

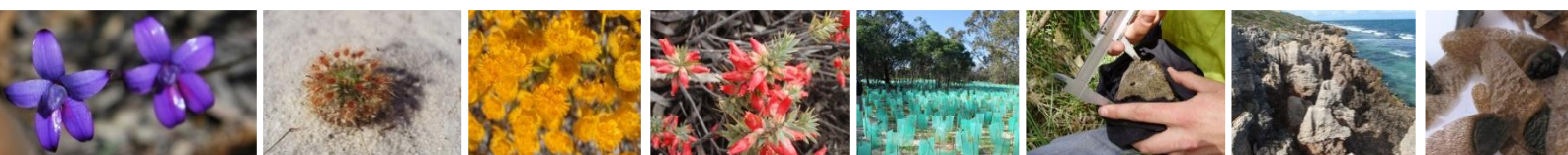


Natural Area  
CONSULTING MANAGEMENT SERVICES

## **Department of Transport and Major Infrastructure**

### **Jurien Bay Boat Harbour Breakwater Extension Flora Survey**

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## Executive Summary

Natural Area Consulting Management Services (Natural Area) conducted a reconnaissance flora survey on behalf of the Department of Transport and Major Infrastructure (DTMI) for the Jurien Bay Boat Harbour Breakwater Extension. The purpose of this survey was to determine the environmental values on site and any considerations for the temporary laydown site for the construction of the new northern spur groyne.

The environmental assessment across the survey area determined:

- A total of 24 flora species (taxa) were recorded from 17 families during the field survey, comprising of 8 introduced (weeds) and 16 native species.
- No conservation significant flora species were identified in the survey area.
- No declared pests or Weed of National Significance (WoNS) were identified within the survey area.
- Two vegetation types were recorded within the survey area, including *Atriplex isatidea*, *Olearia axillaris* and *Scaevola crassifolia* shrubland over *Spinifex longifolius* tussock grassland and *Scaevola crassifolia* shrubland over *Spinifex longifolius* tussock grassland.
- Vegetation condition ranged from completely degraded to good.

It is recommended that the laydown area is rehabilitated to a vegetation condition of good or higher after the completion of the Jurien Bay Boat Harbour Breakwater Extension. A detailed revegetation plan is recommended to be developed that outlines weed control, site stabilisation, and a site-specific planting list.

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## 1.0 Introduction

Natural Area Consulting Management Services (Natural Area) conducted a reconnaissance flora survey on behalf of the Department of Transport and Major Infrastructure (DTMI) for the Jurien Bay Boat Harbour Breakwater Extension. The purpose of this survey was to determine the environmental values on site and any considerations for the temporary laydown site for the construction of the new northern spur groyne.

### 1.1 Location

The potential laydown area is approximately 0.42 ha and is located on the northern side of the Jurien Bay boat harbour (Figure 1). The site is located 220 km north-east of the Perth Central Business District (CBD). The site does not occur in an environmentally sensitive area (Department of Water and Environmental Regulation (DWER), 2021). The surrounding vegetation to the laydown area was also surveyed (approximately 0.681 ha including the potential laydown area) as it included the Jurien Bay Marine Park, a Class A reserve (Department of Biodiversity, Conservation and Attractions (DBCA), 2024).

### 1.2 Legislative Context

State and Federal environment-related laws impact how environmental values are governed in Western Australia. The following legislation and policies are relevant to this report.

#### 1.2.1 Relevant Legislation

##### ***Aboriginal Heritage Act 1972 (WA)***

The *Aboriginal Heritage Act 1972 (WA)* makes provision for the recognition, protection, conservation, and preservation of Aboriginal heritage in Western Australia.

##### ***Biosecurity and Agriculture Management Act 2007 (WA)***

The *Biosecurity and Agriculture Management Act 2007 (WA)* (BAM Act) regulates the framework for plant and animal pest and disease biosecurity in Western Australia. The framework provides for the control of declared flora and fauna species (declared organisms) that are known to be a significant environmental threat and the management, control and prevention of these declared plants and animals.

##### ***Biodiversity Conservation Act 2016 (WA)***

The *Biodiversity Conservation Act 2016 (WA)* (BC Act) aims to protect and conserve biodiversity as well as to promote the ecologically sustainable use of biodiversity components in the State. The BC Act provides the statute relating to conservation and legal protection of flora, fauna, and ecological communities. The BC Act follows the principles of ecologically sustainable development, detailing that decision-making processes should effectively integrate long-term and short-term economic, environmental, social, and equity considerations.

##### ***Environmental Protection Act 1986 (WA)***

The *Environmental Protection Act 1986 (WA)* (EP Act) provides for the prevention, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement, and management of the environment connected with the foregoing. The Environmental Protection Authority (EPA) is established under this act and provides a structured policy framework that is consistent with the EP

Act. The EPA produces the guidelines and procedures associated with conducting environmental assessments in line with the EP Act.

***Environment Protection and Biodiversity Conservation Act 1999 (Cth)***

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) serves to protect and manage nationally and internationally important flora, fauna, ecological communities, and heritage places. The primary objective of the EPBC Act is to promote the conservation of biodiversity and the sustainable use of natural resources while allowing for ecologically sustainable development. The EPBC Act allows for the creation of conservation agreements between the Australian government and individuals, communities, or organisations to support the conservation of biodiversity.

***Heritage Act 2018 (WA)***

The *Heritage Act 2018* (WA) recognises the importance of and promotes understanding and appreciation of Western Australia's cultural heritage; and provides for the identification and documentation of places of cultural heritage significance and for the conservation, use, development and adaptation of such places.

***Soil and Land Conservation Act 1945 (WA)***

The *Soil and Land Conservation Act 1945* (WA) serves to conserve soil and land resources, and to mitigate the impacts of erosion, salinity, and flooding. This Act outlines the mitigation and prevention of land degradation, promoting soil conservation and land management and the administration of Land Conservation District Committees (LCDC).

**1.2.2 Relevant Planning and Policy**

**Australia's Biodiversity Conservation Strategy 2010-2030**

Australia's Biodiversity Conservation Strategy 2010-2030 aims to protect biological diversity and maintain ecological processes and systems (Natural Resource Management Ministerial Council, 2010).



**Figure 1:**  
Site Location and Potential Laydown Area

Jurien Bay Boat Harbour Extension, Jurien Bay

**Legend**

- ▮ Laydown Area
- ▮ Site Boundary

**Client:** DTMI  
**Date:** 11/09/2025  
**Created by:** L.Fisher  
**Image Source:** ESRI, 2025  
**Datum:** GDA2020 / MGA zone 50  
**Scale:** 1: 900

0 25 50 m



## 2.0 Site Characteristics

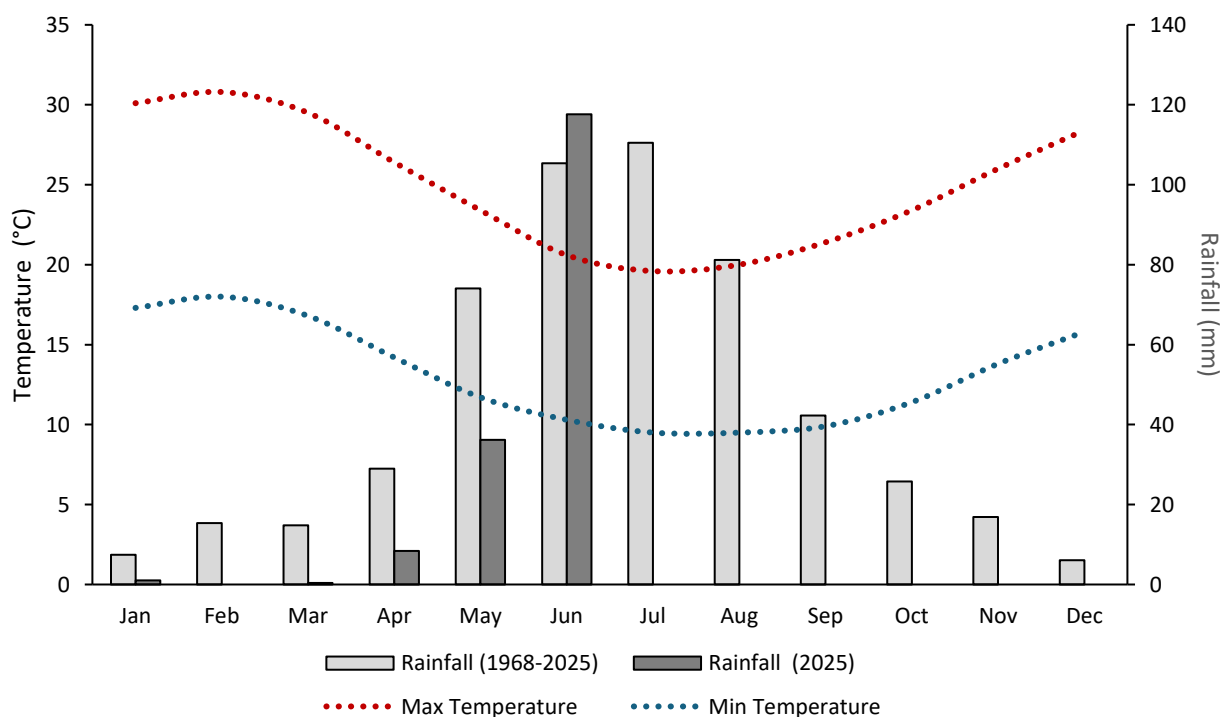
### 2.1 Regional Context

The Jurien Bay Boat Harbour Breakwater Extension is located within the Swan Coastal Plain (SWA02). Interim Biogeographic Regionalisation for Australia (IBRA) subregion (Department of Climate Change, Energy, the Environment and Water (DCCEEW), 2025a). This region is characterised by low lying coastal plain, mainly covered with woodlands. This region is generally composed of colluvial and aeolian sands, alluvial river flats, coastal limestone. Typically, heath and Tuarts are recorded on limestone, Banksia and Jarrah woodlands on Quaternary marine dunes and Marri on colluvial and alluvial. (Mitchell *et al.*, 2002).

### 2.2 Climate

The Jurien Bay Boat Harbour Breakwater Extension is within the Mediterranean climatic zone, which is characterised by dry, hot summers and cool, wet winters. According to the Bureau of Meteorology (BoM) Jurien Bay, site number 009131, the long-term average climate conditions for the region are:

- Average rainfall of 525.1 mm per annum, with majority of rainfall between May and August (1968 - 2025) (BoM, 2025).
- Average maximum temperature range of 19.6 °C in winter to 30.8 °C in summer (1969 - 2025) (BoM, 2025).
- Average minimum temperature ranging from 9.5 °C in winter to 18 °C in summer (1968 - 2025) (BoM, 2025).



**Figure 2:** Temperature and rainfall data for the Jurien Bay, site number 009131. Source: BoM, 2025

### **2.3 Topography and Soils**

One soil type was identified within the Jurien Bay Boat Harbour Breakwater Extension, being the Quindalup South 4 subsystem. (Department of Primary Industries and Regional Development (DPIRD), 2022). The Quindalup South 4 subsystem soil type can be described as foredune complex adjacent to coast and beach, with parabolic dunes and trailing arms of various ages. The site ranges from 3 m Australian Height Datum (AHD) in the north corner and gently rises to 4 m AHD in the south (ANZLIC Committee on Surveying and Mapping, 2025).

### **2.4 Pre-European Vegetation**

One pre-European vegetation exists within the vicinity of Jurien Bay Boat Harbour Breakwater Extension boundary (DPIRD, 2019). This vegetation association (1026) is described as scrub-heath thicket. Statewide this vegetation association (1026) in the Guilderton system has 93.84 % remaining within the Swan Coastal Plain IBRA sub region (SWA02) and 92.83 % is remaining in the Shire of Dandaragan (Government of Western Australia, 2019).

## 3.0 Methodology

### 3.1 Desktop and Literature Review

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

- Likely native and non-native flora species present.
- Current extent of native vegetation.
- General floristic community types.
- Likely presence of threatened or priority flora species.
- Likely presence of any threatened or priority ecological communities.

The following databases were accessed to obtain relevant information:

- NatureMap (DBCA, 2025a)
- Protected Matters Search Tool (DCCEEW, 2025b) (Appendix 1)
- FloraBase (WA Herbarium, 1998-)
- Threatened and priority flora database searches (DBCA, 2025b)
- Threatened and priority ecological community database searches (DBCA, 2025c)

Conservation code definitions for the State and Commonwealth are provided in Appendix 2. Information relating to conservation significant species from database searches were summarised into field reference guides to aid with on-ground flora surveys which is provided in Appendix 3.

### 3.2 On-ground Flora Survey

The reconnaissance 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 consultants undertook the survey on July 22, 2025, with key data recorded using QField 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 and/or Weeds of National Significance (WoNS) identified.
- Recording vegetation type including dominant over, middle and understorey species to describe vegetation type in line with the National Vegetation Information System (NVIS) Level V – Association (Executive Steering Committee for Australian Vegetation Information (ESCAVI), 2003).
- Assessing vegetation condition using the scale attributed to Keighery (Table 1) (EPA, 2016).
- The use of GPS to map significant species and boundaries of differing vegetation type and condition.
- Recording evidence of disturbance, such as fire.

**Table 1:** 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. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing. |
| 6        | Completely Degraded | 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

### 3.3 Limitations

The limitations associated with the reconnaissance flora survey undertaken in Jurien Bay Boat Harbour Breakwater Extension are outlined in Table 2 below.

**Table 2:** Jurien Bay flora survey limitations

| Potential Limitation                                               | Degree of Limitation | Comments                                                                                                                                                                                                                |
|--------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Availability of contextual information                             | None                 | Regional and local contextual information was readily available for the site.                                                                                                                                           |
| Competency/ experience of team                                     | None                 | Survey activities were undertaken by experienced environmental consultants who have extensive experience undertaking flora surveys within the Swan Coastal Plain IBRA Region.                                           |
| Proportion of flora recorded/ collected, any identification issues | None                 | A total of 24 flora species (taxa) were recorded from 17 families during the field survey, comprised of 33.3 % introduced (weeds) and 66.7 % native species. All species were able to be identified to a species level. |
| Survey effort and extent                                           | None                 | The entire site was traversed over the course of one day.                                                                                                                                                               |

| Potential Limitation | Degree of Limitation | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Access restrictions  | None                 | No accesses restrictions were present on site.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Survey timing        | Moderate             | <p>The survey was undertaken in winter, which is outside the optimal season for flora surveys within the Swan Coastal Plain subregion. Due to the survey being undertaken outside the recommended survey period, annual species may not be presenting during the survey and as such not recorded.</p> <p>Of the six conservation significant flora species identified in the desktop survey as being likely to occur within the survey area, three have flowering periods outside of the survey period. Two of these species are annual species and would only have identifiable feature during their peak growth and flowering periods.</p> |
| Disturbances         | None                 | No recent disturbances which may have had an impact on survey results (e.g. fire, recent clearing or floods) were identified during the survey.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## 4.0 Flora Survey Results

### 4.1 Desktop Survey

A desktop survey of online databases indicated the potential for a total of 135 conservation significant species to occur within 10 km of the survey area (Table 5). NatureMap indicated 30 conservation significant flora species listed under the BC Act or by the Western Australian Herbarium (1998-), as potentially occurring within 10 km radius of the site (DBCA, 2025a). A review of the Protected Matters Search Tool (PMST) (DCCEEW, 2025b) indicated eight significant flora species listed under the EPBC Act as potentially occurring within a 10 km radius of the site (Appendix 1). A review of the DBCA (2025b) threatened and priority flora database indicated 130 threatened or priority species have been recorded within 25 km of the site.

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 six (highlighted green) of these species (Table 3). Conservation code descriptions are provided in Appendix 2.

**Table 3:** Threatened and Priority flora species listed by NatureMap, PMST and DBCA

| Species Name                                                                                  | Cons Code (Cth) | Cons Code (WA) | Nature Map | PMST | DBCA |
|-----------------------------------------------------------------------------------------------|-----------------|----------------|------------|------|------|
| <i>Acacia carens</i>                                                                          |                 | P2             |            |      | X    |
| <i>Acacia epacantha</i>                                                                       |                 | P3             |            |      | X    |
| <i>Acacia forrestiana</i>                                                                     | VU              | VU             |            |      | X    |
| <i>Acacia lasiocarpa</i> var. <i>lasiocarpa</i> Cockleshell Gully variant (E.A. Griffin 2039) |                 | P2             |            |      | X    |
| <i>Acacia plicata</i>                                                                         |                 | P3             | X          |      | X    |
| <i>Acacia retrorsa</i>                                                                        |                 | P2             |            |      | X    |
| <i>Allocasuarina grevilleoides</i>                                                            |                 | P3             |            |      | X    |
| <i>Amanita lesueurii</i>                                                                      |                 | P2             |            |      | X    |
| <i>Amanita marinae</i>                                                                        |                 | P2             | X          |      | X    |
| <i>Andersonia gracilis</i>                                                                    | EN              | VU             |            | X    |      |
| <i>Andersonia</i> sp. Mt Lesueur (E.A. Griffin 5536)                                          |                 | P2             |            |      | X    |
| <i>Andersonia</i> sp. Mysosma (E.A. Griffin 2213)                                             |                 | P2             |            |      | X    |
| <i>Anigozanthos viridis</i> subsp. <i>terraspectans</i>                                       | VU              | VU             |            | X    |      |
| <i>Asterolasia drummondii</i>                                                                 |                 | P4             |            |      | X    |
| <i>Banksia chamaephyton</i>                                                                   |                 | P4             |            |      | X    |
| <i>Banksia elegans</i>                                                                        |                 | P4             |            |      | X    |
| <i>Banksia fraseri</i> var. <i>crebra</i>                                                     |                 | P3             |            |      | X    |
| <i>Banksia fraseri</i> var. <i>effusa</i>                                                     |                 | P2             |            |      | X    |

| Species Name                                          | Cons Code (Cth) | Cons Code (WA) | Nature Map | PMST | DBCA |
|-------------------------------------------------------|-----------------|----------------|------------|------|------|
| <i>Banksia kippistiana</i> var. <i>paenepeccata</i>   |                 | P3             |            |      | X    |
| <i>Banksia tricuspis</i>                              |                 | P4             | X          |      | X    |
| <i>Beaufortia bicolor</i>                             |                 | P3             |            |      | X    |
| <i>Beyeria cinerea</i> subsp. <i>cinerea</i>          |                 | P3             | X          |      | X    |
| <i>Beyeria similis</i>                                |                 | P2             |            |      | X    |
| <i>Boronia scabra</i> subsp. <i>condensata</i>        |                 | P2             |            |      | X    |
| <i>Calandrinia oraria</i>                             |                 | P3             | X          |      | X    |
| <i>Paracaleana dixonii</i>                            | EN              | VU             |            | X    |      |
| <i>Centrolepis milleri</i>                            |                 | P3             |            |      | X    |
| <i>Conostylis pauciflora</i> subsp. <i>euryrhipis</i> |                 | P4             |            |      | X    |
| <i>Corymbia chlorolampra</i>                          |                 | P2             |            |      | X    |
| <i>Cristonia biloba</i> subsp. <i>pubescens</i>       |                 | P2             |            |      | X    |
| <i>Cyanothamnus ramosus</i> subsp. <i>lesueuranus</i> |                 | P2             |            |      | X    |
| <i>Dampiera tephrea</i>                               |                 | P3             | X          |      | X    |
| <i>Daviesia debilior</i> subsp. <i>debilior</i>       |                 | P2             |            |      | X    |
| <i>Daviesia pteroclada</i>                            |                 | P3             |            |      | X    |
| <i>Diuris recurva</i>                                 |                 | P4             | X          |      | X    |
| <i>Drosera atrata</i>                                 |                 | P3             |            |      | X    |
| <i>Drosera rubricalyx</i>                             |                 | P2             |            |      | X    |
| <i>Drakaea elastica</i>                               | EN              | CR             |            | X    |      |
| <i>Eleocharis keigheryi</i>                           | VU              | VU             |            |      | X    |
| <i>Eucalyptus abdita</i>                              |                 | P2             |            |      | X    |
| <i>Eucalyptus angularis</i>                           |                 | P2             | X          |      | X    |
| <i>Eucalyptus argutifolia</i>                         |                 |                |            | X    |      |
| <i>Eucalyptus exilis</i>                              |                 | P4             |            |      | X    |
| <i>Eucalyptus foecunda</i> subsp. <i>aeolica</i>      |                 | P2             | X          |      | X    |
| <i>Eucalyptus foecunda</i> subsp. <i>foecunda</i>     |                 | P4             | X          |      | X    |
| <i>Eucalyptus leprophloia</i>                         | EN              | EN             |            |      | X    |
| <i>Eucalyptus macrocarpa</i> subsp. <i>elachantha</i> |                 | P4             |            |      | X    |
| <i>Eucalyptus pendens</i>                             |                 | P4             |            |      | X    |
| <i>Eucalyptus suberea</i>                             | VU              | VU             |            |      | X    |

| Species Name                                       | Cons Code (Cth) | Cons Code (WA) | Nature Map | PMST | DBCA |
|----------------------------------------------------|-----------------|----------------|------------|------|------|
| <i>Eucalyptus x lateritica</i>                     | VU              | EN             |            |      | X    |
| <i>Eucalyptus zopherophloia</i>                    |                 | P4             | X          |      | X    |
| <i>Gompholobium gairdnerianum</i>                  |                 | P3             | X          |      | X    |
| <i>Goodenia xanthotricha</i>                       |                 | P2             |            |      | X    |
| <i>Grevillea batrachioides</i>                     | EN              | CR             |            |      | X    |
| <i>Grevillea cooljarloo</i>                        |                 | P1             |            |      | X    |
| <i>Grevillea delta</i>                             |                 | P2             |            |      | X    |
| <i>Grevillea florida</i>                           |                 | P3             |            |      | X    |
| <i>Grevillea humifusa</i>                          | EN              | CR             |            | X    | X    |
| <i>Grevillea olivacea</i>                          |                 | P4             | X          |      | X    |
| <i>Grevillea rudis</i>                             |                 | P4             |            |      | X    |
| <i>Grevillea saccata</i>                           |                 | P4             | X          |      | X    |
| <i>Grevillea uniformis</i>                         |                 | P3             |            |      | X    |
| <i>Guichenotia alba</i>                            |                 | P3             | X          |      | X    |
| <i>Haemodorum loratum</i>                          |                 | P3             |            |      | X    |
| <i>Hakea longiflora</i>                            |                 | P3             |            |      | X    |
| <i>Hakea megalosperma</i>                          | VU              | VU             | X          |      | X    |
| <i>Hakea neurophylla</i>                           |                 | P4             |            |      | X    |
| <i>Haloragis foliosa</i>                           |                 | P3             | X          |      | X    |
| <i>Hemiandra gardneri</i>                          | EN              | CR             |            | X    | X    |
| <i>Hemiandra</i> sp. Watheroo (S. Hancocks 4)      |                 | P4             |            |      | X    |
| <i>Hensmania stoniella</i>                         |                 | P3             | X          |      | X    |
| <i>Hibbertia propinqua</i>                         |                 | P4             |            |      | X    |
| <i>Hibbertia subglabra</i>                         |                 | P3             |            |      | X    |
| <i>Hypocalymma tenuatum</i>                        |                 | P2             |            |      | X    |
| <i>Hypolaena robusta</i>                           |                 | P4             |            |      | X    |
| <i>Isopogon autumnalis</i>                         |                 | P3             |            |      | X    |
| <i>Isopogon panduratus</i> subsp. <i>palustris</i> |                 | P3             |            |      | X    |
| <i>Jacksonia anthoclada</i>                        |                 | P3             |            |      | X    |
| <i>Jennata</i> sp. Mt Lesueur (J.S. Beard 7827)    |                 | P2             |            |      | X    |
| <i>Lasiopetalum rutilans</i>                       |                 | P2             | X          |      | X    |

| Species Name                                                   | Cons Code (Cth) | Cons Code (WA) | Nature Map | PMST | DBCA |
|----------------------------------------------------------------|-----------------|----------------|------------|------|------|
| <i>Lepidium puberulum</i>                                      |                 | P4             | X          |      | X    |
| <i>Lepidobolus quadratus</i>                                   |                 | P3             |            |      | X    |
| <i>Lepyrodia curvescens</i>                                    |                 | P2             |            |      | X    |
| <i>Leucopogon foliosus</i>                                     |                 | P3             |            |      | X    |
| <i>Leucopogon plumuliflorus</i>                                |                 | P2             | X          |      | X    |
| <i>Paracaleana dixonii</i>                                     | EN              | VU             |            |      | X    |
| <i>Patersonia argyrea</i>                                      |                 | P3             |            |      | X    |
| <i>Persoonia filiformis</i>                                    |                 | P3             |            |      | X    |
| <i>Persoonia rudis</i>                                         |                 | P3             | X          |      | X    |
| <i>Phlebocarya pilosissima</i> subsp. <i>pilosissima</i>       |                 | P3             |            |      | X    |
| <i>Phlebocarya pilosissima</i> subsp. <i>teretifolia</i>       |                 | P2             |            |      | X    |
| <i>Platysace ramosissima</i>                                   |                 | P3             |            |      | X    |
| <i>Ptilotus clivicola</i>                                      |                 | P2             |            |      | X    |
| <i>Sarcozona bicarinata</i>                                    |                 | P3             |            |      | X    |
| <i>Schoenus griffinianus</i>                                   |                 | P4             |            |      | X    |
| <i>Scholtzia calcicola</i>                                     |                 | P2             | X          |      | X    |
| <i>Spergularia nesophila</i>                                   |                 | P3             | X          |      | X    |
| <i>Stackhousia</i> sp. Red-blotched corolla (A. Markey 911)    |                 | P3             |            |      | X    |
| <i>Stenanthemum limitatum</i>                                  |                 | P2             | X          |      | X    |
| <i>Stylidium aeonioides</i>                                    |                 | P4             |            |      | X    |
| <i>Stylidium asteroideum</i>                                   |                 | P3             |            |      | X    |
| <i>Stylidium carnosum</i> subsp. Narrow leaves (J.A. Wege 490) |                 | P1             |            |      | X    |
| <i>Stylidium cornuatum</i>                                     |                 | P2             |            |      | X    |
| <i>Stylidium diplotrichum</i>                                  |                 | P2             |            |      | X    |
| <i>Stylidium inversiflorum</i>                                 |                 | P4             |            |      | X    |
| <i>Stylidium maritimum</i>                                     |                 | P3             | X          |      | X    |
| <i>Stylidium nonscandens</i>                                   |                 | P3             |            |      | X    |
| <i>Stylidium periscelianthum</i>                               |                 | P3             |            |      | X    |
| <i>Stylidium striatum</i>                                      |                 | P4             |            |      | X    |
| <i>Stylidium strigosum</i>                                     |                 | P2             |            |      | X    |
| <i>Stylidium torticarpum</i>                                   |                 | P3             |            |      | X    |

| Species Name                                                   | Cons Code (Cth) | Cons Code (WA) | Nature Map | PMST | DBCA |
|----------------------------------------------------------------|-----------------|----------------|------------|------|------|
| <i>Styphelia carolineae</i>                                    |                 | P2             |            |      | X    |
| <i>Styphelia filamentosa</i>                                   |                 | P3             |            |      | X    |
| <i>Styphelia filifolia</i>                                     |                 | P3             |            |      | X    |
| <i>Styphelia williamsiorum</i>                                 |                 | P3             |            |      | X    |
| <i>Synaphea endothrix</i>                                      |                 | P3             |            |      | X    |
| <i>Synaphea lesueurensis</i>                                   |                 | P2             |            |      | X    |
| <i>Synaphea sparsiflora</i>                                    |                 | P2             |            |      | X    |
| <i>Synaphea xela</i>                                           |                 | P2             |            |      | X    |
| <i>Tetratheca angulata</i>                                     |                 | P3             |            |      | X    |
| <i>Tetratheca remota</i>                                       |                 | P2             | X          |      | X    |
| <i>Thelymitra apiculata</i>                                    |                 | P4             | X          |      | X    |
| <i>Thelymitra pulcherrima</i>                                  |                 | P2             |            |      | X    |
| <i>Thelymitra stellata</i>                                     | EN              | EN             |            | X    | X    |
| <i>Thomasia rulingioides</i>                                   |                 | P2             |            |      | X    |
| <i>Thryptomene butleri</i>                                     |                 | P3             | X          |      | X    |
| <i>Thysanotus anceps</i>                                       |                 | P3             |            |      | X    |
| <i>Thysanotus glaucus</i>                                      |                 | P4             |            |      | X    |
| <i>Thysanotus vernalis</i>                                     |                 | P3             |            |      | X    |
| <i>Tricostularia</i> sp. Mogumber (A. Harris s.n., 23/12/2015) |                 | P2             |            |      | X    |
| <i>Verticordia amphigia</i>                                    |                 | P3             |            |      | X    |
| <i>Verticordia insignis</i> subsp. <i>eomagis</i>              |                 | P3             |            |      | X    |
| <i>Verticordia rutilastra</i>                                  |                 | P3             |            |      | X    |
| <i>Walteranthus erectus</i>                                    |                 | P2             |            |      | X    |
| <i>Xanthosia tomentosa</i>                                     |                 | P4             | X          |      | X    |

#### 4.1.1 Threatened and Priority Ecological Communities

A review of the DBCA threatened and priority ecological community database identified three listed priority ecological communities (PEC) that could potentially occur within 20 km of the site (DBCA, 2025c). A review of the PMST report identified three listed threatened ecological communities (TEC) that could potentially occur within 10 km of the site (Table 4) (DCCEEW, 2025b).

**Table 4:** Priority and threatened ecological communities listed by DBCA and PMST

| Commonwealth Name                                                                                              | State Name                                                                                | Cons Code (Cth) | Cons Code (WA) |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------|----------------|
| Banksia Woodlands of the Swan Coastal Plain ecological community                                               | Banksia Woodlands of the Swan Coastal Plain ecological community                          | EN              | P3             |
| Subtropical and Temperate Coastal Saltmarsh                                                                    | Subtropical and Temperate Coastal Saltmarsh                                               | V               | P3             |
| Tuart ( <i>Eucalyptus gomphocephala</i> ) Woodlands and Forests of the Swan Coastal Plain ecological community | Tuart ( <i>Eucalyptus gomphocephala</i> ) woodlands and forests of the Swan Coastal Plain | CR              | P3             |

## 4.2 Flora Survey Results

### 4.2.1 Flora

A total of 24 flora species (taxa) were recorded from 17 families during the field survey, comprising of 8 introduced (weeds) and 16 native species. Examples of native flora and introduced species are shown in Figure 3. A complete flora species list is provided in Appendix 4. No conservation significant flora, declared pests, or WoNS were identified within the survey site.



*Spinifex longifolius* (Beach Spinifex)



*Nitraria billardierei* (Nitre Bush)



\**Tetragonia decumbens* (Sea Spinach)



\**Pelargonium capitatum* (Rose Pelargonium)

**Figure 3:** Examples of native flora and introduced species recorded. \* denotes introduced species

### 4.2.2 Vegetation Types

Two vegetation types were recorded within the Jurien Bay Boat Harbour Breakwater Extension: *Atriplex isatidea*, *Olearia axillaris* and *Scaevola crassifolia* shrubland over *Spinifex longifolius* tussock grassland towards the western portion of the site and along the southern boundary and *Scaevola crassifolia* shrubland over *Spinifex longifolius* tussock grassland in the middle of the site. Vegetation types are described in Table 5 and shown in Figure 4.

**Table 5:** Vegetation type within Jurien Bay Boat Harbour Breakwater Extension

| Vegetation Type                                                                                                                                                                     | Description                                                                                                                                                                                                                                | Photograph                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <i>Atriplex isatidea</i> ,<br><i>Olearia axillaris</i> and<br><i>Scaevola crassifolia</i><br>shrubland over <i>Spinifex</i><br><i>longifolius</i> tussock<br>grassland (AiOaScSSIG) | A coastal shrubland mix with<br><i>Atriplex isatidea</i> , <i>Olearia</i><br><i>axillaris</i> and <i>Scaevola-</i><br><i>crassifolia</i> over a tussock<br>grassland consisting of<br><i>Spinifex longifolius</i> .                        |   |
| <i>Scaevola crassifolia</i><br>shrubland over <i>Spinifex</i><br><i>longifolius</i> tussock<br>grassland (ScSSIG)                                                                   | A shrubland of <i>Scaevola</i><br><i>crassifolia</i> over a tussock<br>grassland of <i>Spinifex</i><br><i>longifolius</i> with mixed<br>isolated native shrubs<br>including <i>Olearia axillaris</i><br>and <i>Carpobrotus virescens</i> . |  |

#### 4.2.3 Vegetation Condition

Vegetation condition on site ranged from completely degraded to good (Table 6, Figure 5). The track present in the AiOaScSSIG was in a completely degraded condition with no native or introduced species present and a high level of disturbance. Other sections of the AiOaScSSIG area were recorded in a good condition with good native structure and diversity present, some disturbances and introduced weed loads. The ScSSIG vegetation type was recorded primarily in good condition with a small portion in degraded condition. The degraded condition lacked native species diversity and structure and contained a high level of introduced species.

**Table 6:** Vegetation condition within Jurien Bay Boat Harbour Breakwater Extension

|           | Vegetation Condition |           |           |       |          |                     | Total |
|-----------|----------------------|-----------|-----------|-------|----------|---------------------|-------|
|           | Pristine             | Excellent | Very Good | Good  | Degraded | Completely Degraded |       |
| Area (ha) | 0                    | 0         | 0         | 0.632 | 0.029    | 0.02                | 0.681 |
| Area (%)  | 0                    | 0         | 0         | 92.8  | 4.3      | 2.9                 | 100   |

#### 4.2.4 Threatened and Priority Communities

No threatened or priority communities were recorded on the site.



**Figure 4:**  
Vegetation Type

Jurien Bay Boat Harbour Extension, Jurien Bay

**Legend**

- AiOaScSSIG
- ScSSIG
- Site Boundary
- Laydown Area

**Client:** DTMI  
**Date:** 11/09/2025  
**Created by:** L.Fisher  
**Image Source:** ESRI, 2025  
**Datum:** GDA2020 / MGA zone 50  
**Scale:** 1: 900

0 25 50 m





**Figure 5:**  
Vegetation Condition

Jurien Bay Boat Harbour Extension, Jurien Bay

**Legend**

- Good
- Degraded
- Completely Degraded
- Laydown Area
- Site Boundary Polygon

**Client:** DTMI  
**Date:** 11/09/2025  
**Created by:** L.Fisher  
**Image Source:** ESRI, 2025  
**Datum:** GDA2020 / MGA zone 50  
**Scale:** 1: 900

0 25 50 m



## 5.0 Implications of Results

### 5.1 Flora and Vegetation

A total of 24 flora species were identified within the Jurien Bay Boat Harbour Breakwater Extension. This comprised of 8 (33.3 %) introduced (weed) and 16 (66.7 %) native species. The survey area contained two main vegetation types: AiOaScSSIG and ScSSIG. The vegetation condition across the site ranged from completely degraded to good. The survey area was primarily composed of areas regarded as good condition with native structure and diversity and introduced weed loads. Vegetation type is not consistent with any listed threatened or priority ecological communities.

It is recommended that following the use of the laydown area that the area is revegetated to a good or better condition. The site should be rehabilitated using site specific native flora species consistent with the surrounding vegetation. Weed control should be undertaken to mitigate the spread and impact on the success of revegetation activities. Site stabilisation across the dune systems may be required prior to planting works to mitigate the impact of erosion.

### 5.2 Significant Flora

No conservation significant flora species were identified across the survey area. The desktop survey of online databases indicated that six conservation significant species could potentially occur in the area, this included:

- *Beyeria cinerea* subsp. *cinerea* (Priority 3)
- *Calandrinia oraria* (Priority 3)
- *Conostylis pauciflora* subsp. *euryrhipis* (Priority 4)
- *Grevillea olivacea* (Olive Grevillea; Priority 4)
- *Spergularia nesophila* (Priority 3)
- *Thryptomene butleri* (Priority 3).

Out of the six conservation significant flora species identified in the desktop survey, three have flowering periods outside of the survey period (*Calandrinia oraria*, *Conostylis pauciflora* subsp. *euryrhipis*, and *Spergularia nesophila*). *Conostylis pauciflora* subsp. *euryrhipis* is a perennial herb which would have features present for identification during the survey.

*Calandrinia oraria* and *Spergularia nesophila* are annual herbs which would only have features present during its peak growth and flowering period. *Calandrinia oraria* peak growth and flowering period has been recorded between August and October (Obbens, 2014). The nearest record to the site is approximately 5 km south-west. *Spergularia nesophila* peak growth and flowering periods have previously been recorded between September and December, the nearest record to the site is approximately 7 km south-west and was last recorded in 1987 (DBCA, 2025b).

It is unlikely that *Calandrinia oraria* and *Spergularia nesophila* are present within the potential laydown area due to historic levels of disturbance and the distance previous records.

### 5.3 Threatened Ecological Communities

No threatened or priority communities were recorded on the site.

### 5.4 Assessment Against Clearing Principles

It was determined that the proposed clearing is unlikely to be at a variance with all ten of the clearing principles, A, C, D, E, F, G, H, I and J. Principle B was not assessed as a fauna survey was not undertaken. The assessment against each clearing principle is provided in Table 7 below.

**Table 7:** Native vegetation clearing principles and assessment

| Clearing Principle                                                                                                                                                                         | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A Native vegetation should not be cleared if it comprises a high level of biological diversity.                                                                                            | <p>The proposed area is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>A total of 24 flora species were identified within the surveyed area, comprising of 8 (33.3 %) introduced (weed) and 16 (66.7 %) native species.</li> <li>No conservation significant flora was recorded on the site.</li> <li>No threatened or priority communities were recorded on the site.</li> <li>The proposed clearing area is primarily in good condition with 0.42 ha recorded, and 0.028 ha recorded in a degraded or completely degraded condition.</li> <li>The clearing will be undertaken across two vegetation types.</li> <li>The clearing will be undertaken across one soil type.</li> <li>Does not occur within an environmentally sensitive area.</li> <li>Does not occur within a bush forever site.</li> </ul> |
| 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>This principle was not assessed as part of this survey:</p> <ul style="list-style-type: none"> <li>No fauna survey was undertaken at the site as part of this survey.</li> <li>Habitat for indigenous fauna was present on site providing suitable refuge and foraging habitat, with deadwood present, native shrubs, and grasses.</li> <li>Areas to the south of the proposed area is developed with existing infrastructure present for the Jurien Bay Boat Harbour.</li> <li>More suitable fauna habitat is present to the north of the proposed area.</li> </ul>                                                                                                                                                                                                                                                                                  |
| C Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.                                                                      | <p>The proposed area is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>No conservation significant flora species were recorded on the site.</li> <li>Due to historic disturbance of the site, it is unlikely for conservation significant flora species to occur.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Clearing Principle                                                                                                                                          | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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>The proposed area is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>▪ No threatened or priority communities were recorded on the site.</li> <li>▪ No threatened or priority communities have previously been recorded in the adjacent vegetation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 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>The proposed area is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>▪ One pre-European vegetation exists within the survey area, vegetation association (1026) on the Guilderton system.</li> <li>▪ The pre-European extent remaining is: <ul style="list-style-type: none"> <li>– 93.83 % within the Swan Coastal Plain IBRA sub region (SWA02).</li> <li>– 92.83 % remaining in the Shire of Dandaragan (Government of Western Australia, 2019).</li> </ul> </li> <li>▪ Unlikely to create further degrees of fragmentation as the clearing is to occur adjacent to the existing shoulders of the Jurien Bay Boat Harbour between cleared tracks.</li> </ul>                                                                                                                    |
| 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>The following is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>▪ No wetlands are recorded within the proposed clearing area.</li> <li>▪ No wetlands listed under a <i>Directory of Important Wetlands of Australia</i> (Australia Nature Conservation Agency (ANCA), 1993) are recorded within the proposed clearing area.</li> <li>▪ No RAMSAR wetlands are recorded within the proposed clearing area.</li> </ul>                                                                                                                                                                                                                                                                                                                                                              |
| G Native Vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.                                | <p>The following is unlikely be at variance with this principle</p> <ul style="list-style-type: none"> <li>▪ Half of the potential laydown area (58.36 %) has no data recorded regarding land degradation risk.</li> <li>▪ 41.64 % of the site boundary is at risk from the following: <ul style="list-style-type: none"> <li>– M1: 10-30 % of map unit has a high to extreme wind erosion risk (DPIRD, 2023a).</li> <li>– L1: &lt;3 % of map unit has a high subsurface acidification risk or is presently acid (DPIRD, 2023b).</li> <li>– L1: &lt;3 % of map unit has a moderate to high salinity risk or is presently saline (DPIRD, 2023c).</li> </ul> </li> <li>▪ Mitigation measures will be implemented during the construction and rehabilitation of the site to avoid erosion and sand drift from occurring.</li> </ul> |

| Clearing Principle                                                                                                                                                               | Comment                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| H Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area. | <p>The following is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>▪ The site does not occur in an environmentally sensitive area (Department of Water and Environmental Regulation (DWER), 2021).</li> <li>▪ Mitigation measures will be implemented during the construction and rehabilitation of the site to avoid impact on any nearby conservation areas.</li> </ul> |
| 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>The following is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>▪ L1: &lt;3 % of map unit has a moderate to high salinity risk or is presently saline (DPIRD, 2023c).</li> </ul>                                                                                                                                                                                       |
| J Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.                                               | <p>The following is unlikely to be at variance with this principle:</p> <ul style="list-style-type: none"> <li>▪ L1: &lt;3 % of map unit has a moderate to high flood risk (DPIRD, 2023d).</li> </ul>                                                                                                                                                                                                                 |

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## **Appendix 1: PMST Report 10 km**



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: 10-Jul-2025

[Summary](#)

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# Summary

## Matters of National Environment Significance

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

|                                                              |      |
|--------------------------------------------------------------|------|
| <a href="#">World Heritage Properties:</a>                   | None |
| <a href="#">National Heritage Places:</a>                    | 1    |
| <a href="#">Wetlands of International Importance (Ramsar</a> | None |
| <a href="#">Great Barrier Reef Marine Park:</a>              | None |
| <a href="#">Commonwealth Marine Area:</a>                    | None |
| <a href="#">Listed Threatened Ecological Communities:</a>    | 2    |
| <a href="#">Listed Threatened Species:</a>                   | 52   |
| <a href="#">Listed Migratory Species:</a>                    | 49   |

## 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.

|                                                                     |      |
|---------------------------------------------------------------------|------|
| <a href="#">Commonwealth Lands:</a>                                 | 1    |
| <a href="#">Commonwealth Heritage Places:</a>                       | None |
| <a href="#">Listed Marine Species:</a>                              | 76   |
| <a href="#">Whales and Other Cetaceans:</a>                         | 11   |
| <a href="#">Critical Habitats:</a>                                  | None |
| <a href="#">Commonwealth Reserves Terrestrial:</a>                  | None |
| <a href="#">Australian Marine Parks:</a>                            | None |
| <a href="#">Habitat Critical to the Survival of Marine Turtles:</a> | None |

## Extra Information

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

|                                                         |      |
|---------------------------------------------------------|------|
| <a href="#">State and Territory Reserves:</a>           | 14   |
| <a href="#">Regional Forest Agreements:</a>             | None |
| <a href="#">Nationally Important Wetlands:</a>          | None |
| <a href="#">EPBC Act Referrals:</a>                     | 5    |
| <a href="#">Key Ecological Features (Marine):</a>       | None |
| <a href="#">Biologically Important Areas:</a>           | 9    |
| <a href="#">Bioregional Assessments:</a>                | None |
| <a href="#">Geological and Bioregional Assessments:</a> | None |

# Details

## Matters of National Environmental Significance

| National Heritage Places              |       |              | [ Resource Information ] |
|---------------------------------------|-------|--------------|--------------------------|
| Name                                  | State | Legal Status | Buffer Status            |
| Natural                               |       |              |                          |
| <a href="#">Lesueur National Park</a> | WA    | Listed place | In buffer area only      |

| 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   |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------|-----------------|
| <a href="#">Banksia Woodlands of the Swan Coastal Plain ecological community</a>                                      | Endangered            | Community likely to occur within area | In feature area |
| <a href="#">Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community</a> | 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                                                                           |                       |                                                        |                 |
| <a href="#">Anous tenuirostris melanops</a><br>Australian Lesser Noddy [26000] | Vulnerable            | Species or species habitat may occur within area       | In feature area |
| <a href="#">Calidris acuminata</a><br>Sharp-tailed Sandpiper [874]             | Vulnerable            | Species or species habitat may occur within area       | In feature area |
| <a href="#">Calidris canutus</a><br>Red Knot, Knot [855]                       | Vulnerable            | Species or species habitat known to occur within area  | In feature area |
| <a href="#">Calidris ferruginea</a><br>Curlew Sandpiper [856]                  | Critically Endangered | Species or species habitat likely to occur within area | In feature area |

| Scientific Name                                                                                                                   | Threatened Category   | Presence Text                                                      | Buffer Status   |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------|-----------------|
| <a href="#">Charadrius leschenaultii</a><br>Greater Sand Plover, Large Sand Plover [877]                                          | Vulnerable            | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Diomedea amsterdamensis</a><br>Amsterdam Albatross [64405]                                                            | Endangered            | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Diomedea epomophora</a><br>Southern Royal Albatross [89221]                                                           | Vulnerable            | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Diomedea exulans</a><br>Wandering Albatross [89223]                                                                   | Vulnerable            | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| <a href="#">Leipoa ocellata</a><br>Malleefowl [934]                                                                               | Vulnerable            | Species or species habitat likely to occur within area             | In feature area |
| <a href="#">Limosa lapponica menzbieri</a><br>Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]             | Endangered            | Species or species habitat known to occur within area              | In feature area |
| <a href="#">Macronectes giganteus</a><br>Southern Giant-Petrel, Southern Giant Petrel [1060]                                      | Endangered            | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Macronectes halli</a><br>Northern Giant Petrel [1061]                                                                 | Vulnerable            | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| <a href="#">Numenius madagascariensis</a><br>Eastern Curlew, Far Eastern Curlew [847]                                             | Critically Endangered | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Phaethon rubricauda westralis</a><br>Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824] | Endangered            | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Phoebastria fusca</a><br>Sooty Albatross [1075]                                                                       | Vulnerable            | Species or species habitat may occur within area                   | In feature area |

| Scientific Name                                                                                                                          | Threatened Category | Presence Text                                                      | Buffer Status       |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------|---------------------|
| <a href="#">Pterodroma mollis</a><br>Soft-plumaged Petrel [1036]                                                                         | Vulnerable          | Species or species habitat may occur within area                   | In buffer area only |
| <a href="#">Rostratula australis</a><br>Australian Painted Snipe [77037]                                                                 | Endangered          | Species or species habitat likely to occur within area             | In feature area     |
| <a href="#">Sternula albifrons</a><br>Little Tern [82849]                                                                                | Vulnerable          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Sternula nereis nereis</a><br>Australian Fairy Tern [82950]                                                                  | Vulnerable          | Foraging, feeding or related behaviour known to occur within area  | In feature area     |
| <a href="#">Thalassarche carteri</a><br>Indian Yellow-nosed Albatross [64464]                                                            | Vulnerable          | Species or species habitat likely to occur within area             | In feature area     |
| <a href="#">Thalassarche cauta</a><br>Shy Albatross [89224]                                                                              | Endangered          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Thalassarche impavida</a><br>Campbell Albatross, Campbell Black-browed Albatross [64459]                                     | Vulnerable          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Thalassarche melanophris</a><br>Black-browed Albatross [66472]                                                               | Vulnerable          | Foraging, feeding or related behaviour likely to occur within area | In feature area     |
| <a href="#">Thalassarche steadi</a><br>White-capped Albatross [64462]                                                                    | Vulnerable          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Tringa nebularia</a><br>Common Greenshank, Greenshank [832]                                                                  | Endangered          | Species or species habitat likely to occur within area             | In buffer area only |
| <a href="#">Zanda latirostris listed as Calyptorhynchus latirostris</a><br>Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737] | Endangered          | Species or species habitat likely to occur within area             | In feature area     |

MAMMAL

| Scientific Name                                                                                                           | Threatened Category | Presence Text                                          | Buffer Status       |
|---------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------|---------------------|
| <a href="#">Balaenoptera musculus</a><br>Blue Whale [36]                                                                  | Endangered          | Species or species habitat likely to occur within area | In feature area     |
| <a href="#">Dasyurus geoffroii</a><br>Chuditch, Western Quoll [330]                                                       | Vulnerable          | Species or species habitat may occur within area       | In feature area     |
| <a href="#">Eubalaena australis</a><br>Southern Right Whale [40]                                                          | Endangered          | Species or species habitat likely to occur within area | In feature area     |
| <a href="#">Macroderma gigas</a><br>Ghost Bat [174]                                                                       | Vulnerable          | Species or species habitat known to occur within area  | In feature area     |
| <a href="#">Neophoca cinerea</a><br>Australian Sea-lion, Australian Sea Lion [22]                                         | Endangered          | Species or species habitat known to occur within area  | In feature area     |
| <a href="#">Parantechinus apicalis</a><br>Dibbler [313]                                                                   | Endangered          | Species or species habitat known to occur within area  | In buffer area only |
| PLANT                                                                                                                     |                     |                                                        |                     |
| <a href="#">Andersonia gracilis</a><br>Slender Andersonia [14470]                                                         | Endangered          | Species or species habitat likely to occur within area | In feature area     |
| <a href="#">Anigozanthos viridis subsp. terraspectans</a><br>Dwarf Green Kangaroo Paw [3435]                              | Vulnerable          | Species or species habitat likely to occur within area | In buffer area only |
| <a href="#">Caleana dixonii listed as Paracaleana dixonii</a><br>Sandplain Duck Orchid [87944]                            | Endangered          | Species or species habitat may occur within area       | In buffer area only |
| <a href="#">Drakaea elastica</a><br>Glossy-leafed Hammer Orchid, Glossy-leafed Hammer Orchid, Warty Hammer Orchid [16753] | Endangered          | Species or species habitat may occur within area       | In buffer area only |
| <a href="#">Eucalyptus argutifolia</a><br>Yanchep Mallee, Wabling Hill Mallee [24263]                                     | Vulnerable          | Species or species habitat known to occur within area  | In feature area     |

| Scientific Name                                                                                                | Threatened Category | Presence Text                                                     | Buffer Status       |
|----------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------|---------------------|
| <a href="#">Grevillea humifusa</a><br>Spreading Grevillea [61182]                                              | Endangered          | Species or species habitat may occur within area                  | In buffer area only |
| <a href="#">Hemiandra gardneri</a><br>Red Snakebush [7945]                                                     | Endangered          | Species or species habitat likely to occur within area            | In feature area     |
| <a href="#">Thelymitra stellata</a><br>Star Sun-orchid [7060]                                                  | Endangered          | Species or species habitat likely to occur within area            | In buffer area only |
| REPTILE                                                                                                        |                     |                                                                   |                     |
| <a href="#">Caretta caretta</a><br>Loggerhead Turtle [1763]                                                    | Endangered          | Foraging, feeding or related behaviour known to occur within area | In feature area     |
| <a href="#">Chelonia mydas</a><br>Green Turtle [1765]                                                          | Vulnerable          | Foraging, feeding or related behaviour known to occur within area | In feature area     |
| <a href="#">Ctenotus lancelini</a><br>Lancelin Island Skink [1482]                                             | Vulnerable          | Translocated population known to occur within area                | In buffer area only |
| <a href="#">Dermochelys coriacea</a><br>Leatherback Turtle, Leathery Turtle, Luth [1768]                       | Endangered          | Foraging, feeding or related behaviour known to occur within area | In feature area     |
| <a href="#">Egernia stokesii badia</a><br>Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483] | Endangered          | Species or species habitat may occur within area                  | In feature area     |
| <a href="#">Liopholis pulchra longicauda</a><br>Jurien Bay Skink, Jurien Bay Rock-skink [83162]                | Vulnerable          | Species or species habitat known to occur within area             | In buffer area only |
| <a href="#">Natator depressus</a><br>Flatback Turtle [59257]                                                   | Vulnerable          | Foraging, feeding or related behaviour known to occur within area | In feature area     |

SHARK

| Scientific Name                                                                                       | Threatened Category    | Presence Text                                                     | Buffer Status   |
|-------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------|-----------------|
| <a href="#">Carcharias taurus (west coast population)</a>                                             |                        |                                                                   |                 |
| Grey Nurse Shark (west coast population) [68752]                                                      | Vulnerable             | Species or species habitat likely to occur within area            | In feature area |
| <a href="#">Carcharodon carcharias</a>                                                                |                        |                                                                   |                 |
| White Shark, Great White Shark [64470]                                                                | Vulnerable             | Foraging, feeding or related behaviour known to occur within area | In feature area |
| <a href="#">Pristis pristis</a>                                                                       |                        |                                                                   |                 |
| Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756] | Vulnerable             | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Rhincodon typus</a>                                                                       |                        |                                                                   |                 |
| Whale Shark [66680]                                                                                   | Vulnerable             | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Sphyrna lewini</a>                                                                        |                        |                                                                   |                 |
| Scalloped Hammerhead [85267]                                                                          | Conservation Dependent | Species or species habitat likely to occur within area            | In feature area |

| Listed Migratory Species                                  |                     | [ <a href="#">Resource Information</a> ]                           |                     |
|-----------------------------------------------------------|---------------------|--------------------------------------------------------------------|---------------------|
| Scientific Name                                           | Threatened Category | Presence Text                                                      | Buffer Status       |
| Migratory Marine Birds                                    |                     |                                                                    |                     |
| <a href="#">Anous stolidus</a>                            |                     |                                                                    |                     |
| Common Noddy [825]                                        |                     | Species or species habitat likely to occur within area             | In feature area     |
| <a href="#">Apus pacificus</a>                            |                     |                                                                    |                     |
| Fork-tailed Swift [678]                                   |                     | Species or species habitat likely to occur within area             | In feature area     |
| <a href="#">Ardenna carneipes</a>                         |                     |                                                                    |                     |
| Flesh-footed Shearwater, Fleshy-footed Shearwater [82404] |                     | Foraging, feeding or related behaviour likely to occur within area | In feature area     |
| <a href="#">Ardenna pacifica</a>                          |                     |                                                                    |                     |
| Wedge-tailed Shearwater [84292]                           |                     | Breeding known to occur within area                                | In buffer area only |
| <a href="#">Diomedea amsterdamensis</a>                   |                     |                                                                    |                     |
| Amsterdam Albatross [64405]                               | Endangered          | Species or species habitat may occur within area                   | In feature area     |

| Scientific Name                                                                              | Threatened Category | Presence Text                                                      | Buffer Status       |
|----------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------|---------------------|
| <a href="#">Diomedea epomophora</a><br>Southern Royal Albatross [89221]                      | Vulnerable          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Diomedea exulans</a><br>Wandering Albatross [89223]                              | Vulnerable          | Foraging, feeding or related behaviour likely to occur within area | In feature area     |
| <a href="#">Hydroprogne caspia</a><br>Caspian Tern [808]                                     |                     | Breeding known to occur within area                                | In feature area     |
| <a href="#">Macronectes giganteus</a><br>Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Macronectes halli</a><br>Northern Giant Petrel [1061]                            | Vulnerable          | Foraging, feeding or related behaviour likely to occur within area | In feature area     |
| <a href="#">Onychoprion anaethetus</a><br>Bridled Tern [82845]                               |                     | Breeding known to occur within area                                | In buffer area only |
| <a href="#">Phaethon rubricauda</a><br>Red-tailed Tropicbird [994]                           |                     | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Phoebetria fusca</a><br>Sooty Albatross [1075]                                   | Vulnerable          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Sterna dougallii</a><br>Roseate Tern [817]                                       |                     | Foraging, feeding or related behaviour likely to occur within area | In feature area     |
| <a href="#">Sternula albifrons</a><br>Little Tern [82849]                                    | Vulnerable          | Species or species habitat may occur within area                   | In feature area     |
| <a href="#">Thalassarche carteri</a><br>Indian Yellow-nosed Albatross [64464]                | Vulnerable          | Species or species habitat likely to occur within area             | In feature area     |

| Scientific Name                                                                                      | Threatened Category | Presence Text                                                      | Buffer Status   |
|------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------|-----------------|
| <a href="#">Thalassarche cauta</a><br>Shy Albatross [89224]                                          | Endangered          | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Thalassarche impavida</a><br>Campbell Albatross, Campbell Black-browed Albatross [64459] | Vulnerable          | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Thalassarche melanophris</a><br>Black-browed Albatross [66472]                           | Vulnerable          | Foraging, feeding or related behaviour likely to occur within area | In feature area |
| <a href="#">Thalassarche steadi</a><br>White-capped Albatross [64462]                                | Vulnerable          | Species or species habitat may occur within area                   | In feature area |
| Migratory Marine Species                                                                             |                     |                                                                    |                 |
| <a href="#">Balaenoptera edeni</a><br>Bryde's Whale [35]                                             |                     | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Balaenoptera musculus</a><br>Blue Whale [36]                                             | Endangered          | Species or species habitat likely to occur within area             | In feature area |
| <a href="#">Carcharhinus longimanus</a><br>Oceanic Whitetip Shark [84108]                            |                     | Species or species habitat may occur within area                   | In feature area |
| <a href="#">Carcharias taurus</a><br>Grey Nurse Shark [64469]                                        |                     | Species or species habitat likely to occur within area             | In feature area |
| <a href="#">Carcharodon carcharias</a><br>White Shark, Great White Shark [64470]                     | Vulnerable          | Foraging, feeding or related behaviour known to occur within area  | In feature area |
| <a href="#">Caretta caretta</a><br>Loggerhead Turtle [1763]                                          | Endangered          | Foraging, feeding or related behaviour known to occur within area  | In feature area |

| Scientific Name                                                                                                                          | Threatened Category | Presence Text                                                     | Buffer Status   |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------|-----------------|
| <a href="#">Chelonia mydas</a><br>Green Turtle [1765]                                                                                    | Vulnerable          | Foraging, feeding or related behaviour known to occur within area | In feature area |
| <a href="#">Dermochelys coriacea</a><br>Leatherback Turtle, Leathery Turtle, Luth [1768]                                                 | Endangered          | Foraging, feeding or related behaviour known to occur within area | In feature area |
| <a href="#">Eubalaena australis as Balaena glacialis australis</a><br>Southern Right Whale [40]                                          | Endangered          | Species or species habitat likely to occur within area            | In feature area |
| <a href="#">Lamna nasus</a><br>Porbeagle, Mackerel Shark [83288]                                                                         |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Megaptera novaeangliae</a><br>Humpback Whale [38]                                                                            |                     | Species or species habitat known to occur within area             | In feature area |
| <a href="#">Mobula alfredi as Manta alfredi</a><br>Reef Manta Ray, Coastal Manta Ray [90033]                                             |                     | Species or species habitat known to occur within area             | In feature area |
| <a href="#">Mobula birostris as Manta birostris</a><br>Giant Manta Ray [90034]                                                           |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Natator depressus</a><br>Flatback Turtle [59257]                                                                             | Vulnerable          | Foraging, feeding or related behaviour known to occur within area | In feature area |
| <a href="#">Orcinus orca</a><br>Killer Whale, Orca [46]                                                                                  |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Pristis pristis</a><br>Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756] | Vulnerable          | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Rhincodon typus</a><br>Whale Shark [66680]                                                                                   | Vulnerable          | Species or species habitat may occur within area                  | In feature area |

| Scientific Name                                                                          | Threatened Category   | Presence Text                                          | Buffer Status       |
|------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------|---------------------|
| Migratory Terrestrial Species                                                            |                       |                                                        |                     |
| <a href="#">Motacilla cinerea</a><br>Grey Wagtail [642]                                  |                       | Species or species habitat may occur within area       | In feature area     |
| Migratory Wetlands Species                                                               |                       |                                                        |                     |
| <a href="#">Actitis hypoleucos</a><br>Common Sandpiper [59309]                           |                       | Species or species habitat known to occur within area  | In feature area     |
| <a href="#">Calidris acuminata</a><br>Sharp-tailed Sandpiper [874]                       | Vulnerable            | Species or species habitat may occur within area       | In feature area     |
| <a href="#">Calidris canutus</a><br>Red Knot, Knot [855]                                 | Vulnerable            | Species or species habitat known to occur within area  | In feature area     |
| <a href="#">Calidris ferruginea</a><br>Curlew Sandpiper [856]                            | Critically Endangered | Species or species habitat likely to occur within area | In feature area     |
| <a href="#">Calidris melanotos</a><br>Pectoral Sandpiper [858]                           |                       | Species or species habitat may occur within area       | In feature area     |
| <a href="#">Charadrius leschenaultii</a><br>Greater Sand Plover, Large Sand Plover [877] | Vulnerable            | Species or species habitat may occur within area       | In feature area     |
| <a href="#">Limosa lapponica</a><br>Bar-tailed Godwit [844]                              |                       | Species or species habitat known to occur within area  | In feature area     |
| <a href="#">Numenius madagascariensis</a><br>Eastern Curlew, Far Eastern Curlew [847]    | Critically Endangered | Species or species habitat may occur within area       | In feature area     |
| <a href="#">Pandion haliaetus</a><br>Osprey [952]                                        |                       | Breeding known to occur within area                    | In feature area     |
| <a href="#">Thalasseus bergii</a><br>Greater Crested Tern [83000]                        |                       | Breeding known to occur within area                    | In buffer area only |

| Scientific Name                     | Threatened Category | Presence Text                                          | Buffer Status       |
|-------------------------------------|---------------------|--------------------------------------------------------|---------------------|
| <a href="#">Tringa nebularia</a>    |                     |                                                        |                     |
| Common Greenshank, Greenshank [832] | Endangered          | Species or species habitat likely 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       |
|-----------------------------|-------|---------------------|
| Unknown                     |       |                     |
| Commonwealth Land - [51481] | WA    | In buffer area only |

Listed Marine Species

[ [Resource Information](#) ]

| Scientific Name | Threatened Category | Presence Text | Buffer Status |
|-----------------|---------------------|---------------|---------------|
| Bird            |                     |               |               |

|                                    |  |                                                       |                 |
|------------------------------------|--|-------------------------------------------------------|-----------------|
| <a href="#">Actitis hypoleucos</a> |  |                                                       |                 |
| Common Sandpiper [59309]           |  | Species or species habitat known to occur within area | In feature area |

|                                |  |                                                        |                 |
|--------------------------------|--|--------------------------------------------------------|-----------------|
| <a href="#">Anous stolidus</a> |  |                                                        |                 |
| Common Noddy [825]             |  | Species or species habitat likely to occur within area | In feature area |

|                                             |            |                                                  |                 |
|---------------------------------------------|------------|--------------------------------------------------|-----------------|
| <a href="#">Anous tenuirostris melanops</a> |            |                                                  |                 |
| Australian Lesser Noddy [26000]             | Vulnerable | Species or species habitat may occur within area | In feature area |

|                                |  |                                                                            |                 |
|--------------------------------|--|----------------------------------------------------------------------------|-----------------|
| <a href="#">Apus pacificus</a> |  |                                                                            |                 |
| Fork-tailed Swift [678]        |  | Species or species habitat likely to occur within area overfly marine area | In feature area |

|                                                           |  |                                                                    |                 |
|-----------------------------------------------------------|--|--------------------------------------------------------------------|-----------------|
| <a href="#">Ardenna carneipes as Puffinus carneipes</a>   |  |                                                                    |                 |
| Flesh-footed Shearwater, Fleshy-footed Shearwater [82404] |  | Foraging, feeding or related behaviour likely to occur within area | In feature area |

| Scientific Name                                                                                 | Threatened Category   | Presence Text                                                              | Buffer Status       |
|-------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------|---------------------|
| <a href="#">Ardenna pacifica as Puffinus pacificus</a><br>Wedge-tailed Shearwater [84292]       |                       | Breeding known to occur within area                                        | In buffer area only |
| <a href="#">Bubulcus ibis as Ardea ibis</a><br>Cattle Egret [66521]                             |                       | Species or species habitat may occur within area overfly marine area       | In feature area     |
| <a href="#">Calidris acuminata</a><br>Sharp-tailed Sandpiper [874]                              | Vulnerable            | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Calidris canutus</a><br>Red Knot, Knot [855]                                        | Vulnerable            | Species or species habitat known to occur within area overfly marine area  | In feature area     |
| <a href="#">Calidris ferruginea</a><br>Curlew Sandpiper [856]                                   | Critically Endangered | Species or species habitat likely to occur within area overfly marine area | In feature area     |
| <a href="#">Calidris melanotos</a><br>Pectoral Sandpiper [858]                                  |                       | Species or species habitat may occur within area overfly marine area       | In feature area     |
| <a href="#">Chalcites osculans as Chrysococcyx osculans</a><br>Black-eared Cuckoo [83425]       |                       | Species or species habitat known to occur within area overfly marine area  | In feature area     |
| <a href="#">Charadrius leschenaultii</a><br>Greater Sand Plover, Large Sand Plover [877]        | Vulnerable            | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Chroicocephalus novaehollandiae as Larus novaehollandiae</a><br>Silver Gull [82326] |                       | Breeding known to occur within area                                        | In buffer area only |
| <a href="#">Diomedea amsterdamensis</a><br>Amsterdam Albatross [64405]                          | Endangered            | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Diomedea epomophora</a><br>Southern Royal Albatross [89221]                         | Vulnerable            | Species or species habitat may occur within area                           | In feature area     |

| Scientific Name                                                                              | Threatened Category   | Presence Text                                                        | Buffer Status       |
|----------------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------|---------------------|
| <a href="#">Diomedea exulans</a><br>Wandering Albatross [89223]                              | Vulnerable            | Foraging, feeding or related behaviour likely to occur within area   | In feature area     |
| <a href="#">Haliaeetus leucogaster</a><br>White-bellied Sea-Eagle [943]                      |                       | Species or species habitat likely to occur within area               | In feature area     |
| <a href="#">Hydroprogne caspia as Sterna caspia</a><br>Caspian Tern [808]                    |                       | Breeding known to occur within area                                  | In feature area     |
| <a href="#">Larus pacificus</a><br>Pacific Gull [811]                                        |                       | Breeding known to occur within area                                  | In feature area     |
| <a href="#">Limosa lapponica</a><br>Bar-tailed Godwit [844]                                  |                       | Species or species habitat known to occur within area                | In feature area     |
| <a href="#">Macronectes giganteus</a><br>Southern Giant-Petrel, Southern Giant Petrel [1060] | Endangered            | Species or species habitat may occur within area                     | In feature area     |
| <a href="#">Macronectes halli</a><br>Northern Giant Petrel [1061]                            | Vulnerable            | Foraging, feeding or related behaviour likely to occur within area   | In feature area     |
| <a href="#">Merops ornatus</a><br>Rainbow Bee-eater [670]                                    |                       | Species or species habitat may occur within area overfly marine area | In feature area     |
| <a href="#">Motacilla cinerea</a><br>Grey Wagtail [642]                                      |                       | Species or species habitat may occur within area overfly marine area | In feature area     |
| <a href="#">Numenius madagascariensis</a><br>Eastern Curlew, Far Eastern Curlew [847]        | Critically Endangered | Species or species habitat may occur within area                     | In feature area     |
| <a href="#">Onychoprion anaethetus as Sterna anaethetus</a><br>Bridled Tern [82845]          |                       | Breeding known to occur within area                                  | In buffer area only |

| Scientific Name                                                                                                  | Threatened Category | Presence Text                                                              | Buffer Status       |
|------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------|---------------------|
| <a href="#">Onychoprion fuscatus as Sterna fuscata</a><br>Sooty Tern [90682]                                     |                     | Breeding known to occur within area                                        | In buffer area only |
| <a href="#">Pandion haliaetus</a><br>Osprey [952]                                                                |                     | Breeding known to occur within area                                        | In feature area     |
| <a href="#">Pelagodroma marina</a><br>White-faced Storm-Petrel [1016]                                            |                     | Breeding known to occur within area                                        | In buffer area only |
| <a href="#">Phaethon rubricauda</a><br>Red-tailed Tropicbird [994]                                               |                     | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Phoebastria fusca</a><br>Sooty Albatross [1075]                                                      | Vulnerable          | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Pterodroma mollis</a><br>Soft-plumaged Petrel [1036]                                                 | Vulnerable          | Species or species habitat may occur within area                           | In buffer area only |
| <a href="#">Puffinus assimilis</a><br>Little Shearwater [59363]                                                  |                     | Breeding known to occur within area                                        | In feature area     |
| <a href="#">Rostratula australis as Rostratula benghalensis (sensu lato)</a><br>Australian Painted Snipe [77037] | Endangered          | Species or species habitat likely to occur within area overfly marine area | In feature area     |
| <a href="#">Stercorarius antarcticus as Catharacta skua</a><br>Brown Skua [85039]                                |                     | Species or species habitat may occur within area                           | In buffer area only |
| <a href="#">Sterna dougallii</a><br>Roseate Tern [817]                                                           |                     | Foraging, feeding or related behaviour likely to occur within area         | In feature area     |
| <a href="#">Sternula albifrons as Sterna albifrons</a><br>Little Tern [82849]                                    | Vulnerable          | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Sternula nereis as Sterna nereis</a><br>Fairy Tern [82949]                                           |                     | Breeding known to occur within area                                        | In buffer area only |

| Scientific Name                                                                                         | Threatened Category | Presence Text                                                              | Buffer Status       |
|---------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------|---------------------|
| <a href="#">Thalassarche carteri</a><br>Indian Yellow-nosed Albatross [64464]                           | Vulnerable          | Species or species habitat likely to occur within area                     | In feature area     |
| <a href="#">Thalassarche cauta</a><br>Shy Albatross [89224]                                             | Endangered          | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Thalassarche impavida</a><br>Campbell Albatross, Campbell Black-browed Albatross [64459]    | Vulnerable          | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Thalassarche melanophris</a><br>Black-browed Albatross [66472]                              | Vulnerable          | Foraging, feeding or related behaviour likely to occur within area         | In feature area     |
| <a href="#">Thalassarche steadi</a><br>White-capped Albatross [64462]                                   | Vulnerable          | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Thalasseus bergii as Sterna bergii</a><br>Greater Crested Tern [83000]                      |                     | Breeding known to occur within area                                        | In buffer area only |
| <a href="#">Thinornis cucullatus as Thinornis rubricollis</a><br>Hooded Plover, Hooded Dotterel [87735] |                     | Species or species habitat known to occur within area overfly marine area  | In feature area     |
| <a href="#">Tringa nebularia</a><br>Common Greenshank, Greenshank [832]                                 | Endangered          | Species or species habitat likely to occur within area overfly marine area | In buffer area only |
| Fish                                                                                                    |                     |                                                                            |                     |
| <a href="#">Acentronura australe</a><br>Southern Pygmy Pipehorse [66185]                                |                     | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Campichthys galei</a><br>Gale's Pipefish [66191]                                            |                     | Species or species habitat may occur within area                           | In feature area     |
| <a href="#">Choeroichthys suillus</a><br>Pig-snouted Pipefish [66198]                                   |                     | Species or species habitat may occur within area                           | In feature area     |

| Scientific Name                                                                                 | Threatened Category | Presence Text                                    | Buffer Status   |
|-------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------|-----------------|
| <a href="#">Halicampus brocki</a><br>Brock's Pipefish [66219]                                   |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Hippocampus angustus</a><br>Western Spiny Seahorse, Narrow-bellied Seahorse [66234] |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Hippocampus breviceps</a><br>Short-head Seahorse, Short-snouted Seahorse [66235]    |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Hippocampus subelongatus</a><br>West Australian Seahorse [66722]                    |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Lissocampus fatiloquus</a><br>Prophet's Pipefish [66250]                            |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Maroubra perserrata</a><br>Sawtooth Pipefish [66252]                                |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Mitotichthys meraculus</a><br>Western Crested Pipefish [66259]                      |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Nannocampus subosseus</a><br>Bonyhead Pipefish, Bony-headed Pipefish [66264]        |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Phycodurus eques</a><br>Leafy Seadragon [66267]                                     |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Phyllopteryx taeniolatus</a><br>Common Seadragon, Weedy Seadragon [66268]           |                     | Species or species habitat may occur within area | In feature area |
| <a href="#">Pugnaso curtirostris</a><br>Pugnose Pipefish, Pug-nosed Pipefish [66269]            |                     | Species or species habitat may occur within area | In feature area |

| Scientific Name                                                                                                       | Threatened Category | Presence Text                                                     | Buffer Status   |
|-----------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------|-----------------|
| <a href="#">Solegnathus lettiensis</a><br>Gunther's Pipehorse, Indonesian Pipefish [66273]                            |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Stigmatopora argus</a><br>Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]                       |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Stigmatopora nigra</a><br>Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]                 |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Syngnathoides biaculeatus</a><br>Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279] |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Urocampus carinirostris</a><br>Hairy Pipefish [66282]                                                     |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Vanacampus margaritifer</a><br>Mother-of-pearl Pipefish [66283]                                           |                     | Species or species habitat may occur within area                  | In feature area |
| Mammal                                                                                                                |                     |                                                                   |                 |
| <a href="#">Arctocephalus forsteri</a><br>Long-nosed Fur-seal, New Zealand Fur-seal [20]                              |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Neophoca cinerea</a><br>Australian Sea-lion, Australian Sea Lion [22]                                     | Endangered          | Species or species habitat known to occur within area             | In feature area |
| Reptile                                                                                                               |                     |                                                                   |                 |
| <a href="#">Aipysurus pooleorum</a><br>Shark Bay Sea Snake [66061]                                                    |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Caretta caretta</a><br>Loggerhead Turtle [1763]                                                           | Endangered          | Foraging, feeding or related behaviour known to occur within area | In feature area |

| Scientific Name                                                                           | Threatened Category | Presence Text                                                     | Buffer Status   |
|-------------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------|-----------------|
| <a href="#">Chelonia mydas</a><br>Green Turtle [1765]                                     | Vulnerable          | Foraging, feeding or related behaviour known to occur within area | In feature area |
| <a href="#">Dermochelys coriacea</a><br>Leatherback Turtle, Leathery Turtle, Luth [1768]  | Endangered          | Foraging, feeding or related behaviour known to occur within area | In feature area |
| <a href="#">Hydrophis kingii as Disteira kingii</a><br>Spectacled Sea Snake [93511]       |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Hydrophis platura as Pelamis platurus</a><br>Yellow-bellied Sea Snake [93746] |                     | Species or species habitat may occur within area                  | In feature area |
| <a href="#">Natator depressus</a><br>Flatback Turtle [59257]                              | Vulnerable          | Foraging, feeding or related behaviour known to occur within area | In feature area |

| Whales and Other Cetaceans                                                            |            |                                                        | [ Resource Information ] |
|---------------------------------------------------------------------------------------|------------|--------------------------------------------------------|--------------------------|
| Current Scientific Name                                                               | Status     | Type of Presence                                       | Buffer Status            |
| Mammal                                                                                |            |                                                        |                          |
| <a href="#">Balaenoptera acutorostrata</a><br>Minke Whale [33]                        |            | Species or species habitat may occur within area       | In feature area          |
| <a href="#">Balaenoptera edeni</a><br>Bryde's Whale [35]                              |            | Species or species habitat may occur within area       | In feature area          |
| <a href="#">Balaenoptera musculus</a><br>Blue Whale [36]                              | Endangered | Species or species habitat likely to occur within area | In feature area          |
| <a href="#">Delphinus delphis</a><br>Common Dolphin, Short-beaked Common Dolphin [60] |            | Species or species habitat may occur within area       | In feature area          |
| <a href="#">Eubalaena australis</a><br>Southern Right Whale [40]                      | Endangered | Species or species habitat likely to occur within area | In feature area          |

| Current Scientific Name                                                                                 | Status | Type of Presence                                       | Buffer Status   |
|---------------------------------------------------------------------------------------------------------|--------|--------------------------------------------------------|-----------------|
| <a href="#">Grampus griseus</a><br>Risso's Dolphin, Grampus [64]                                        |        | Species or species habitat may occur within area       | In feature area |
| <a href="#">Megaptera novaeangliae</a><br>Humpback Whale [38]                                           |        | Species or species habitat known to occur within area  | In feature area |
| <a href="#">Orcinus orca</a><br>Killer Whale, Orca [46]                                                 |        | Species or species habitat may occur within area       | In feature area |
| <a href="#">Stenella attenuata</a><br>Spotted Dolphin, Pantropical Spotted Dolphin [51]                 |        | Species or species habitat may occur within area       | In feature area |
| <a href="#">Tursiops aduncus</a><br>Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418] |        | Species or species habitat likely to occur within area | In feature area |
| <a href="#">Tursiops truncatus s. str.</a><br>Bottlenose Dolphin [68417]                                |        | Species or species habitat may occur within area       | In feature area |

### Extra Information

| State and Territory Reserves                             |                |       | [ <a href="#">Resource Information</a> ] |
|----------------------------------------------------------|----------------|-------|------------------------------------------|
| Protected Area Name                                      | Reserve Type   | State | Buffer Status                            |
| Beekeepers                                               | Nature Reserve | WA    | In buffer area only                      |
| Boullanger, Whitlock, Favourite, Tern And Osprey Islands | Nature Reserve | WA    | In buffer area only                      |
| Drovers Cave                                             | National Park  | WA    | In buffer area only                      |
| Escape Island                                            | Nature Reserve | WA    | In buffer area only                      |
| Essex Rocks                                              | Nature Reserve | WA    | In buffer area only                      |
| Jurien Bay                                               | Marine Park    | WA    | In feature area                          |
| Lesueur                                                  | National Park  | WA    | In buffer area only                      |
| Sandland Island                                          | Nature Reserve | WA    | In buffer area only                      |
| Southern Beekeepers                                      | Nature Reserve | WA    | In buffer area only                      |
| Unnamed WA33287                                          | Nature Reserve | WA    | In buffer area only                      |

| Protected Area Name | Reserve Type      | State | Buffer Status       |
|---------------------|-------------------|-------|---------------------|
| Unnamed WA43786     | 5(1)(h) Reserve   | WA    | In buffer area only |
| Unnamed WA44682     | 5(1)(h) Reserve   | WA    | In buffer area only |
| Unnamed WA48205     | 5(1)(h) Reserve   | WA    | In buffer area only |
| Unnamed WA48717     | Conservation Park | WA    | In buffer area only |

| EPBC Act Referrals <span>[ <a href="#">Resource Information</a> ]</span> |            |                  |                   |                     |
|--------------------------------------------------------------------------|------------|------------------|-------------------|---------------------|
| Title of referral                                                        | Reference  | Referral Outcome | Assessment Status | Buffer Status       |
| <a href="#">Jurien Bay Borefield Expansion Bore 29/01</a>                | 2024/10095 |                  | Referral Decision | In buffer area only |
| <a href="#">Jurien East Road Upgrade, 3 km NNE Jurien Bay, WA</a>        | 2020/8740  |                  | Post-Approval     | In buffer area only |

| Not controlled action                                                                                        |           |                       |           |                     |
|--------------------------------------------------------------------------------------------------------------|-----------|-----------------------|-----------|---------------------|
| <a href="#">Construction of several passing lanes between Lancelin and Jurien Bay, WA</a>                    | 2015/7509 | Not Controlled Action | Completed | In buffer area only |
| <a href="#">Establishment of a 12.7 ha Gypsum Mine</a>                                                       | 2007/3398 | Not Controlled Action | Completed | In buffer area only |
| <a href="#">Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia</a> | 2015/7522 | Not Controlled Action | Completed | In feature area     |

| Biologically Important Areas <span>[ <a href="#">Resource Information</a> ]</span> |                               |                |                 |
|------------------------------------------------------------------------------------|-------------------------------|----------------|-----------------|
| Scientific Name                                                                    | Behaviour                     | Presence       | Buffer Status   |
| Seabirds                                                                           |                               |                |                 |
| <a href="#">Ardenna pacifica</a><br>Wedge-tailed Shearwater [84292]                | Foraging (in high numbers)    | Known to occur | In feature area |
| <a href="#">Hydroprogne caspia</a><br>Caspian Tern [808]                           | Foraging (provisioning young) | Known to occur | In feature area |
| <a href="#">Larus pacificus</a><br>Pacific Gull [811]                              | Foraging (in high numbers)    | Known to occur | In feature area |
| <a href="#">Puffinus assimilis tunneyi</a><br>Little Shearwater [59363]            | Foraging (in high numbers)    | Known to occur | In feature area |

| Scientific Name                                               | Behaviour                   | Presence       | Buffer Status   |
|---------------------------------------------------------------|-----------------------------|----------------|-----------------|
| <a href="#">Sterna dougallii</a><br>Roseate Tern [817]        | Foraging                    | Known to occur | In feature area |
| <a href="#">Sternula nereis</a><br>Fairy Tern [82949]         | Foraging (in high numbers)  | Known to occur | In feature area |
| Seals                                                         |                             |                |                 |
| <a href="#">Neophoca cinerea</a><br>Australian Sea Lion [22]  | Foraging (male and female)  | Known to occur | In feature area |
| Sharks                                                        |                             |                |                 |
| <a href="#">Carcharodon carcharias</a><br>White Shark [64470] | Foraging                    | Known to occur | In feature area |
| Whales                                                        |                             |                |                 |
| <a href="#">Megaptera novaeangliae</a><br>Humpback Whale [38] | Migration (north and south) | Known to occur | In feature area |

# 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 is 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 on the contents of this report.

## 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 point locations and environmental data layers.

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 when time permits.

## 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 breeding sites; and
- 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](#)

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

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## Appendix 2: Conservation Codes

### A2.1 Flora and Fauna

#### State Flora and Fauna Conservation Codes under the *Biodiversity Conservation Act 2018* (WA)

| Conservation Code                  | Name                              | Description                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Threatened Species</b>          |                                   |                                                                                                                                                                                                                                                                                                                                              |
| 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                                                                                                                                                                                                                                              |
| <b>Extinct Species</b>             |                                   |                                                                                                                                                                                                                                                                                                                                              |
| EX                                 | Extinct Species                   | Species where 'there is no reasonable doubt that the last member of the species has died<br>(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                    |
| <b>Specially Protected Species</b> |                                   |                                                                                                                                                                                                                                                                                                                                              |
| 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<br>(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                                 | Other Specially Protected Species | Fauna otherwise in need of special protection to ensure their conservation (Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice)                                                                                                                                                                                      |

**State Flora and Fauna Conservation Codes listed by Department of Biodiversity, Conservation and Attractions**

| Conservation Code | Name           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| P2                | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| P3                | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| P4                | Priority Four  | <p>Rare or near threatened and other species in need of monitoring.</p> <ul style="list-style-type: none"> <li>a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.</li> <li>b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as a conservation dependent specially protected species.</li> <li>c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.</li> </ul> |

Source: DBCA, 2023

**Commonwealth Flora and Fauna Conservation Codes under the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth)**

| Category               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Extinct                | A native species which at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Extinct in the wild    | A native species which at a particular time if, at that time: <ul style="list-style-type: none"> <li>a) It is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or</li> <li>b) It has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Critically endangered  | A species considered to be facing an extremely high risk of extinction in the wild and is determined that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Endangered             | A species considered to be facing a very high risk of extinction in the wild and is determined that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Vulnerable             | A species considered to be facing a high risk of extinction in the wild and is determined that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Conservation dependent | A native species which at a particular time if, at that time: <ul style="list-style-type: none"> <li>a) is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or</li> <li>b) the following subparagraphs are satisfied: <ul style="list-style-type: none"> <li>i. the species is a species of fish;</li> <li>ii. the species is the focus of a plan of management that provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised;</li> <li>iii. the plan of management is in force under a law of the Commonwealth or of a State or Territory;</li> <li>iv. cessation of the plan of management would adversely affect the conservation status of the species</li> </ul> </li> </ul> |

## A2.2 Ecological Communities

### State Ecological Community Conservation Codes under the *Biodiversity Conservation Act 2018* (WA)

| Conservation Code | Name                       | Description                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PD                | Presumed Totally Destroyed | An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future                                                         |
| CR                | Critically Endangered      | An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.                |
| EN                | Endangered                 | An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future                                                                                    |
| VU                | Vulnerable                 | An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range. |

**State Ecological Community Conservation Codes listed by Department of Biodiversity, Conservation and Attractions**

| Conservation Code | Name           | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| P1                | Priority One   | <p><b>Poorly known ecological communities - very few occurrences, very restricted distribution</b></p> <p>Ecological communities that are known from very few occurrences with a very restricted distribution (generally <math>\leq 5</math> occurrences or a total area of <math>\leq 100</math> ha). Occurrences are believed to be under threat either due to limited extent or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range</p>                                                                                                                                              |
| P2                | Priority Two   | <p><b>Poorly known ecological communities - few occurrences, restricted distribution</b></p> <p>Communities that are known from few occurrences with a restricted distribution (generally <math>\leq 10</math> occurrences or a total area of <math>\leq 200</math> ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.</p>                                                                                                                                                                                                                                                                                                                                                                     |
| P3                | Priority Three | <p><b>Poorly known ecological communities - inadequately surveyed or not well defined</b></p> <p>Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them. This category includes three sub-categories:</p> <ol style="list-style-type: none"> <li>Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation.</li> <li>Communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years),</li> <li>Communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across</li> </ol> |

| Conservation Code | Name          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   |               | much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| P4                | Priority Four | <p><b>Adequately known ecological communities - rare, near threatened, or recently removed from the threatened list</b></p> <p>Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.</p> <ul style="list-style-type: none"> <li>i. Rare: Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These communities are usually represented on conservation lands.</li> <li>ii. Near Threatened: Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for a higher threat category.</li> <li>iii. Ecological communities that have been removed from the list of threatened communities during the past five years.</li> </ul> |
| P5                | Priority Five | <p><b>Conservation dependent ecological communities</b></p> <p>Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

Source: DBCA, 2023

**Commonwealth Ecological Community Conservation Codes under the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth)**

| Category              | Description                                                                                                                                                                                                        |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Critically endangered | If, at that time, an ecological community is facing an extremely high risk of extinction in the wild in the immediate future (indicative timeframe being the next 10 years).                                       |
| Endangered            | If, at that time, an ecological community is not critically endangered but is facing a very high risk of extinction in the wild in the near future (indicative timeframe being the next 20 years).                 |
| Vulnerable            | If, at that time, an ecological community is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future (indicative timeframe being the next 50 years). |

## Appendix 3: Significant Species

| Species Name                                                                                                                           | Common Name      | Description                                                 | Flowering Period | Habitat Type                                                                    | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------|------------------|---------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Acacia carens</i><br/><i>Acacia carens</i></p> |                  | Open, broom-like shrub, 0.35-0.6(-1) m high. Fl. yellow     | Apr to Jun.      | Gravel or sandy gravel. Lateritic uplands.                                      |                 | P2             | N                | Habitat unsuitable |
| <i>Acacia epacantha</i>                                                                                                                |                  | Dense, bushy, spiny shrub, 0.2-0.5(-0.7) m high Fl. yellow. | Jul to Aug.      | Lateritic gravelly loam or clay.                                                |                 | P3             | N                | Habitat unsuitable |
| <i>Acacia forrestiana</i>                                                                                                              | Forrest's Wattle | Erect, open, prickly shrub, 0.4-1 m high Fl. yellow         | Nov to Dec       | Lateritic gravelly soils, clay loam over sandstone. Gullies, hills, breakaways. | VU              | VU             | N                | Habitat unsuitable |
| <i>Acacia lasiocarpa</i> var. <i>lasiocarpa</i> Cockleshell Gully variant (E.A. Griffin 2039)                                          |                  | Shrub, 0.35-0.5 m high. Fl. yellow                          | Aug.             | Grey-yellow sand with laterite. Low open heath.                                 |                 | P2             | N                | Habitat unsuitable |

| Species Name                                                                                                                      | Common Name | Description                                                           | Flowering Period | Habitat Type                                                                   | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Acacia plicata</i> Photos: M. Hancock</p> |             | Erect shrub, (0.3-)0.9-2 m high. Fl. yellow                           | Aug to Oct.      | Loamy & clayey soils, often over sandstone or siltstone. Along drainage lines. |                 | P3             | N                | Habitat unsuitable |
|  <p><i>Acacia retrorsa</i> Photo: J. Scott</p>  |             | Prostrate, sprawling shrub, 0.05-0.5 m high, 0.4-2 m wide. Fl. yellow | Aug to Sep.      | Grey sand & lateritic gravel, sandy loam.                                      |                 | P2             | N                | Habitat unsuitable |
| <i>Allocasuarina grevilleoides</i>                                                                                                |             | Dioecious, lignotuberosus shrub, 0.15-0.4 m high.                     |                  | Sand over laterite, gravel.                                                    |                 | P3             | N                | Habitat unsuitable |
| <i>Amanita lesueurii</i>                                                                                                          |             |                                                                       |                  |                                                                                |                 | P2             | N                | Habitat unsuitable |
| <i>Amanita marinae</i>                                                                                                            |             |                                                                       |                  |                                                                                |                 | P2             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                                   | Common Name              | Description                                                                     | Flowering Period | Habitat Type                                                               | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Andersonia gracilis</i><br/>Photos: K. Atkins &amp; M. Hislop</p>                      |                          | Slender erect or open straggly shrub, 0.1-0.5(-1) m high. Fl. white-pink-purple | Sep to Nov       | White/grey sand, sandy clay, gravelly loam. Winter-wet areas, near swamps. | EN              | VU             | N                | Habitat unsuitable |
| <i>Andersonia gracilis</i>                                                                                                                                                     |                          |                                                                                 |                  |                                                                            |                 |                |                  |                    |
| <i>Andersonia</i> sp. Mt Lesueur (E.A. Griffin 5536)                                                                                                                           |                          |                                                                                 |                  |                                                                            |                 | P2             | N                | Habitat unsuitable |
| <i>Andersonia</i> sp. Mysosma (E.A. Griffin 2213)                                                                                                                              |                          |                                                                                 |                  |                                                                            |                 | P2             | N                | Habitat unsuitable |
|  <p><i>Anigozanthos viridis</i> subsp. <i>terraspectans</i><br/>Photo: B. &amp; B. Wells</p> | Dwarf Green Kangaroo Paw | Rhizomatous, perennial, herb, 0.05-0.2 m high. Fl. green/yellow green           | Aug to Sep       | Grey sand, clay loam. Winter-wet depressions.                              | VU              | VU             | N                | Habitat unsuitable |
| <i>Anigozanthos viridis</i> subsp. <i>terraspectans</i>                                                                                                                        |                          |                                                                                 |                  |                                                                            |                 |                |                  |                    |

| Species Name                                                                                                                                                    | Common Name             | Description                                                              | Flowering Period | Habitat Type                                                               | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Asterolasia drummondii</i><br/>Photos: S.D.Hopper</p>                   | Gairdner Range Starbush | Slender erect shrub, 0.2-0.5 m high. Fl. white                           | Jul to Sep.      | Lateritic gravel & sand or loam. Lateritic hills & sandplains, breakaways. |                 | P4             | N                | Habitat unsuitable |
|  <p><i>Banksia chamaephyton</i><br/>Photos: E.A. George &amp; S.D. Hopper</p> | Fishbone Banksia        | Low, lignotubers shrub, to 0.4 m high, up to 2 m wide. Fl. cream & brown | Oct to Dec.      | Grey or white sand over laterite.                                          |                 | P4             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                                                     | Common Name     | Description                                                                                | Flowering Period | Habitat Type                                                   | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <div>  <div> <i>Banksia elegans</i><br/>           Photos: G. Cockerton &amp; E.A. George         </div> </div> | Elegant Banksia | Shrub (with fire-tolerant rootstock, often suckering), 1-4 m high. Fl. yellow/green-yellow | Oct to Nov       | Yellow, white or red sand. Sandplains, low consolidated dunes. |                 | P4             | N                | Habitat unsuitable |
| <i>Banksia elegans</i>                                                                                                                                                                           |                 |                                                                                            |                  |                                                                |                 |                |                  |                    |
| <i>Banksia fraseri</i> var. <i>crebra</i>                                                                                                                                                        |                 |                                                                                            |                  |                                                                |                 | P3             | N                | Habitat unsuitable |
| <i>Banksia fraseri</i> var. <i>effusa</i>                                                                                                                                                        |                 |                                                                                            |                  |                                                                |                 | P2             | N                | Habitat unsuitable |
| <i>Banksia kippistiana</i> var. <i>paenepeccata</i>                                                                                                                                              |                 | Erect, prickly, lignotubers shrub, 0.3-1.2 m high. Fl. yellow-cream                        | Oct to Nov       | Lateritic gravelly soils.                                      |                 | P3             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                                                             | Common Name               | Description                                                                   | Flowering Period | Habitat Type                                               | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------|------------------|------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <div>  <div> <i>Banksia tricuspis</i><br/>           Photos: E.A. George &amp; I. &amp; M. Greeve         </div> </div> |                           | Stunted tree or shrub, 1.2-4 m high, with epicormic buds<br>Fl. yellow-orange | Mar to Jul.      | Lateritic rocky soils. Sides & hilltopes, breakaway edges. |                 | P4             | N                | Habitat unsuitable |
| <div>  <div> <i>Beaufortia bicolor</i><br/>           Photos: M. Hancock &amp; M. Hislop         </div> </div>         | Badgingarra<br>Beaufortia | Dense shrub, 0.3-1 m high. Fl. red & yellow & orange                          | Nov to Dec.      | White sand over laterite. Sandplains.                      |                 | P3             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                           | Common Name                                  | Description                                                                                             | Flowering Period | Habitat Type                                                       | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <br><i>Beyeria cinerea</i> subsp. <i>cinerea</i><br>Photos: G. Cockerton & M. Kealley |                                              |                                                                                                         |                  |                                                                    |                 | P3             | N                | Habitat suitable   |
|                                                                                                                                                                        | <i>Beyeria cinerea</i> subsp. <i>cinerea</i> |                                                                                                         |                  |                                                                    |                 |                |                  |                    |
| <i>Beyeria similis</i>                                                                                                                                                 |                                              | Erect, compact shrub, 0.25-0.7 m high. Fl. yellow                                                       | Aug to Sep.      | Yellow or red clayey sand. Sandplains.                             |                 | P2             | N                | Habitat unsuitable |
| <i>Boronia scabra</i> subsp. <i>condensata</i>                                                                                                                         |                                              | Erect shrub, 0.25-0.7 m high, flowers 4-merous, cymes sessile, staminal filaments tuberculate Fl. pink. | Aug.             | Sandy clay or gravel. Upper slopes, edges of lateritic breakaways. |                 | P2             | N                | Habitat unsuitable |
| <i>Calandrinia oraria</i>                                                                                                                                              |                                              |                                                                                                         |                  |                                                                    |                 | P3             | Y                | Habitat suitable   |
| <i>Centrolepis milleri</i>                                                                                                                                             |                                              |                                                                                                         |                  |                                                                    |                 | P3             | N                | Habitat unsuitable |

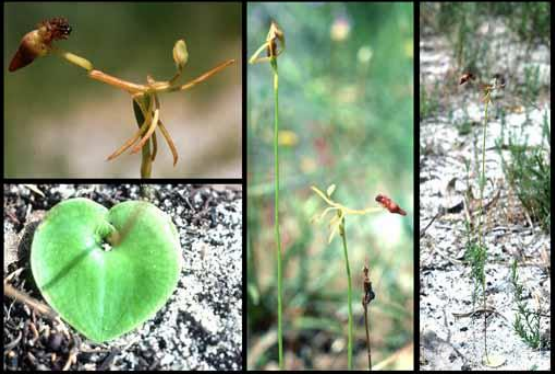
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| Species Name                                                                                                                                                             | Common Name             | Description                                                                            | Flowering Period | Habitat Type                                      | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------|------------------|---------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Conostylis pauciflora</i> subsp. <i>euryrhipis</i><br/>Photos: A.D. Crawford</p> |                         | Rhizomatous, stoloniferous perennial, grass-like or herb, 0.06-0.18 m high Fl. yellow. | Aug to Oct.      | White, grey or yellow sand. Consolidated dunes.   |                 | P4             | Y                | Habitat suitable   |
| <i>Conostylis pauciflora</i> subsp. <i>euryrhipis</i>                                                                                                                    |                         |                                                                                        |                  |                                                   |                 |                |                  |                    |
| <i>Corymbia chlorolampra</i>                                                                                                                                             | Mount Lesueur bloodwood | (Mallee), 1.5-3 m high, bark rough & tessellated, smooth above.                        |                  | Sand over limestone. Hills, lateritic breakaways. |                 | P2             | N                | Habitat unsuitable |
| <i>Cristonia biloba</i> subsp. <i>pubescens</i>                                                                                                                          |                         |                                                                                        |                  |                                                   |                 | P2             | N                | Habitat unsuitable |
| <i>Cyanothamnus ramosus</i> subsp. <i>lesueuranus</i>                                                                                                                    |                         |                                                                                        |                  |                                                   |                 | P2             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                  | Common Name | Description                                                                                                                         | Flowering Period | Habitat Type             | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------|-----------------|----------------|------------------|--------------------|
| <br><i>Dampiera tephrea</i><br>Photos: S.J. Patrick                          |             | Ascending to erect perennial, herb or shrub, 0.3-0.6 m high, with grey or yellowish hairs on abaxial surface of leaves.<br>Fl. blue | Jul.             | Sand, gravelly loam.     |                 | P3             | N                | Habitat unsuitable |
| <br><i>Daviesia debilior</i> subsp. <i>sinuans</i><br>Photos: J.A. Cochrane |             | Straggling shrub, to 0.8 m high Fl. yellow & red/purple.                                                                            | May to Jul.      | Gravelly lateritic clay. |                 | P2             | N                | Habitat unsuitable |
| <i>Daviesia debilior</i> subsp. <i>debilior</i>                                                                                                               |             |                                                                                                                                     |                  |                          |                 |                |                  |                    |

| Species Name                                                                                                                                                                                                                               | Common Name        | Description                                                   | Flowering Period | Habitat Type                                       | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------|------------------|----------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <div>  <div> <i>Daviesia pteroclada</i><br/>           Photos: A. Doley &amp; S.J. Patrick         </div> </div> <div> <i>Daviesia pteroclada</i> </div>  |                    | Erect, broom-like shrub, 0.6-1.8 m high. Fl. orange & red     | Jul to Aug.      | Sandy or clay gravelly soils over laterite. Hills. |                 | P3             | N                | Habitat unsuitable |
| <div>  <div> <i>Diuris recurva</i><br/>           Photos: I. &amp; M. Greeve &amp; S.J. Patrick         </div> </div> <div> <i>Diuris recurva</i> </div> | Mini Donkey Orchid |                                                               |                  |                                                    |                 | P4             | N                | Habitat unsuitable |
| <i>Drosera atrata</i>                                                                                                                                                                                                                      |                    | Tuberous, perennial, herb, 0.2-0.3 m high. Fl. yellow & brown | Jul to Aug.      | Loam. Winter-wet areas.                            |                 | P3             | N                | Habitat unsuitable |

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| Species Name                                                                                                                                            | Common Name                 | Description                                                                          | Flowering Period | Habitat Type                                                          | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Drosera rubricalyx</i>                                                                                                                               |                             |                                                                                      |                  |                                                                       |                 | P2             | N                | Habitat unsuitable |
|  <p><i>Drakaea elastica</i><br/>Photos: A. Brown &amp; S.D. Hopper</p> | Glossy-leaved Hammer Orchid | Tuberous, perennial, herb, 0.12-0.3 m high. Fl. red & green & yellow                 | Oct to Nov.      | White or grey sand. Low-lying situations adjoining winter-wet swamps. | EN              | CR             | N                | Habitat unsuitable |
|  <p><i>Eleocharis keigheryi</i><br/>Photo: G.J. Keighery</p>          |                             | Rhizomatous, clumped perennial, grass-like or herb (sedge), to 0.4 m high. Fl. green | Aug to Nov.      | Clay, sandy loam. Emergent in freshwater: creeks, claypans            | VU              | VU             | N                | Habitat unsuitable |
| <i>Eleocharis keigheryi</i>                                                                                                                             |                             |                                                                                      |                  |                                                                       |                 |                |                  |                    |

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| Species Name                                                                                                                                                                              | Common Name            | Description                                                                                     | Flowering Period          | Habitat Type                                                                   | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Eucalyptus abdita</i>                                                                                                                                                                  |                        | (Mallee) or shrub, 2-3 m high, bark smooth, grey.                                               |                           | Laterite, sandy clay with gravel over laterite. Slopes, breakaways.            |                 | P2             | N                | Habitat unsuitable |
| <i>Eucalyptus angularis</i>                                                                                                                                                               |                        | (Mallee), to 3 m high, bark rough or flaky.                                                     |                           | Lateritic breakaways.                                                          |                 | P2             | N                | Habitat unsuitable |
| <br><i>Eucalyptus argutifolia</i><br><small>Photos: A.D. Crawford, S.D. Hopper &amp; J.L. Robson</small> |                        | (Mallee), 1.5-4 m high, bark smooth. Fl. white                                                  | Mar to Apr                | Shallow soils over limestone. Slopes or gullies of limestone ridges, outcrops. |                 |                | N                | Habitat unsuitable |
|                                                                                                                                                                                           |                        |                                                                                                 |                           |                                                                                |                 |                |                  |                    |
| <i>Eucalyptus exilis</i>                                                                                                                                                                  | Boyagin Mallee         | (Whipstick mallee), 2-6 m high, bark smooth. Fl. white                                          | Aug to Oct.               | Grey sand, gravelly loam. Lateritic ridges.                                    |                 | P4             | N                | Habitat unsuitable |
| <i>Eucalyptus foecunda</i> subsp. <i>aeolica</i>                                                                                                                                          | Beekeepers Mallee      |                                                                                                 |                           |                                                                                |                 | P2             | N                | Habitat unsuitable |
| <i>Eucalyptus foecunda</i> subsp. <i>foecunda</i>                                                                                                                                         | Fremantle Mallee       |                                                                                                 |                           |                                                                                |                 | P4             | N                | Habitat unsuitable |
| <i>Eucalyptus leprophloia</i>                                                                                                                                                             | Scaly Butt Mallee      | (Mallee), 2-5(-8) m high, bark rough loose & flaky to 1 m. Fl. cream-white                      | Aug to Oct.               | White or grey sand over laterite. Valley slopes.                               | EN              | EN             | N                | Habitat unsuitable |
| <i>Eucalyptus macrocarpa</i> subsp. <i>elachantha</i>                                                                                                                                     | Small-leaved Mottlecah | (Spreading or sprawling mallee), 0.8-4 m high, bark smooth, grey over salmon pink. Fl. red-pink | Aug to Sep or Nov to Dec. | White or grey sand over laterite. Hillslopes, ridges, sandplains.              |                 | P4             | N                | Habitat unsuitable |

| Species Name                                                                                                                                               | Common Name          | Description                                                     | Flowering Period  | Habitat Type                                                                 | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------|-------------------|------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Eucalyptus pendens</i><br/>Photos: A. Doley &amp; S.J. Patrick</p> | Badgingarra Mallee   | (Slender, pendulous mallee), 2-5 m high, bark smooth. Fl. white | Aug to Nov.       | White or grey sand with lateritic gravel. Hillsides, breakaways, sandplains. |                 | P4             | N                | Habitat unsuitable |
|  <p><i>Eucalyptus suberea</i><br/>Photo: S.D. Hopper</p>                 | Mount Lesueur Mallee | (Mallee), 1-4 m high, bark rough & flaky. Fl. white             | Nov to Dec or Jan | Grey sand. Near or on lateritic breakaways.                                  | VU              | VU             | N                | Habitat unsuitable |

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| Species Name                                                                                                                                                                                                        | Common Name            | Description                                                                | Flowering Period          | Habitat Type                                                                                                                            | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
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|  <p><i>Eucalyptus lateritica</i><br/><i>Eucalyptus x lateritica</i></p> <p>Photos: A.D. Crawford, M. Hancock &amp; S.D. Hopper</p> | Laterite Mallee        | (Mallee), 2-3 m high, bark rough at base. Fl. white                        | Aug to Oct                | White or grey sand with gravel. Lateritic breakaways & mesas.                                                                           | VU              | EN             | N                | Habitat unsuitable |
| <i>Eucalyptus zopherophloia</i>                                                                                                                                                                                     | Blackbutt Mallee       | (Spreading mallee), 2.5-4(-6) m high, bark rough, fibrous. Fl. cream-white | Oct to Dec or Jan.        | Grey/white sand with limestone rubble. Coastal areas.                                                                                   |                 | P4             | Y                | Habitat suitable   |
| <i>Gompholobium gairdnerianum</i>                                                                                                                                                                                   |                        | Erect, slender, multistemmed shrub, to 0.5 m high. Fl. yellow              | Sep to Nov.               | White, cream or brown sandy clay, white sand over sandstone, brown or grey sand over laterite, gravel. Hill summits and slopes, ridges. |                 | P3             | N                | Habitat unsuitable |
| <i>Goodenia xanthotricha</i>                                                                                                                                                                                        | Yellow-haired Goodenia | Viscid shrub, to 0.5 m high. Fl. blue                                      | Nov to Dec or Jan to Feb. | Sandy soils. Gravelly hills.                                                                                                            |                 | P2             | N                | Habitat unsuitable |
| <i>Grevillea batrachoides</i>                                                                                                                                                                                       |                        | Shrub, 0.5-1.5 m high. Fl. orange-red                                      | Oct. Sandy loam.          | Sandstone outcrops.                                                                                                                     | EN              | CR             | N                | Habitat unsuitable |
| <i>Grevillea cooljarloo</i>                                                                                                                                                                                         |                        | No description                                                             |                           |                                                                                                                                         |                 | P1             | N                | Habitat unsuitable |

| Species Name                                                                                                                                 | Common Name | Description                                          | Flowering Period          | Habitat Type                                                                            | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Grevillea delta</i>                                                                                                                       |             | Shrub, 0.3-1.8 m high. Fl. red                       | Jun to Jul or Sep to Oct. | Sandy clay, loam, gravelly soils, often over sandstone. Sandstone outcrops, creek beds. |                 | P2             | N                | Habitat unsuitable |
| <i>Grevillea florida</i>                                                                                                                     |             | Erect shrub, to 0.9 m high. Fl. cream-yellow         | Jul to Sep.               | Sand, sandy clay, gravel, laterite. Sandplain, slopes, road verges.                     |                 | P3             | N                | Habitat unsuitable |
| <br><i>Grevillea humifusa</i><br><i>Grevillea humifusa</i> |             | Prostrate to decumbent, lignotuberous shrub. Fl. red | Sep to Nov.               | Gravelly loam over laterite.                                                            | EN              | CR             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                                                                                  | Common Name       | Description                                                                   | Flowering Period                        | Habitat Type                                                        | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
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|  <br><i>Grevillea olivacea</i><br><i>Grevillea olivacea</i> | Olive Grevillea   | Erect, non-lignotuberous shrub, 1-4.5 m high. Fl. red/red-pink                | Jun to Sep.                             | White or grey sand. Coastal dunes, limestone rocks.                 |                 | P4             | Y                | Habitat suitable   |
| <i>Grevillea rudis</i>                                                                                                                                                                                                        |                   | Loose, spreading to erect shrub, 0.2-1.2 m high. Fl. white-cream/cream-yellow | Jan or Apr or Jun to Sep or Nov to Dec. | White, grey, yellow or red sand, often with gravel & over laterite. |                 | P4             | N                | Habitat unsuitable |
| <i>Grevillea saccata</i>                                                                                                                                                                                                      | Pouched Grevillea | Diffuse scrambling or trailing shrub, 0.25-0.5 m high, 1-2 m wide. Fl. red    | Apr or Jun to Nov.                      | Yellow or brown sand, often with lateritic gravel.                  |                 | P4             | N                | Habitat unsuitable |

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|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Grevillea uniformis</i><br/><i>Grevillea uniformis</i></p> |             | Shrub, (0.3-)0.8-1.8 m high.<br>Fl. white-cream                               | Jul or Sep to Nov. | Sand or sandy loam on sandstone, lateritic gravel. Sandstone outcrops, creeklines. |                 | P3             | N                | Habitat unsuitable |
| <i>Guichenotia alba</i>                                                                                                                            |             | Slender, lax, few-branched shrub, 0.1-0.45 m high. Fl. white                  | Jul to Aug.        | Sandy & gravelly soils. Low-lying flats, depressions.                              |                 | P3             | N                | Habitat unsuitable |
| <i>Haemodorum loratum</i>                                                                                                                          |             | Bulbaceous, perennial, herb, 0.45-1.2(-2) m high. Fl. black/brown-black/green | Nov.               | Grey or yellow sand, gravel.                                                       |                 | P3             | N                | Habitat unsuitable |
|  <p><i>Hakea longiflora</i><br/><i>Hakea longiflora</i></p>      |             | Erect, pungent shrub, 0.6-0.75 m high. Fl. yellow                             | Jun to Sep.        | White sand, loam, gravel, laterite. Breakaways.                                    |                 | P3             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                        | Common Name   | Description                                                      | Flowering Period | Habitat Type                              | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
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| <br><i>Hakea megalosperma</i><br><small>Photos: S.D. Hopper</small>                | Lesueur Hakea | Spreading, lignotuberous shrub, 1-2 m high. Fl. white-cream/pink | May to Jun.      | Grey sand, loam. Lateritic hills & rocks. | VU              | VU             | N                | Habitat unsuitable |
| <br><i>Hakea neurophylla</i><br><small>Photos: M.Hancock &amp; S.D.Hopper</small> |               | Erect shrub, 0.3-2 m high. Fl. pink-red                          | Aug              | Lateritic sandy soils. Hillsides.         |                 | P4             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                                                                                                                                   | Common Name | Description                                                                | Flowering Period | Habitat Type                                  | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------|------------------|-----------------------------------------------|-----------------|----------------|------------------|--------------------|
| <br><br><i>Haloragis foliosa</i> Photos: S.J. Patrick<br><i>Haloragis foliosa</i>                            |             | Perennial, herb or shrub, 0.2-0.5 m high.                                  |                  | White/grey sand over limestone.               |                 | P3             | Y                | Habitat suitable   |
| <br><br><i>Hemiantra gardneri</i> Photos: A.P. Brown, C. Chapman & M. Hancock<br><i>Hemiantra gardneri</i> |             | Prostrate, pungent shrub, 0.1-0.2 m high, to 1 m wide.<br>Fl. red/pink-red | Aug to Oct.      | Grey or yellow sand, clayey sand. Sandplains. | EN              | CR             | N                | Habitat unsuitable |
| <i>Hemiantra</i> sp. Watheroo (S. Hancocks 4)                                                                                                                                                                                                                                  |             |                                                                            |                  |                                               |                 | P4             | N                | Habitat unsuitable |

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| Species Name                                                                                                                               | Common Name     | Description                                                                  | Flowering Period | Habitat Type                                     | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------|------------------|--------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Hensmania stoniella</i>                                                                                                                 |                 | Tufted, stilt-rooted perennial, herb, 0.1-0.2 m high. Fl. yellow-cream-white | Sep to Nov.      | White, grey or lateritic sand, often winter-wet. |                 | P3             | N                | Habitat unsuitable |
| <i>Hibbertia propinqua</i>                                                                                                                 |                 |                                                                              |                  |                                                  |                 | P4             | N                | Habitat unsuitable |
| <i>Hibbertia subglabra</i>                                                                                                                 |                 |                                                                              |                  |                                                  |                 | P3             | N                | Habitat unsuitable |
| <i>Hypocalymma tenuatum</i>                                                                                                                | Lesueur Myrtle  | Shrub, 0.2-0.35 m high. Fl. cream-yellow                                     | Jul to Aug.      | Sandy loam over sandstone. Outcrops, ridges.     |                 | P2             | N                | Habitat unsuitable |
| <br><i>Hypolaena robusta</i><br><i>Hypolaena robusta</i> |                 | Dioecious rhizomatous, perennial, herb, ca 0.5 m high.                       | Sep to Oct.      | White sand. Sandplains.                          |                 | P4             | N                | Habitat unsuitable |
|                                                                                                                                            |                 |                                                                              |                  |                                                  |                 |                |                  |                    |
| <i>Isopogon autumnalis</i>                                                                                                                 | Autumn Isopogon |                                                                              |                  |                                                  |                 | P3             | N                | Habitat unsuitable |
| <i>Isopogon panduratus</i> subsp. <i>palustris</i>                                                                                         |                 |                                                                              |                  |                                                  |                 | P3             | N                | Habitat unsuitable |

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| Species Name                                                                                                                                                                                                                                      | Common Name | Description                                                                          | Flowering Period             | Habitat Type                                    | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------|-----------------|----------------|------------------|--------------------|
|   <p><i>Jacksonia anthoclada</i> ms<br/>Photos: J. Chappill</p>                 |             | Erect shrub, 1.5-2.5 m high.<br>Fl. yellow & red                                     | Apr.                         | White or grey sand.<br>Sandplains.              |                 | P3             | N                | Habitat unsuitable |
| <i>Jacksonia anthoclada</i>                                                                                                                                                                                                                       |             |                                                                                      |                              |                                                 |                 |                |                  |                    |
| <i>Jennata</i> sp. Mt Lesueur (J.S. Beard 7827)                                                                                                                                                                                                   |             |                                                                                      |                              |                                                 |                 | P2             | N                | Habitat unsuitable |
| <i>Lasiopetalum rutilans</i>                                                                                                                                                                                                                      |             |                                                                                      |                              |                                                 |                 | P2             | N                | Habitat unsuitable |
| <i>Lepidium puberulum</i>                                                                                                                                                                                                                         |             | Erect annual, herb, 0.1-0.35 m high. Fl. white-green                                 | Jul to Aug<br>or Oct to Nov. | Sandy soils.                                    |                 | P4             | N                | Habitat unsuitable |
|   <p><i>Lepidobolus quadratus</i><br/>Photos: M. Hancock &amp; K.A. Mency</p> |             | Rhizomatous, caespitose perennial, herb (sedge-like), 0.15-0.3 m high. Fl. brown/red | Aug to Sep.                  | Lateritic gravel, grey/white sand. Dry kwongan. |                 | P3             | N                | Habitat unsuitable |
| <i>Lepidobolus quadratus</i>                                                                                                                                                                                                                      |             |                                                                                      |                              |                                                 |                 |                |                  |                    |

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| Species Name                                                                                                                                                                                                        | Common Name           | Description                                                                                                  | Flowering Period   | Habitat Type                                                   | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------|--------------------|----------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Lepyrodia curvescens</i>                                                                                                                                                                                         |                       | Dioecious, shortly creeping, tufted rhizomatous, herb, 0.24-0.4 m high, rhizomes on surface or to 1 cm deep. | Sep to Nov.        | Sand, laterite. Seasonally inundated swampland.                |                 | P2             | N                | Habitat unsuitable |
| <i>Leucopogon foliosus</i>                                                                                                                                                                                          |                       |                                                                                                              |                    |                                                                |                 | P3             | N                | Habitat unsuitable |
| <i>Leucopogon plumuliflorus</i>                                                                                                                                                                                     |                       | Slender, multi-stemmed shrub, 0.1-0.4 m high. Fl. white/white-pink                                           | Apr or Jul to Nov. | Lateritic sandy soils. Amongst lateritic boulders, hillslopes. |                 | P2             | N                | Habitat unsuitable |
|  <p><i>Paracaleana dixonii</i><br/><i>Paracaleana dixonii</i></p> <p>Photos: G. Brockman, A.P. Brown &amp; I. &amp; M. Greeve</p> | Sandplain Duck Orchid | Tuberous, perennial, herb, 0.09-0.2 m high. Fl. yellow-brown                                                 | Oct to Dec or Jan. | Grey sand over granite.                                        | EN              | VU             | N                | Habitat unsuitable |
| <i>Patersonia argyrea</i>                                                                                                                                                                                           |                       | Rhizomatous, tufted perennial, herb, to 0.4 m high. Fl. violet-purple/other                                  | Sep to Nov.        | Grey sand and lateritic gravel.                                |                 | P3             | N                | Habitat unsuitable |
| <i>Persoonia filiformis</i>                                                                                                                                                                                         |                       | Erect, spreading, lignotuberous shrub, 0.07-0.4 m high. Fl. yellow                                           | Nov to Dec.        | Yellow or white sand over laterite.                            |                 | P3             | N                | Habitat unsuitable |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Persoonia rudis</i> Photo: I.R. Dixon</p> <p><i>Persoonia rudis</i></p>                                                                         |             | Erect, often spreading shrub, 0.2-1 m high. Fl. yellow                                                                        | Sep to Dec or Jan. | White, grey or yellow sand, often over laterite. |                 | P3             | N                | Habitat unsuitable |
|  <p><i>Phlebocarya pilosissima</i> subsp. <i>pilosissima</i> Photo: G.J. Keighery</p> <p><i>Phlebocarya pilosissima</i> subsp. <i>pilosissima</i></p> |             | Shortly rhizomatous, compactly tufted perennial, grass-like or herb, 0.15-0.4 m high. Fl. cream-white                         | Aug to Oct.        | White or grey sand, lateritic gravel.            |                 | P3             | N                | Habitat unsuitable |
| <i>Phlebocarya pilosissima</i> subsp. <i>teretifolia</i>                                                                                                                                                                                |             | Shortly rhizomatous, loosely tufted perennial, grass-like or herb, 0.15-0.4 m high, with terete green leaves. Fl. cream-white | Aug to Oct.        | White or grey sand.                              |                 | P2             | N                | Habitat unsuitable |

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|------------------------------------------------------------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Platysace ramosissima</i>                                                       |                         | Perennial, herb, to 0.3 m high<br>Fl. white-cream                                                                                                                                                                    | Oct to Nov.      | Sandy soils.                                                                       |                 | P3             | N                | Habitat unsuitable |
| <i>Ptilotus clivicola</i>                                                          |                         |                                                                                                                                                                                                                      |                  |                                                                                    |                 | P2             | N                | Habitat unsuitable |
| <i>Sarcozona bicarinata</i>                                                        |                         | Shrub, ca 0.1 m high. Fl. white                                                                                                                                                                                      | Aug.             | White sand.                                                                        |                 | P3             | Y                | Habitat suitable   |
| <i>Schoenus griffinianus</i>                                                       |                         | Small, tufted perennial, grass-like or herb (sedge), to 0.1 m high.                                                                                                                                                  | Sep to Oct.      | White sand.                                                                        |                 | P4             | Y                | Habitat suitable   |
| <i>Scholtzia calcicola</i>                                                         | Tiny-flowered Scholtzia |                                                                                                                                                                                                                      |                  |                                                                                    |                 | P2             | N                | Habitat unsuitable |
| <i>Spergularia nesophila</i>                                                       |                         |                                                                                                                                                                                                                      | Aug.             |                                                                                    |                 | P3             | Y                | Habitat suitable   |
| <i>Stackhousia</i> sp. Red-blotched corolla (A. Markey 911)                        |                         |                                                                                                                                                                                                                      |                  |                                                                                    |                 | P3             | N                | Habitat unsuitable |
| <i>Stenanthemum limitatum</i>                                                      |                         | Erect or decumbent shrub, 0.15-1 m high. Fl. white/cream                                                                                                                                                             | Oct to Nov       | Sand & lateritic gravel, sandstone.                                                |                 | P2             | N                | Habitat unsuitable |
|  |                         | Rosetted perennial, herb, 0.05-0.4 m high, Leaves adpressed to soil, oblanceolate, 0.7-3 cm long, 1.5-5 mm wide, apex subacute, margin hyaline, glabrous. Scape glabrous. Inflorescence paniculate. Fl. cream-yellow | Sep to Nov.      | Sandy clay loam over laterite. Hillsides and breakaways. Low heath, open woodland. |                 | P4             | N                | Habitat unsuitable |
| <i>Stylidium aeonioides</i><br><i>Stylidium aeonioides</i>                         |                         |                                                                                                                                                                                                                      |                  |                                                                                    |                 |                |                  |                    |

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|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Stylidium asteroideum</i>                                                                                         | Star Triggerplant                                                                                     |                                                                                                                                                                                                                                                                                                                              |                  |                                                                                                             |                 | P3             | N                | Habitat unsuitable |
| <i>Stylidium carnosum</i> subsp. Narrow leaves (J.A. Wege 490)                                                       |                                                                                                       |                                                                                                                                                                                                                                                                                                                              |                  |                                                                                                             |                 | P1             | N                | Habitat unsuitable |
| <i>Stylidium cornuatum</i>                                                                                           |                                                                                                       |                                                                                                                                                                                                                                                                                                                              |                  |                                                                                                             |                 | P2             | N                | Habitat unsuitable |
| <br><i>Stylidium diplotrichum</i>   | <br>Photos: J. Wege  | <p>Rosetted perennial, herb, 0.145-0.4 m high, Leaves tufted, linear, 1-11.7 cm long, 0.6-1.2 mm wide, apex mucronate, margin entire, scabrous. Membraneous scale leaves present at base of mature leaves. Scape hairy throughout with glandular and pilose trichomes. Inflorescence head-like, or paniculate. Fl. white</p> | Sep to Nov.      | Clayey sand or clay loam over laterite. Hillslopes and gullies. Acacia and myrtaceous shrubland, low heath. |                 | P2             | N                | Habitat unsuitable |
| <br><i>Stylidium inversiflorum</i> | <br>Photos: J. Wege | <p>Rosetted perennial, herb, 0.08-0.25 m high, Leaves erect to spreading, linear, 1-4 cm long, 0.4-1 mm wide, apex subacute, margin entire, glabrous. Scape glandular on inflorescence axis, glabrous below. Inflorescence racemose. Fl. yellow</p>                                                                          | Sep to Nov.      | White or grey sand over laterite. Sandplains, hillslopes and gullies. Heath, open woodland.                 |                 | P4             | N                | Habitat unsuitable |

| Species Name                                                                                                                                            | Common Name             | Description                                                                                                                                                                                                                                                                                                     | Flowering Period | Habitat Type                                                                                    | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
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|  <p><i>Stylidium maritimum</i><br/><i>Stylidium maritimum</i></p>      | Coastal Triggerplant    | Caespitose perennial, herb, 0.3-0.7 m high, Leaves tufted, linear to narrowly oblanceolate, 10-40 cm long, 1-5.5 mm wide, apex acute to mucronate, margin involute, glabrous. Membraneous scale leaves present at base of mature leaves. Scape glandular throughout. Inflorescence paniculate. Fl. white/purple | Sep to Nov.      | Sand over limestone. Dune slopes and flats. Coastal heath and shrubland, open Banksia woodland. |                 | P3             | Y                | Habitat suitable   |
|  <p><i>Stylidium nonscandens</i><br/><i>Stylidium nonscandens</i></p> |                         | Erect perennial, herb, 0.18-0.46 m high, Leaves in whorls, linear, 0.2-4.2 cm long, 0.4-1.2 mm wide, apex subacute to acute, margin entire, glabrous. Scape glabrous. Inflorescence racemose. Fl. pink                                                                                                          | Sep to Nov.      | Sand over laterite. Hillslopes and crests. Banksia woodland, heath, mallee shrubland.           |                 | P3             | N                | Habitat unsuitable |
| <i>Stylidium periscelanthum</i>                                                                                                                         | Pantaloons Triggerplant | Bulb-forming perennial, herb, 0.07-0.15 m high. Fl. pink                                                                                                                                                                                                                                                        | Sep to Oct.      | Loamy clay, moist soils pockets. Wet flats, low granitic hills.                                 |                 | P3             | N                | Habitat unsuitable |

| Species Name                                                                                                                               | Common Name             | Description                                                                                                                                                                                                                                                                       | Flowering Period | Habitat Type                                                                                                                    | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Stylidium striatum</i><br/>Photos: J. Wege</p>     | Fan-leaved Triggerplant | Rosetted perennial, herb, 0.15-0.55 m high, Leaves erect, oblanceolate to spatulate, 1.5-4 cm long, 1.5-6 mm wide, apex acute to acuminate, margin entire, glabrous, striate. Scape sparingly glandular on inflorescence axis, glabrous below. Inflorescence racemose. Fl. yellow | Oct to Nov.      | Brown clay loam over laterite. Hillslopes. Jarrah/Marri forest, Wandoo woodland.                                                |                 | P4             | N                | Habitat unsuitable |
| <i>Stylidium strigosum</i>                                                                                                                 |                         |                                                                                                                                                                                                                                                                                   |                  |                                                                                                                                 |                 | P2             | N                | Habitat unsuitable |
|  <p><i>Stylidium torticarpum</i><br/>Photos: J. Wege</p> |                         | Caespitose perennial, herb, 0.12-0.27 m high, Leaves tufted, broadly linear, (2-) 5-13 cm long, 0.6-1.5 mm wide, apex mucronate, margin hyaline and serrulate, glabrous. Scape glandular throughout. Inflorescence paniculate. Capsule twisted. Fl. pink                          | Sep to Nov.      | Sandy clay and clay loam over laterite. Adjacent to creeklines, depressions, and beneath breakaways. Heath or mallee shrubland. |                 | P3             | N                | Habitat unsuitable |
| <i>Stylidium torticarpum</i>                                                                                                               |                         |                                                                                                                                                                                                                                                                                   |                  |                                                                                                                                 |                 |                |                  |                    |
| <i>Styphelia carolineae</i>                                                                                                                |                         |                                                                                                                                                                                                                                                                                   |                  |                                                                                                                                 |                 | P2             | N                | Habitat unsuitable |

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| Species Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Common Name | Description                                     | Flowering Period | Habitat Type                                                  | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------|------------------|---------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Styphelia filamentosa</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             |                                                 |                  |                                                               |                 | P3             | N                | Habitat unsuitable |
| <i>Styphelia filifolia</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                                 |                  |                                                               |                 | P3             | N                | Habitat unsuitable |
| <i>Styphelia williamsiorum</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                 |                  |                                                               |                 | P3             | N                | Habitat unsuitable |
|  <br><i>Synaphea endothrix</i><br><i>Synaphea endothrix</i>                                                                                                                                                                                                                                                                    |             | Erect, clumped shrub, to 0.6 m high. Fl. yellow | Aug to Sep.      | Gravelly loam, sand. Lateritic rises.                         |                 | P3             | N                | Habitat unsuitable |
|     <br><i>Synaphea lesueurensis</i><br><i>Synaphea lesueurensis</i> |             | Shrub, 0.25-0.6 m high. Fl. yellow              | Aug to Oct.      | Laterite, sandy soils over laterite or sandstone. Hillslopes. |                 | P2             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                                                                                                        | Common Name | Description                                             | Flowering Period | Habitat Type                                                                                           | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <br>Synaphea sparsiflora<br><small>Photos: R. Butcher &amp; S.J. Patrick</small> |             | Shrub, to 0.6 m high, to 1 m wide. Fl. yellow           | Aug to Sep       | Sandy loam over laterite.                                                                              |                 | P2             | N                | Habitat unsuitable |
|  <br>Synaphea xela<br><small>Photos: R. Butcher</small>                          |             | Sprawling shrub (or subshrub), to 0.4 m high.           |                  | Red-brown gravelly sand, white-pink, grey-brown clayey sand and loam, over laterite. Undulating sites. |                 | P2             | N                | Habitat unsuitable |
| Tetratheca angulata                                                                                                                                                                                                                                 |             | Lax to erect, slender shrub (subshrub), 0.2-0.3 m high. |                  | Sandy to gravelly laterite soils. Low hill crests, breakaways with massive laterite boulders.          |                 | P3             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                             | Common Name             | Description                                                     | Flowering Period | Habitat Type                 | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------|------------------|------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Tetratheca remota</i>                                                                                                                                                 |                         | Small, slender shrub, to 0.4 m high. Fl. pink                   | Nov.             | Sandy gravel.                |                 | P2             | N                | Habitat unsuitable |
| <br><i>Thelymitra apiculata</i><br><small>Photos: E. Wajon &amp; G. Brockman</small>    | Cleopatra's Needles     | Tuberous, perennial, herb, 0.2-0.35 m high. Fl. purple & yellow | May to Jul.      | Grey sand, lateritic gravel. |                 | P4             | N                | Habitat unsuitable |
| <i>Thelymitra pulcherrima</i>                                                                                                                                            | Northern Queen of Sheba | Tuberous, perennial, herb, to 0.15 m high.                      | Gravel.          |                              |                 | P2             | N                | Habitat unsuitable |
| <br><i>Thelymitra stellata</i><br><small>Photos: A.P. Brown &amp; I. M. Greeve</small> | Star Orchid             |                                                                 |                  |                              | EN              | EN             | N                | Habitat unsuitable |

| Species Name                                                                       | Common Name | Description                                                      | Flowering Period          | Habitat Type                                    | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------|---------------------------|-------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <i>Thomasia rulingioides</i>                                                       |             |                                                                  |                           |                                                 |                 | P2             | N                | Habitat unsuitable |
| <i>Thryptomene butleri</i>                                                         |             |                                                                  |                           |                                                 |                 | P3             | Y                | Habitat suitable   |
|   |             | Rhizomatous, leafless perennial, herb, to 0.4 m high. Fl. purple | Oct to Dec.               | White or grey sand, lateritic gravel, laterite. |                 | P3             | N                | Habitat unsuitable |
| <i>Thysanotus anceps</i><br><i>Thysanotus anceps</i>                               |             |                                                                  |                           |                                                 |                 |                |                  |                    |
|  |             | Caespitose, glaucous perennial, herb, 0.1-0.2 m high. Fl. purple | Oct to Dec or Jan to Mar. | White, grey or yellow sand, sandy gravel.       |                 | P4             | Y                | Habitat suitable   |
| <i>Thysanotus glaucus</i><br><i>Thysanotus glaucus</i>                             |             |                                                                  |                           |                                                 |                 |                |                  |                    |

| Species Name                                                                                                                                     | Common Name | Description                                                      | Flowering Period | Habitat Type                                           | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------|------------------|--------------------------------------------------------|-----------------|----------------|------------------|--------------------|
| <br><i>Thysanotus vernalis</i><br><i>Thysanotus vernalis</i>    |             | Perennial, herb (with tuberous roots), to 0.3 m high. Fl. purple | Sep to Oct.      | Sandy loam.                                            |                 | P3             | N                | Habitat unsuitable |
| <i>Tricostularia</i> sp. Mogumber (A. Harris s.n., 23/12/2015)                                                                                   |             |                                                                  |                  |                                                        |                 | P2             | N                | Habitat unsuitable |
| <br><i>Verticordia amphigia</i><br><i>Verticordia amphigia</i> |             | Shrub, 0.6-1.3 m high. Fl. yellow                                | Oct to Nov.      | Sandy loam, clay & rocky loam. Winter-wet depressions. |                 | P3             | N                | Habitat unsuitable |

| Species Name                                                                                                                                                                                     | Common Name | Description                                                                   | Flowering Period | Habitat Type                                        | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------|------------------|-----------------------------------------------------|-----------------|----------------|------------------|--------------------|
|  <p><i>Verticordia insignis</i> subsp. <i>eomagis</i><br/><i>Verticordia insignis</i> subsp. <i>eomagis</i></p> |             | Erect shrub, 0.2-1(-1.5) m high. Fl. white-pink/white                         | Aug to Nov.      | Sandy soils over laterite. Sandplains, rocky rises. |                 | P3             | N                | Habitat unsuitable |
|  <p><i>Verticordia rutilastra</i><br/><i>Verticordia rutilastra</i></p>                                        |             | Shrub, 0.2-0.9 m high. Fl. yellow                                             | Sep to Nov.      | Sand & lateritic gravel. Hills.                     |                 | P3             | N                | Habitat unsuitable |
| <i>Walteranthus erectus</i>                                                                                                                                                                      |             | Erect shrub, to 2 m high. Leaves are linear to narrowly elliptic in shape and | Feb.             | Sand over limestone. Coastal limestone ridges.      |                 | P2             | Y                | Habitat suitable   |

| Species Name                                                                                                                                              | Common Name | Description                                                                                     | Flowering Period | Habitat Type              | Cons code (Cth) | Cons Code (WA) | Likelihood (Y/N) | Comment            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------|------------------|---------------------------|-----------------|----------------|------------------|--------------------|
|                                                                                                                                                           |             | somewhat succulent. Fl. orange-brown                                                            |                  |                           |                 |                |                  |                    |
|  <div> <i>Xanthosia tomentosa</i><br/> <i>Xanthosia tomentosa</i> </div> |             | Prostrate to ascending perennial, herb, 0.2-0.5(-0.9) m high, to 2 m wide. Fl. white-cream-pink | Sep to Dec.      | Lateritic gravelly soils. |                 | P4             | N                | Habitat unsuitable |

## Appendix 4: Species List

The complete flora list for the site is provided in the table below with flora listed by family. Denotes introduced species.

| Family           | Species Name                                       | Common Name             |
|------------------|----------------------------------------------------|-------------------------|
| Aizoaceae        | * <i>Tetragonia decumbens</i>                      | Sea Spinach             |
| Aizoaceae        | <i>Carpobrotus virescens</i>                       | Coastal pigface         |
| Asphodelaceae    | * <i>Asphodelus fistulosus</i>                     | Onion Weed              |
| Asphodelaceae    | * <i>Trachyandra divaricata</i>                    | June Onion Weed         |
| Asteraceae       | * <i>Sonchus oleraceus</i>                         | Common Sowthistle       |
| Asteraceae       | <i>Olearia axillaris</i>                           | Coastal Daisybush       |
| Asteraceae       | <i>Senecio pinnatifolius</i> var. <i>latilobus</i> | Variable Groundsel      |
| Brassicaceae     | * <i>Cakile maritima</i>                           | Sea Rocket              |
| Chenopodiaceae   | <i>Atriplex cinerea</i>                            | Grey Saltbush           |
| Chenopodiaceae   | <i>Atriplex isatidea</i>                           | Coast saltbush          |
| Chenopodiaceae   | <i>Rhagodia baccata</i>                            | Berry Saltbush          |
| Chenopodiaceae   | <i>Threlkeldia diffusa</i>                         | Coast Bonefruit         |
| Crassulaceae     | * <i>Crassula alata</i>                            |                         |
| Cyperaceae       | <i>Ficinia nodosa</i>                              | Knotted Club Rush       |
| Fabaceae         | <i>Acacia cochlearis</i>                           | Rigid Wattle            |
| Geraniaceae      | * <i>Pelargonium capitatum</i>                     | Rose Pelargonium        |
| Goodeniaceae     | <i>Scaevola crassifolia</i>                        | Thick-leaved Fan-flower |
| Lauraceae        | <i>Cassytha racemosa</i>                           | Dodder Laurel           |
| Nitrariaceae     | <i>Nitraria billardiarei</i>                       | Nitre Bush              |
| Poaceae          | * <i>Poa annua</i>                                 | Winter Grass            |
| Scrophulariaceae | <i>Myoporum insulare</i>                           | Blueberry Tree          |
| Spinifex         | <i>Spinifex longifolius</i>                        | Beach Spinifex          |
| Urticaceae       | <i>Parietaria debilis</i>                          | Pellitory               |