

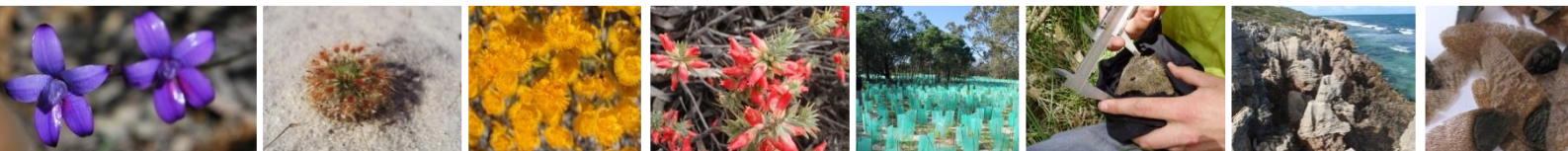


Natural Area
CONSULTING MANAGEMENT SERVICES

Natural Area Consulting Management Services

City of Belmont Esplanade Foreshore Environmental Assessment

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Ngala kaaditj Noongar moort keyen kaadak nidja boodja.

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Executive Summary

Natural Area Consulting Management Services (Natural Area) was contracted to undertake an environmental assessment of the Esplanade Foreshore, located adjacent to the Swan River in Ascot. The survey was required to inform a clearing permit for civil construction works being undertaken on the foreshore to mitigate foreshore erosion, revegetate areas and formalise access. Natural Area environmental scientists undertook an assessment of flora, fauna and completed a black cockatoo habitat assessment at the site in January 2024.

The flora survey found the following results:

- 38 total species from 15 families were recorded at site, 21 were introduced (weed) species, two were dubious species and 15 were native species
- no conservation significant species were observed
- no WoNS or Declared Pests were observed
- one vegetation type was recorded across the whole site; Isolated trees over introduced grassland
- vegetation condition was completely degraded
- no Threatened Ecological Communities were observed on site.

The fauna survey found the following results:

- eight species from six families were recorded on site, there was one introduced species and seven native species
- no conservation significant species were observed
- one declared pest was observed; the Rainbow Lorikeet (**Trichoglossus moluccanus*).

The black cockatoo habitat assessment found the following results:

- 23 potential habitat trees (DBH \geq 300 mm)
- hollows were present in five trees
- all five trees with hollows present were *Eucalyptus rudis* (Flooded Gum)
- one potential foraging tree; *Agonis flexuosa* (Peppermint Tree) was recorded on site.

The proposed clearing was determined to be likely at variance with clearing principles C, F, H and I.

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1.0 Introduction

Natural Area Consulting Management Services (Natural Area) were required to undertake a site survey at the Esplanade foreshore in the City of Belmont. The survey was undertaken in January 2024. The outcomes of the survey will be used to provide information to inform a clearing permit application for civil construction works along the Esplanade foreshore, Ascot. The proposed works are intended to mitigate foreshore erosion and include stormwater upgrades, revegetation and provision of formalised access points.

1.1 Location

The site is located approximately 7.5 km from the Perth Central Business District (CBD) adjacent to The Esplanade, Ascot between Ford Street and Forbes Street (Figure 1). The site is located on the southern bank of the Swan River. The site is within an Environmentally Sensitive Area (Feature ID 15104) (Department of Water and Environmental Regulation (DWER), 2024). The site is also adjacent a Conservation Category Wetland (Feature ID 13316) (Department of Biodiversity, Conservation and Attractions (DBCA), 2024a)

1.2 Scope

The survey was undertaken to inform a clearing permit for the Esplanade Foreshore civil construction works to be undertaken in 2024. The scope of the survey included:

- a desktop assessment to determine the likelihood of presence of conservation significant flora, fauna and threatened ecological communities
- a basic flora survey including:
 - recording vegetation type, extent and condition
 - formation of a species list including both natives and weeds
- a basic fauna survey including:
 - formation of a species list including native and introduced species
- a black cockatoo habitat survey including:
 - recording the location and species of potential habitat trees
 - recording the number of hollows per tree
- an assessment of the results against the 10 clearing principles.



2.0 Methodology

2.1 Desktop and Literature Review

The desktop survey included reviewing online databases to gather contextual knowledge and determine preliminary site characteristics including:

- likely native and non-native flora and fauna species present
- general floristic community types
- likely presence of threatened or priority flora and fauna species
- likely presence of any threatened or priority ecological communities.

The following databases were accessed to obtain relevant information:

- NatureMap (Department of Biodiversity, Conservation and Attractions (DBCA), 2024b)
- Protected Matters Search Tool (Department of Climate Change, Energy, the Environment and Water (DCCEEW)), 2024) (Appendix 1)
- FloraBase (Western Australian Herbarium, 1998-)

Conservation code definitions for the State and Commonwealth are provided in Appendix 2.

2.2 On-ground Flora Survey

The flora and vegetation survey was conducted in accordance with *Technical Guidance-Flora and Vegetation Surveys for Environmental Impact Assessment* (Environmental Protection Authority (EPA), 2016). Samples were collected, or photographs taken of unfamiliar species to enable later identification.

Natural Area environmental scientists undertook the survey on January 29, 2024, with key data recorded using Mappt software on a handheld tablet. Survey activities included:

- traversing the entirety of the site and recording all species present, including native and invasive species
- marking locations of any conservation significant flora, Declared Pests (DP) and/or Weeds of National Significance (WoNS) identified
- recording vegetation type including dominant over, middle and understorey species (Table 1) and condition using the scale attributed to Keighery (Table 2) (Government of Western Australia, 2000)
- the use of GPS to map significant species and boundaries of differing vegetation type and condition
- recording evidence of disturbance, such as fire.

2.2.1 Vegetation Type

The vegetation type was determined using the structural classes described in *Bush Forever Volume 2* (Government of Western Australia, 2000), and records dominant over, middle and understorey species. A description of the various structural classes is provided in Table 1.

Table 1: Vegetation structural classes

| Life Form/Height Class | Canopy Percentage Cover | | | |
|------------------------|-------------------------|------------------|-------------------|------------------------|
| | 100 – 70% | 70 – 30% | 30 – 10% | 10 – 2 % |
| Trees over 30 m | Tall closed forest | Tall open forest | Tall woodland | Tall open woodland |
| Trees 10 – 30 m | Closed forest | Open forest | Woodland | Open woodland |
| Trees under 10 m | Low closed forest | Low open forest | Low woodland | Low open woodland |
| Tree Mallee | Closed tree mallee | Tree mallee | Open tree mallee | Very open tree mallee |
| Shrub Mallee | Closed shrub mallee | Shrub mallee | Open shrub mallee | Very open shrub mallee |
| Shrubs over 2 m | Closed tall scrub | Tall open scrub | Tall shrubland | Tall open shrubland |
| Shrubs 1 – 2 m | Closed heath | Open heath | Shrubland | Open shrubland |
| Shrubs under 1 m | Closed low heath | Open low heath | Low shrubland | Low open shrubland |
| Grasses | Closed grassland | Grassland | Open grassland | Very open grassland |
| Herbs | Closed herbland | Herbland | Open herbland | Very open herbland |
| Sedges | Closed sedgeland | Sedgeland | Open sedgeland | Very open sedgeland |

Source: Government of Western Australia, 2000

2.2.2 Vegetation Condition

Vegetation condition was assessed using the rating scale attributed to Keighery in *Technical Guidance-Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016) (Table 2). Table 2 provides a description of the rating scale.

Table 2: Vegetation condition ratings

| Category | Description |
|-------------|--|
| 1 Pristine | Pristine or nearly so, no obvious signs of disturbance or damage caused by human activities since European settlement. |
| 2 Excellent | Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks. |
| 3 Very Good | Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing. |
| 4 Good | Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds, partial clearing, dieback and grazing. |
| 5 Degraded | Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. |

| Category | Description |
|----------|---|
| 6 | Completely Degraded |
| | Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing. |
| | The structure of the vegetation is no longer intact, and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs. |

Source: EPA, 2016

2.3 On-ground Fauna Survey

The fauna survey was completed in accordance with a basic fauna survey as outlined in the *Technical Guidance, Terrestrial vertebrate fauna surveys for environmental impact assessment* (EPA, 2020). Natural Area environmental scientists traversed the site on January 29, 2024 and undertook this survey in conjunction with other survey activities. A basic survey is defined as a low-intensity survey, which gathers broad fauna and habitat information including opportunistic fauna observations (EPA, 2020). The fauna survey included recording opportunistic sightings of fauna species while traversing the survey area, along with recording any evidence of their presence in the form of:

- scats
- tracks
- diggings
- burrows, dens and warrens
- runnels (vegetative tunnels)
- calls.

2.4 Black Cockatoo Habitat Assessment

A black cockatoo habitat assessment was conducted in accordance with *Referral guideline for 3 WA threatened black cockatoo species: Carnaby's Cockatoo, Baudin's Cockatoo and the Forest Red-tailed Black-cockatoo* (DAWE, 2022).

Natural Area environmental scientists undertook the survey in conjunction with the flora, vegetation and fauna survey on January 29, 2024, with key data recorded using Mappt software on a handheld tablet.

Survey activities included:

- traversing the whole site in a systematic grid search
- recording the location and evidence of breeding, roosting and foraging activities (e.g. chew marks, feathers, scats)
- marking the GPS locations of each habitat tree with a diameter at breast height (DBH) \geq 300 mm
- recording the height, DBH, health, and species of each habitat tree
- recording evidence of hollows, including size, type, and location within the tree
- recording foraging habitat, vegetation type, and condition.

2.5 Limitations

The limitations of the survey have been considered and are outlined in Table 3.

Table 3: Survey limitations

| Potential Limitation | Degree of Limitation | Comments |
|---|----------------------|--|
| Availability of contextual information | None | Local and regional information readily available for the survey site. |
| Competency/experience of team | None | Survey activities were undertaken by experienced environmental scientists who have extensive experience undertaking basic flora, fauna and black cockatoo habitat assessments within the Swan Coastal Plain and surrounding bioregions. |
| Proportion of flora recorded/collected, any identification issues | Minor | <p>Three species (7.89%) were unable to be identified to species level due to a lack of diagnostic characteristics present at the time of survey. All species were able to be identified to genus level. The species unable to be identified were:</p> <ul style="list-style-type: none"> ▪ #<i>Callistemon</i> sp. ▪ <i>Eucalyptus</i> sp. ▪ *<i>Oenothera</i> sp. <p>Two of the unidentified species were unlikely to be declared rare flora (DRF) as one is a dubious species, and one is a weed species. None of the <i>Eucalyptus</i> species identified during the desktop assessment were determined likely to occur on site therefore it is not likely the unidentified <i>Eucalyptus</i> is DRF.</p> |
| Survey effort and extent | Minor | <p>A basic flora survey was undertaken over a period of one day, with the entire area traversed and all flora species and vegetation types/conditions within the survey area being adequately surveyed.</p> <p>The fauna survey was a basic survey undertaken during daylight hours. As a</p> |

| | | |
|---------------------|-------|---|
| | | <p>result, some faunal groups, such as those which are nocturnal, cryptic or elusive, are very unlikely to be detected even if present within the site. In order to observe these species, a detailed fauna survey utilising techniques such as trapping and motion-sensor cameras, as well as nocturnal surveys, would be required.</p> |
| Access restrictions | None | <p>Natural Area was able to traverse the whole site during the survey.</p> |
| Survey timing | Minor | <p>The survey was undertaken during summer which is outside the optimal season for flora surveys within the Swan Coastal Plain subregion. Of the eight conservation significant flora species identified in the desktop survey as being likely to occur within the survey area, seven have flowering periods outside of the survey period:</p> <ul style="list-style-type: none"> ▪ <i>Conospermum undulatum</i> ▪ <i>Macarthuria keigheryi</i> ▪ <i>Ornduffia submersa</i> ▪ <i>Platysace ramosissima</i> ▪ <i>Poranthera moorokatta</i> ▪ <i>Schoenus benthamii</i> ▪ <i>Stylidium longitubum</i> <p>Of the seven, two are annual species, meaning the species may not be visible at the time of the survey.</p> |
| Disturbances | None | <p>No recent disturbances which may have had an impact on survey results (e.g. fire, recent clearing or floods) were identified during the survey.</p> |

3.0 Flora Survey Results

3.1 Desktop Survey

A desktop survey of online databases indicated the potential for a total of 109 conservation significant species to occur within 10 km of the survey area (Table 4). NatureMap indicated 89 conservation significant flora species listed under the *Biodiversity Conservation Act 2016* (WA) or by the Western Australian Herbarium (1998-), as potentially occurring within 10 km radius of the site (DBCA, 2024b). A review of the Protected Matters Search Tool (PMST) (DCCEE, 2024) indicated 33 significant flora species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) as potentially occurring within a 10 km radius of the site (Appendix 1).

Of the conservation significant species potentially found in the area, it was determined that the site conditions (soil type, drainage, location) may be suitable for eight (highlighted green) of these species (Table 4). Conservation code descriptions are provided in Appendix 2.

Table 4: Threatened and Priority flora species listed by PMST and NatureMap

| Species | Code | PMST | NatureMap |
|--|------|------|-----------|
| <i>Acacia anomala</i> | VU | X | |
| <i>Acacia aphylla</i> | VU/T | X | X |
| <i>Acacia benthamii</i> | P2 | | X |
| <i>Acacia denticulosa</i> | T | | X |
| <i>Adenanthos cygnorum</i> subsp. <i>chamaephyton</i> | P3 | | X |
| <i>Andersonia gracilis</i> | EN/T | X | X |
| <i>Angianthus micropodioides</i> | P3 | | X |
| <i>Anigozanthos viridis</i> subsp. <i>terraspectans</i> | VU | X | |
| <i>Anthocercis gracilis</i> | VU | X | |
| <i>Aponogeton hexatepalus</i> | P4 | | X |
| <i>Austrostipa bronweniae</i> listed as <i>Austrostipa bronwenae</i> | EN | X | |
| <i>Babingtonia urbana</i> | P3 | | X |
| <i>Banksia mimica</i> | EN/T | X | X |
| <i>Banksia pteridifolia</i> subsp. <i>vernalis</i> | P3 | | X |
| <i>Bolboschoenus fluviatilis</i> | P1 | | X |
| <i>Byblis gigantea</i> | P3 | | X |
| <i>Caladenia huegelii</i> | EN/T | X | X |
| <i>Calandrinia</i> sp. Bayswater (C. Andrews s.n. 11/1902) | P1 | | X |
| <i>Calandrinia uncinella</i> | P1 | | X |
| <i>Calothamnus accedens</i> | P4 | | X |

| Species | Code | PMST | NatureMap |
|---|------|------|-----------|
| <i>Calytrix breviseta</i> subsp. <i>breviseta</i> | EN/T | X | X |
| <i>Carex tereticaulis</i> | P3 | | X |
| <i>Chamelaucium floriferum</i> subsp. <i>diffusum</i> | P2 | | X |
| <i>Chamelaucium lullfitzii</i> listed as <i>Chamelaucium</i> sp. Gingin | EN | X | |
| <i>Conospermum undulatum</i> | VU/T | X | X |
| <i>Conostylis bracteata</i> | P3 | | X |
| <i>Cyanothamnus tenuis</i> | P4 | | X |
| <i>Cyathochaeta teretifolia</i> | P3 | | X |
| <i>Dampiera triloba</i> | P3 | | X |
| <i>Darwinia apiculata</i> | EN | X | |
| <i>Dicrastylis micrantha</i> | P3 | | X |
| <i>Diplolaena andrewsii</i> | EN | X | |
| <i>Diuris drummondii</i> | VU/T | X | X |
| <i>Diuris micrantha</i> | VU | X | |
| <i>Diuris purdiei</i> | EN/T | X | X |
| <i>Dodonaea hackettiana</i> | P4 | | X |
| <i>Drakaea elastica</i> | EN | X | |
| <i>Drakaea micrantha</i> | VU | X | |
| <i>Drosera micra</i> | P1 | | X |
| <i>Drosera occidentalis</i> | P4 | | X |
| <i>Drosera patens</i> | P1 | | X |
| <i>Drosera x badgerupii</i> | P2 | | X |
| <i>Drosera x sidjamesii</i> | P1 | | X |
| <i>Eleocharis keigheryi</i> | VU | X | |
| <i>Eremophila glabra</i> subsp. <i>chlorella</i> | EN/T | X | X |
| <i>Eryngium</i> sp. <i>Subdecumbens</i> (G.J. Keighery 5390) | P3 | | X |
| <i>Eucalyptus caesia</i> subsp. <i>caesia</i> | P4 | | X |
| <i>Eucalyptus caesia</i> subsp. <i>magna</i> | P4 | | X |
| <i>Eucalyptus foecunda</i> subsp. <i>foecunda</i> | P4 | | X |
| <i>Eucalyptus kruseana</i> | P4 | | X |
| <i>Eucalyptus rhodantha</i> var. <i>rhodantha</i> | T | | X |
| <i>Eucalyptus x balanites</i> | EN | X | |

| Species | Code | PMST | NatureMap |
|---|------|------|-----------|
| <i>Grevillea christineae</i> | EN | X | |
| <i>Grevillea curviloba</i> subsp. <i>incurva</i> | EN | X | |
| <i>Grevillea flexuosa</i> | VU | X | |
| <i>Grevillea pimeleoides</i> | P4 | | X |
| <i>Grevillea thelemanniana</i> | CR/T | X | X |
| <i>Haemodorum loratum</i> | P3 | | X |
| <i>Halgania corymbosa</i> | P3 | | X |
| <i>Haloragis scoparia</i> | P1 | | X |
| <i>Hibbertia leptotheca</i> | P3 | | X |
| <i>Hydrocotyle lemnoides</i> | P4 | | X |
| <i>Hydrocotyle striata</i> | P1 | | X |
| <i>Hypocalymma inopinatum</i> | P2 | | X |
| <i>Hypocalymma magnificum</i> | T | | X |
| <i>Hypocalymma quadrangulare</i> | P3 | | X |
| <i>Isopogon autumnalis</i> | P3 | | X |
| <i>Jacksonia gracillima</i> | P3 | | X |
| <i>Jacksonia sericea</i> | P4 | | X |
| <i>Johnsonia pubescens</i> subsp. <i>cygnorum</i> | P2 | | X |
| <i>Lasiopetalum bracteatum</i> | P4 | | X |
| <i>Lasiopetalum glutinosum</i> subsp. <i>glutinosum</i> | P3 | | X |
| <i>Lasiopetalum membranaceum</i> | P3 | | X |
| <i>Lepidosperma rostratum</i> | EN/T | X | X |
| <i>Lepyrodia curvescens</i> | P2 | | X |
| <i>Leucopogon</i> sp. Busselton (D. Cooper 243) | P2 | | X |
| <i>Levenhookia preissii</i> | P1 | | X |
| <i>Macarthuria keigheryi</i> | EN/T | X | X |
| <i>Meionectes tenuifolia</i> | P3 | | X |
| <i>Melaleuca viminalis</i> | P2 | | X |
| <i>Melaleuca viminalis</i> var. <i>viminalis</i> | P2 | | X |
| <i>Morelotia australiensis</i> | T | | X |
| <i>Myriophyllum echinatum</i> | P3 | | X |
| <i>Ornduffia submersa</i> | P4 | | X |

| Species | Code | PMST | NatureMap |
|---|------|------|-----------|
| <i>Phyllangium palustre</i> | P2 | | X |
| <i>Platysace ramosissima</i> | P3 | | X |
| <i>Poranthera moorokatta</i> | P2 | | X |
| <i>Ptilotus pyramidatus</i> | CR | X | |
| <i>Ptilotus sericostachyus</i> subsp. <i>roseus</i> | X | | X |
| <i>Schoenus benthamii</i> | P3 | | X |
| <i>Schoenus griffinianus</i> | P4 | | X |
| <i>Schoenus natans</i> | P4 | | X |
| <i>Schoenus pennisetis</i> | P3 | | X |
| <i>Senecio gilbertii</i> | P1 | | X |
| <i>Stylidium aceratum</i> | P3 | | X |
| <i>Stylidium longitubum</i> | P4 | | X |
| <i>Stylidium paludicola</i> | P3 | | X |
| <i>Stylidium striatum</i> | P4 | | X |
| <i>Styphelia filifolia</i> | P3 | | X |
| <i>Synaphea</i> sp. Fairbridge Farm | CR | X | |
| <i>Synaphea</i> sp. Pinjarra Plain | EN | X | |
| <i>Thelymitra dedmaniarum</i> | EN | X | |
| <i>Thelymitra magnifica</i> | T | | X |
| <i>Thelymitra stellata</i> | EN | X | |
| <i>Thelymitra variegata</i> | T | | X |
| <i>Thysanotus anceps</i> | P3 | | X |
| <i>Thysanotus brachiatus</i> | P2 | | X |
| <i>Trithuria occidentalis</i> | EN/T | X | X |
| <i>Verticordia lindleyi</i> subsp. <i>Lindleyi</i> | P4 | | X |

3.1.1 Threatened and Priority Ecological Communities

A review of the PMST report identified seven listed Threatened Ecological Communities that could potentially occur within 10 km of the site (Table 5).

Table 5: Potential Threatened Ecological Communities within the Esplanade Foreshore, Ascot.

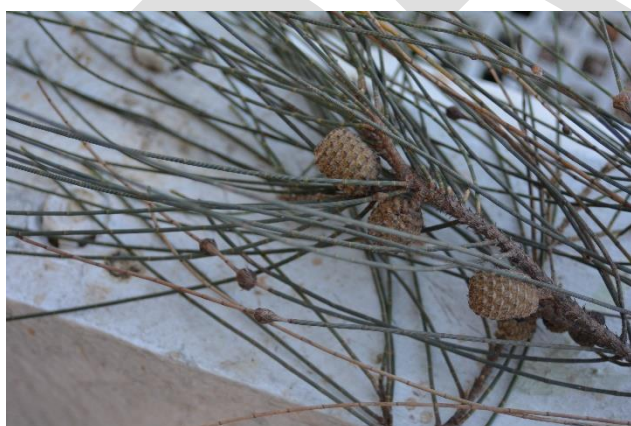
| Name | Status | Presence |
|--|------------|---------------------------------------|
| Banksia Woodlands of the Swan Coastal Plain ecological community | Endangered | Community likely to occur within area |

| Name | Status | Presence |
|--|-----------------------|---------------------------------------|
| Clay Pans of the Swan Coastal Plain | Critically Endangered | Community likely to occur within area |
| <i>Corymbia calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils of the Swan Coastal Plain | Endangered | Community known to occur within area |
| Empodisma peatlands of southwestern Australia | Endangered | Community may occur within area |
| Shrublands and Woodlands of the eastern Swan Coastal Plain | Endangered | Community known to occur within area |
| Subtropical and Temperate Coastal Saltmarsh | Vulnerable | Community likely to occur within area |
| Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community | Critically Endangered | Community likely to occur within area |

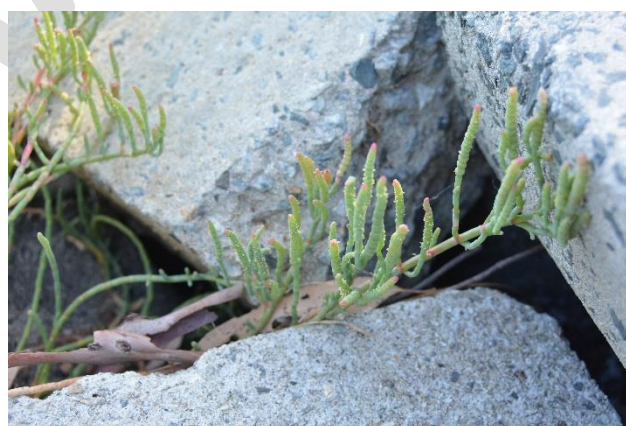
Source: DCCEW, 2024

3.2 Flora Survey Results

A total of 38 flora species (taxa) were recorded from 15 families during the field survey, comprised of 21 introduced (weeds), 2 dubious and 15 native species. Asteraceae was the most prominent family, with eight species recorded, followed by Myrtaceae with seven species recorded at the time of the survey. There were no conservation significant species and no WoNS or Declared Pests present at the time of the survey. Examples of species found on site are provided in Figure 2. A complete flora species list is provided in Appendix 3. There was one vegetation type recorded across the whole site, Isolated trees over introduced grassland (Figure 3). Vegetation condition across the whole site was classified as completely degraded (Figure 4).



Casuarina obesa (Swamp Sheoak)



Salicornia quinqueflora (Beaded Samphire)

Figure 2: Flora species observed on site.

3.2.1 Threatened and Priority Ecological Communities

Seven Threatened Ecological Communities (TEC's) were identified as potentially occurring within the survey areas during the desktop survey. However, the vegetation type identified during the field survey were not consistent with the presence of any TEC's due to the lack of associated dominant species (Table 6).

Table 6: Threatened Ecological Communities likely to occur at site.

| Threatened Ecological Community | Occurrence | Rationale |
|--|-------------------|--|
| <i>Banksia</i> Woodlands of the Swan Coastal Plain ecological community | Unlikely to occur | The site location does not conform with the location or structure of this community. Species recorded in this survey do not associate with this community. |
| Clay Pans of the Swan Coastal Plain | Unlikely to occur | The site is not seasonally inundated with rainwater and dry in the summer so does not conform with this community. |
| <i>Corymbia calophylla</i> – <i>Kingia australis</i> woodlands on heavy soils of the Swan Coastal Plain | Unlikely to occur | Species recorded during the survey do not associate with this community. |
| <i>Empodisma</i> peatlands of southwestern Australia | Unlikely to occur | Species recorded during the survey do not associate with this community. |
| Shrublands and Woodlands of the eastern Swan Coastal Plain | Unlikely to occur | Species recorded during the survey do not associate with this community. |
| Subtropical and Temperate Coastal Saltmarsh | Unlikely to occur | The site does not meet the location criteria for this ecological community. |
| Tuart (<i>Eucalyptus gomphocephala</i>) Woodlands and Forests of the Swan Coastal Plain ecological community | Unlikely to occur | Species recorded during the survey do not associate with this community. |



Figure 3:
Vegetation Type
The Esplanade Foreshore, Belmont

Client: Natural Area
Date: 06/02/2024
Created by: Z. Stoney
Image Source: Nearmap, 2023
Datum: GDA 2020

0 25 50 m





Figure 4:
Vegetation Condition
The Esplanade Foreshore, Belmont

Client: Natural Area
Date: 06/02/2024
Created by: Z. Stoney
Image Source: Nearmap, 2023
Datum: GDA 2020

0 25 50 m



4.0 Fauna Survey Results

4.1 Desktop Survey

A desktop survey of online databases indicated the potential for a total of 73 conservation significant fauna species to occur within 10 km of the survey area (Table 7). NatureMap indicated 47 conservation significant species listed under the *Biodiversity Conservation Act 2016* (WA) as potentially occurring within a 10 km radius of the site (DBCA, 2024b) (Table 7). The Protected Matters Search Tool (PMST) indicated 42 threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) as potentially occurring within a 10 km radius of the site (DCCEE, 2024) (Appendix 1).

Both abiotic (soil, climate) as well as biotic (food resources, predator pressure) will determine the suitability of habitats for specific fauna assemblages, based on their ecological requirements. Due to the site being subjected to high levels of anthropogenic disturbances from adjacent residential areas and recreational activities along the Swan River, it is unlikely that the survey area supports any resident populations of conservation significant fauna species. It is more likely that fauna presence is transient with species utilising the site for movement, foraging and roosting. Natural Area determined that the following 14 species (highlighted green in Table 7) have the potential to be present within the survey site.

Table 7: Threatened and Priority fauna species listed by PMST and NatureMap

| Species | Lifeform | Code | PMST | NatureMap |
|--------------------------------------|----------|-------|------|-----------|
| <i>Apus pacificus</i> | BIRD | MI | | X |
| <i>Bettongia penicillata ogilbyi</i> | MAMMAL | EN/CR | X | X |
| <i>Botaurus poiciloptilus</i> | BIRD | EN | X | X |
| <i>Cacatua pastinator pastinator</i> | BIRD | CD | | X |
| <i>Calidris acuminata</i> | BIRD | VU/MI | X | X |
| <i>Calidris alba</i> | BIRD | MI | | X |
| <i>Calidris canutus</i> | BIRD | VU/EN | X | X |
| <i>Calidris ferruginea</i> | BIRD | CR | X | X |
| <i>Calidris melanotos</i> | BIRD | MI | | X |
| <i>Calidris ruficollis</i> | BIRD | MI | | X |
| <i>Calidris tenuirostris</i> | BIRD | VU/CR | X | X |
| <i>Calyptorhynchus banksii naso</i> | BIRD | VU | X | X |
| <i>Dasyornis longirostris</i> | BIRD | EN | | X |
| <i>Dasyurus geoffroii</i> | MAMMAL | VU | X | X |
| <i>Elanus scriptus</i> | BIRD | P4 | | X |
| <i>Falco hypoleucos</i> | BIRD | VU | | X |
| <i>Falco peregrinus</i> | BIRD | OS | | X |

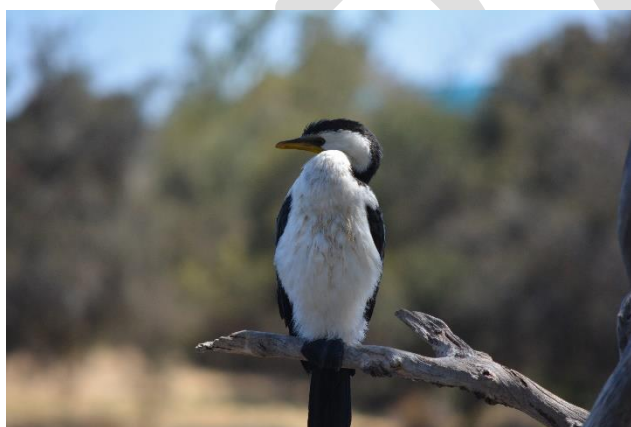
| Species | Lifeform | Code | PMST | NatureMap |
|---|----------|-------|------|-----------|
| <i>Hydromys chrysogaster</i> | MAMMAL | P4 | | X |
| <i>Hydroprogne caspia</i> | BIRD | MI | | X |
| <i>Isoodon fusciventer</i> | MAMMAL | P4 | | X |
| <i>Ixobrychus dubius</i> | BIRD | P4 | | X |
| <i>Ixobrychus flavicollis australis</i> (southwest subpopulation) | BIRD | P2 | | X |
| <i>Lerista lineata</i> | REPTILE | P3 | | X |
| <i>Limosa lapponica</i> | BIRD | MI | | X |
| <i>Limosa limosa</i> | BIRD | EN/MI | X | X |
| <i>Myrmecobius fasciatus</i> | MAMMAL | EN | | X |
| <i>Neelaps calonotos</i> | REPTILE | P3 | | X |
| <i>Notamacropus irma</i> | MAMMAL | P4 | | X |
| <i>Numenius madagascariensis</i> | BIRD | CR | X | X |
| <i>Oxyura australis</i> | BIRD | P4 | | X |
| <i>Pandion haliaetus</i> | BIRD | MI | | X |
| <i>Phascogale tapoatafa wambenger</i> | MAMMAL | CD | | X |
| <i>Phoebetria fusca</i> | BIRD | EN | | X |
| <i>Platycercus icterotis xanthogenys</i> | BIRD | P4 | | X |
| <i>Plegadis falcinellus</i> | BIRD | MI | | X |
| <i>Pluvialis squatarola</i> | BIRD | VU/MI | X | X |
| <i>Pseudemydura umbrina</i> | REPTILE | CR | | X |
| <i>Pseudocheirus occidentalis</i> | MAMMAL | CR | X | X |
| <i>Sternula nereis nereis</i> | BIRD | VU | X | X |
| <i>Thalasseus bergii</i> | BIRD | MI | | X |
| <i>Tringa glareola</i> | BIRD | MI | | X |
| <i>Tringa nebularia</i> | BIRD | EN/MI | X | X |
| <i>Tringa stagnatilis</i> | BIRD | MI | | X |
| <i>Tyto novaehollandiae novaehollandiae</i> | BIRD | P3 | | X |
| <i>Zanda baudinii</i> listed as <i>Calyptorhynchus baudinii</i> | BIRD | EN | X | X |
| <i>Zanda latirostris</i> listed as <i>Calyptorhynchus latirostris</i> | BIRD | EN | X | X |
| <i>Zanda</i> sp. 'white-tailed black cockatoo' | BIRD | EN | | X |

4.2 Fauna Survey Results

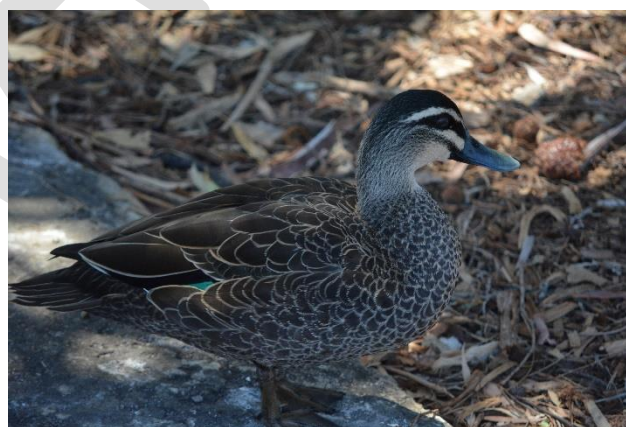
A total of eight fauna species were directly observed on site at the time of the survey. Of these eight, one is a non-native introduced species (Rainbow Lorikeet). The introduced species is also a Declared Pest species (Rainbow Lorikeet, *Trichoglossus moluccanus*) (Department of Primary Industries and Regional Development (DPIRD), 2024). No conservation significant species were recorded. A complete list of fauna observed on site has been outlined below (Table 8). Examples of fauna recorded on site have been provided in Figure 5.

Table 8: Fauna observations within the Esplanade Foreshore. *Denotes introduced species

| Family | Species Name | Common Name |
|-------------------|-------------------------------------|------------------------|
| Bird | | |
| Anatidae | <i>Anas superciliosa</i> | Pacific Black Duck |
| Anatidae | <i>Cygnus atratus</i> | Black Swan |
| Anhingidae | <i>Anhinga novaehollandiae</i> | Australasian Darter |
| Meliphaginae | <i>Phylidonyris novaehollandiae</i> | New Holland Honeyeater |
| Meliphagidae | <i>Anthochaera carunculata</i> | Red Wattlebird |
| Phalacrocoracidae | <i>Microcarbo melanoleucos</i> | Little Pied Cormorant |
| Psittaculidae | * <i>Trichoglossus moluccanus</i> | Rainbow Lorikeet |
| Rallidae | <i>Fulica atra</i> | Eurasian Coot |



Little Pied Cormorant (*Microcarbo melanoleucos*)



Pacific Black Duck (*Anas superciliosa*)

Figure 5: Fauna species observed on site.

5.0 Black Cockatoo Habitat Assessment Results

5.1 Desktop Survey

A desktop search of NatureMap database (DBCA, 2024b) and the Protected Matters Search Tool (DCCEW, 2024) indicated the potential for three black cockatoo species to occur within the survey area (Table 9). A search of confirmed roosting sites showed that there were no confirmed roosting sites within a 6 km radius of the site (DBCA, 2024c).

Table 9: Black Cockatoo species listed by NatureMap and PMST

| Species Name | Cons Code | PMST | NatureMap | Presence |
|---|-----------|------|-----------|---|
| <i>Calyptorhynchus banksii naso</i> | VU | X | X | Species or species habitat known to occur within area |
| <i>Zanda baudinii</i> listed as <i>Calyptorhynchus baudinii</i> | EN | X | X | Roosting known to occur within area |
| <i>Zanda latirostris</i> listed as <i>Calyptorhynchus latirostris</i> | EN | X | X | Breeding known to occur within area |
| <i>Zanda sp.</i> 'white-tailed black cockatoo' | EN | | X | - |

5.2 Field Survey

A total of 23 potential habitat trees (DBH ≥ 300 mm) were recorded on site. Of these, five trees (tree I.D: 4, 7, 8, 19 & 23) were observed to have hollows at the time of the survey (Figure 6). All five trees with hollows were *Eucalyptus rudis* (Flooded Gum). Examples of hollows observed on site have been provided in Figure 7. The DBH of each hollow tree ranged between 820 mm – 1702 mm. Locations and data of all potential habitat trees are provided in Appendix 4. One potential foraging species was found on site, *Agonis flexuosa* (Peppermint Tree) (Department of Environment and Conservation (DEC), 2011), however no evidence of foraging was found on site.



Figure 7: Examples of potential black cockatoo hollows in various *Eucalyptus rudis* trees throughout site.



6.0 Implications of Results

6.1 Flora and Vegetation

One vegetation type was observed within the site, being isolated trees over introduced grassland. Of all the species identified across site, the majority (55.26 %) were introduced species, with the remaining dubious (5.26 %) and native (39.47 %). As a result, the entirety of the site was recorded to be in a completely degraded condition.

A total of 3 species (7.89 %) were unable to be identified to species level due to a variety of factors. The species unable to be identified were:

- *#Callistemon sp.*
- *Eucalyptus sp.*
- **Oenothera sp.*

These species were unable to be identified due to a lack of diagnostic characteristics at the time of the survey. This is likely due to the survey being undertaken outside of the flowering period for these species.

6.2 Significant Flora

There were no conservation significant flora species found on site at the time of the survey. However, the flora survey undertaken was an out-of-season survey conducted in January. The optimal timing for flora surveys within the Swan Coastal Plain is during the spring season, so as to ensure the presence of as many diagnostic characteristics for identification as possible. Of the eight conservation significant flora species identified in the desktop survey as being likely to occur within the survey area, seven have flowering periods outside the survey period.

Of these, a total of two species (28.57 %) are tree or shrub species for which identification would likely be possible in the absence of flowering characteristics. The remaining five species (71.43 %) are comprised of herbaceous species, including both annual and perennial herbs, and grasses for which identification in the absence of flowering characteristics may not be possible. Additionally, some of these species, such as members of the Orchidaceae family, are only detectable during their respective flowering season as outside of this period no above-ground features are present.

The majority (92.11 %) of the species observed during the survey were identified to species level and those identified to genus level only were inconsistent with potential conservation significant flora. However, there is the potential for annual threatened or priority flora species to exist within the site without being detected during the survey as a result of the out-of-season timing.

6.3 Threatened Ecological Communities

Of the seven Threatened and Priority Ecological Communities identified during the desktop survey to potentially occur within the site, none were identified. Whilst the site is located in close proximity to the Swan River and a number of known TEC/PEC distributions, the history of clearing and agricultural land use has resulted in a low native species diversity, lack of vegetation structure and high rate of incursion of

introduced species. As a result, the vegetation on site is Completely Degraded and no longer reflective of its original state. As such, it is not consistent with that required for classification as a TEC or PEC.

6.4 Fauna

A total of eight fauna species (taxa) were recorded from six families. Of these, six (75 %) were native bird species and two (25 %) were introduced bird species. No conservation significant fauna species that were identified during the desktop assessment occurred on site at the time of the survey. One Declared Pest, the Rainbow Lorikeet (*Trichoglossus moluccanus*) was recorded on site. Declared pests are listed on the Western Australian Organism List (WAOL) under the *Biosecurity and Agriculture Management Act 2007* (WA). This classification requires the landowner/land manager to control the population to limit damage as a result of the presence of these species (Department of Primary Industries and Regional Development (DPIRD), 2024).

Very little suitable habitat was identified within the site for other native fauna species. No native understorey or midstorey species were identified, with any introduced species in these structural classes providing limited refuge and foraging opportunities. Additionally, limited habitat characteristics including leaf litter, rocks and fallen logs were identified. Due to these factors, it is considered unlikely that any conservation significant fauna species identified during the desktop survey are present within the site.

6.5 Black Cockatoo Habitat

Overall, 23 individual trees were identified as potential black cockatoo habitat (DBH \geq 300 mm). Of these, five had hollows present at the time of the survey. All hollows were found in *Eucalyptus rudis* (Flooded Gum) trees. The number of hollows per tree ranged from 1 – 7. Rainbow Lorikeet nests and bee hives were sighted within one *Eucalyptus rudis* hollow tree (tree number 8). There were no signs of foraging on site recorded during the surveys.

There is potential for all three black cockatoo species to be present within the area, however, due to the lack of suitable foraging and nesting species and the presence of larger areas of higher quality habitat surrounding the Swan River, the site considered unlikely to provide black cockatoo habitat.

Due to the presence of potential black cockatoo habitat trees on site, it should be noted that a referral under the EPBC Act to the Minister for the Environment may be required if the proposed works will have or are likely to have a significant impact on black cockatoos. This may include loss of any potential nesting tree, known night roosting site or foraging habitat (DAWE, 2022). However, the project does not plan to remove any significant potential black cockatoo habitat trees.

6.6 Assessment Against Clearing Principles

An assessment of information obtained during the 2024 survey has been made against the 10 clearing principles. The clearing may be at variance with four principles (C, F, H & I). Assessment of all clearing principles is provided in Table 10 below.

Table 10: Native vegetation clearing principles and assessment

| Clearing Principle | Comment |
|---|---|
| <p>A Native vegetation should not be cleared if it comprises a high level of biological diversity.</p> | <p>The proposed site to be cleared is not likely to be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ A total of 38 species from 15 families, comprised of 23 (61 %) introduced and dubious species not native to the Swan Coastal Plain and 15 native species. ▪ No threatened or priority flora were recorded within the site or are considered likely to occur due to lack of suitable habitat, however the survey was undertaken out-of-season. ▪ The vegetation is entirely classified as completely degraded. ▪ One vegetation type was recorded; isolated trees over introduced grassland. ▪ The proposed clearing area is within an ESA which requires a native vegetation clearing permit. |
| <p>B Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.</p> | <p>The proposed site to be cleared is not likely at variance with this principle:</p> <ul style="list-style-type: none"> ▪ A total of eight vertebrate fauna species, comprised of six native species and two introduced species, were recorded within the site. ▪ No conservation significant species were identified. ▪ 23 potential habitat trees with a DBH of ≥ 300 mm were observed on site, of which five trees had hollows present. ▪ No black cockatoo individuals or evidence of feeding was found on site. ▪ Very little suitable habitat was identified within the site for other native fauna species, and it is considered unlikely to provide significant habitat for native fauna. ▪ Larger areas of higher quality habitat are located in close proximity to the site which are considered to be more suitable for native fauna. |
| <p>C Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.</p> | <p>The proposed area to be cleared may potentially be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ No threatened or priority flora species were recorded within the site or are considered likely to occur due to lack of suitable habitat and high level of disturbance. However, the flora survey undertaken was an out-of-season flora survey. Of the eight conservation significant flora species identified in the desktop survey as being likely to occur within the site, seven have flowering periods outside of the survey period. A total of five (71.43 %) of these species are herbaceous, which are less likely to be identified outside of optimal survey timing. Therefore, there is the potential for threatened or priority flora to exist |

| Clearing Principle | Comment |
|--|--|
| | <p>within the site without being detected during the survey. An in-season (Spring) survey would be required to confirm the presence or absence of these species.</p> |
| <p>D Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.</p> | <p>The proposed site to be cleared is not likely to be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ No Threatened or Priority Ecological Communities were identified within the site. The site was observed to be in a Completely Degraded, highly disturbed state as a result of historical land-uses. The current species assemblage and site condition are not consistent with that required for classification as any of the seven TEC/PEC's that were identified in the desktop survey. |
| <p>E Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.</p> | <p>The proposed site to be cleared is not likely at variance with this principle:</p> <ul style="list-style-type: none"> ▪ The site is located within the Swan Coastal Plain Swan Complex, of which large portions have been historically cleared for agricultural purposes. Within the Swan Coastal Plain, there is 13.57% of the Swan Complex remaining and 23.56 % remaining within the City of Belmont. ▪ The vegetation within the site has been subject to significant past disturbance. All of the site is in Completely Degraded condition and contains vegetation dominated by introduced and dubious species. |
| <p>F Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.</p> | <p>The proposed site to be cleared may be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ The site is directly adjacent a Conservation Category Wetland (Feature ID 13316). ▪ No watercourses or wetlands were directly identified with the site. However, some of the vegetation is growing within the wetland. |
| <p>G Native Vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.</p> | <p>The proposed site to be cleared is not likely to be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ The site is located in close proximity to native vegetation associated with the Swan River, which may be impacted by clearing activities. ▪ The majority of the site has been historically cleared and is entirely classified as Completely Degraded, containing evidence of previous park land-use and predominantly introduced or dubious species. As this area is already subject to disturbance and weed invasion, it is considered unlikely that clearing of the site will further contribute to land degradation. |
| <p>H Native vegetation should not be cleared if the</p> | <p>The proposed site to be cleared may potentially be at variance with this principle:</p> |

| Clearing Principle | Comment |
|---|---|
| <p>clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.</p> | <ul style="list-style-type: none"> ▪ The site is located in close proximity to a Conservation Category Wetland (Feature ID 13316). ▪ It is not expected the clearing would have a significant impact on the environmental values of this adjacent conservation area as the majority of the proposed clearing area, consists of disturbed land which has been previously cleared. |
| <p>I Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.</p> | <p>The proposed site to be cleared may potentially be at variance with this principle:</p> <ul style="list-style-type: none"> ▪ The clearing is to be undertaken along the banks of the Swan River. ▪ There is the potential for clearing of the site to impact water quality through road run-off and machinery spills/contamination. ▪ These impacts are considered to be unlikely and are able to be mitigated during the clearing process such as to not have a significant impact on surface or ground water quality. The development of a management plan and strategy is recommended to aid with the mitigation of any water quality impacts. |
| <p>J Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.</p> | <p>The proposed site to be cleared is not likely at variance with this principle:</p> <ul style="list-style-type: none"> ▪ Ther site is located in close proximity to a Conservation Category Wetland (Feature ID 13316). ▪ There is the potential for water run-off to increase as a result of the loss of large, established trees during clearing, however this is not expected to have a significant impact which would result in an increased risk of flooding. ▪ The development of a management plan and strategy is recommended to assist with the management of surface water on site. |

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Appendix 1: PMST Report 10 km

DRAFT



Australian Government

Department of Climate Change, Energy,
the Environment and Water

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: 06-Feb-2024

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

| | |
|---|------|
| World Heritage Properties: | None |
| National Heritage Places: | None |
| Wetlands of International Importance (Ramsar) | None |
| Great Barrier Reef Marine Park: | None |
| Commonwealth Marine Area: | None |
| Listed Threatened Ecological Communities: | 7 |
| Listed Threatened Species: | 78 |
| Listed Migratory Species: | 48 |

Other Matters Protected by the EPBC Act

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

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcceew.gov.au/parks-heritage/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: | 390 |
| Commonwealth Heritage Places: | 4 |
| Listed Marine Species: | 53 |
| 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: | 19 |
| Regional Forest Agreements: | 1 |
| Nationally Important Wetlands: | 5 |
| EPBC Act Referrals: | 52 |
| Key Ecological Features (Marine): | None |
| Biologically Important Areas: | None |
| Bioregional Assessments: | None |
| Geological and Bioregional Assessments: | None |

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities

[[Resource Information](#)]

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

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

| Community Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|---------------------------------------|---------------------|
| Banksia Woodlands of the Swan Coastal Plain ecological community | Endangered | Community likely to occur within area | In feature area |
| Clay Pans of the Swan Coastal Plain | Critically Endangered | Community likely to occur within area | In buffer area only |
| Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain | Endangered | Community known to occur within area | In buffer area only |
| Empodisma peatlands of southwestern Australia | Endangered | Community may occur within area | In buffer area only |
| Shrublands and Woodlands of the eastern Swan Coastal Plain | Endangered | Community known to occur within area | In buffer area only |
| Subtropical and Temperate Coastal Saltmarsh | Vulnerable | Community likely to occur within area | In buffer area only |
| Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community | Critically Endangered | Community likely to occur within area | In feature area |

Listed Threatened Species

[[Resource Information](#)]

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

Number is the current name ID.

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---------------------|--|---------------------|
| BIRD | | | |
| Arenaria interpres Ruddy Turnstone [872] | Vulnerable | Roosting known to occur within area | In buffer area only |
| Botaurus poiciloptilus Australasian Bittern [1001] | Endangered | Species or species habitat likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|-----------------------|--|---------------------|
| Calidris acuminata Sharp-tailed Sandpiper [874] | Vulnerable | Roosting known to occur within area | In feature area |
| Calidris canutus Red Knot, Knot [855] | Vulnerable | Species or species habitat known to occur within area | In buffer area only |
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| Calidris tenuirostris Great Knot [862] | Vulnerable | Roosting known to occur within area | In buffer area only |
| 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 | Roosting known to occur within area | In buffer area only |
| Diomedea amsterdamensis Amsterdam Albatross [64405] | Endangered | Species or species habitat may occur within area | In feature area |
| Diomedea epomophora Southern Royal Albatross [89221] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Diomedea exulans Wandering Albatross [89223] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Diomedea sanfordi Northern Royal Albatross [64456] | Endangered | Species or species habitat may occur within area | In buffer area only |
| Leipoa ocellata Malleefowl [934] | Vulnerable | Species or species habitat likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|---------------------|
| Limosa limosa Black-tailed Godwit [845] | Endangered | Roosting known to occur within area | In buffer area only |
| Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered | Species or species habitat may occur within area | In feature area |
| Macronectes halli Northern Giant Petrel [1061] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| Pachyptila turtur subantarctica Fairy Prion (southern) [64445] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824] | Endangered | Species or species habitat may occur within area | In feature area |
| Pluvialis squatarola Grey Plover [865] | Vulnerable | Roosting known to occur within area | In buffer area only |
| Rostratula australis Australian Painted Snipe [77037] | Endangered | Species or species habitat known to occur within area | In feature area |
| Sternula nereis nereis Australian Fairy Tern [82950] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Thalassarche cauta Shy Albatross [89224] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459] | Vulnerable | Species or species habitat may occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|---------------------|
| Thalassarche melanophris Black-browed Albatross [66472] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche steadi White-capped Albatross [64462] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Tringa nebularia Common Greenshank, Greenshank [832] | Endangered | Species or species habitat known to occur within area | In feature area |
| Xenus cinereus Terek Sandpiper [59300] | Vulnerable | Roosting known to occur within area | In buffer area only |
| Zanda baudinii listed as Calyptorhynchus baudinii Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-cockatoo [87736] | Endangered | Roosting known to occur within area | In buffer area only |
| Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737] | Endangered | Breeding known to occur within area | In feature area |
| INSECT | | | |
| Hesperocolletes douglasi Douglas' Broad-headed Bee, Rottnest Bee [66734] | Critically Endangered | Species or species habitat may occur within area | In buffer area only |
| Leioproctus douglasiellus a short-tongued bee [66756] | Critically Endangered | Species or species habitat known to occur within area | In buffer area only |
| MAMMAL | | | |
| Bettongia penicillata ogilbyi Woylie [66844] | Endangered | Species or species habitat known to occur within area | In feature area |
| Dasyurus geoffroi Chuditch, Western Quoll [330] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Macroderma gigas Ghost Bat [174] | Vulnerable | Species or species habitat may occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|-----------------------|--|---------------------|
| Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911] | Critically Endangered | Species or species habitat likely to occur within area | In buffer area only |
| Setonix brachyurus Quokka [229] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| OTHER | | | |
| Westralunio carteri Carter's Freshwater Mussel, Freshwater Mussel [86266] | Vulnerable | Species or species habitat known to occur within area | In buffer area only |
| PLANT | | | |
| Acacia anomala Grass Wattle, Chittering Grass Wattle [8153] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| Acacia aphylla Leafless Rock Wattle [13553] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| Andersonia gracilis Slender Andersonia [14470] | Endangered | Species or species habitat known to occur within area | In feature area |
| Anigozanthos viridis subsp. terraspectans Dwarf Green Kangaroo Paw [3435] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Anthocercis gracilis Slender Tailflower [11103] | Vulnerable | Species or species habitat likely to occur within area | In buffer area only |
| Austrostipa bronweniae listed as Austrostipa bronwenae [92773] | Endangered | Species or species habitat known to occur within area | In buffer area only |
| Banksia mimica Summer Honey-pot [82765] | 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 buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|--|--|---------------------|
| Calytrix breviseta subsp. breviseta Swamp Starflower [23879] | Endangered | Species or species habitat known to occur within area | In feature area |
| Chamelaucium lullfitzii listed as Chamelaucium sp. Gingin (N.G.Marchant 6) Gingin Wax [92777] | Endangered (listed as Chamelaucium sp. Gingin) | Species or species habitat may occur within area | In buffer area only |
| Conospermum undulatum Wavy-leaved Smokebush [24435] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Darwinia apiculata Scarp Darwinia [8763] | Endangered | Species or species habitat known to occur within area | In buffer area only |
| Diplolaena andrewsii [6601] | Endangered | Species or species habitat likely to occur within area | In buffer area only |
| Diuris drummondii Tall Donkey Orchid [4365] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Diuris micrantha Dwarf Bee-orchid [55082] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Diuris purdiei Purdie's Donkey-orchid [12950] | Endangered | Species or species habitat known to occur within area | In feature area |
| Drakaea elastica Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Drakaea micrantha Dwarf Hammer-orchid [56755] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Eleocharis keigheryi Keighery's Eleocharis [64893] | Vulnerable | Species or species habitat likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|-----------------------|--|---------------------|
| Eremophila glabra subsp. chlorella [84927] | Endangered | Species or species habitat known to occur within area | In buffer area only |
| Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816] | Endangered | Species or species habitat may occur within area | In feature area |
| Grevillea christineae Christine's Grevillea [64520] | Endangered | Species or species habitat likely to occur within area | In buffer area only |
| Grevillea curviloba subsp. incurva Narrow curved-leaf Grevillea [64909] | Endangered | Species or species habitat likely to occur within area | In feature area |
| Grevillea flexuosa Zig Zag Grevillea [2957] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Grevillea thelemanniana Spider Net Grevillea [32835] | Critically Endangered | Species or species habitat known to occur within area | In buffer area only |
| Lepidosperma rostratum Beaked Lepidosperma [14152] | Endangered | Species or species habitat known to occur within area | In buffer area only |
| Macarthuria keigheryi Keighery's Macarthuria [64930] | Endangered | Species or species habitat known to occur within area | In feature area |
| Ptilotus pyramidatus Pyramid Mulla-mulla [18216] | Critically Endangered | Species or species habitat known to occur within area | In buffer area only |
| Synaphea sp. Fairbridge Farm (D.Papenfus 696) Selena's Synaphea [82881] | Critically Endangered | Species or species habitat known to occur within area | In feature area |
| Synaphea sp. Pinjarra Plain (A.S.George 17182) [86878] | Endangered | Species or species habitat may occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---------------------|--|---------------------|
| Thelymitra dedmaniarum Cinnamon Sun Orchid [65105] | Endangered | Species or species habitat may occur within area | In buffer area only |
| Thelymitra stellata Star Sun-orchid [7060] | Endangered | Species or species habitat known to occur within area | In feature area |
| Trithuria occidentalis Swan Hydatella [42224] | Endangered | Species or species habitat likely to occur within area | In buffer area only |

REPTILE

| | | | |
|--|------------|---|-----------------|
| Caretta caretta Loggerhead Turtle [1763] | Endangered | Species or species habitat known to occur within area | In feature area |
| Chelonia mydas Green Turtle [1765] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area | In feature area |
| Natator depressus Flatback Turtle [59257] | Vulnerable | Species or species habitat known to occur within area | In feature area |

SHARK

| | | | |
|--|------------------------|--|---------------------|
| Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756] | Vulnerable | Species or species habitat may occur within area | In buffer area only |
| Sphyrna lewini Scalloped Hammerhead [85267] | Conservation Dependent | Species or species habitat likely to occur within area | In feature area |

Listed Migratory Species

[[Resource Information](#)]

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|--|---------------------|
| Migratory Marine Birds | | | |
| Anous stolidus Common Noddy [825] | | Species or species habitat likely to occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|--|---------------------|
| Apus pacificus Fork-tailed Swift [678] | | Species or species habitat likely to occur within area | In feature area |
| Diomedea amsterdamensis Amsterdam Albatross [64405] | Endangered | Species or species habitat may occur within area | In feature area |
| Diomedea epomophora Southern Royal Albatross [89221] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Diomedea exulans Wandering Albatross [89223] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Diomedea sanfordi Northern Royal Albatross [64456] | Endangered | Species or species habitat may occur within area | In buffer area only |
| Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered | Species or species habitat may occur within area | In feature area |
| Macronectes halli Northern Giant Petrel [1061] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche cauta Shy Albatross [89224] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche melanophris Black-browed Albatross [66472] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche steadi White-capped Albatross [64462] | Vulnerable | Species or species habitat may occur within area | In feature area |

Migratory Marine Species

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|---|---------------------|
| Caretta caretta Loggerhead Turtle [1763] | Endangered | Species or species habitat known to occur within area | In feature area |
| Chelonia mydas Green Turtle [1765] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area | In feature area |
| Lamna nasus Porbeagle, Mackerel Shark [83288] | | Species or species habitat may occur within area | In buffer area only |
| Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033] | | Species or species habitat may occur within area | In feature area |
| Mobula birostris as Manta birostris Giant Manta Ray [90034] | | Species or species habitat may occur within area | In feature area |
| Natator depressus Flatback Turtle [59257] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756] | Vulnerable | Species or species habitat may 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 |
| Arenaria interpres Ruddy Turnstone [872] | Vulnerable | Roosting known to occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|-----------------------|--|---------------------|
| Calidris acuminata Sharp-tailed Sandpiper [874] | Vulnerable | Roosting known to occur within area | In feature area |
| Calidris alba Sanderling [875] | | Roosting known to occur within area | In buffer area only |
| Calidris canutus Red Knot, Knot [855] | Vulnerable | Species or species habitat known to occur within area | In buffer area only |
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| Calidris melanotos Pectoral Sandpiper [858] | | Species or species habitat likely to occur within area | In feature area |
| Calidris ruficollis Red-necked Stint [860] | | Roosting known to occur within area | In buffer area only |
| Calidris tenuirostris Great Knot [862] | Vulnerable | Roosting known to occur within area | In buffer area only |
| Charadrius bicinctus Double-banded Plover [895] | | Roosting 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 | Roosting known to occur within area | In buffer area only |
| Gallinago megala Swinhoe's Snipe [864] | | Roosting likely to occur within area | In buffer area only |
| Gallinago stenura Pin-tailed Snipe [841] | | Roosting likely to occur within area | In buffer area only |
| Limosa limosa Black-tailed Godwit [845] | Endangered | Roosting known to occur within area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|---------------------|
| Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847] | Critically Endangered | Species or species habitat likely to occur within area | In feature area |
| Numenius minutus Little Curlew, Little Whimbrel [848] | | Roosting likely to occur within area | In buffer area only |
| Numenius phaeopus Whimbrel [849] | | Roosting known to occur within area | In buffer area only |
| Pandion haliaetus Osprey [952] | | Breeding known to occur within area | In feature area |
| Phalaropus lobatus Red-necked Phalarope [838] | | Roosting known to occur within area | In buffer area only |
| Pluvialis fulva Pacific Golden Plover [25545] | | Roosting known to occur within area | In buffer area only |
| Pluvialis squatarola Grey Plover [865] | Vulnerable | Roosting known to occur within area | In buffer area only |
| Tringa brevipes Grey-tailed Tattler [851] | | Roosting known to occur within area | In buffer area only |
| Tringa nebularia Common Greenshank, Greenshank [832] | Endangered | Species or species habitat known to occur within area | In feature area |
| Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833] | | Roosting known to occur within area | In buffer area only |
| Tringa totanus Common Redshank, Redshank [835] | | Roosting known to occur within area | In buffer area only |
| Xenus cinereus Terek Sandpiper [59300] | Vulnerable | Roosting known to occur within area | In buffer area only |

Other Matters Protected by the EPBC Act

Commonwealth Lands

[\[Resource Information \]](#)

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

| Commonwealth Land Name | State | Buffer Status |
|--|-------|---------------------|
| Defence | | |
| Defence - AIRTC CANNINGTON [50229] | WA | In buffer area only |
| Defence - AIRTC CANNINGTON [50233] | WA | In buffer area only |
| Defence - AIRTC CANNINGTON [50230] | WA | In buffer area only |
| Defence - AIRTC CANNINGTON [50232] | WA | In buffer area only |
| Defence - AIRTC CANNINGTON [50231] | WA | In buffer area only |
| Defence - BUSHMEAD RIFLE RANGE [50143] | WA | In buffer area only |
| Defence - BUSHMEAD TRAINING AREA [50260] | WA | In buffer area only |
| Defence - BUSHMEAD TRAINING AREA [50259] | WA | In buffer area only |
| Defence - BUSHMEAD TRAINING AREA [50258] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50205] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50208] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50209] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50206] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50207] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50204] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50203] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50202] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50201] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50214] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50215] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50216] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50217] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|---|-------|---------------------|
| Defence - HOLDFAST BARRACKS [50218] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50219] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50210] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50211] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50212] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50213] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50222] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50228] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50226] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50227] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50224] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50225] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50223] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50220] | WA | In buffer area only |
| Defence - HOLDFAST BARRACKS [50221] | WA | In buffer area only |
| Defence - PALMER BARRACKS - SOUTH GUILDFORD [50176] | WA | In buffer area only |
| Defence - PALMER BARRACKS - SOUTH GUILDFORD [50177] | WA | In buffer area only |
| Defence - PALMER BARRACKS - SOUTH GUILDFORD [50178] | WA | In buffer area only |
| Defence - PALMER BARRACKS - SOUTH GUILDFORD [50179] | WA | In buffer area only |
| Defence - PALMER BARRACKS - SOUTH GUILDFORD [50180] | WA | In buffer area only |
| Defence - RAAF CAVERSHAM [50003] | WA | In buffer area only |
| Defence - SWAN BARRACKS [50171] | WA | In buffer area only |
| Unknown | | |
| Commonwealth Land - [51339] | WA | In buffer area only |
| Commonwealth Land - [51345] | WA | In buffer area only |
| Commonwealth Land - [51333] | WA | In buffer area only |
| Commonwealth Land - [51334] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51187] | WA | In buffer area only |
| Commonwealth Land - [51331] | WA | In buffer area only |
| Commonwealth Land - [51180] | WA | In buffer area only |
| Commonwealth Land - [51332] | WA | In buffer area only |
| Commonwealth Land - [51181] | WA | In buffer area only |
| Commonwealth Land - [51337] | WA | In buffer area only |
| Commonwealth Land - [51182] | WA | In buffer area only |
| Commonwealth Land - [51338] | WA | In buffer area only |
| Commonwealth Land - [51183] | WA | In buffer area only |
| Commonwealth Land - [51335] | WA | In buffer area only |
| Commonwealth Land - [51918] | WA | In buffer area only |
| Commonwealth Land - [51336] | WA | In buffer area only |
| Commonwealth Land - [51916] | WA | In buffer area only |
| Commonwealth Land - [51917] | WA | In buffer area only |
| Commonwealth Land - [51914] | WA | In buffer area only |
| Commonwealth Land - [51915] | WA | In buffer area only |
| Commonwealth Land - [51253] | WA | In buffer area only |
| Commonwealth Land - [51154] | WA | In buffer area only |
| Commonwealth Land - [51252] | WA | In buffer area only |
| Commonwealth Land - [51251] | WA | In buffer area only |
| Commonwealth Land - [51250] | WA | In buffer area only |
| Commonwealth Land - [51255] | WA | In buffer area only |
| Commonwealth Land - [51254] | WA | In buffer area only |
| Commonwealth Land - [51347] | WA | In buffer area only |
| Commonwealth Land - [51346] | WA | In buffer area only |
| Commonwealth Land - [51341] | WA | In buffer area only |
| Commonwealth Land - [51340] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51178] | WA | In buffer area only |
| Commonwealth Land - [51343] | WA | In buffer area only |
| Commonwealth Land - [51179] | WA | In buffer area only |
| Commonwealth Land - [51342] | WA | In buffer area only |
| Commonwealth Land - [51172] | WA | In buffer area only |
| Commonwealth Land - [51349] | WA | In buffer area only |
| Commonwealth Land - [51173] | WA | In buffer area only |
| Commonwealth Land - [51348] | WA | In buffer area only |
| Commonwealth Land - [51378] | WA | In buffer area only |
| Commonwealth Land - [51185] | WA | In buffer area only |
| Commonwealth Land - [51276] | WA | In buffer area only |
| Commonwealth Land - [51184] | WA | In buffer area only |
| Commonwealth Land - [51189] | WA | In buffer area only |
| Commonwealth Land - [51188] | WA | In buffer area only |
| Commonwealth Land - [51275] | WA | In buffer area only |
| Commonwealth Land - [51209] | WA | In buffer area only |
| Commonwealth Land - [51277] | WA | In buffer area only |
| Commonwealth Land - [51344] | WA | In buffer area only |
| Commonwealth Land - [51274] | WA | In buffer area only |
| Commonwealth Land - [51186] | WA | In buffer area only |
| Commonwealth Land - [51206] | WA | In buffer area only |
| Commonwealth Land - [51205] | WA | In buffer area only |
| Commonwealth Land - [51208] | WA | In buffer area only |
| Commonwealth Land - [51207] | WA | In buffer area only |
| Commonwealth Land - [51171] | WA | In buffer area only |
| Commonwealth Land - [51176] | WA | In buffer area only |
| Commonwealth Land - [51170] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51175] | WA | In buffer area only |
| Commonwealth Land - [50861] | WA | In buffer area only |
| Commonwealth Land - [50773] | WA | In buffer area only |
| Commonwealth Land - [50860] | WA | In buffer area only |
| Commonwealth Land - [51177] | WA | In buffer area only |
| Commonwealth Land - [50863] | WA | In buffer area only |
| Commonwealth Land - [51174] | WA | In buffer area only |
| Commonwealth Land - [50862] | WA | In buffer area only |
| Commonwealth Land - [50845] | WA | In buffer area only |
| Commonwealth Land - [50806] | WA | In buffer area only |
| Commonwealth Land - [50746] | WA | In buffer area only |
| Commonwealth Land - [50842] | WA | In buffer area only |
| Commonwealth Land - [50843] | WA | In buffer area only |
| Commonwealth Land - [50804] | WA | In buffer area only |
| Commonwealth Land - [51163] | WA | In buffer area only |
| Commonwealth Land - [50840] | WA | In buffer area only |
| Commonwealth Land - [50807] | WA | In buffer area only |
| Commonwealth Land - [51162] | WA | In buffer area only |
| Commonwealth Land - [51166] | WA | In buffer area only |
| Commonwealth Land - [51161] | WA | In buffer area only |
| Commonwealth Land - [51373] | WA | In buffer area only |
| Commonwealth Land - [51372] | WA | In buffer area only |
| Commonwealth Land - [51371] | WA | In buffer area only |
| Commonwealth Land - [51370] | WA | In buffer area only |
| Commonwealth Land - [50849] | WA | In buffer area only |
| Commonwealth Land - [50841] | WA | In buffer area only |
| Commonwealth Land - [51299] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51379] | WA | In buffer area only |
| Commonwealth Land - [51375] | WA | In buffer area only |
| Commonwealth Land - [51374] | WA | In buffer area only |
| Commonwealth Land - [51272] | WA | In buffer area only |
| Commonwealth Land - [51273] | WA | In buffer area only |
| Commonwealth Land - [50777] | WA | In buffer area only |
| Commonwealth Land - [50776] | WA | In buffer area only |
| Commonwealth Land - [50803] | WA | In buffer area only |
| Commonwealth Land - [50778] | WA | In buffer area only |
| Commonwealth Land - [50808] | WA | In buffer area only |
| Commonwealth Land - [51502] | WA | In buffer area only |
| Commonwealth Land - [51501] | WA | In buffer area only |
| Commonwealth Land - [50873] | WA | In buffer area only |
| Commonwealth Land - [51330] | WA | In buffer area only |
| Commonwealth Land - [50874] | WA | In buffer area only |
| Commonwealth Land - [51313] | WA | In buffer area only |
| Commonwealth Land - [50877] | WA | In buffer area only |
| Commonwealth Land - [51506] | WA | In buffer area only |
| Commonwealth Land - [51312] | WA | In buffer area only |
| Commonwealth Land - [50878] | WA | In buffer area only |
| Commonwealth Land - [51505] | WA | In buffer area only |
| Commonwealth Land - [51504] | WA | In buffer area only |
| Commonwealth Land - [51310] | WA | In buffer area only |
| Commonwealth Land - [51503] | WA | In buffer area only |
| Commonwealth Land - [51509] | WA | In buffer area only |
| Commonwealth Land - [51508] | WA | In buffer area only |
| Commonwealth Land - [51507] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51295] | WA | In buffer area only |
| Commonwealth Land - [51296] | WA | In buffer area only |
| Commonwealth Land - [50844] | WA | In buffer area only |
| Commonwealth Land - [51190] | WA | In buffer area only |
| Commonwealth Land - [50847] | WA | In buffer area only |
| Commonwealth Land - [51294] | WA | In buffer area only |
| Commonwealth Land - [50846] | WA | In buffer area only |
| Commonwealth Land - [51316] | WA | In buffer area only |
| Commonwealth Land - [51317] | WA | In buffer area only |
| Commonwealth Land - [51314] | WA | In buffer area only |
| Commonwealth Land - [51315] | WA | In buffer area only |
| Commonwealth Land - [51293] | WA | In buffer area only |
| Commonwealth Land - [51298] | WA | In buffer area only |
| Commonwealth Land - [51291] | WA | In buffer area only |
| Commonwealth Land - [51292] | WA | In buffer area only |
| Commonwealth Land - [51297] | WA | In buffer area only |
| Commonwealth Land - [51290] | WA | In buffer area only |
| Commonwealth Land - [51423] | WA | In buffer area only |
| Commonwealth Land - [51356] | WA | In buffer area only |
| Commonwealth Land - [51352] | WA | In buffer area only |
| Commonwealth Land - [51422] | WA | In buffer area only |
| Commonwealth Land - [50814] | WA | In buffer area only |
| Commonwealth Land - [50885] | WA | In buffer area only |
| Commonwealth Land - [51425] | WA | In buffer area only |
| Commonwealth Land - [51213] | WA | In buffer area only |
| Commonwealth Land - [51196] | WA | In buffer area only |
| Commonwealth Land - [51197] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51194] | WA | In buffer area only |
| Commonwealth Land - [51195] | WA | In buffer area only |
| Commonwealth Land - [51192] | WA | In buffer area only |
| Commonwealth Land - [51193] | WA | In buffer area only |
| Commonwealth Land - [51191] | WA | In buffer area only |
| Commonwealth Land - [50812] | WA | In buffer area only |
| Commonwealth Land - [51198] | WA | In buffer area only |
| Commonwealth Land - [51199] | WA | In buffer area only |
| Commonwealth Land - [51215] | WA | In buffer area only |
| Commonwealth Land - [51214] | WA | In buffer area only |
| Commonwealth Land - [51219] | WA | In buffer area only |
| Commonwealth Land - [51284] | WA | In buffer area only |
| Commonwealth Land - [51218] | WA | In buffer area only |
| Commonwealth Land - [51211] | WA | In buffer area only |
| Commonwealth Land - [51286] | WA | In buffer area only |
| Commonwealth Land - [51210] | WA | In buffer area only |
| Commonwealth Land - [51285] | WA | In buffer area only |
| Commonwealth Land - [51217] | WA | In buffer area only |
| Commonwealth Land - [50775] | WA | In buffer area only |
| Commonwealth Land - [51426] | WA | In buffer area only |
| Commonwealth Land - [51977] | WA | In buffer area only |
| Commonwealth Land - [51168] | WA | In buffer area only |
| Commonwealth Land - [51169] | WA | In buffer area only |
| Commonwealth Land - [51164] | WA | In buffer area only |
| Commonwealth Land - [51165] | WA | In buffer area only |
| Commonwealth Land - [51369] | WA | In buffer area only |
| Commonwealth Land - [51167] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51510] | WA | In buffer area only |
| Commonwealth Land - [50817] | WA | In buffer area only |
| Commonwealth Land - [51212] | WA | In buffer area only |
| Commonwealth Land - [51364] | WA | In buffer area only |
| Commonwealth Land - [51363] | WA | In buffer area only |
| Commonwealth Land - [51366] | WA | In buffer area only |
| Commonwealth Land - [51365] | WA | In buffer area only |
| Commonwealth Land - [51360] | WA | In buffer area only |
| Commonwealth Land - [51138] | WA | In buffer area only |
| Commonwealth Land - [51362] | WA | In buffer area only |
| Commonwealth Land - [51361] | WA | In buffer area only |
| Commonwealth Land - [50850] | WA | In buffer area only |
| Commonwealth Land - [50859] | WA | In buffer area only |
| Commonwealth Land - [50853] | WA | In buffer area only |
| Commonwealth Land - [50758] | WA | In buffer area only |
| Commonwealth Land - [50753] | WA | In buffer area only |
| Commonwealth Land - [51270] | WA | In buffer area only |
| Commonwealth Land - [50759] | WA | In buffer area only |
| Commonwealth Land - [50752] | WA | In buffer area only |
| Commonwealth Land - [51367] | WA | In buffer area only |
| Commonwealth Land - [51368] | WA | In buffer area only |
| Commonwealth Land - [51134] | WA | In buffer area only |
| Commonwealth Land - [51135] | WA | In buffer area only |
| Commonwealth Land - [51133] | WA | In buffer area only |
| Commonwealth Land - [51910] | WA | In buffer area only |
| Commonwealth Land - [51911] | WA | In buffer area only |
| Commonwealth Land - [51912] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51913] | WA | In buffer area only |
| Commonwealth Land - [51323] | WA | In buffer area only |
| Commonwealth Land - [50757] | WA | In buffer area only |
| Commonwealth Land - [51322] | WA | In buffer area only |
| Commonwealth Land - [51321] | WA | In buffer area only |
| Commonwealth Land - [51320] | WA | In buffer area only |
| Commonwealth Land - [51327] | WA | In buffer area only |
| Commonwealth Land - [51326] | WA | In buffer area only |
| Commonwealth Land - [51325] | WA | In buffer area only |
| Commonwealth Land - [51324] | WA | In buffer area only |
| Commonwealth Land - [51329] | WA | In buffer area only |
| Commonwealth Land - [51139] | WA | In buffer area only |
| Commonwealth Land - [51137] | WA | In buffer area only |
| Commonwealth Land - [51136] | WA | In buffer area only |
| Commonwealth Land - [51216] | WA | In buffer area only |
| Commonwealth Land - [51418] | WA | In buffer area only |
| Commonwealth Land - [51258] | WA | In buffer area only |
| Commonwealth Land - [51259] | WA | In buffer area only |
| Commonwealth Land - [51318] | WA | In buffer area only |
| Commonwealth Land - [51311] | WA | In buffer area only |
| Commonwealth Land - [51419] | WA | In buffer area only |
| Commonwealth Land - [51319] | WA | In buffer area only |
| Commonwealth Land - [51257] | WA | In buffer area only |
| Commonwealth Land - [51256] | WA | In buffer area only |
| Commonwealth Land - [51302] | WA | In buffer area only |
| Commonwealth Land - [51303] | WA | In buffer area only |
| Commonwealth Land - [51242] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51265] | WA | In buffer area only |
| Commonwealth Land - [51241] | WA | In buffer area only |
| Commonwealth Land - [51264] | WA | In buffer area only |
| Commonwealth Land - [51247] | WA | In buffer area only |
| Commonwealth Land - [51246] | WA | In buffer area only |
| Commonwealth Land - [51269] | WA | In buffer area only |
| Commonwealth Land - [51268] | WA | In buffer area only |
| Commonwealth Land - [51262] | WA | In buffer area only |
| Commonwealth Land - [51300] | WA | In buffer area only |
| Commonwealth Land - [51243] | WA | In buffer area only |
| Commonwealth Land - [51301] | WA | In buffer area only |
| Commonwealth Land - [51307] | WA | In buffer area only |
| Commonwealth Land - [51306] | WA | In buffer area only |
| Commonwealth Land - [51305] | WA | In buffer area only |
| Commonwealth Land - [51304] | WA | In buffer area only |
| Commonwealth Land - [51244] | WA | In buffer area only |
| Commonwealth Land - [51245] | WA | In buffer area only |
| Commonwealth Land - [51248] | WA | In buffer area only |
| Commonwealth Land - [51249] | WA | In buffer area only |
| Commonwealth Land - [51921] | WA | In buffer area only |
| Commonwealth Land - [51140] | WA | In buffer area only |
| Commonwealth Land - [51923] | WA | In buffer area only |
| Commonwealth Land - [50837] | WA | In buffer area only |
| Commonwealth Land - [51920] | WA | In buffer area only |
| Commonwealth Land - [51924] | WA | In buffer area only |
| Commonwealth Land - [51972] | WA | In buffer area only |
| Commonwealth Land - [51922] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [50738] | WA | In buffer area only |
| Commonwealth Land - [51309] | WA | In buffer area only |
| Commonwealth Land - [51230] | WA | In buffer area only |
| Commonwealth Land - [50783] | WA | In buffer area only |
| Commonwealth Land - [51308] | WA | In buffer area only |
| Commonwealth Land - [51260] | WA | In buffer area only |
| Commonwealth Land - [51261] | WA | In buffer area only |
| Commonwealth Land - [51266] | WA | In buffer area only |
| Commonwealth Land - [51267] | WA | In buffer area only |
| Commonwealth Land - [51328] | WA | In buffer area only |
| Commonwealth Land - [51145] | WA | In buffer area only |
| Commonwealth Land - [51141] | WA | In buffer area only |
| Commonwealth Land - [51200] | WA | In buffer area only |
| Commonwealth Land - [51289] | WA | In buffer area only |
| Commonwealth Land - [50819] | WA | In buffer area only |
| Commonwealth Land - [51288] | WA | In buffer area only |
| Commonwealth Land - [51280] | WA | In buffer area only |
| Commonwealth Land - [51971] | WA | In buffer area only |
| Commonwealth Land - [50767] | WA | In buffer area only |
| Commonwealth Land - [50805] | WA | In buffer area only |
| Commonwealth Land - [50766] | WA | In buffer area only |
| Commonwealth Land - [50769] | WA | In buffer area only |
| Commonwealth Land - [50771] | WA | In buffer area only |
| Commonwealth Land - [50768] | WA | In buffer area only |
| Commonwealth Land - [50772] | WA | In buffer area only |
| Commonwealth Land - [50770] | WA | In buffer area only |
| Commonwealth Land - [50760] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [50816] | WA | In buffer area only |
| Commonwealth Land - [50765] | WA | In buffer area only |
| Commonwealth Land - [51281] | WA | In buffer area only |
| Commonwealth Land - [51282] | WA | In buffer area only |
| Commonwealth Land - [51283] | WA | In buffer area only |
| Commonwealth Land - [51263] | WA | In buffer area only |
| Commonwealth Land - [51201] | WA | In buffer area only |
| Commonwealth Land - [51202] | WA | In buffer area only |
| Commonwealth Land - [51203] | WA | In buffer area only |
| Commonwealth Land - [51204] | WA | In buffer area only |
| Commonwealth Land - [51221] | WA | In buffer area only |
| Commonwealth Land - [51228] | WA | In buffer area only |
| Commonwealth Land - [50823] | WA | In buffer area only |
| Commonwealth Land - [50822] | WA | In buffer area only |
| Commonwealth Land - [50797] | WA | In buffer area only |
| Commonwealth Land - [50824] | WA | In buffer area only |
| Commonwealth Land - [50826] | WA | In buffer area only |
| Commonwealth Land - [50820] | WA | In buffer area only |
| Commonwealth Land - [50821] | WA | In buffer area only |
| Commonwealth Land - [51350] | WA | In buffer area only |
| Commonwealth Land - [51353] | WA | In buffer area only |
| Commonwealth Land - [51420] | WA | In buffer area only |
| Commonwealth Land - [51229] | WA | In buffer area only |
| Commonwealth Land - [51354] | WA | In buffer area only |
| Commonwealth Land - [51357] | WA | In buffer area only |
| Commonwealth Land - [51424] | WA | In buffer area only |
| Commonwealth Land - [51351] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51515] | WA | In buffer area only |
| Commonwealth Land - [51279] | WA | In buffer area only |
| Commonwealth Land - [50827] | WA | In buffer area only |
| Commonwealth Land - [51220] | WA | In buffer area only |
| Commonwealth Land - [50828] | WA | In buffer area only |
| Commonwealth Land - [50799] | WA | In buffer area only |
| Commonwealth Land - [51278] | WA | In buffer area only |
| Commonwealth Land - [50829] | WA | In buffer area only |
| Commonwealth Land - [50798] | WA | In buffer area only |
| Commonwealth Land - [51516] | WA | In buffer area only |
| Commonwealth Land - [51227] | WA | In buffer area only |
| Commonwealth Land - [51226] | WA | In buffer area only |
| Commonwealth Land - [51225] | WA | In buffer area only |
| Commonwealth Land - [51224] | WA | In buffer area only |
| Commonwealth Land - [51223] | WA | In buffer area only |
| Commonwealth Land - [51222] | WA | In buffer area only |
| Commonwealth Land - [51908] | WA | In buffer area only |
| Commonwealth Land - [51237] | WA | In buffer area only |
| Commonwealth Land - [51236] | WA | In buffer area only |
| Commonwealth Land - [51234] | WA | In buffer area only |
| Commonwealth Land - [50836] | WA | In buffer area only |
| Commonwealth Land - [50835] | WA | In buffer area only |
| Commonwealth Land - [50834] | WA | In buffer area only |
| Commonwealth Land - [50839] | WA | In feature area |
| Commonwealth Land - [50838] | WA | In buffer area only |
| Commonwealth Land - [51427] | WA | In buffer area only |
| Commonwealth Land - [51358] | WA | In buffer area only |

| Commonwealth Land Name | State | Buffer Status |
|-----------------------------|-------|---------------------|
| Commonwealth Land - [51359] | WA | In buffer area only |
| Commonwealth Land - [51156] | WA | In buffer area only |
| Commonwealth Land - [51157] | WA | In buffer area only |
| Commonwealth Land - [51159] | WA | In buffer area only |
| Commonwealth Land - [51158] | WA | In buffer area only |
| Commonwealth Land - [51231] | WA | In buffer area only |
| Commonwealth Land - [51238] | WA | In buffer area only |
| Commonwealth Land - [51233] | WA | In buffer area only |
| Commonwealth Land - [51271] | WA | In buffer area only |
| Commonwealth Land - [51235] | WA | In buffer area only |
| Commonwealth Land - [51232] | WA | In buffer area only |
| Commonwealth Land - [51904] | WA | In buffer area only |
| Commonwealth Land - [51906] | WA | In buffer area only |
| Commonwealth Land - [51909] | WA | In buffer area only |
| Commonwealth Land - [51903] | WA | In buffer area only |
| Commonwealth Land - [51355] | WA | In buffer area only |
| Commonwealth Land - [51907] | WA | In buffer area only |
| Commonwealth Land - [51902] | WA | In buffer area only |

| Commonwealth Heritage Places | | | [Resource Information] |
|---|-------|--------------|--------------------------|
| Name | State | Status | Buffer Status |
| Historic | | | |
| Inglewood Post Office | WA | Listed place | In buffer area only |
| Perth General Post Office | WA | Listed place | In buffer area only |
| South Perth Post Office | WA | Listed place | In buffer area only |
| Victoria Park Post Office | WA | Listed place | In buffer area only |

| Listed Marine Species | | | [Resource Information] |
|-----------------------|---------------------|---------------|--------------------------|
| Scientific Name | Threatened Category | Presence Text | Buffer Status |
| Bird | | | |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|-----------------------|--|---------------------|
| Actitis hypoleucos Common Sandpiper [59309] | | Species or species habitat known to occur within area | In feature area |
| Anous stolidus Common Noddy [825] | | Species or species habitat likely to occur within area | In buffer area only |
| Apus pacificus Fork-tailed Swift [678] | | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Arenaria interpres Ruddy Turnstone [872] | Vulnerable | Roosting 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] | Vulnerable | Roosting known to occur within area | In feature area |
| Calidris alba Sanderling [875] | | Roosting known to occur within area | In buffer area only |
| Calidris canutus Red Knot, Knot [855] | Vulnerable | Species or species habitat known to occur within area overfly marine area | In buffer area only |
| Calidris ferruginea Curlew Sandpiper [856] | Critically Endangered | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Calidris melanotos Pectoral Sandpiper [858] | | Species or species habitat likely to occur within area overfly marine area | In feature area |
| Calidris ruficollis Red-necked Stint [860] | | Roosting known to occur within area overfly marine area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|---|---------------------|
| Calidris tenuirostris Great Knot [862] | Vulnerable | Roosting known to occur within area overfly marine area | In buffer area only |
| Charadrius bicinctus Double-banded Plover [895] | | Roosting 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 | Roosting known to occur within area | In buffer area only |
| Charadrius ruficapillus Red-capped Plover [881] | | Roosting known to occur within area overfly marine area | In buffer area only |
| Diomedea amsterdamensis Amsterdam Albatross [64405] | Endangered | Species or species habitat may occur within area | In feature area |
| Diomedea epomophora Southern Royal Albatross [89221] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Diomedea exulans Wandering Albatross [89223] | Vulnerable | Species or species habitat likely to occur within area | In feature area |
| Diomedea sanfordi Northern Royal Albatross [64456] | Endangered | Species or species habitat may occur within area | In buffer area only |
| Gallinago megala Swinhoe's Snipe [864] | | Roosting likely to occur within area overfly marine area | In buffer area only |
| Gallinago stenura Pin-tailed Snipe [841] | | Roosting likely to occur within area overfly marine area | In buffer area only |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|-----------------------|--|---------------------|
| Haliaeetus leucogaster White-bellied Sea-Eagle [943] | | Species or species habitat known to occur within area | In feature area |
| Himantopus himantopus Pied Stilt, Black-winged Stilt [870] | | Roosting known to occur within area overfly marine area | In buffer area only |
| Limosa limosa Black-tailed Godwit [845] | Endangered | Roosting known to occur within area overfly marine area | In buffer area only |
| Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered | Species or species habitat may occur within area | In feature area |
| Macronectes halli Northern Giant Petrel [1061] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| 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 likely to occur within area | In feature area |
| Numenius minutus Little Curlew, Little Whimbrel [848] | | Roosting likely to occur within area overfly marine area | In buffer area only |
| Numenius phaeopus Whimbrel [849] | | Roosting known to occur within area | In buffer area only |
| Pachyptila turtur Fairy Prion [1066] | | Species or species habitat likely to occur within area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|--|---------------------|--|---------------------|
| Pandion haliaetus Osprey [952] | | Breeding known to occur within area | In feature area |
| Phalaropus lobatus Red-necked Phalarope [838] | | Roosting known to occur within area | In buffer area only |
| Pluvialis fulva Pacific Golden Plover [25545] | | Roosting known to occur within area | In buffer area only |
| Pluvialis squatarola Grey Plover [865] | Vulnerable | Roosting known to occur within area overfly marine area | In buffer area only |
| Recurvirostra novaehollandiae Red-necked Avocet [871] | | Roosting 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 known to occur within area overfly marine area | In feature area |
| Thalassarche cauta Shy Albatross [89224] | Endangered | Species or species habitat may occur within area | In feature area |
| Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thalassarche melanophris Black-browed Albatross [66472] | Vulnerable | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| Thalassarche steadi White-capped Albatross [64462] | Vulnerable | Species or species habitat may occur within area | In feature area |
| Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735] | | Species or species habitat likely to occur within area overfly marine area | In feature area |

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|---|---------------------|---|---------------------|
| Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851] | | Roosting known to occur within area | In buffer area only |
| Tringa nebularia Common Greenshank, Greenshank [832] | Endangered | Species or species habitat known to occur within area overfly marine area | In feature area |
| Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833] | | Roosting known to occur within area overfly marine area | In buffer area only |
| Tringa totanus Common Redshank, Redshank [835] | | Roosting known to occur within area overfly marine area | In buffer area only |
| Xenus cinereus Terek Sandpiper [59300] | Vulnerable | Roosting known to occur within area overfly marine area | In buffer area only |

Reptile

| | | | |
|--|------------|---|-----------------|
| Caretta caretta Loggerhead Turtle [1763] | Endangered | Species or species habitat known to occur within area | In feature area |
| Chelonia mydas Green Turtle [1765] | Vulnerable | Species or species habitat known to occur within area | In feature area |
| Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768] | Endangered | Species or species habitat known to occur within area | In feature area |
| Natator depressus Flatback Turtle [59257] | Vulnerable | Species or species habitat known to occur within area | In feature area |

Extra Information

| State and Territory Reserves | | | [Resource Information] |
|------------------------------|-----------------|-------|--|
| Protected Area Name | Reserve Type | State | Buffer Status |
| Canning River | Management Area | WA | In buffer area only |
| Dundas Road | Nature Reserve | WA | In buffer area only |

| Protected Area Name | Reserve Type | State | Buffer Status |
|----------------------|-------------------|-------|---------------------|
| Gooseberry Hill | National Park | WA | In buffer area only |
| Helena River | Management Area | WA | In buffer area only |
| Kenwick Wetlands | Nature Reserve | WA | In buffer area only |
| Kings Park | Botanic Gardens | WA | In buffer area only |
| Milyu | Nature Reserve | WA | In buffer area only |
| Perth Zoo | Other | WA | In buffer area only |
| Swan Estuary - Milyu | Marine Park | WA | In buffer area only |
| Swan River | Management Area | WA | In feature area |
| Unnamed WA1919/893 | Management Area | WA | In buffer area only |
| Unnamed WA29815 | 5(1)(h) Reserve | WA | In buffer area only |
| Unnamed WA33618 | Management Area | WA | In buffer area only |
| Unnamed WA36440 | Management Area | WA | In buffer area only |
| Unnamed WA37997 | Nature Reserve | WA | In buffer area only |
| Unnamed WA44853 | Nature Reserve | WA | In buffer area only |
| Unnamed WA49079 | Nature Reserve | WA | In buffer area only |
| Unnamed WA49362 | Nature Reserve | WA | In buffer area only |
| Unnamed WA49363 | Conservation Park | WA | In buffer area only |

Regional Forest Agreements [\[Resource Information \]](#)

Note that all areas with completed RFAs have been included. Please see the associated resource information for specific caveats and use limitations associated with RFA boundary information.

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

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

| Wetland Name | State | Buffer Status |
|---|-------|---------------------|
| Brixton Street Swamps | WA | In buffer area only |
| Palmer Barracks, Guildford | WA | In buffer area only |
| Perth Airport Woodland Swamps | WA | In buffer area only |
| RAAF Caversham | WA | In buffer area only |

| Wetland Name | State | Buffer Status |
|--------------------------------------|-------|-----------------|
| Swan-Canning Estuary | WA | In feature area |

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

| Title of referral | Reference | Referral Outcome | Assessment Status | Buffer Status |
|--|------------|-------------------|-----------------------------|---------------------|
| Land Clearing for Light Industrial Development | 2022/09419 | | Completed | In buffer area only |
| Southern Link Road Stage 3 City of Canning | 2020/8809 | | Assessment | In buffer area only |
| Vegetation Clearing Viticulture project | 2021/9099 | | Completed | In buffer area only |
| Controlled action | | | | |
| Airport & Freight Access Gateway | 2010/5384 | Controlled Action | Post-Approval | In buffer area only |
| Bushmead Residential Development, Hazelmere, WA | 2015/7414 | Controlled Action | Post-Approval | In buffer area only |
| Morley-Ellenbrook Rail Line Part 2, WA | 2019/8546 | Controlled Action | Post-Approval | In buffer area only |
| National Lifestyle Village, Lot 97 Adelaide Street | 2009/5141 | Controlled Action | Post-Approval | In buffer area only |
| Native vegetation clearing of Lot 21 Webster Road for Industrial Development | 2011/6186 | Controlled Action | Post-Approval | In buffer area only |
| Natural Gas Pipeline Expansion | 2006/2813 | Controlled Action | Post-Approval | In buffer area only |
| Nava-1 Cable System | 2001/510 | Controlled Action | Completed | In buffer area only |
| Perth-Darwin National Highway alignment (Swan Valley Section), WA | 2013/7042 | Controlled Action | Post-Approval | In buffer area only |
| Primary school, residential development and open space, Lots 9000 Bottlebrush Drive, Kiara, WA | 2013/7050 | Controlled Action | Post-Approval | In buffer area only |
| Residential Development 822 Youle-Dean Road, Brabham, WA | 2015/7458 | Controlled Action | Post-Approval | In buffer area only |
| Roe Highway and Great Eastern Highway Bypass Grade Separation Interchange, Hazelmere WA | 2020/8784 | Controlled Action | Further Information Request | In buffer area only |
| Roe Highway and Kalamunda Road Interchange upgrade, WA | 2018/8316 | Controlled Action | Post-Approval | In buffer area only |

| Title of referral | Reference | Referral Outcome | Assessment Status | Buffer Status |
|--|-----------|-----------------------|-------------------|---------------------|
| Controlled action | | | | |
| Sand Mining 70/915 Banksia Road, Wellard, WA | 2015/7438 | Controlled Action | Post-Approval | In buffer area only |
| Shenton Park Subdivision | 2004/1479 | Controlled Action | Completed | In buffer area only |
| Thornlie-Cockburn Link Project, WA | 2018/8188 | Controlled Action | Post-Approval | In buffer area only |
| To grade separate three intersections on Tonkin Highway, WA | 2014/7385 | Controlled Action | Post-Approval | In buffer area only |
| Tonkin Highway Grade Separated Interchanges | 2019/8529 | Controlled Action | Post-Approval | In buffer area only |
| Not controlled action | | | | |
| Berkshire Road and Roe Highway Interchange, Forrestfield, East Perth, WA | 2014/7243 | Not Controlled Action | Completed | In buffer area only |
| Brabham North residential development, Brabham, WA | 2018/8380 | Not Controlled Action | Completed | In buffer area only |
| Cell 2 of Caversham Local Structure Plan | 2012/6259 | Not Controlled Action | Completed | In buffer area only |
| Construction of international rowing course and commercial/residential areas | 2003/1034 | Not Controlled Action | Completed | In buffer area only |
| Construction of Pawsey High Performance Computing Centre | 2010/5560 | Not Controlled Action | Completed | In buffer area only |
| Construction of the Perth Stadium and associated infrastructure | 2013/6740 | Not Controlled Action | Completed | In buffer area only |
| Curtin Main Street Project - Transformation of Bentley Campus to a major urban centre WA | 2013/7044 | Not Controlled Action | Completed | In buffer area only |
| Development of Crown Towers Five Star Quality Hotel | 2012/6695 | Not Controlled Action | Completed | In buffer area only |
| Ellenbrook Bus Rapid Transit Project, WA | 2016/7732 | Not Controlled Action | Completed | In buffer area only |
| Eradication of the European House Borer, Perth metropolitan area, WA | 2009/5027 | Not Controlled Action | Completed | In buffer area only |
| extensions to minerals laboratory | 2005/2285 | Not Controlled Action | Completed | In buffer area only |
| Forrestfield Airport Link, WA | 2015/7399 | Not Controlled Action | Completed | In feature area |

| Title of referral | Reference | Referral Outcome | Assessment Status | Buffer Status |
|---|-----------|---|-------------------|---------------------|
| Not controlled action | | | | |
| GPO Building, 3 Forrest Place, Perth WA 6000 | 2017/8014 | Not Controlled Action | Completed | In buffer area only |
| Hartfield Park Sporting Field Extension | 2013/7008 | Not Controlled Action | Completed | In buffer area only |
| Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia | 2015/7522 | Not Controlled Action | Completed | In feature area |
| INDIGO Central Submarine Telecommunications Cable | 2017/8127 | Not Controlled Action | Completed | In feature area |
| Industrial Development (multiple lots) Edward Street, Kenwick, WA | 2018/8231 | Not Controlled Action | Completed | In buffer area only |
| Office & Electronic Assembly Building, Lot 106 Watts Place, Bentley, WA | 2012/6440 | Not Controlled Action | Completed | In buffer area only |
| Pipeline Extension, Hazelmere and Helena Valley, WA | 2018/8239 | Not Controlled Action | Completed | In buffer area only |
| Reid Highway/Malaga Drive interchange upgrade, City of Swan, WA | 2013/6892 | Not Controlled Action | Completed | In buffer area only |
| Residential development of Lots 302, 308, 320 and part of Lot 9502, Hawtin Rd, Forrestfield, WA | 2016/7770 | Not Controlled Action | Completed | In buffer area only |
| Roe Highway Noise Wall, High Wycombe, WA | 2014/7149 | Not Controlled Action | Completed | In buffer area only |
| Tonkin Highway Upgrade, Guildford Road to Great Eastern Highway, WA | 2019/8545 | Not Controlled Action | Completed | In feature area |
| Urban Development Project, Lot 55 and 56 Cottonwood Crescent, Dianella, WA | 2017/8031 | Not Controlled Action | Completed | In buffer area only |
| Not controlled action (particular manner) | | | | |
| Commercial Estate and Aeronautical Infrastructure Development, Precincts 2A & 2B | 2006/3021 | 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 buffer area only |
| Perth GPO alteration and refurbishment | 2007/3318 | Not Controlled Action (Particular Manner) | Post-Approval | In buffer area only |

| Title of referral | Reference | Referral Outcome | Assessment Status | Buffer Status |
|---|-----------|---|----------------------|---------------------|
| Not controlled action (particular manner) | | | | |
| Sale of ABC Sound Broadcasting and Television Studios | 2008/3951 | Not Controlled Action (Particular Manner) | Post-Approval | In buffer area only |
| South West Metropolitan Railway Project | 2003/1175 | Not Controlled Action (Particular Manner) | Post-Approval | In feature area |
| State Football Centre | 2020/8824 | Not Controlled Action (Particular Manner) | Post-Approval | In buffer area only |
| Referral decision | | | | |
| Commercial development of Lot 414 Grove Road, Kenwick | 2021/9022 | Referral Decision | Referral Publication | In buffer area only |
| GPO Building, 3 Forrest Place, Perth WA 6000 | 2017/7988 | Referral Decision | Completed | 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 2: Conservation Codes

Western Australia

| Conservation Code | Name | Description |
|-------------------|------------------------|---|
| T | Threatened | Flora or fauna that is rare or likely to become extinct, ranked according to their level of threat using IUCN Red List criteria (Schedules 1-3 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice) |
| CR | Critically endangered | Species considered to be facing an extremely high risk of extinction within the wild in the immediate future |
| EN | Endangered | Species considered to be facing a very high risk of extinction in the wild in the near future |
| VU | Vulnerable | Species considered to be facing a high risk of extinction in the wild in the medium-term future |
| EX | Extinct Species | Species where 'there is no reasonable doubt that the last member of the species has died (Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice or the Wildlife Conservation (Rare Flora) Notice) |
| EW | Extinct in the Wild | Species that are known to only survive in cultivation, in captivity, or as a naturalised population well outside its past range; and it has not been recorded in its known or expected habitat at appropriate seasons anywhere in its past range, despite surveys over a timeframe appropriate to its life cycle and form |
| MI | Migratory Species | Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth (Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice) |
| CD | Conservation Dependent | Species of special conservation interest (conservation dependent fauna), being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened (Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice) |
| OS | Specially Protected | Fauna otherwise in need of special protection to ensure their conservation (Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice) |
| P | Priority Species | Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists 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 fauna or |

| Conservation Code | Name | Description |
|-------------------|----------------|--|
| | | flora. 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. |
| P1 | Priority One | Poorly known species – 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, such as road verges, urban areas, farmland, active mineral lease and under threat of habitat destruction or degradation. |
| 2 | Priority Two | Poorly known species – 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, such as national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves and similar. |
| 3 | Priority Three | Poorly known species – 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 |
| 4 | Priority Four | Rare or near threatened and other species in need of monitoring. |

(Source: Department of Biodiversity, Conservation and Attractions, 2020)

Commonwealth

| Category | Description |
|------------------------------|---|
| Critically Endangered | Species facing an extremely high risk of extinction in the wild in the immediate future |
| Endangered | Species facing a very high risk of extinction in the wild in the near future |
| Vulnerable | Species facing a high risk of extinction in the wild in the medium term |

(Source: Department of Biodiversity, Conservation and Attractions, 2019)

Appendix 3: Species List

The complete flora list for the site is provided in the table below with flora listed by species. *Denotes introduced species and # denotes species that are native to Western Australia but not to this local region.

| Family | Species Name | Common Name |
|----------------|---------------------------------------|-------------------|
| Alliaceae | * <i>Nothoscordum gracile</i> | |
| Apiaceae | <i>Apium prostratum</i> | Sea Celery |
| Asteraceae | * <i>Erigeron bonariensis</i> | |
| Asteraceae | * <i>Hypochaeris glabra</i> | Smooth Cats-ear |
| Asteraceae | * <i>Hypochaeris radicata</i> | Flat Weed |
| Asteraceae | * <i>Lactuca serriola</i> | Prickly Lettuce |
| Asteraceae | * <i>Leontodon rhagadioloides</i> | Cretan Weed |
| Asteraceae | * <i>Osteospermum ecklonis</i> | |
| Asteraceae | * <i>Sonchus oleraceus</i> | Common Sowthistle |
| Asteraceae | * <i>Symphotrichum squamatum</i> | Bushy Starwort |
| Boraginaceae | <i>Heliotropium curassavicum</i> | Smooth Heliotrope |
| Brassicaceae | * <i>Raphanus raphanistrum</i> | Wild Radish |
| Casuarinaceae | <i>Casuarina obesa</i> | Swamp Sheoak |
| Chenopodiaceae | * <i>Atriplex prostrata</i> | Hastate Orache |
| Chenopodiaceae | <i>Sarcocornia quinqueflora</i> | Beaded Samphire |
| Chenopodiaceae | <i>Suaeda australis</i> | Seablite |
| Cyperaceae | <i>Bolboschoenus caldwellii</i> | Marsh Club-rush |
| Cyperaceae | <i>Ficinia nodosa</i> | Knotted Club Rush |
| Cyperaceae | <i>Lepidosperma gladiatum</i> | Coast Sword-sedge |
| Cyperaceae | <i>Schoenoplectus tabernaemontani</i> | Lake Club-rush |
| Fabaceae | <i>Acacia saligna</i> | Orange Wattle |
| Iridaceae | * <i>Gladiolus undulatus</i> | Wild Gladiolus |
| Juncaceae | <i>Juncus kraussii</i> | Sea Rush |
| Myrtaceae | <i>Agonis flexuosa</i> | Peppermint |
| Myrtaceae | # <i>Callistemon sp.</i> | |
| Myrtaceae | # <i>Eucalyptus leucoxydon</i> | |
| Myrtaceae | <i>Eucalyptus sp.</i> | |
| Myrtaceae | <i>Eucalyptus rudis</i> | Flooded Gum |

| Family | Species Name | Common Name |
|---------------|---------------------------------|--------------------|
| Myrtaceae | <i>*Melaleuca quinquenervia</i> | |
| Myrtaceae | <i>Melaleuca viminalis</i> | |
| Onagraceae | <i>*Oenothera sp.</i> | |
| Poaceae | <i>*Avena barbata</i> | Bearded Oat |
| Poaceae | <i>*Bromus catharticus</i> | Prairie Grass |
| Poaceae | <i>*Cenchrus clandestinus</i> | Kikuyu Grass |
| Poaceae | <i>*Cynodon dactylon</i> | Couch |
| Poaceae | <i>*Lolium rigidum</i> | Wimmera Ryegrass |
| Poaceae | <i>*Vulpia myuros</i> | Rat's Tail Fescue |
| Polygonaceae | <i>*Rumex crispus</i> | Curled Dock |

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Appendix 4: Black Cockatoo Habitat Assessment

Data collected during the black cockatoo habitat assessment is presented below, including the species of each tree, DBH, height, number of hollows and the approximate entrance size of each hollow.

| Tree ID | Species | DBH (mm) | Height (m) | Number of Hollows | Approximate Entrance Size (cm) |
|---------|---------------------------------|----------|------------|-------------------|--|
| 1 | <i>Eucalyptus rudis</i> | 940 | 10 | 0 | - |
| 2 | <i>Eucalyptus rudis</i> | 550 | 7 | 0 | - |
| 3 | <i>Eucalyptus rudis</i> | 390 | 14 | 0 | - |
| 4 | <i>Eucalyptus rudis</i> | 820 | 12 | 1 | 8 x 5 |
| 5 | <i>Casuarina obesa</i> | 441 | 8 | 0 | - |
| 6 | <i>Eucalyptus sp.</i> | 490 | 9 | 0 | - |
| 7 | <i>Eucalyptus rudis</i> | 1,108 | 10 | 2 | 15 x 10 10 x 8 15 x 10 5 x 5 |
| 8 | <i>Eucalyptus rudis</i> | 1,702 | 15 | 7 | 25 x 15 20 x 15 10 x 10 30 x 30 |
| 9 | <i>Eucalyptus rudis</i> | 1,102 | 7 | 0 | - |
| 10 | <i>*Melaleuca quinquenervia</i> | 480 | 14 | 0 | - |
| 11 | <i>*Melaleuca quinquenervia</i> | 520 | 12 | 0 | - |
| 12 | <i>*Melaleuca quinquenervia</i> | 400 | 12 | 0 | - |
| 13 | <i>#Eucalyptus leucoxylon</i> | 480 | 8 | 0 | - |
| 14 | <i>Melaleuca viminalis</i> | 380 | 10 | 0 | - |
| 15 | <i>Casuarina obesa</i> | 680 | 10 | 0 | - |
| 16 | <i>Melaleuca viminalis</i> | 300 | 7 | 0 | - |
| 17 | <i>#Eucalyptus leucoxylon</i> | 640 | 15 | 0 | - |
| 18 | <i>*Melaleuca quinquenervia</i> | 540 | 9 | 0 | - |
| 19 | <i>Eucalyptus rudis</i> | 1,140 | 14 | 2 | 30 x 25 5 x 5 |
| 20 | <i>#Eucalyptus leucoxylon</i> | 390 | 7 | 0 | - |

| Tree ID | Species | DBH (mm) | Height (m) | Number of Hollows | Approximate Entrance Size (cm) |
|---------|-------------------------|----------|------------|-------------------|--------------------------------|
| 21 | <i>#Callistemon sp.</i> | 440 | 8 | 0 | - |
| 22 | <i>Casuarina obesa</i> | 306 | 7 | 0 | - |
| 23 | <i>Eucalyptus rudis</i> | 1,170 | 15 | 3 | 10 x 10 |
| | | | | | 15 x 15 |
| | | | | | 15 x 15 |

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