact extent is difficult to quantify given the tree species in question vary in density from area to area. No existing roosting trees (trees used at night by black cockatoos to rest) were positively identified during the survey.

The subject site does contain restricted areas of what superficially looks like suitable habitat for the WRP, however no evidence of the species utilising the subject site was found during the day or night surveys (i.e., no dreys, scats or individuals). This would suggest that they were either absent from the area surveyed or present in very low densities. WRPs have therefore been listed as a potential species as a precautionary measure, but they may in fact not use the site except on rare occasions.

One conservation significant fauna species was positively identified (Forest red-tailed black cockatoo) and two are considered likely to occur (Carnaby's cockatoo and Baudin's cockatoo). A further seven significant fauna species are considered to have some potential to occur (Coastal Plains Skink, Perth Lined Lerista, Peregrine Falcon, South-Western Brush-tailed Phascogale, Western Ringtail Possum, Western Brush Wallaby and Western False Pipistrelle).

The potential impacts on fauna species of conservation significance and/or their habitat will need to be taken into consideration during ongoing planning and construction phases of the proposed project. If approval for the project is obtained it is recommended that a fauna relocation program be implemented prior to and during clearing works to ensure direct impact on fauna are minimised.

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APPENDICES

APPENDIX 1: CONSERVATION CODES

EPBC Act (1999) Threatened Fauna Categories

Threatened fauna may be listed under Section 178 of the *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)* in any one of the following categories in Appendix 1 Table 1.

Appendix 1 Table 1: EPBC Act (1999) Threatened Fauna 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 EPBC Act

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

Wildlife Conservation (Specially Protected Fauna) Notice 2018 Categories

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

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed in Appendix 1 Table 2..

Appendix 1 Table 2: Wildlife Conservation (Specially Protected Fauna) Notice 2018 Categories

Category	Code	Description
Schedule 1 (S1) Critically Endangered Species	CR	Threatened species considered to be facing an extremely high risk of extinction in the wild in the immediate future.
Schedule 2 (S2) Endangered Species	EN	Threatened species considered to be facing a very high risk of extinction in the wild in the near future.
Schedule (S3) Vulnerable Species	VU	Threatened species considered to be facing a high risk of extinction in the wild in the medium-term future.
Schedule 4 (S4) Presumed Extinct Species	EX	Species which have been adequately searched for and there is no reasonable doubt that the last member of the species has died.
Schedule 5 (S5) Migratory Birds Protected under an International Agreement	MI	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds.
Schedule 6 (S6) Fauna that is of special conservation need as conservation dependant 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 (Appendix 1 Table 3)

Appendix 1 Table 3: Western Australian DBCA Priority Fauna Categories

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) Poorly Known Species.	P4	<ul style="list-style-type: none"> a) Rare: Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. b) Near Threatened: Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent. c) (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

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

IUCN Red List Threatened Species Categories

The *IUCN Red List of Threatened Species*TM is a checklist of taxa that have undergone an extinction risk assessment using the IUCN Red List Categories and Criteria. Categories are summarized in Appendix 1 Table 4..

Appendix 1 Table 4: IUCN Red List Threatened Species Categories

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 meaning are available at <http://www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categoriescriteria>

APPENDIX 2: NATUREMAP SEARCH RESULTS

NatureMap Species Report

Created By Guest user on 02/12/2021

Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 115° 45' 26" E, 33° 07' 39" S
Buffer 10km
Group By Conservation Status

Conservation Status	Species	Records
Non-conservation taxon	673	5040
Other specially protected fauna	3	10
Priority 1	3	19
Priority 3	12	38
Priority 4	12	262
Protected under international agreement	13	74
Rare or likely to become extinct	23	326
TOTAL	739	5769

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Rare or likely to become extinct				
1.	24209 <i>Arctocephalus tropicalis</i> (Subantarctic fur-seal)		T	
2.	38480 <i>Austrostipa bronwenae</i>		T	
3.	24345 <i>Botaurus poiciloptilus</i> (Australasian Bittern)		T	
4.	18038 <i>Caladenia procera</i>		T	
5.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
6.	24790 <i>Calidris tenuirostris</i> (Great Knot)		T	
7.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
8.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
9.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
10.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
11.	34031 <i>Carcharodon carcharias</i> (Great White Shark)		T	
12.	25335 <i>Caretta caretta</i> (Loggerhead Turtle)		T	
13.	25575 <i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	
14.	24092 <i>Dasyurus geoffroyi</i> (Chuditch, Western Quoll)		T	
15.	10796 <i>Diuris drummondii</i> (Tall Donkey Orchid)		T	
16.	12938 <i>Diuris micrantha</i>		T	
17.	1639 <i>Drakaea elastica</i> (Glossy-leaved Hammer Orchid)		T	
18.	13635 <i>Drakaea micrantha</i>		T	
19.	24043 <i>Eubalaena australis</i> (Southern Right Whale)		T	
20.	34027 <i>Galaxiella nigrostriata</i> (Black-stripe Minnow, black-striped dwarf galaxias)		T	
21.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
22.	24166 <i>Pseudocheirus occidentalis</i> (Western Ringtail Possum, ngwayir)		T	
23.	34113 <i>Westralunio carteri</i> (Carter's Freshwater Mussel)		T	
Protected under international agreement				
24.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
25.	25736 <i>Arenaria interpres</i> (Ruddy Turnstone)		IA	
26.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
27.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
28.	24481 <i>Glareola maldivarum</i> (Oriental Pratincole)		IA	
29.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
30.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
31.	24843 <i>Plegadis falcinellus</i> (Glossy Ibis)		IA	
32.	24382 <i>Pluvialis fulva</i> (Pacific Golden Plover)		IA	
33.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
34.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
35.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
36.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Other specially protected fauna				
37.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
38.	24051 <i>Megaptera novaeangliae</i> (Humpback Whale)		S	
39.	48070 <i>Phascogale tapoatafa</i> subsp. <i>wambenger</i> (South-western Brush-tailed Phascogale, Wambenger)		S	
Priority 1				
40.	48762 <i>Acacia</i> sp. <i>Binningup</i> (G. Cockerton et al. WB 37784)		P1	
41.	16633 <i>Boronia juncea</i> subsp. <i>juncea</i>		P1	
42.	31673 <i>Puccinellia vassica</i>		P1	
Priority 3				
43.	11612 <i>Boronia capitata</i> subsp. <i>gracilis</i>		P3	
44.	41641 <i>Ctenotus ora</i> (Coastal Plains Skink)		P3	
45.	16245 <i>Cyathochaeta teretifolia</i>		P3	
46.	3863 <i>Dillwynia dillwynioides</i>		P3	
47.	6859 <i>Hemigenia microphylla</i>		P3	
48.	5038 <i>Lasiopetalum membranaceum</i>		P3	
49.	25147 <i>Lerista lineata</i> (Perth Slider, Lined Skink)		P3	
50.	33638 <i>Meionectes tenuifolia</i>		P3	
51.	6193 <i>Myriophyllum echinatum</i>		P3	
52.	17731 <i>Schoenus</i> sp. <i>Waroona</i> (G.J. Keighery 12235)		P3	
53.	48297 <i>Styphelia filifolia</i>		P3	
54.	12392 <i>Verticordia attenuata</i>		P3	
Priority 4				
55.	3339 <i>Acacia flagelliformis</i>		P4	
56.	3537 <i>Acacia semitrullata</i>		P4	
57.	13862 <i>Caladenia speciosa</i>		P4	
58.	24189 <i>Falsistrellus mackenziei</i> (Western False Pipistrelle, Western Falsistrelle)		P4	
59.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	
60.	48588 <i>Isodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
61.	47975 <i>Ixobrychus dubius</i> (Australian Little Bittern)		P4	
62.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
63.	4183 <i>Pultenaea skinneri</i> (Skinner's Pea)		P4	
64.	48135 <i>Thinornis rubricollis</i> (Hooded Plover, Hooded Dotterel)		P4	
65.	24803 <i>Tringa brevipes</i> (Grey-tailed Tattler)		P4	
66.	44444 <i>Tripterococcus</i> sp. <i>Brachylobus</i> (A.S. George 14234)		P4	
Non-conservation taxon				
67.	15466 <i>Acacia applanata</i>			
68.	3294 <i>Acacia dentifera</i>			
69.	3331 <i>Acacia extensa</i> (Wiry Wattle)			
70.	3374 <i>Acacia huegelii</i>			
71.	3409 <i>Acacia lasiocarpa</i> (Panjang)			
72.	11611 <i>Acacia lasiocarpa</i> var. <i>lasiocarpa</i>			
73.	3482 <i>Acacia paradoxa</i> (Kangaroo Thorn)	Y		
74.	3502 <i>Acacia pulchella</i> (Prickly Moses)			
75.	15481 <i>Acacia pulchella</i> var. <i>glaberrima</i>			
76.	3504 <i>Acacia pycnantha</i> (Golden Wattle)	Y		
77.	30036 <i>Acacia saligna</i> subsp. <i>stolonifera</i>			
78.	3557 <i>Acacia stenoptera</i> (Narrow Winged Wattle)			
79.	3584 <i>Acacia truncata</i>			
80.	3602 <i>Acacia willdenowiana</i> (Grass Wattle)			
81.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
82.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
83.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
84.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
85.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
86.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
87.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
88.	25755 <i>Acrocephalus australis</i> (Australian Reed Warbler)			
89.	1790 <i>Adenanthos meisneri</i>			
90.	1791 <i>Adenanthos obovatus</i> (Basket Flower)			
91.	25544 <i>Aegotheles cristatus</i> (Australian Owlet-nightjar)			
92.	5316 <i>Agonis flexuosa</i> (Peppermint, Wonil)			
93.	184 <i>Aira caryophylla</i> (Silvery Hairgrass)	Y		
94.	187 <i>Aira praecox</i> (Early Hairgrass)	Y		
95.	154 <i>Alisma lanceolatum</i> (Water Plantain)	Y		
96.	2652 <i>Alternanthera nodiflora</i> (Common Joyweed)			
97.	6565 <i>Alyxia buxifolia</i> (Dysentery Bush)			
98.	2655 <i>Amaranthus albus</i> (Tumbleweed)	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
99.	7820 <i>Ambrosia artemisiifolia</i> (Annual Ragweed, Bitterweed, Hay-feverweed, Hog-weed)	Y		
100.	200 <i>Amphipogon turbinatus</i>			
101.	<i>Aname mainae</i>			
102.	<i>Aname tepperi</i>			
103.	24310 <i>Anas castanea</i> (Chestnut Teal)			
104.	24312 <i>Anas gracilis</i> (Grey Teal)			
105.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
106.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
107.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
108.	1409 <i>Anigozanthos humilis</i> (Catspaw)			
109.	1411 <i>Anigozanthos manglesii</i> (Mangles Kangaroo Paw, Kurulbrang)			
110.	6949 <i>Anthocercis littorea</i> (Yellow Tailflower)			
111.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
112.	12724 <i>Anthotium junciforme</i>			
113.	25670 <i>Anthus australis</i> (Australian Pipit)			
114.	3686 <i>Aotus cordifolia</i>			
115.	3688 <i>Aotus gracillima</i>			
116.	1117 <i>Aphelia cyperoides</i>			
117.	6211 <i>Apium prostratum</i> (Sea Celery)			
118.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
119.	25558 <i>Ardea ibis</i> (Cattle Egret)			
120.	41324 <i>Ardea modesta</i> (great egret, white egret)			
121.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
122.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
123.	<i>Argiope protensa</i>			
124.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
125.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
126.	20283 <i>Astartea scoparia</i> (Common Astartea)			
127.	42801 <i>Astartea zephyra</i>			
128.	7851 <i>Asteridea pulverulenta</i> (Common Bristle Daisy)			
129.	6323 <i>Astroloma ciliatum</i> (Candle Cranberry)			
130.	6334 <i>Astroloma pallidum</i> (Kick Bush)			
131.	2452 <i>Atriplex cinerea</i> (Grey Saltbush)			
132.	17233 <i>Austrostipa campylachne</i>			
133.	17240 <i>Austrostipa flavescens</i>			
134.	234 <i>Avena fatua</i> (Wild Oat)	Y		
135.	24318 <i>Aythya australis</i> (Hardhead)			
136.	<i>Baetidae</i> sp.			
137.	1800 <i>Banksia attenuata</i> (Slender Banksia, Piara)			
138.	1819 <i>Banksia grandis</i> (Bull Banksia, Pulgarla)			
139.	1822 <i>Banksia ilicifolia</i> (Holly-leaved Banksia)			
140.	<i>Barnardius zonarius</i>			
141.	743 <i>Baumea juncea</i> (Bare Twigrush)			
142.	7046 <i>Bellardia trixago</i> (Bellardia)	Y		
143.	3165 <i>Billardiera variifolia</i>			
144.	24319 <i>Biziura lobata</i> (Musk Duck)			
145.	749 <i>Bolboschoenus caldwellii</i> (Marsh Club-rush)			
146.	4413 <i>Boronia crenulata</i> (Aniseed Boronia)			
147.	4417 <i>Boronia dichotoma</i>			
148.	4438 <i>Boronia ramosa</i>			
149.	4441 <i>Boronia spathulata</i> (Boronia)			
150.	48782 <i>Bossiaea angustifolia</i>			
151.	14397 <i>Bossiaea aquifolium</i> subsp. <i>laidlawiana</i>			
152.	3710 <i>Bossiaea eriocarpa</i> (Common Brown Pea)			
153.	6341 <i>Brachyloma preissii</i> (Globe Heath)			
154.	32327 <i>Breutelia affinis</i>			
155.	244 <i>Briza maxima</i> (Blowfly Grass)	Y		
156.	245 <i>Briza minor</i> (Shivery Grass)	Y		
157.	247 <i>Bromus arenarius</i> (Sand Brome)			
158.	12770 <i>Burchardia congesta</i>			
159.	1385 <i>Burchardia multiflora</i> (Dwarf Burchardia)			
160.	24721 <i>Cacatua galerita</i> subsp. <i>galerita</i> (Sulphur-crested Cockatoo)	Y		
161.	25715 <i>Cacatua roseicapilla</i> (Galah)			
162.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
163.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
164.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
165.	<i>Caenidae</i> sp.			
166.	1276 <i>Caesia micrantha</i> (Pale Grass Lily)			
167.	3002 <i>Cakile maritima</i> (Sea Rocket)	Y		
168.	1586 <i>Caladenia discoidea</i> (Dancing Orchid)			

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169.	1592 <i>Caladenia flava</i> (Cowslip Orchid)			
170.	15348 <i>Caladenia flava</i> subsp. <i>flava</i>			
171.	1599 <i>Caladenia latifolia</i> (Pink Fairy Orchid)			
172.	17760 <i>Caladenia nobilis</i>			
173.	15503 <i>Caladenia paludosa</i>			
174.	<i>Calamoclea citellata</i>			
175.	2845 <i>Calandrinia brevipedata</i> (Short-stalked Purslane)			
176.	5415 <i>Calothamnus lateralis</i>			
177.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
178.	5439 <i>Calytrix angulata</i> (Yellow Starflower)			
179.	5458 <i>Calytrix flavescens</i> (Summer Starflower)			
180.	5460 <i>Calytrix fraseri</i> (Pink Summer Calytrix)			
181.	43241 <i>Carex thecata</i>			
182.	1162 <i>Cartonema philydroides</i>			
183.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
184.	11799 <i>Cassytha racemosa</i> forma <i>racemosa</i>			
185.	41564 <i>Cenchrus clandestinus</i> (Kikuyu Grass)	Y		
186.	1120 <i>Centrolepis alepyroides</i>			
187.	1121 <i>Centrolepis aristata</i> (Pointed Centrolepis)			
188.	1125 <i>Centrolepis drummondiana</i>			
189.	1132 <i>Centrolepis mutica</i>			
190.	2889 <i>Cerastium glomeratum</i> (Mouse Ear Chickweed)	Y		
191.	13489 <i>Cerastium pumilum</i>	Y		
192.	<i>Ceratopogonidae</i> sp.			
193.	24086 <i>Cercartetus concinnus</i> (Western Pygmy-possum, Mundarda)			
194.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattleed Bat)			
195.	18156 <i>Chamaecytisus palmensis</i> (Tagasaste)	Y		
196.	1280 <i>Chamaescilla corymbosa</i> (Blue Squill)			
197.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
198.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
199.	<i>Chironominae</i> sp.			
200.	763 <i>Chorizandra enodis</i> (Black Bristlerush)			
201.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
202.	<i>Chroicocephalus novaehollandiae</i>			
203.	25601 <i>Chrysococcyx lucidus</i> (Shining Bronze Cuckoo)			
204.	24288 <i>Circus approximans</i> (Swamp Harrier)			
205.	7937 <i>Cirsium vulgare</i> (Spear Thistle, Scotch Thistle)	Y		
206.	27691 <i>Cladonia ramulosa</i>			
207.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
208.	10804 <i>Clematis linearifolia</i>			
209.	<i>Coenagrionidae</i> sp.			
210.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
211.	4552 <i>Comesperma confertum</i>			
212.	4559 <i>Comesperma polygaloides</i> (Small Milkwort)			
213.	4564 <i>Comesperma virgatum</i> (Milkwort)			
214.	6348 <i>Conostephium pendulum</i> (Pearl Flower)			
215.	6349 <i>Conostephium preissii</i>			
216.	1418 <i>Conostylis aculeata</i> (Prickly Conostylis)			
217.	12109 <i>Conostylis aculeata</i> subsp. <i>preissii</i>			
218.	1436 <i>Conostylis juncea</i>			
219.	1438 <i>Conostylis laxiflora</i>			
220.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
221.	<i>Corixidae</i> sp.			
222.	25592 <i>Corvus coronoides</i> (Australian Raven)			
223.	12945 <i>Corybas recurvus</i>			
224.	1285 <i>Corynotheca micrantha</i> (Sand Lily)			
225.	7945 <i>Cotula coronopifolia</i> (Waterbuttons)	Y		
226.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
227.	25701 <i>Coturnix ypsilophora</i> (Brown Quail)			
228.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
229.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
230.	13354 <i>Craspedia variabilis</i>			
231.	11221 <i>Crassula alata</i> var. <i>alata</i>	Y		
232.	3137 <i>Crassula colorata</i> (Dense Stonecrop)			
233.	11563 <i>Crassula colorata</i> var. <i>colorata</i>			
234.	25398 <i>Crinia georgiana</i> (Quacking Frog)			
235.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
236.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
237.	17964 <i>Crinum moorei</i>	Y		
238.	13484 <i>Cryptandra arbutiflora</i> var. <i>tubulosa</i>			

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239.	4802 <i>Cryptandra mutila</i>			
240.	30893 <i>Cryptoblepharus buchananii</i>			
241.	25047 <i>Ctenotus impar</i>			
242.	25049 <i>Ctenotus labillardieri</i>			
243.	6663 <i>Cuscuta epithimum</i> (Lesser Dodder, Greater Dodder)	Y		
244.	768 <i>Cyathochaeta avenacea</i>			
245.	24322 <i>Cygnus atratus</i> (Black Swan)			
246.	283 <i>Cynodon dactylon</i> (Couch)	Y		
247.	792 <i>Cyperus eragrostis</i> (Umbrella Sedge)	Y		
248.	815 <i>Cyperus tenellus</i> (Tiny Flatsedge)	Y		
249.	10916 <i>Cyrtostylis huegelii</i>			
250.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
251.	7454 <i>Dampiera linearis</i> (Common Dampiera)			
252.	7484 <i>Dampiera trigona</i> (Angled-stem Dampiera)			
253.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
254.	5508 <i>Darwinia citriodora</i> (Lemon-scented Darwinia)			
255.	1218 <i>Dasypogon bromeliifolius</i> (Pineapple Bush)			
256.	6218 <i>Daucus glochidiatus</i> (Australian Carrot)			
257.	3807 <i>Daviesia divaricata</i> (Mamo)			
258.	3832 <i>Daviesia physodes</i>			
259.	3834 <i>Daviesia polyphylla</i>			
260.	1259 <i>Dianella revoluta</i> (Blueberry Lily)			
261.	11313 <i>Dianella revoluta</i> var. <i>revoluta</i>			
262.	306 <i>Dichelachne crinita</i> (Longhair Plumegrass)			
263.	1287 <i>Dichopogon capillipes</i>			
264.	4454 <i>Diplolaena dampieri</i> (Southern Diplolaena)			
265.	18541 <i>Diplopeltis huegelii</i> subsp. <i>huegelii</i>			
266.	19649 <i>Disa bracteata</i>	Y		
267.	11049 <i>Diuris corymbosa</i>			
268.	48254 <i>Diuris cruenta</i>			
269.	1635 <i>Diuris longifolia</i> (Common Donkey Orchid)			
270.	48253 <i>Diuris porphyrochila</i>			
271.	46858 <i>Diuris tinctoria</i>			
272.	1640 <i>Drakaea glyptodon</i> (King-in-his-carriage)			
273.	24470 <i>Dromaius novaehollandiae</i> (Emu)			
274.	48751 <i>Drosera drummondii</i>			
275.	3095 <i>Drosera erythrorhiza</i> (Red Ink Sundew)			
276.	3097 <i>Drosera gigantea</i> (Giant Sundew)			
277.	3098 <i>Drosera glanduligera</i> (Pimpernel Sundew)			
278.	3106 <i>Drosera macrantha</i> (Bridal Rainbow)			
279.	3109 <i>Drosera menziesii</i> (Pink Rainbow)			
280.	3112 <i>Drosera myriantha</i> (Star Rainbow)			
281.	3118 <i>Drosera pallida</i> (Pale Rainbow)			
282.	29178 <i>Drosera porrecta</i>			
283.	8911 <i>Drosera rosulata</i>			
284.	3131 <i>Drosera stolonifera</i> (Leafy Sundew)			
285.	33500 <i>Dysphania ambrosioides</i> (Mexican Tea)	Y		
286.	<i>Dytiscidae</i> sp.			
287.	11105 <i>Echinochloa crus-galli</i>	Y		
288.	332 <i>Echinochloa frumentacea</i> (Siberian Millet)	Y		
289.	338 <i>Echinochloa telmatophila</i> (Swamp Barnyard Grass)	Y		
290.	<i>Ecnomidae</i> sp.			
291.	<i>Edelia vittata</i>			
292.	25100 <i>Egernia napoleonis</i>			
293.	<i>Egretta garzetta</i>			
294.	<i>Egretta novaehollandiae</i>			
295.	346 <i>Ehrharta brevifolia</i> (Annual Veldt Grass)	Y		
296.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		
297.	<i>Elanus axillaris</i>			
298.	822 <i>Eleocharis acuta</i> (Common Spikerush)			
299.	47937 <i>Eiseyornis melanops</i> (Black-fronted Dotterel)			
300.	1643 <i>Elythranthera brunonis</i> (Purple Enamel Orchid)			
301.	1644 <i>Elythranthera emarginata</i> (Pink Enamel Orchid)			
302.	<i>Eolophus roseicapillus</i>			
303.	<i>Ephydriidae</i> sp.			
304.	6133 <i>Epilobium hirtigerum</i> (Hairy Willow Herb)			
305.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
306.	1646 <i>Eriochilus dilatatus</i> (White Bunny Orchid)			
307.	15410 <i>Eriochilus dilatatus</i> subsp. <i>dilatatus</i>			
308.	4332 <i>Erodium botrys</i> (Long Storksbill)	Y		

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309.	<i>Erpobdellidae</i> sp.			
310.	6219 <i>Eryngium pinnatifidum</i> (Blue Devils)			
311.	24379 <i>Erythronyctes cinctus</i> (Red-kneed Dotterel)			
312.	5615 <i>Eucalyptus decipiens</i> (Limestone Marlock, Moit)			
313.	5659 <i>Eucalyptus gomphocephala</i> (Tuart, Duart)			
314.	5708 <i>Eucalyptus marginata</i> (Jarrah, Djara)			
315.	13547 <i>Eucalyptus marginata</i> subsp. <i>marginata</i> (Jarrah)			
316.	5763 <i>Eucalyptus rudis</i> (Flooded Gum, Kulurda)			
317.	3872 <i>Euchilopsis linearis</i> (Swamp Pea)			
318.	25746 <i>Eudyptula minor</i> (Little Penguin)			
319.	24818 <i>Eudyptula minor</i> subsp. <i>novaeahollandiae</i> (Little Penguin)			
320.	3880 <i>Eutaxia virgata</i>			
321.	835 <i>Evandra pauciflora</i>			
322.	10765 <i>Exocarpos sparteus</i> (Broom Ballart, Djuk)			
323.	25621 <i>Falco berigora</i> (Brown Falcon)			
324.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
325.	25623 <i>Falco longipennis</i> (Australian Hobby)			
326.	24041 <i>Felis catus</i> (Cat)	Y		
327.	11445 <i>Ferraria crispa</i> subsp. <i>crispa</i>	Y		
328.	894 <i>Fimbristylis velata</i>			
329.	32365 <i>Fissidens leptocladus</i>			
330.	32367 <i>Fissidens megalotis</i>			
331.	32469 <i>Fissidens taylorii</i> var. <i>taylorii</i>			
332.	27748 <i>Flavoparmelia rutidota</i>			
333.	25727 <i>Fulica atra</i> (Eurasian Coot)			
334.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
335.	32370 <i>Funaria hygrometrica</i>			
336.	907 <i>Gahnia trifida</i> (Coast Saw-sedge)			
337.	25729 <i>Gallinula tenebrosa</i> (Dusky Moorhen)			
338.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
339.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
340.	<i>Gambusia affinis</i>			
341.	20505 <i>Gastrolobium celsianum</i>			
342.	32379 <i>Gemmabryum inaequale</i>			
343.	32380 <i>Gemmabryum pachythecum</i>			
344.	3936 <i>Genista linifolia</i> (Flaxleaf Broom)	Y		
345.	25404 <i>Geocrinia leai</i> (Ticking Frog)			
346.	4339 <i>Geranium molle</i> (Dove's Foot Cranesbill)	Y		
347.	4340 <i>Geranium retrorsum</i>			
348.	4341 <i>Geranium solanderi</i> (Native Geranium)			
349.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
350.	1518 <i>Gladiolus angustus</i> (Long Tubed Painted Lady)	Y		
351.	17043 <i>Glyceria declinata</i>	Y		
352.	3948 <i>Gompholobium capitatum</i>			
353.	10909 <i>Gompholobium confertum</i>			
354.	3954 <i>Gompholobium polymorphum</i>			
355.	3957 <i>Gompholobium tomentosum</i> (Hairy Yellow Pea)			
356.	6160 <i>Gonocarpus paniculatus</i>			
357.	8614 <i>Goodenia claytoniacea</i>			
358.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
359.	37500 <i>Grammatotheca bergiana</i> var. <i>bergiana</i>	Y		
360.	<i>Gyrinidae</i> sp.			
361.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
362.	2179 <i>Hakea marginata</i>			
363.	2197 <i>Hakea prostrata</i> (Harsh Hakea)			
364.	2212 <i>Hakea sulcata</i> (Furrowed Hakea)			
365.	2214 <i>Hakea trifurcata</i> (Two-leaf Hakea)			
366.	2216 <i>Hakea varia</i> (Variable-leaved Hakea)			
367.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
368.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			
369.	24296 <i>Hamirostra isura</i> (Square-tailed Kite)			
370.	3961 <i>Hardenbergia comptoniana</i> (Native Wisteria)			
371.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
372.	3016 <i>Heliophila pusilla</i>	Y		
373.	6710 <i>Heliotropium europaeum</i> (Common Heliotrope)	Y		
374.	16933 <i>Hemiandra glabra</i>			
375.	6839 <i>Hemiandra pungens</i> (Snakebush)			
376.	<i>Hemicorduliidae</i> sp.			
377.	25119 <i>Hemiergis quadrilineata</i>			
378.	5135 <i>Hibbertia hypericoides</i> (Yellow Buttercups)			

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379.	45534 <i>Hibbertia hypericoides</i> subsp. <i>hypericoides</i>			
380.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
381.	<i>Hibbertia</i> sp.			
382.	5172 <i>Hibbertia stellaris</i> (Orange Stars)			
383.	5173 <i>Hibbertia subvaginata</i>			
384.	5176 <i>Hibbertia vaginata</i>			
385.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
386.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
387.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
388.	445 <i>Holcus setiger</i> (Annual Fog)	Y		
389.	6222 <i>Homalosciadium homalocarpum</i>			
390.	3968 <i>Hovea trisperma</i> (Common Hovea)			
391.	12859 <i>Hovea trisperma</i> var. <i>trisperma</i>			
392.	12741 <i>Hyalosperma cotula</i>			
393.	5216 <i>Hybanthus calycinus</i> (Wild Violet)			
394.	6226 <i>Hydrocotyle callicarpa</i> (Small Pennywort)			
395.	6229 <i>Hydrocotyle diantha</i>			
396.	<i>Hydrophilidae</i> sp.			
397.	<i>Hydropsychidae</i> sp.			
398.	5817 <i>Hypocalymma angustifolium</i> (White Myrtle, Kudjid)			
399.	35070 <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777)			
400.	8086 <i>Hypochaeris glabra</i> (Smooth Catsear)	Y		
401.	9352 <i>Hypochaeris radicata</i> (Flat Weed, Cats-ear)	Y		
402.	1070 <i>Hypolaena exsulca</i>			
403.	16836 <i>Hypolaena viridis</i>			
404.	917 <i>Isolepis marginata</i> (Coarse Club-rush)			
405.	7396 <i>Isotoma hypoc crateriformis</i> (Woodbridge Poison)			
406.	3992 <i>Isotropis cuneifolia</i> (Granny Bonnets)			
407.	8092 <i>Ixiolaena viscosa</i> (Sticky Ixiolaena)			
408.	4012 <i>Jacksonia furcellata</i> (Grey Stinkwood)			
409.	4017 <i>Jacksonia horrida</i>			
410.	1295 <i>Johnsonia acaulis</i>			
411.	1178 <i>Juncus bufonius</i> (Toad Rush)	Y		
412.	1180 <i>Juncus capitatus</i> (Capitate Rush)	Y		
413.	1184 <i>Juncus holoschoenus</i> (Jointleaf Rush)			
414.	1185 <i>Juncus kraussii</i> (Sea Rush)			
415.	1191 <i>Juncus polyanthemus</i>	Y		
416.	1195 <i>Juncus subsecundus</i> (Finger Rush)			
417.	4037 <i>Kennedia coccinea</i> (Coral Vine)			
418.	4044 <i>Kennedia prostrata</i> (Scarlet Runner)			
419.	5832 <i>Kunzea ericifolia</i> (Spearwood, Pondil)			
420.	15498 <i>Kunzea glabrescens</i> (Spearwood)			
421.	5835 <i>Kunzea micrantha</i>			
422.	20019 <i>Lachnagrostis filiformis</i>			
423.	29046 <i>Lactuca serriola</i> forma <i>serriola</i>	Y		
424.	<i>Laetesia mollita</i>			
425.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
426.	4052 <i>Latrobea tenella</i>			
427.	1309 <i>Laxmannia squarrosa</i>			
428.	1051 <i>Lemna disperma</i> (Duckweed)			
429.	925 <i>Lepidosperma angustatum</i>			
430.	937 <i>Lepidosperma longitudinale</i> (Pithy Sword-sedge)			
431.	945 <i>Lepidosperma squamatum</i>			
432.	1653 <i>Leporella fimbriata</i> (Hare Orchid)			
433.	1077 <i>Leptocarpus canus</i> (Hoary Twine-rush)			
434.	1078 <i>Leptocarpus coangustatus</i>			
435.	46375 <i>Leptocarpus decipiens</i>			
436.	46382 <i>Leptocarpus roycei</i>			
437.	1080 <i>Leptocarpus scariosus</i>			
438.	<i>Leptoceridae</i> sp.			
439.	2342 <i>Leptomeria cunninghamii</i>			
440.	2350 <i>Leptomeria pauciflora</i> (Sparse-flowered Currant Bush)			
441.	<i>Leptophlebiidae</i> sp.			
442.	1085 <i>Lepyrodia glauca</i>			
443.	25133 <i>Lerista elegans</i>			
444.	16449 <i>Leucophyta brownii</i>			
445.	6360 <i>Leucopogon australis</i> (Spiked Beard-heath)			
446.	6374 <i>Leucopogon conostephioides</i>			
447.	6375 <i>Leucopogon cordatus</i>			
448.	6427 <i>Leucopogon parviflorus</i> (Coast Beard-heath)			

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449.	6436 <i>Leucopogon propinquus</i>			
450.	6444 <i>Leucopogon sprengelioides</i>			
451.	6445 <i>Leucopogon squarrosus</i>			
452.	6454 <i>Leucopogon verticillatus</i> (Tassel Flower)			
453.	7677 <i>Levenhookia stipitata</i> (Common Stylewort)			
454.	25005 <i>Lialis burtonis</i>			
455.	<i>Libellulidae</i> sp.			
456.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
457.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
458.	7073 <i>Limosella australis</i> (Common Mudwort)			
459.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
460.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
461.	7408 <i>Lobelia tenuior</i> (Slender Lobelia)			
462.	476 <i>Lolium perenne</i> (Perennial Ryegrass)	Y		
463.	1223 <i>Lomandra caespitosa</i> (Tufted Mat Rush)			
464.	1228 <i>Lomandra hermaphrodita</i>			
465.	1232 <i>Lomandra micrantha</i> (Small-flower Mat-rush)			
466.	1234 <i>Lomandra nigricans</i>			
467.	1236 <i>Lomandra odora</i> (Tiered Matrush)			
468.	1243 <i>Lomandra sericea</i> (Silky Mat Rush)			
469.	1246 <i>Lomandra suaveolens</i>			
470.	1092 <i>Loxocarya cinerea</i>			
471.	1198 <i>Luzula meridionalis</i> (Field Woodrush)			
472.	1097 <i>Lyginia barbata</i>			
473.	18049 <i>Lyginia imberbis</i>			
474.	34736 <i>Lysinema pentapetalum</i>			
475.	5281 <i>Lythrum hyssopifolia</i> (Lesser Loosestrife)	Y		
476.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
477.	85 <i>Macrozamia riedlei</i> (Zamia, Djiridji)			
478.	24326 <i>Malacorhynchus membranaceus</i> (Pink-eared Duck)			
479.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
480.	<i>Maratus pavonis</i>			
481.	<i>Marsilea</i> sp.			
482.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
483.	5926 <i>Melaleuca lateritia</i> (Robin Redbreast Bush)			
484.	20297 <i>Melaleuca osullivanii</i>			
485.	5946 <i>Melaleuca pauciflora</i>			
486.	5952 <i>Melaleuca preissiana</i> (Moonah)			
487.	5959 <i>Melaleuca raphiophylla</i> (Swamp Paperbark)			
488.	18598 <i>Melaleuca systema</i>			
489.	5978 <i>Melaleuca teretifolia</i> (Banbar)			
490.	5980 <i>Melaleuca thymoides</i>			
491.	5987 <i>Melaleuca viminea</i> (Mohan)			
492.	19827 <i>Melilotus siculus</i>	Y		
493.	25184 <i>Menetia greyii</i>			
494.	6883 <i>Mentha pulegium</i> (Pennyroyal)	Y		
495.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
496.	953 <i>Mesomelaena graciliceps</i>			
497.	<i>Mesoveliidae</i> sp.			
498.	<i>Microcarbo melanoleucos</i>			
499.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
500.	1658 <i>Microtis atrata</i> (Swamp Mignonette Orchid)			
501.	15419 <i>Microtis media</i> subsp. <i>media</i>			
502.	8106 <i>Millotia tenuifolia</i> (Soft Millotia)			
503.	24213 <i>Mirounga leonina</i> (Southern Elephant Seal)			
504.	<i>Missulena granulosa</i>			
505.	4666 <i>Monotaxis occidentalis</i>			
506.	19179 <i>Moraea flaccida</i> (One-leaf Cape Tulip)	Y		
507.	25240 <i>Morelia spilota</i> subsp. <i>imbricata</i> (Carpet Python)			
508.	25191 <i>Morethia lineocellata</i>			
509.	24223 <i>Mus musculus</i> (House Mouse)	Y		
510.	25610 <i>Myiagra inquieta</i> (Restless Flycatcher)			
511.	7289 <i>Myoporum caprarioides</i> (Slender Myoporum)			
512.	6201 <i>Myriophyllum verrucosum</i> (Red Water Milfoil)			
513.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
514.	24738 <i>Neophema elegans</i> (Elegant Parrot)			
515.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
516.	<i>Notonectidae</i> sp.			
517.	<i>Nunciella aspera</i>			
518.	2401 <i>Nuytsia floribunda</i> (Christmas Tree, Mudja)			

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519.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
520.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
521.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
522.	11937 <i>Olea europaea</i> subsp. <i>europaea</i>	Y		
523.	8133 <i>Olearia elaeophila</i>			
524.	8143 <i>Olearia paucidentata</i> (Autumn Scrub Daisy)			
525.	<i>Oligochaeta</i> sp.			
526.	<i>Oniscidae</i> sp.			
527.	7348 <i>Opercularia hispidula</i> (Hispid Stinkweed)			
528.	46316 <i>Orianthera serpyllifolia</i> subsp. <i>angustifolia</i>			
529.	7122 <i>Orobanche minor</i> (Lesser Broomrape)	Y		
530.	<i>Orthocladinae</i> sp.			
531.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
532.	30375 <i>Oxalis exilis</i>			
533.	4355 <i>Oxalis perennans</i>			
534.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
535.	24693 <i>Pachyptila desolata</i> (Antarctic Prion)			
536.	<i>Palaemonidae</i> sp.			
537.	23500 <i>Paracaleana hortiorum</i>			
538.	25253 <i>Parasuta gouldii</i>			
539.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
540.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
541.	1762 <i>Parietaria debilis</i> (Pellitory)			
542.	528 <i>Paspalum distichum</i> (Water Couch)	Y		
543.	533 <i>Paspalum vaginatum</i> (Salt Water Couch)			
544.	1550 <i>Patersonia occidentalis</i> (Purple Flag, Koma)			
545.	30472 <i>Patersonia occidentalis</i> var. <i>occidentalis</i>			
546.	43760 <i>Pauridia occidentalis</i>			
547.	4343 <i>Pelargonium capitatum</i> (Rose Pelargonium)	Y		
548.	4346 <i>Pelargonium littorale</i>			
549.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
550.	<i>Pentstemon intermedium</i>			
551.	6006 <i>Pericalymma ellipticum</i> (Swamp Teatree)			
552.	16477 <i>Pericalymma ellipticum</i> var. <i>ellipticum</i>			
553.	13911 <i>Persicaria decipiens</i>			
554.	11020 <i>Persicaria hydropiper</i>			
555.	2273 <i>Persoonia saccata</i> (Snottygobble)			
556.	<i>Perthiidae</i> sp.			
557.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
558.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
559.	2299 <i>Petrophile linearis</i> (Pixie Mops)			
560.	19825 <i>Petrohragia dubia</i>	Y		
561.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
562.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
563.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
564.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
565.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
566.	32411 <i>Philonotis tenuis</i>			
567.	18529 <i>Philotheca spicata</i> (Pepper and Salt)			
568.	1173 <i>Philydrella pygmaea</i> (Butterfly Flowers)			
569.	1478 <i>Phlebotocarya ciliata</i>			
570.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
571.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
572.	4 <i>Phylloglossum drummondii</i> (Pigmy Clubmoss)			
573.	<i>Physidae</i> sp.			
574.	<i>Phytosphthora cinnamomi</i>			
575.	5252 <i>Pimelea lanata</i>			
576.	42260 <i>Pithocarpa ramosa</i>			
577.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
578.	25720 <i>Platycercus icterotis</i> (Western Rosella)			
579.	24747 <i>Platycercus spurius</i> (Red-capped Parrot)			
580.	25721 <i>Platycercus zonarius</i> (Australian Ringneck, Ring-necked Parrot)			
581.	6249 <i>Platysace compressa</i> (Tapeworm Plant)			
582.	4524 <i>Platytheca galioides</i>			
583.	577 <i>Poa poliformis</i> (Coastal Poa)			
584.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
585.	8175 <i>Podolepis gracilis</i> (Slender Podolepis)			
586.	8179 <i>Podolepis nutans</i> (Nodding Podolepis)			
587.	8182 <i>Podotheca angustifolia</i> (Sticky Longheads)			
588.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			

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589.	24907 <i>Pogona minor subsp. minor</i> (Dwarf Bearded Dragon)			
590.	24681 <i>Poliocephalus poliocephalus</i> (Hoary-headed Grebe)			
591.	25722 <i>Polytelis anthopeplus</i> (Regent Parrot)			
592.	4691 <i>Poranthera microphylla</i> (Small Poranthera)			
593.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
594.	24767 <i>Porphyrio porphyrio subsp. bellus</i> (Purple Swamphen)			
595.	24769 <i>Porzana fluminea</i> (Australian Spotted Crane)			
596.	25732 <i>Porzana pusilla</i> (Baillon's Crane)			
597.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
598.	1669 <i>Prasophyllum cyphochilum</i> (Pouched Leek Orchid)			
599.	1671 <i>Prasophyllum elatum</i> (Tall Leek Orchid)			
600.	1677 <i>Prasophyllum macrostachyum</i> (Laughing Leek Orchid)			
601.	<i>Pseudogobius olorum</i>			
602.	25511 <i>Pseudonaja affinis</i> (Dugite)			
603.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
604.	41651 <i>Pteridium esculentum subsp. esculentum</i>			
605.	<i>Pterostylis aff. nana</i>			
606.	10875 <i>Pterostylis concava</i>			
607.	1693 <i>Pterostylis recurva</i> (Jug Orchid)			
608.	12217 <i>Pterostylis sanguinea</i>			
609.	49034 <i>Pterostylis sp. Bloated snail orchid</i> (W. Jackson BJ 486)			
610.	1698 <i>Pterostylis vittata</i> (Banded Greenhood)			
611.	4181 <i>Pultenaea reticulata</i>			
612.	<i>Purpurecephalus spurius</i>			
613.	16367 <i>Pyrorchis nigricans</i> (Red beaks, Elephants ears)			
614.	8195 <i>Quinetia urvillei</i>			
615.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
616.	<i>Raveniella peckorum</i>			
617.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
618.	11341 <i>Rhagodia baccata subsp. baccata</i>			
619.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
620.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
621.	13312 <i>Rhodanthe pyrethrum</i>			
622.	2430 <i>Rumex brownii</i> (Swamp Dock)	Y		
623.	2440 <i>Rumex pulcher</i> (Fiddle Dock)	Y		
624.	40426 <i>Rytidosperma occidentale</i>			
625.	2906 <i>Sagina apetala</i> (Annual Pearlwort)	Y		
626.	20063 <i>Salix babylonica</i>	Y		
627.	6484 <i>Samolus repens</i> (Creeping Brookweed)			
628.	7595 <i>Scaevola anchusifolia</i>			
629.	7602 <i>Scaevola calliptera</i>			
630.	7614 <i>Scaevola globulifera</i>			
631.	984 <i>Schoenus curvifolius</i>			
632.	985 <i>Schoenus discifer</i>			
633.	992 <i>Schoenus grandiflorus</i> (Large Flowered Bogrush)			
634.	1006 <i>Schoenus odontocarpus</i>			
635.	17614 <i>Schoenus plumosus</i>			
636.	1020 <i>Schoenus sublateralis</i>			
637.	1023 <i>Schoenus tenellus</i>			
638.	<i>Scirtidae sp.</i>			
639.	<i>Scolopendra laeta</i>			
640.	25884 <i>Senecio pinnatifolius var. latilobus</i>			
641.	25883 <i>Senecio pinnatifolius var. pinnatifolius</i>			
642.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
643.	2909 <i>Silene gallica</i> (French Catchfly)	Y		
644.	8225 <i>Siloxerus humifusus</i> (Procumbent Siloxerus)			
645.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
646.	<i>Simuliidae sp.</i>			
647.	30948 <i>Smicrornis brevirostris</i> (Weebill)			
648.	7020 <i>Solanum linnaeanum</i> (Apple of Sodom)	Y		
649.	7037 <i>Solanum symonii</i>			
650.	8231 <i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
651.	616 <i>Sorghum bicolor</i> (Grain Sorghum)	Y		
652.	1312 <i>Sowerbaea laxiflora</i> (Purple Tassels)			
653.	<i>Sphaeriidae sp.</i>			
654.	4211 <i>Sphaerolobium vimineum</i> (Leafless Globe Pea)			
655.	4828 <i>Spyridium globulosum</i> (Basket Bush)			
656.	2918 <i>Stellaria media</i> (Chickweed)	Y		
657.	636 <i>Stenotaphrum secundatum</i> (Buffalo Grass)	Y		
658.	24329 <i>Stictonetta naevosa</i> (Freckled Duck)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
659.	2316 <i>Stirlingia latifolia</i> (Blueboy)			
660.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
661.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
662.	7693 <i>Stylidium brunonianum</i> (Pink Fountain Triggerplant)			
663.	7696 <i>Stylidium calcaratum</i> (Book Triggerplant)			
664.	7699 <i>Stylidium carnosum</i> (Fleshy-leaved Triggerplant)			
665.	7734 <i>Stylidium guttatum</i> (Dotted Triggerplant)			
666.	7742 <i>Stylidium inundatum</i> (Hundreds and Thousands)			
667.	7745 <i>Stylidium junceum</i> (Reed Triggerplant)			
668.	7772 <i>Stylidium perpusillum</i> (Tiny Triggerplant)			
669.	7774 <i>Stylidium piliferum</i> (Common Butterfly Triggerplant)			
670.	7785 <i>Stylidium repens</i> (Matted Triggerplant)			
671.	7798 <i>Stylidium schoenoides</i> (Cow Kicks)			
672.	<i>Stylidium</i> sp.			
673.	7799 <i>Stylidium spathulatum</i> (Creamy Triggerplant)			
674.	7806 <i>Stylidium utricularioides</i> (Pink Fan Triggerplant)			
675.	24259 <i>Sus scrofa</i> (Pig)	Y		
676.	25902 <i>Symphotrichum squamatum</i> (Bushy Starwort)	Y		
677.	2329 <i>Synaphea spinulosa</i>			
678.	15532 <i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>			
679.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
680.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
681.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
682.	<i>Tanypodinae</i> sp.			
683.	1036 <i>Tetraria octandra</i>			
684.	48341 <i>Tetradlea hirsuta</i> subsp. <i>viminea</i>			
685.	10856 <i>Thelymitra benthamiana</i> (Leopard Orchid)			
686.	1707 <i>Thelymitra flexuosa</i> (Twisted Sun Orchid)			
687.	11143 <i>Thelymitra graminea</i>			
688.	1710 <i>Thelymitra mucida</i> (Plum Orchid)			
689.	5105 <i>Thomasia triphylla</i>			
690.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
691.	1319 <i>Thysanotus arenarius</i>			
692.	1338 <i>Thysanotus manglesianus</i> (Fringed Lily)			
693.	1339 <i>Thysanotus multiflorus</i> (Many-flowered Fringe Lily)			
694.	1343 <i>Thysanotus patersonii</i>			
695.	1351 <i>Thysanotus sparteus</i>			
696.	1354 <i>Thysanotus tenellus</i>			
697.	25519 <i>Tiliqua rugosa</i>			
698.	25207 <i>Tiliqua rugosa</i> subsp. <i>rugosa</i>			
699.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
700.	1368 <i>Trachyandra divaricata</i>	Y		
701.	19041 <i>Trachymene coerulea</i> subsp. <i>coerulea</i>			
702.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
703.	1481 <i>Tribonanthes australis</i> (Southern Tiurndin)			
704.	1485 <i>Tribonanthes violacea</i> (Violet Tiurndin)			
705.	48141 <i>Tribonyx ventralis</i> (Black-tailed Native-hen)			
706.	8251 <i>Trichocline spathulata</i> (Native Gerbera)			
707.	24158 <i>Trichosurus vulpecula</i> subsp. <i>vulpecula</i> (Common Brushtail Possum)			
708.	1361 <i>Tricoryne elatior</i> (Yellow Autumn Lily)			
709.	4292 <i>Trifolium campestre</i> (Hop Clover)	Y		
710.	1141 <i>Trithuria submersa</i>			
711.	33438 <i>Trymalium odoratissimum</i> subsp. <i>trifidum</i>			
712.	48147 <i>Turnix varius</i> (Painted Button-quail)			
713.	30954 <i>Tursiops aduncus</i> (Indo-Pacific Bottlenose Dolphin)			
714.	99 <i>Typha orientalis</i> (Bulrush, Cumbungi)			
715.	8254 <i>Urospermum picroides</i> (False Hawkbit)	Y		
716.	8255 <i>Ursinia anthemoides</i> (Ursinia)	Y		
717.	28087 <i>Usnea inermis</i>			
718.	7157 <i>Utricularia violacea</i> (Violet Bladderwort)			
719.	33537 <i>Vallisneria australis</i>	Y		
720.	24386 <i>Vanellus tricolor</i> (Banded Lapwing)			
721.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
722.	25225 <i>Varanus rosenbergi</i> (Heath Monitor)			
723.	<i>Veliidae</i> sp.			
724.	8257 <i>Vellereophyton dealbatum</i> (White Cudweed)	Y		
725.	6101 <i>Verticordia nitens</i> (Morrison Featherflower, Kodjeningara)			
726.	24206 <i>Vespadelus regulus</i> (Southern Forest Bat)			
727.	4325 <i>Viminaria juncea</i> (Swishbush, Koweda)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
728.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		
729.	722 <i>Vulpia bromoides</i> (Squirrel Tail Fescue)	Y		
730.	724 <i>Vulpia myuros</i> (Rat's Tail Fescue)	Y		
731.	7384 <i>Wahlenbergia capensis</i> (Cape Bluebell)	Y		
732.	7389 <i>Wahlenbergia preissii</i>			
733.	8282 <i>Waitzia suaveolens</i> (Fragrant Waitzia)			
734.	1251 <i>Xanthorrhoea brunonis</i>			
735.	1256 <i>Xanthorrhoea preissii</i> (Grass tree, Palga)			
736.	6289 <i>Xanthosia huegelii</i>			
737.	2331 <i>Xylomelum occidentale</i> (Woody Pear, Djandin)			
738.	1049 <i>Zantedeschia aethiopica</i> (Arum Lily)	Y		
739.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereeye)			

Conservation Codes

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

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

APPENDIX 3: PROTECTED MATTERS SEARCH TOOL RESULTS



EPBC Act Protected Matters Report

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

Report created: 29-Jan-2022

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar)	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	32
Listed Migratory Species:	28

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	36
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

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

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands) [\[Resource Information \]](#)

Ramsar Site Name	Proximity	Buffer Status
Peel-yalgorup system	Within Ramsar site	In feature area

Listed Threatened Ecological Communities [\[Resource Information \]](#)

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

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

Community Name	Threatened Category	Presence Text	Buffer Status
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community likely to occur within area	In feature area
Clay Pans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area	In buffer area only
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area	In feature area

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

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

Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat may occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat likely to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In feature area
Zanda baudinii listed as Calyptorhynchus baudinii Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736]	Endangered	Breeding likely to occur within area	In feature area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Species or species habitat known to occur within area	In feature area

FISH

Scientific Name	Threatened Category	Presence Text	Buffer Status
Galaxiella nigrostriata Blackstriped Dwarf Galaxias, Black-stripe Minnow [88677]	Endangered	Species or species habitat known to occur within area	In feature area
MAMMAL			
Dasyurus geoffroi Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat known to occur within area	In feature area
OTHER			
Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
PLANT			
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area	In feature area
Austrostipa bronwenae [87808]	Endangered	Species or species habitat known to occur within area	In feature area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat likely to occur within area	In feature area
Caladenia procera Carbunup King Spider Orchid [68679]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Diuris drummondii Tall Donkey Orchid [4365]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area	In feature area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Drakaea elastica Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat known to occur within area	In feature area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Synaphea sp. Fairbridge Farm (D. Papenfus 696) Selena's Synaphea [82881]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Synaphea sp. Serpentine (G.R. Brand 103) [86879]	Critically Endangered	Species or species habitat may occur within area	In feature area
Synaphea stenoloba Dwellingup Synaphea [66311]	Endangered	Species or species habitat may occur within area	In buffer area only

Listed Migratory Species [[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat known to occur within area	In buffer area only
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris alba Sanderling [875]		Species or species habitat known to occur within area	In buffer area only
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area	In buffer area only
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limicola falcinellus Broad-billed Sandpiper [842]		Species or species habitat known to occur within area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
Philomachus pugnax Ruff (Reeve) [850]		Species or species habitat known to occur within area	In buffer area only
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Tringa brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area	In buffer area only
Tringa totanus Common Redshank, Redshank [835]		Species or species habitat known to occur within area	In buffer area only

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area	In buffer area only
Arenaria interpres Ruddy Turnstone [872]		Species or species habitat known to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris alba Sanderling [875]		Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Calidris tenuirostris Great Knot [862]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In buffer area only
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Species or species habitat known to occur within area	In buffer area only
Charadrius ruficapillus Red-capped Plover [881]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Limicola falcinellus Broad-billed Sandpiper [842]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area	In buffer area only
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Numenius phaeopus Whimbrel [849]		Species or species habitat known to occur within area	In buffer area only
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In buffer area only
Philomachus pugnax Ruff (Reeve) [850]		Species or species habitat known to occur within area overfly marine area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat known to occur within area	In buffer area only
Recurvirostra novaehollandiae Red-necked Avocet [871]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Thinornis cucullatus as Thinornis rubricollis Hooded Dotterel, Hooded Plover [87735]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Species or species habitat known to occur within area	In buffer area only
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area overfly marine area	In feature area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area overfly marine area	In buffer area only
Tringa totanus Common Redshank, Redshank [835]		Species or species habitat known to occur within area overfly marine area	In buffer area only

Extra Information

State and Territory Reserves [\[Resource Information \]](#)

Protected Area Name	Reserve Type	State	Buffer Status
NTWA Bushland covenant (0004)	Conservation Covenant	WA	In buffer area only
NTWA Bushland covenant (0095)	Conservation Covenant	WA	In buffer area only
Yalgorup	National Park	WA	In buffer area only

Nationally Important Wetlands [\[Resource Information \]](#)

Wetland Name	State	Buffer Status
Yalgorup Lakes System	WA	In buffer area only

EPBC Act Referrals [\[Resource Information \]](#)

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Clear 2.86 ha of native vegetation for the purpose of horticulture	2010/5655	Controlled Action	Post-Approval	In feature area
Lot 4 Runnymede Road, Wellesley - Proposed Sand Extraction	2020/8862	Controlled Action	Assessment Approach	In buffer area only
Production horticulture in Lot 6 and Lot 8 Old Coast Road, Myalup	2020/8827	Controlled Action	Assessment Approach	In buffer area only
Sand Extraction Project Lot 5 Wellesley Road, Wellesley Shire of Harvey	2021/9034	Controlled Action	Assessment Approach	In buffer area only
Sand Mine, Lot 122 Old Coast Road, Parkfield, Binningup, WA	2014/7164	Controlled Action	Post-Approval	In buffer area only
Sand Mining on Lot 7 Runnymede Road	2011/5996	Controlled Action	Post-Approval	In feature area
Silica Sand Mine Expansion	2002/910	Controlled Action	Post-Approval	In buffer area only
Southern Seawater Desalination Project	2008/4173	Controlled Action	Post-Approval	In buffer area only
WA Offshore Windfarm	2021/8961	Controlled Action	Assessment Approach	In feature area
Yarragadee Water Supply Development	2005/2073	Controlled Action	Completed	In feature area
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Kemerton Lateral Gas Pipeline Project	2005/2388	Not Controlled Action	Completed	In feature area
Limestone quarry expansion	2005/2268	Not Controlled Action	Completed	In buffer area only
Limestone Quarry Expansion, Lots 3618 and 1794, Finn Road	2005/2332	Not Controlled Action	Completed	In buffer area only
Limestone quarry mining	2006/2942	Not Controlled Action	Completed	In buffer area only
Vegetation Clearance for Horticulture Operation Expansion, Lot 2, Springfield Rd, Parkfield, WA	2014/7196	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Construct and operate a 132kV transmission line and upgrade Kemerton Terminal Si	2008/4484	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Limestone Extraction on Lot 5 Old Coast Road, Myalup, WA	2012/6468	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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APPENDIX 4: HABITAT TREE DETAILS

Habitat Trees - Diameter at Breast Height > 50 cm

Datum: GDA94

Entrance size ranges: Small = >5cm, Medium = 5 to 10 cm, Large = >10 cm

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimate Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt001	50H	383388	6333015	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt002	50H	383412	6333032	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt003	50H	383415	6333021	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt004	50H	383418	6333022	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt005	50H	383418	6333020	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt006	50H	383426	6333020	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt007	50H	383438	6333021	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt008	50H	383440	6333021	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt009	50H	383440	6333023	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt010	50H	383443	6333022	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt011	50H	383447	6333023	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt012	50H	383445	6333025	Dead Unknown	15-20	>50	2+	Large (cockatoo)	No Signs	No Signs	Yes	Two large potential spouts
wpt013	50H	383451	6333026	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt014	50H	383461	6333044	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt015	50H	383450	6333061	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt016	50H	383490	6333023	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt017	50H	383501	6333031	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt018	50H	383513	6333048	Marri	15-20	>50	0		No Signs	No Signs	No	

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimate Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt019	50H	383542	6333035	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt020	50H	383554	6333024	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt021	50H	383567	6333037	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt022	50H	383548	6333055	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt023	50H	383576	6333059	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt024	50H	383599	6333082	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt025	50H	383612	6333077	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt026	50H	383617	6333053	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt027	50H	383634	6333029	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt028	50H	383627	6333026	Dead Unknown	0-5	>50	0		No Signs	No Signs	No	
wpt029	50H	383641	6333028	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt030	50H	383634	6333068	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt031	50H	383642	6333192	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt032	50H	383605	6333184	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt033	50H	383604	6333169	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt034	50H	383610	6333228	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt035	50H	383590	6333249	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt036	50H	383589	6333246	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt037	50H	383581	6333238	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt038	50H	383578	6333238	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt039	50H	383563	6333336	Marri	15-20	>50	0		No Signs	No Signs	No	

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimate Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt040	50H	383592	6333351	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt041	50H	383597	6333347	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt042	50H	383590	6333363	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt043	50H	383603	6333417	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt044	50H	383568	6333450	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt045	50H	383556	6333445	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt046	50H	383598	6333463	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt047	50H	383593	6333558	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt048	50H	383588	6333570	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt049	50H	383581	6333576	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt050	50H	383606	6333583	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt051	50H	383595	6333646	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt052	50H	383596	6333647	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt053	50H	383556	6333629	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt054	50H	383558	6333626	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt055	50H	383527	6333594	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt056	50H	383477	6333634	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt057	50H	383345	6333638	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt058	50H	383333	6333630	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt059	50H	383341	6333531	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt060	50H	383341	6333532	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt061	50H	383330	6333503	Jarrah	15-20	>50	0		No Signs	No Signs	No	

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimate Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt062	50H	383334	6333486	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt063	50H	383334	6333471	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt064	50H	383342	6333461	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt065	50H	383447	6333310	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt066	50H	383525	6333395	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt067	50H	383476	6333477	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt068	50H	383486	6333541	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt069	50H	383454	6333579	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt070	50H	383416	6333580	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt071	50H	383395	6333396	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt072	50H	383393	6333235	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt073	50H	383398	6333236	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt074	50H	383389	6333227	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt075	50H	383387	6333222	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt076	50H	383347	6333189	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt077	50H	383402	6333093	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt078	50H	383460	6333122	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt079	50H	383462	6333125	Jarrah	15-20	>50	0		No Signs	No Signs	No	
wpt080	50H	383489	6333106	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt081	50H	383498	6333103	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt082	50H	383533	6333140	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt083	50H	383535	6333140	Marri	15-20	>50	0		No Signs	No Signs	No	

Waypoint Number	Zone	mE	mN	Tree Species	Tree Height (m)	DBH (cm)	Number of Hollows	Estimate Hollow Entrance Size Range (cm)	Occupancy	Chew Marks	Potential Cockatoo Nest Hollow	Comments
wpt084	50H	383574	6333144	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt085	50H	383567	6333185	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt086	50H	383564	6333194	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt087	50H	383551	6333197	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt088	50H	383556	6333206	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt089	50H	383543	6333210	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt090	50H	383540	6333212	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt091	50H	383524	6333249	Marri	15-20	>50	0		No Signs	No Signs	No	
wpt092	50H	383499	6333257	Marri	15-20	>50	0		No Signs	No Signs	No	

APPENDIX 5: FAUNA OBSERVATIONS

Observed Vertebrate Fauna Listing

Lot 150 - Runnymede Road

Compiled by Greg Harewood - Feb 2022

Class Family Species	Common Name	Conservation Status
Aves		
Psittacidae Parrots		
<i>Calyptorhynchus banksii naso</i>	Forest Red-tailed Black-Cockatoo	S3 VU Bp LC
<i>Platycercus spurius</i>	Red-capped Parrot	LC
<i>Platycercus zonarius</i>	Australian Ringneck	LC
Acanthizidae Thornbills, Geryones, Fieldwrens & Whitefaces		
<i>Acanthiza apicalis</i>	Broad-tailed Thornbill	Bh LC
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill	LC
<i>Gerygone fusca</i>	Western Gerygone	LC
<i>Smicrornis brevirostris</i>	Weebill	LC
Petroicidae Australian Robins		
<i>Petroica multicolor</i>	Scarlet Robin	Bh LC
Dicruridae Monarchs, Magpie Lark, Flycatchers, Fantails, Drongo		
<i>Rhipidura fuliginosa</i>	Grey Fantail	LC
Campephagidae Cuckoo-shrikes, Trillers		
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike	LC
Cracticidae Currawongs, Magpies & Butcherbirds		
<i>Cracticus tibicen</i>	Australian Magpie	LC
<i>Strepera versicolor</i>	Grey Currawong	LC

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

Class Family <i>Species</i>	Common Name	Conservation Status
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Corvidae
Ravens, Crows

<i>Corvus coronoides</i>	Australian Raven	LC
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Mammalia

Macropodidae
Kangaroos, Wallabies

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

APPENDIX 6: SIGNIFICANT FAUNA LIKELIHOOD OF OCCURRENCE

Significant Fauna Likelihood of Occurrence for Survey Area

Common Name (Species Name)	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Potential Impacts
	BC Act/DBCA Priority	EPBC Act				
Baudin's Cockatoo (<i>Calyptorhynchus baudinii</i>)	T(EN)	T(EN)	Primarily eucalypt forests, feeding primarily on Marri seeds	Yes	Likely to Occur	Loss/modification of an area of habitat.
Carnaby's Cockatoo (<i>Calyptorhynchus latirostris</i>)	T(EN)	T(EN)	Forests, woodlands, heathlands, farms; typically feeding on <i>Banksia</i> , <i>Hakea</i> and Marri	Yes	Likely to Occur	Loss/modification of an area of habitat.
Chuditch (<i>Dasyurus geoffroii</i>)	T(VU)	T(VU)	Forest, mallee shrublands, woodlands and desert. Abundant populations are typically found in riparian jarrah forest	Yes	Unlikely to Occur: Presumed locally extinct.	No impact anticipated.
Coastal Plains Skink (<i>Ctenotus ora</i>)	P3	-	Sandy substrates with low vegetation (including heath) in open <i>Eucalyptus/Corymbia</i> woodland over <i>Banksia</i>	Yes	Potentially Occurs.	Loss/modification of an area of habitat. Death/injury of individuals during clearing and operational activities.
Forest Red-tailed Black Cockatoo (<i>Calyptorhynchus banksii naso</i>)	T(VU)	T(VU)	Eucalypt forests, feeding on marri, jarrah, blackbutt, karri, sheoak and snottygobble.	Yes	Known to Occur	Loss/modification of an area of habitat.
Peregrine Falcon (<i>Falco peregrinus</i>)	OS	-	Diverse habitat ranging from rainforest to arid shrublands, coastal heath to alpine. Primarily around cliffs, along coasts, rivers and ranges, as well as wooded watercourses and lakes	Yes	Rare but possible occurrence.	Loss/modification of an area of habitat.
Perth Lined Lerista (<i>Lerista lineata</i>)	P3	-	White sands under shrubland and heathland, preferring loose soil and leaf litter particularly in association with <i>Banksia</i> spp.	Yes	Potentially Occurs.	Loss/modification of an area of habitat. Death/injury of individuals during clearing and operational activities.
Quenda (<i>Isodon fusciventer</i>)	P4	-	Dense scrubby, often swampy, vegetation with dense cover	No	Unlikely to Occur	No impacts anticipated

Common Name (Species Name)	Conservation Status		Habitat Preferences	Habitat Present	Likelihood of Occurrence	Potential Impacts
	BC Act/DBCA Priority	EPBC Act				
South-western Brush-tailed Phascogale (<i>Phascogale tapoatafa wambenger</i>)	CD	-	Dry sclerophyll forests and open woodlands that contain hollow-bearing trees with sparse ground cover	Yes	Potentially Occurs.	Loss/modification of an area of habitat. Death/injury of individuals during clearing and operational activities.
Western Brush Wallaby (<i>Notamacropus irma</i>)	P4	-	Open forest or woodland, particularly favouring open, seasonally wet flats with low grasses and open scrubby thickets	Yes	Potentially Occurs	Loss/modification of an area of habitat. Death/injury of individuals during clearing and operational activities.
Western False Pipistrelle (<i>Falsistrellus mackenziei</i>)	P4	-	Wet sclerophyll forest dominated by karri and in high rainfall zones of the jarrah and marri forest.	Yes	Potentially Occurs.	Loss/modification of an area of habitat. Death/injury of individuals during clearing and operational activities.
Western Ringtail Possum (<i>Pseudocheirus occidentalis</i>)	T(CR)	T(CR)	Coastal peppermint, coastal peppermint-tuart, jarrah-marri associations, sheoak woodland, eucalypt woodland and mallee.	Yes	Potentially Occurs.	Loss/modification of an area of habitat. Death/injury of individuals during clearing and operational activities.
Migratory Shorebirds/Wetland Species/Marine Species (various reptiles, birds and mammals)	Various	Ma, Mi, Various	Varies between species but includes open ocean, beaches, and permanent/temporary wetlands, varying from billabongs, swamps, lakes. Floodplains, sewerage farms, saltwork ponds, estuaries, lagoons, mudflat sandbars, pastures, airfields, sports fields and lawns	No	Would Not Occur.	No Impact

CR = Critically Endangered, EN = Endangered, VU = Vulnerable, Mi = Migratory, Ma = Marine, CD = Conservation Dependent, P = Priority T = Threatened, OS = Other Specially Protected Fauna