

LOTS 12 AND 13 LODGE DRIVE, EAST ROCKINGHAM

FLORA AND VEGETATION SURVEY

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The logo for PGV Environmental is located at the bottom of the page. It features the letters 'pgv' in a large, bold, white, lowercase sans-serif font. Below 'pgv', the word 'ENVIRONMENTAL' is written in a smaller, white, uppercase sans-serif font. The background of the logo area is a vibrant orange with a subtle pattern of white curved lines and a fine grid of white dots.

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1 INTRODUCTION

1.1 Site Location

Lots 12 and 13 Lodge Drive, East Rockingham (the site) are located in the City of Rockingham approximately 36km south of the Perth Central Business District (Figure 1). The site is bound to the north and east by cleared land in the Clipper Precinct of the Rockingham Industry Zone (RIZ), to the south by cleared rural land and to the west by native vegetation in the RIZ Conservation Area.

The site is 11.9098ha in size (Figure 2).

1.2 Background

The site contains a large shed and some disused infrastructure associated with a Wool Scouring plant that was built between 1995 and 2000. The shed and yards are now used for a different purpose.

The shed and other areas of infrastructure occupy about 6ha of the 11.9ha site. The balance of the site remains undeveloped and contains a large number of trees and some bare areas.

Hero Properties Pty Ltd is assessing the potential for development of the site. Development is likely to include the clearing of most of the vegetation on the site.

The site was not included in the RIZ environmental approvals obtained at State and Commonwealth level. Therefore, the potential presence of conservation significant plant species and ecological communities needs to be assessed as part of any application for approval to clear the vegetation.

PGV Environmental was commissioned by Hero Properties Pty Ltd to undertake a Detailed Flora and Vegetation survey of the site.

1.3 Scope of Works

A Detailed Flora and Vegetation Survey was undertaken in accordance with EPA Technical Guidance *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016). The survey included the following:

- A search of the Naturemap website (DBCA, 2020);
- A search of the Commonwealth Government's Protected Matters Search Tool (DAWE, 2020) to identify species potentially occurring within the area that are protected under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*;
- Examination of historic and recent aerial photography and contour and soil maps to provisionally identify vegetation types and condition;
- Field survey using quadrats to record native and introduced species as well as a thorough site walkover of any areas of native vegetation;
- Recording of any significant plant species using a hand-held GPS;
- Description and mapping of vegetation types and vegetation condition; and
- Compilation of a flora list.

2 EXISTING ENVIRONMENT

2.1 Land Use

Aerial photography from 1995 shows the site as undeveloped but with a large amount of clearing over the site (Plate 1).

Plate 1: Aerial Photograph 1995 (Landgate, 2021)



The 2000 aerial photo shows the wool scouring shed had been constructed on most of the eastern half and a water treatment plant in the central western section (Plate 2). Native vegetation remains in the north-west corner, and some scattered trees at the north-east end and some vegetation in the south-west corner.

Plate 2: Aerial Photograph 2000 (Landgate, 2021)



The 2021 aerial photograph shows the current situation with more trees on the site than was previously there in 2000 (Plate 3). The additional trees are the result of landscape planting around the carparks as well as some natural recruitment of trees.

Plate 3: Aerial Photograph 2021



The site is zoned 'Industrial' under the Metropolitan Region Scheme (SLIP, 2021) and 'General Industry' under the City of Wanneroo Local Planning Scheme No. 3 (SLIP, 2021).

2.2 Topography

The site is flat at around 4m AHD, however the site's natural contours have been modified as a result of earthworks for past land use and importation of mulch.

2.3 Geology and Soils

2.3.1 Geology

The site is mapped as part of the Quindalup South System which is the youngest dune system on the Swan Coastal Plain, consists of sand dunes or ridges formed by windblown unconsolidated calcareous and quartz beach sand.

2.3.2 Soils

One Quindalup South soil unit is mapped on the site and is described as follows:

- Quindalup Phase 3 (211Qu) Safety Bay sands -calcareous deep sands and yellow sands and coastal scrub.

2.4 Hydrology

2.4.1 Groundwater

The historical maximum groundwater level under the site is between 1 and 2m AHD which 2-3m below the natural surface level (mAHD) (DoW, 2021).

2.4.2 Wetlands

The *Geomorphic Wetlands of the Swan Coastal Plain* database identifies a Conservation Category Wetland (CCW) occurs in the south-west portion of the site and two eastern tips of another CCW just inside the property boundary (UFI 6,221) (Plate 4). The flora and vegetation survey will demonstrate that the CCWs no longer occur on the site (see Section 4.5.4).

Plate 4: Conservation Category Wetland Locations



3 METHODOLOGY

3.1 Database Searches

Searches of the following databases were undertaken for a 10km radius around the central point of the site prior to the site survey:

- DBCA NatureMap Database (DBCA, 2021) (Appendix 1); and
- The Commonwealth Government's Protected Matters Search Tool to identify species potentially occurring within the area that are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (DAWE, 2021). A radius of 5km was used for this database (Appendix 2).

Searches for Threatened flora and Threatened Ecological Communities (TECs) were not undertaken as the site has been highly modified.

3.2 Site Survey

A flora and vegetation survey of the site was conducted by Dr Paul van der Moezel of PGV Environmental on two occasions, the first preliminary survey on 1 July 2021 and a follow-up survey on 15 October 2021.

The site was thoroughly walked to record all species and vegetation types in the survey area. Information on flora composition and vegetation structure was recorded in six 10m x 10m non-permanent quadrats in representative vegetation types.

All plant species were identified in the field.

3.3 Survey Conditions

The conditions that the survey was undertaken in are presented in Table 1 in order to assess the adequacy of the survey. In summary, there were no constraints to the survey.

Table 1: Statement of Botanical Survey Conditions

Issue	Constraints (Y/N)*	Comment
Competency/experience of the consultant conducting the survey	No	Dr Paul van der Moezel has extensive botanical survey experience in the Perth Metropolitan Region.
Proportion of the flora identified^	No	The timing of the survey in mid-October was optimal to identify all flora species on the site including any potential Threatened and Priority Flora. No follow-up survey required.
Sources of information (historic/recent or new data)	No	The flora in the Perth Metropolitan Region is well documented.
Proportion of the task achieved and further work that may need to be undertaken	No	No follow-up survey required as no Threatened Flora expected to occur in other seasons.

Issue	Constraints (Y/N)*	Comment
Timing/weather/season/cycle	No	The spring survey was optimal for most flora species. 2021 was a good year for ephemeral species, including orchids.
Disturbances (Fire)	No	The fire age of the vegetation was greater than 5 years.
Intensity of survey (e.g. In retrospect was the intensity adequate)	No	The time spent on the site (approx. 6hr in two surveys) was considered adequate for the size of the site (7ha of highly disturbed vegetation), and the low variation in vegetation types.
Completeness (e.g. was relevant area fully surveyed)	No	
Resources (e.g. degree of expertise available for plant identification)	No	Experienced botanist undertook plant identifications on site.
Remoteness and/or access problems	No	Easily accessible site in the Perth Metropolitan Region.
Availability of contextual (e.g. bioregional) information for the study area.	No	Bush Forever

*Constraints have been rated as Significant, Moderate or No constraints

^Fungi and nonvascular flora (eg. algae, mosses and liverworts) were not specifically surveyed for during the survey.

4 RESULTS

4.1 Flora Database Searches

A search of the DBCA Naturemap Database (Appendix 1) indicates that a number of species that are listed as Endangered, Threatened or Priority have been located within a 10km radius of the site. The EPBC Act Protected Matters Search Tool (Appendix 2) indicates species that may have habitat within 5km radius of the site. The results from these database searches are shown in Table 2.

Table 3 lists the likelihood that any of these species could occur on the site based on the soil types and vegetation condition.

Table 2: Conservation Significant Flora Identified in Database Searches

Scientific Name	Common Name	Conservation Status (WA)	Status under EPBC Act
<i>Andersonia gracilis</i>	Slender Andersonia		Endangered
<i>Caladenia huegelii</i>	King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid	Schedule 1	Endangered
<i>Drakaea elastica</i>	Glossy-leafed Hammer Orchid	Schedule 1	Endangered
<i>Diuris purdiei</i>	Purdie's Donkey-orchid	Schedule 2	Endangered
<i>Drakaea micrantha</i>	Dwarf Hammer-orchid	Schedule 2	Vulnerable
<i>Diuris micrantha</i>	Dwarf Bee-orchid	Schedule 3	Vulnerable
<i>Synaphea sp. Serpentine</i> G.R. Brand 103			Critically Endangered
<i>Acacia sp. Binningup</i> G. Cockerton et al. WB 37784		Priority 1	
<i>Jacksonia sericea</i>	Waldjumi	Priority 3	
<i>Dodonaea hackettiana</i>	Hackett's Hopbush	Priority 3	

Conservation Codes are shown in Appendix 5

Table 3: Likelihood of Identified Significant Flora Species Occurring on the Site

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
<i>Andersonia gracilis</i>	Slender Andersonia	Slender Andersonia occurs in white/grey sand, sandy clay, gravelly loam in winter-wet areas, near swamps.	Highly Unlikely – no winter wet areas
<i>Caladenia huegelii</i>	King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid	The Grand Spider-orchid prefers sand or clay loam. This species generally does not survive in disturbed areas.	Highly Unlikely – not usually associated with Quindalup soil type

Scientific Name	Common Name	Habitat*	Likelihood to occur on the site
<i>Drakaea elastica</i>	Glossy-leafed Hammer Orchid	The Glossy-leafed Hammer Orchid prefers low-lying situations adjoining winter-wet swamps. This species does not survive in disturbed areas.	High Unlikely – no winter wet areas
<i>Diuris purdiei</i>	Purdie's Donkey-orchid	Purdie's Donkey Orchid occurs in grey-black sand in moist winter-wet swamps.	High Unlikely – no winter wet areas
<i>Drakaea micrantha</i>	Dwarf Hammer-orchid	Dwarf Hammer-orchid occurs in grey sands over dark, grey to blackish, sandy clay-loam substrates in winter wet depressions or swamps.	High Unlikely – no winter wet areas
<i>Diuris micrantha</i>	Dwarf Bee-orchid	The Dwarf Bee-orchid is usually found on cleared firebreaks or open sandy patches that have been disturbed with in Jarrah Banksia woodland or thickets of Spearwood (<i>Kunzea ericifolia/ glabrescens</i>) (Williams <i>et al.</i> , 2001).	Highly Unlikely – not habitat typical to this species
<i>Dodonea hackettiana</i>	Hackett's Hopbush	Hackett's Hopbush occurs in sand with outcropping limestone.	Unlikely – not habitat typical to this species
<i>Jacksonia sericea</i>	Waldjumi	Waldjumi grows in calcareous and sandy soils.	Possible

* sourced from Florabase (DBCA, 2017) and SPRAT Database (DoEE, 2016) as well as the DBCA database searches unless otherwise denoted

4.2 TEC and PEC Desktop Search

A search of DAWE's Protected Matters Search Tool was conducted within a radius of 5km around the site (Appendix 2). Three ecological communities are listed as TECs under the Commonwealth EPBC Act. The communities identified in the database searches are outlined in Table 4.

Table 4: Threatened and Priority Ecological Communities likely to occur within 5km of the Site

Ecological Community	Description	Conservation Status WA	Status under the EPBC Act
SCP19b	Sedgeland in Holocene dune swales of the southern Swan Coastal Plain (Critically Endangered	Endangered (Listed as FCT19)
Banksia WL SCP	Banksia Dominated Woodlands of the Swan Coastal Plain IBRA Region	Priority 3	Endangered
Tuart woodlands	Tuart (<i>Eucalyptus gomphocephala</i>) woodlands and forests of the Swan Coastal Plain	Priority 3	Critically Endangered

4.3 Flora

A total of 55 plant species were recorded on the site during the survey (Appendix 3). The total consists of 13 native and 42 introduced species. The number of native species is very low for the size of the

survey area (7ha of undeveloped land) and the percentage of introduced species (76%) is very high which is indicative of the past land use.

The plant Families with the highest representation of species were the Asteraceae (Daisy family – 11 species, including 2 native and 9 introduced), Poaceae (Grass family – 8 species, all introduced) and the Fabaceae (Pea and Wattle family – 5 species, including 2 native and 3 introduced),

None of the species is listed as a Threatened or Priority species. No species with any other conservation significance were recorded on the site.

Quadrat Data are provided in Appendix 4.

Species richness in the five quadrats in areas of native vegetation ranged from 13-30 species. The number of native species in the quadrats was very low and ranged from 1-4. The percentage of introduced species in the quadrats was very high (average 84%).

4.4 Vegetation

4.4.1 Vegetation Complex

Vegetation Complexes are a broad level of vegetation description which is based on the underlying geomorphology and rainfall (Hedde *et al.*, 1980). The areas of remnant native vegetation on the site is part of the Quindalup Complex which is described as:

Coastal dune complex consisting mainly of two alliances - the strand and fore-dune alliance and the mobile and stable dune alliance. Local variations include the low closed forest of *Melaleuca lanceolata* (Rottnest Teatree) - *Callitris preissii* (Rottnest Island Pine), the closed scrub of *Acacia rostellifera* (Summer-scented Wattle) and the low closed *Agonis flexuosa* (Peppermint) forest of Geographe Bay. (Hedde *et al.*, 1980).


The general description of the vegetation complex matches the vegetation types recorded on the site.



4.4.2 Vegetation Type

For small scale sites, such as the survey area, vegetation mapping can be further refined by using vegetation types which are described by the composition and structure of the dominant species rather than based on geomorphology.

Two native vegetation types and one non-native vegetation type were described and mapped on the site (Figure 3). The vegetation types are described in Table 5.

Table 5: Vegetation Type on the Site

Vegetation Type	Description	Photograph
<p>Eg <i>Eucalyptus gomphocephala</i> (Tuart) Woodland over mulch and weeds</p>	<p>This is the main vegetation type occurring on the site. The Tuart trees were around 12-15m high with an average canopy cover of 20-25%. There were very few native understorey species present throughout the site. The only native shrub species that was reasonably common on the site was <i>Acacia rostellifera</i> while the climbing plant <i>Clematis linearifolia</i> was sometimes present.</p> <p>The 'soils' were mostly a half metre of mulch that had been spread out over the site in the past.</p> <p>Quadrats LR1, 2, 3 and 4 are representative of this vegetation type.</p>	

Vegetation Type	Description	Photograph
<p>MrMh <i>Melaleuca raphiophylla</i>/<i>M. huegelii</i> Low Open Woodland over weeds</p>	<p>This vegetation type occurred in the north-west corner of the site. The vegetation type contained medium tree species <i>Melaleuca raphiophylla</i> and to a lesser extent <i>M. huegelii</i> and some <i>Banksia littoralis</i> up to 5m high. <i>Acacia rostellifera</i> and <i>Spyridium globulosum</i> were sparse native shrubs in the area otherwise the understorey was all introduced species.</p> <p>The dominant shrub species are indicative of wetland vegetation found elsewhere in the RIZ, however the area is not mapped as a wetland and the 0.5m layer of mulch has altered the natural surface level such that wetland species are unlikely to regenerate in the area over time.</p> <p>The 'soils' were mostly a half metre of mulch that had been spread out over the site in the past.</p> <p>Quadrat LR6 is representative of this vegetation type.</p>	
<p>Weeds</p>	<p>Several areas occurred on the site that did not have any native species. These areas had been mulched in the past up to as much as 0.5m deep. The condition of the areas prior to the mulching is not known. The areas contained abundant weeds, particularly grass species. No regeneration of any native species was observed in these areas.</p> <p>The 'soils' were mostly a half metre of mulch that had been spread out over the site in the past.</p> <p>Quadrat LR5 is representative of this vegetation type.</p>	

4.4.3 Floristic Community Types

Floristic Community Types (FCT) are based on the whole floristic composition of the vegetation rather than being determined by soil type and geomorphology (Vegetation Complex) or the nature of the dominant species (Vegetation Types).

The condition of the vegetation on the site was rated as Completely Degraded and therefore could not be assigned to a FCT.

4.4.4 Vegetation Condition

The condition of the vegetation was assessed according to the system of Keighery as described in Bush Forever (Government of Western Australia, 2000) (Table 6).

Table 6: Vegetation Condition Rating Scale

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate to it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

The condition of the vegetation is Completely Degraded due to historic clearing, very low native understorey species and high weed densities (Figure 3).

4.5 Conservation Significance of Flora and Vegetation

4.5.1 Flora

No Threatened (Declared Rare) flora species listed under the State *Biodiversity Conservation Act 2016* or the EPBC Act and no Priority plant species were recorded on the site or are expected to occur on the site at any other time of the year.

4.5.2 Vegetation Complex

The vegetation on the site is part of the Quindalup Complex (Hedde *et al.*, 1980). Approximately 60.49% of the pre-European vegetation extent of this complex remains, of which 10.98% is currently managed by DBCA (DBCA, 2018).

The percentage retention is above EPA's target for minimum 30% retention of vegetation complexes State-wide and above the 10% minimum criteria for vegetation complexes in the Perth and Peel Region Constrained Areas.

4.5.3 Threatened and Priority Ecological Communities

The potential for the three TECs listed in Table 4 as potentially occurring on the site is summarised below.

- Sedgelands in Holocene dune swales of the southern Swan Coastal Plain (SCP 19) – Not present due to the absence of any wetland vegetation and dune swales;
- Banksia Woodlands of the Swan Coastal Plain – Not present due to the absence of appropriate Banksia tree species;
- Tuart Woodlands and Forests of the Swan Coastal Plain – Potentially present (see below for assessment)

PGV Environmental (2021) undertook a Tuart Woodland TEC assessment according to the *Approved Conservation Advice* for the TEC published at the time of the proposed listing on 16 September 2016 for the EPBC listed *Tuart Woodlands and Forests of the Swan Coastal Plain: A Nationally Significant Ecological Community* (DoEE, 2019).

A summary of the result of the Tuart Woodland TEC assessment is provided below:

- One patch of Tuart woodland occurs on the site, as determined using tree canopies and a perimeter of 30m around the outer edge of the canopies;
- The vegetation condition is rated as Poor on the Tuart Woodland TEC scale;
- The size of the Tuart patch within the site is 5.495ha, and at least 6.71ha as the patch extends further west offsite; and
- The Tuart patch meets the definition of the *Tuart Woodlands and Forests of the Swan Coastal Plain Threatened Ecological Community*, as the size of the patch is larger than the 5ha minimum required for a patch of Tuart in Poor condition to be the TEC.

The extent of the Tuart Woodland TEC is shown on Figure 4.

4.5.4 Conservation Category Wetland Assessment

The areas mapped as containing a Conservation Category Wetland (CCW) in the south-west part of the site were assessed during the flora and vegetation survey. The areas now contain a layer of mulch, up to 0.5m thick, which was laid down some time ago. No native plants were recorded in any of the areas mapped as CCW. Plate 5 shows the general appearance of the larger CCW mapped on the site. Plant species in the area were all introduced species, particularly *Avena fatua* (Wild Oats), *Trifolium campestre* (Clover), *Medicago polymorpha* (Burr Medic) and *Bromus diandrus* (Great Brome). The woody weed species *Rhamnus* (*Rhamnus alaternus*) was abundant on the edges of the mulch (Plate 6).

No native plant species were observed regenerating in the mapped wetland areas.

The CCW areas are considered to be no longer a CCW and likely to no longer function as a wetland.

Plate 5: Conservation Category Wetland Area



Plate 6: Rhamnus in the Conservation Category Wetland Area



5 SUMMARY AND CONCLUSIONS

5.1 Summary

The Flora and Vegetation survey of a 11.9098ha parcel of land on Lots12 and 13 Lodge Drive resulted in the following findings:

- The survey area contains highly disturbed native vegetation and large areas without any native plants;
- A total of 55 plant species have been recorded on the site. The total consisted of 13 native species and 42 introduced species. The high (76%) proportion of introduced species reflects the past history of the site and the high degree of disturbance;
- No Threatened (Declared Rare) or Priority species were recorded on the site or are expected to occur on the site due to the highly degraded condition;
- Two native vegetation types were described and mapped on the site and one non-native vegetation type (weeds). The main vegetation type was *Eucalyptus gomphocephala* (Tuart) Woodland over Mulch and Weeds. One area of *Melaleuca raphiophylla*/*M. huegelii* Low Open Woodland over weeds occurred in the north-west corner;
- The vegetation was all rated as Completely Degraded. The site has only 12 native species and a high density of weed coverage;
- The vegetation is part of the Quindalup Complex which is well retained in the Perth Metropolitan Region;
- The vegetation was too degraded to be assigned to a Floristic Community Type;
- The Tuart woodland vegetation type was assessed as being part of the Tuart Woodlands and Forests of the Swan Coastal Plain TEC which is listed as Critically Endangered under the Commonwealth EPBC Act. While the understorey of the Tuart woodland had very few native species, the assessment is based on the size of the patch being greater than 5ha; and
- The areas mapped as containing Conservation Category Wetlands in the south-west portion of the site no longer have any native vegetation and have been mulched to such an extent that the CCW rating no longer applies. The areas are likely to no longer function as a wetland.

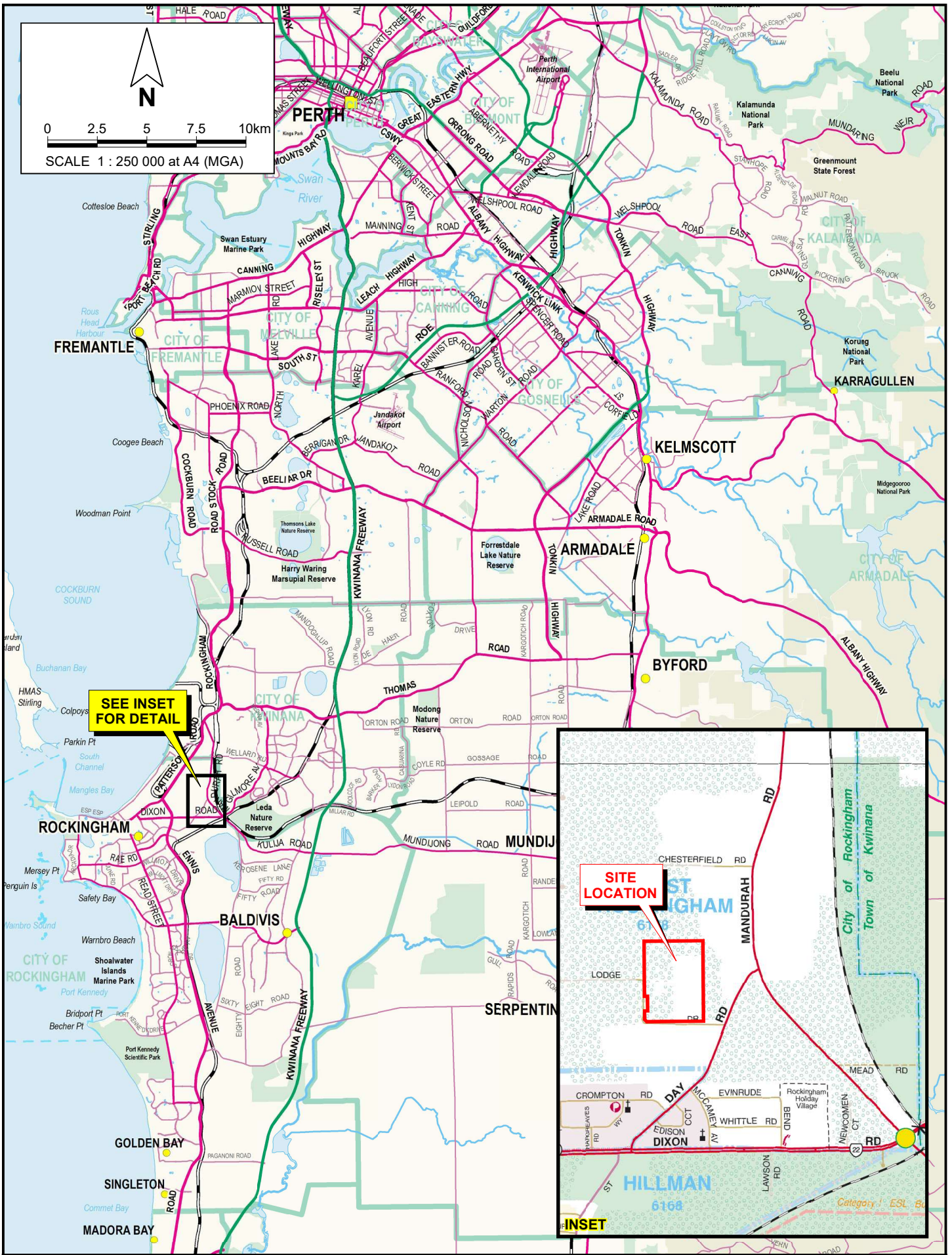
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FIGURES



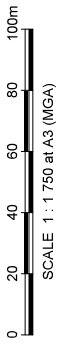
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Hero Properties Pty Ltd
 FLORA AND VEGETATION SURVEY
 LOTS 12 AND 13 LODGE ROAD, EAST ROCKINGHAM

SITE LOCATION

Figure 1



- Legend**
- - - Site Boundary
 - Cadastral Boundary
 - - - Easement Boundary
 - Topographic Contour

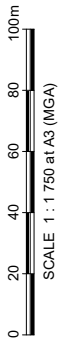
CADASTRAL SOURCE: Landmap, July 2021.
 CONTOUR SOURCE: Dept of Agriculture, 2000.
 AERIAL PHOTOGRAPH SOURCE: NearMap, (town April 2021).

Hero Properties Pty Ltd
 FLORA AND VEGETATION SURVEY
 LOTS 12 AND 13 LODGE ROAD, EAST ROCKINGHAM

PGV ENVIRONMENTAL
 Date: 24 Oct 2021
 Drawn: B. Heath
 Job: 10447
 Rpt: 2021-505
 Revison: A

SITE BOUNDARY AND TOPOGRAPHY

Figure 2



- Legend**
- Site Boundary
 - Cadastral Boundary
 - Not Surveyed (Outside Boundary Fence)
 - Quadrat Location
 - Vegetation Type Boundary
 - Vegetation Type
 - Vegetation Condition

Vegetation Types

Eg
Eucalyptus gomphocephala (Tuart) Woodland over mulch and weeds

MrMh
Melaleuca raphiophylla/M. huegelii Low Open Woodland over weeds

Weeds

Vegetation Condition
(SOURCE: Bush Forever, Govt. of W.A., 2000)

P - Pristine
Pristine or nearly so, no obvious signs of disturbance.

Ex - Excellent
Vegetation structure intact, disturbance affecting individual species and weeds are non aggressive species.

VG - Very Good
Vegetation structure altered, obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.

G - Good
Vegetation structure significantly altered by very obvious signs of multiple disturbance. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.

D - Degraded
Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.

CD - Completely Degraded
The structure of the vegetation is no longer intact and the areas is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora composing weed or crop species with isolated native trees or shrubs.

CI - Cleared
No native vegetation remaining.

CADASTRAL SOURCE: Landgate, July 2021.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown April 2021.

Figure 3

VEGETATION TYPES AND CONDITION

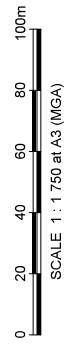
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FLORA AND VEGETATION SURVEY
LOTS 12 AND 13 LODGE ROAD, EAST ROCKINGHAM

PGV ENVIRONMENTAL	Date: 24 Oct 2021
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Job: 10447	Pgt: 2021-505





- Legend**
- Site Boundary
 - Cadastral Boundary
 - Easement Boundary
 - Tuart Tree Location
 - Tuart Tree Canopy
 - 30m Perimeter Around Tuart Canopies
 - Tuart Woodland TEC



CADASTRAL SOURCE: Landgate, July 2021.
AERIAL PHOTOGRAPH SOURCE: NearMap, flown April 2021.

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FLORA AND VEGETATION SURVEY
LOTS 12 AND 13 LODGE DRIVE, EAST ROCKINGHAM

TUART WOODLAND TEC

PGV ENVIRONMENTAL

Drawn: B. Heath
Job: 10447
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Revision: A

Figure 4

APPENDIX 1

Naturemap Report

NatureMap Species Report

Created By Guest user on 10/08/2021

Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 115° 46' 29" E, 32° 16' 09" S
Buffer 5km
Group By Conservation Status

Conservation Status	Species	Records
Non-conservation taxon	439	1838
Priority 1	1	1
Priority 3	4	8
Priority 4	8	51
Protected under international agreement	17	74
Rare or likely to become extinct	9	62
TOTAL	478	2034

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Rare or likely to become extinct				
1.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
2.	24790 <i>Calidris tenuirostris</i> (Great Knot)		T	
3.	24731 <i>Calyptorhynchus banksii</i> subsp. <i>naso</i> (Forest Red-tailed Black Cockatoo)		T	
4.	24733 <i>Calyptorhynchus baudinii</i> (Baudin's Cockatoo, White-tailed Long-billed Black Cockatoo)		T	
5.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
6.	48400 <i>Calyptorhynchus</i> sp. (white-tailed black cockatoo)		T	
7.	25335 <i>Caretta caretta</i> (Loggerhead Turtle)		T	
8.	25336 <i>Chelonia mydas</i> (Green Turtle)		T	
9.	24798 <i>Numenius madagascariensis</i> (Eastern Curlew)		T	
Protected under international agreement				
10.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
11.	25736 <i>Arenaria interpres</i> (Ruddy Turnstone)		IA	
12.	24779 <i>Calidris acuminata</i> (Sharp-tailed Sandpiper)		IA	
13.	24786 <i>Calidris melanotos</i> (Pectoral Sandpiper)		IA	
14.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
15.	24789 <i>Calidris subminuta</i> (Long-toed Stint)		IA	
16.	41332 <i>Chlidonias leucopterus</i> (White-winged Black Tern, white-winged tern)		IA	
17.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
18.	25741 <i>Limosa limosa</i> (Black-tailed Godwit)		IA	
19.	24690 <i>Macronectes giganteus</i> (Southern Giant Petrel)		IA	
20.	41347 <i>Onychoprion anaethetus</i> (Bridled Tern)		IA	
21.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
22.	25640 <i>Sterna dougallii</i> (Roseate Tern)		IA	
23.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
24.	24806 <i>Tringa glareola</i> (Wood Sandpiper)		IA	
25.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
26.	24809 <i>Tringa stagnatilis</i> (Marsh Sandpiper, little greenshank)		IA	
Priority 1				
27.	48762 <i>Acacia</i> sp. <i>Binningup</i> (G. Cockerton et al. WB 37784)		P1	
Priority 3				
28.	48935 <i>Idiosoma sigillatum</i> (Swan Coastal Plain shield-backed trapdoor spider)		P3	
29.	25147 <i>Lerista lineata</i> (Perth Slider, Lined Skink)		P3	
30.	25249 <i>Neelaps calonotos</i> (Black-striped Snake, black-striped burrowing snake)		P3	
31.	25006 <i>Pletholax gracilis</i> subsp. <i>edelensis</i> (Keeled Legless Lizard (Shark Bay))		P3	
Priority 4				
32.	4763 <i>Dodonaea hackettiana</i> (Hackett's Hopbush)		P4	
33.	24215 <i>Hydromys chrysogaster</i> (Water-rat, Rakali)		P4	

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
34.	48588 <i>Isoodon fusciventer</i> (Quenda, southwestern brown bandicoot)		P4	
35.	4027 <i>Jacksonia sericea</i> (Waldjumi)		P4	
36.	48022 <i>Notamacropus irma</i> (Western Brush Wallaby)		P4	
37.	25196 <i>Notoscincus butleri</i> (lined soil-crevice skink (Dampier))		P4	
38.	24328 <i>Oxyura australis</i> (Blue-billed Duck)		P4	
39.	48135 <i>Thinornis rubricollis</i> (Hooded Plover, Hooded Dotterel)		P4	

Non-conservation taxon

40.	3502 <i>Acacia pulchella</i> (Prickly Moses)			
41.	15482 <i>Acacia pulchella</i> var. <i>goadbyi</i>			
42.	3525 <i>Acacia rostellifera</i> (Summer-scented Wattle)			
43.	3527 <i>Acacia saligna</i> (Orange Wattle, Kudjong)			
44.	30032 <i>Acacia saligna</i> subsp. <i>saligna</i>			
45.	3557 <i>Acacia stenoptera</i> (Narrow Winged Wattle)			
46.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
47.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
48.	24262 <i>Acanthiza inornata</i> (Western Thornbill)			
49.	1208 <i>Acanthocarpus preissii</i>			
50.	24560 <i>Acanthorhynchus superciliosus</i> (Western Spinebill)			
51.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
52.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
53.	42368 <i>Acritoscincus trilineatus</i> (Western Three-lined Skink)			
54.	1505 <i>Agave americana</i> (Century Plant)	Y		
55.	184 <i>Aira caryophyllea</i> (Silvery Hairgrass)	Y		
56.	1728 <i>Allocasuarina fraseriana</i> (Sheoak, Kondil)			
57.	<i>Allotrochosina karri</i>			
58.	<i>Aname mainae</i>			
59.	24312 <i>Anas gracilis</i> (Grey Teal)			
60.	24315 <i>Anas rhynchotis</i> (Australasian Shoveler)			
61.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
62.	1411 <i>Anigozanthos manglesii</i> (Mangles Kangaroo Paw, Kurulbrang)			
63.	44629 <i>Anilios australis</i>			
64.	<i>Anser anser</i>			
65.	6949 <i>Anthocercis littorea</i> (Yellow Tailflower)			
66.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
67.	24562 <i>Anthochaera lunulata</i> (Western Little Wattlebird)			
68.	6211 <i>Apium prostratum</i> (Sea Celery)			
69.	12040 <i>Apium prostratum</i> subsp. <i>prostratum</i> var. <i>prostratum</i> (Sea Celery)			
70.	<i>Apogon rueppellii</i>			
71.	24991 <i>Aprasia repens</i> (Sand-plain Worm-lizard)			
72.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
73.	<i>Araneus cyphoxis</i>			
74.	41324 <i>Ardea modesta</i> (great egret, white egret)			
75.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
76.	<i>Argiope trifasciata</i>			
77.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
78.	24353 <i>Artamus cyanopterus</i> (Dusky Woodswallow)			
79.	<i>Artonia flavimana</i>			
80.	<i>Artonia linnaei</i>			
81.	<i>Artonopsis expolita</i>			
82.	226 <i>Arundo donax</i> (Giant Reed)	Y		
83.	<i>Atherinosoma wallacei</i>			
84.	47713 <i>Austronomus australis</i> (White-striped Free-tailed Bat)			
85.	17240 <i>Austrostipa flavescens</i>			
86.	231 <i>Avellinia michelii</i>	Y		
87.	234 <i>Avena fatua</i> (Wild Oat)	Y		
88.	235 <i>Avena sativa</i> (Common Oat)	Y		
89.	<i>Backbourkia brounii</i>			
90.	1800 <i>Banksia attenuata</i> (Slender Banksia, Piara)			
91.	1819 <i>Banksia grandis</i> (Bull Banksia, Pulgarla)			
92.	1822 <i>Banksia ilicifolia</i> (Holly-leaved Banksia)			
93.	<i>Barnardius zonarius</i>			
94.	740 <i>Baumea arthrophylla</i>			
95.	743 <i>Baumea juncea</i> (Bare Twigrush)			
96.	7046 <i>Bellardia trixago</i> (Bellardia)	Y		
97.	48868 <i>Bellardia viscosa</i>	Y		
98.	24319 <i>Biziura lobata</i> (Musk Duck)			
99.	749 <i>Bolboschoenus caldwellii</i> (Marsh Club-rush)			
100.	16636 <i>Boronia crenulata</i> subsp. <i>viminea</i>			
101.	6341 <i>Brachyloma preissii</i> (Globe Heath)			
102.	244 <i>Briza maxima</i> (Blowfly Grass)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
103.	245 <i>Briza minor</i> (Shivery Grass)	Y		
104.	249 <i>Bromus diandrus</i> (Great Brome)	Y		
105.	250 <i>Bromus hordeaceus</i> (Soft Brome)	Y		
106.	12770 <i>Burchardia congesta</i>			
107.	<i>Byssomerulius corium</i>			
108.	25713 <i>Cacatua galerita</i> (Sulphur-crested Cockatoo)			
109.	25714 <i>Cacatua pastinator</i> (Western Long-billed Corella)			
110.	25715 <i>Cacatua roseicapilla</i> (Galah)			
111.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
112.	24729 <i>Cacatua tenuirostris</i> (Eastern Long-billed Corella)	Y		
113.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
114.	1276 <i>Caesia micrantha</i> (Pale Grass Lily)			
115.	2846 <i>Calandrinia calyptata</i> (Pink Purslane)			
116.	2854 <i>Calandrinia granulifera</i> (Pygmy Purslane)			
117.	96 <i>Callitris preissii</i> (Rottnest Island Pine, Maro)			
118.	5415 <i>Calothamnus lateralis</i>			
119.	35816 <i>Calothamnus quadrifidus</i> subsp. <i>quadrifidus</i>			
120.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
121.	5460 <i>Calytrix fraseri</i> (Pink Summer Calytrix)			
122.	1162 <i>Cartonema phylloides</i>			
123.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
124.	41568 <i>Cenchrus setaceus</i> (Fountain Grass)	Y		
125.	6539 <i>Centaureum erythraea</i> (Common Centaury)	Y		
126.	6214 <i>Centella asiatica</i>			
127.	1125 <i>Centrolepis drummondiana</i>			
128.	2889 <i>Cerastium glomeratum</i> (Mouse Ear Chickweed)	Y		
129.	17685 <i>Chaetanthus aristatus</i>			
130.	24186 <i>Chalinolobus gouldii</i> (Gould's Wattled Bat)			
131.	1280 <i>Chamaescilla corymbosa</i> (Blue Squill)			
132.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
133.	43380 <i>Chelodina colliei</i> (South-western Snake-necked Turtle)			
134.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
135.	24980 <i>Christinus marmoratus</i> (Marbled Gecko)			
136.	<i>Chroicocephalus novaehollandiae</i>			
137.	24288 <i>Circus approximans</i> (Swamp Harrier)			
138.	7937 <i>Cirsium vulgare</i> (Spear Thistle, Scotch Thistle)	Y		
139.	24774 <i>Cladorhynchus leucocephalus</i> (Banded Stilt)			
140.	<i>Clynotis albobarbatus</i>			
141.	<i>Clynotis severus</i>			
142.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
143.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
144.	4552 <i>Comesperma confertum</i>			
145.	4555 <i>Comesperma integerrimum</i>			
146.	6217 <i>Conium maculatum</i> (Hemlock)	Y		
147.	1885 <i>Conospermum triplinervium</i> (Tree Smokebush)			
148.	1418 <i>Conostylis aculeata</i> (Prickly Conostylis)			
149.	11826 <i>Conostylis aculeata</i> subsp. <i>aculeata</i>			
150.	12109 <i>Conostylis aculeata</i> subsp. <i>preissii</i>			
151.	11438 <i>Conostylis candicans</i> subsp. <i>candicans</i>			
152.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
153.	48259 <i>Cortaderia seloana</i> subsp. <i>seloana</i>	Y		
154.	25592 <i>Corvus coronoides</i> (Australian Raven)			
155.	24419 <i>Corvus splendens</i> (House Crow)			
156.	11283 <i>Corynotheca micrantha</i> var. <i>micrantha</i>			
157.	<i>Coryphaena hippurus</i>			
158.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
159.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
160.	3137 <i>Crassula colorata</i> (Dense Stonecrop)			
161.	3140 <i>Crassula glomerata</i>	Y		
162.	25399 <i>Crinia glauerti</i> (Clicking Frog)			
163.	25400 <i>Crinia insignifera</i> (Squelching Froglet)			
164.	30893 <i>Cryptoblepharus buchananii</i>			
165.	1627 <i>Cryptostylis ovata</i> (Slipper Orchid)			
166.	30899 <i>Ctenophorus adelaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
167.	25027 <i>Ctenotus australis</i>			
168.	25039 <i>Ctenotus fallens</i>			
169.	25040 <i>Ctenotus gemmula</i> (Jewelled South-west Ctenotus (Swan Coastal Plain subpop P3), skink)			
170.	6663 <i>Cuscuta epithymum</i> (Lesser Dodder, Greater Dodder)	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
171.	24322 <i>Cygnus atratus</i> (Black Swan)			
172.	30901 <i>Dacelo novaeguineae</i> (Laughing Kookaburra)	Y		
173.	30902 <i>Dacelo novaeguineae</i> subsp. <i>novaeguineae</i> (Laughing Kookaburra)	Y		
174.	<i>Dactylopus dactylopus</i>			
175.	25673 <i>Daphoenositta chrysoptera</i> (Varied Sittella)			
176.	18560 <i>Daviesia divaricata</i> subsp. <i>divaricata</i>			
177.	3845 <i>Daviesia triflora</i>			
178.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
179.	1259 <i>Dianella revoluta</i> (Blueberry Lily)			
180.	11636 <i>Dianella revoluta</i> var. <i>divaricata</i>			
181.	1287 <i>Dichopogon capillipes</i>			
182.	17838 <i>Dielsia stenostachya</i>			
183.	<i>Dingosa serrata</i>			
184.	3011 <i>Diplotaxis muralis</i> (Wall Rocket)	Y		
185.	7054 <i>Dischisma arenarium</i>	Y		
186.	12943 <i>Diuris brumalis</i>			
187.	1634 <i>Diuris laxiflora</i> (Bee Orchid)			
188.	12939 <i>Diuris magnifica</i>			
189.	3095 <i>Drosera erythrorhiza</i> (Red Ink Sundew)			
190.	3106 <i>Drosera macrantha</i> (Bridal Rainbow)			
191.	3131 <i>Drosera stolonifera</i> (Leafy Sundew)			
192.	<i>Egretta novaehollandiae</i>			
193.	347 <i>Ehrharta calycina</i> (Perennial Veldt Grass)	Y		
194.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		
195.	<i>Elanus axillaris</i>			
196.	47937 <i>Eileyornis melanops</i> (Black-fronted Dotterel)			
197.	<i>Eolophus roseicapillus</i>			
198.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
199.	<i>Eragrostis</i> sp. <i>indet.</i>			
200.	17175 <i>Eremophila glabra</i> subsp. <i>albicans</i>			
201.	15446 <i>Eryngium pinnatifidum</i> subsp. <i>pinnatifidum</i>			
202.	24379 <i>Erythronys cinctus</i> (Red-kneed Dotterel)			
203.	5615 <i>Eucalyptus decipiens</i> (Limestone Marlock, Moit)			
204.	5649 <i>Eucalyptus foecunda</i> (Narrow-leaved Red Mallee)			
205.	5659 <i>Eucalyptus gomphocephala</i> (Tuart, Duart)			
206.	5708 <i>Eucalyptus marginata</i> (Jarrah, Djara)			
207.	25746 <i>Eudyptula minor</i> (Little Penguin)			
208.	4648 <i>Euphorbia terracina</i> (Geraldton Carnation Weed)	Y		
209.	25621 <i>Falco bergora</i> (Brown Falcon)			
210.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
211.	25623 <i>Falco longipennis</i> (Australian Hobby)			
212.	24041 <i>Felis catus</i> (Cat)	Y		
213.	<i>Fomitopsis illacinogilva</i>			
214.	25727 <i>Fulica atra</i> (Eurasian Coot)			
215.	24761 <i>Fulica atra</i> subsp. <i>australis</i> (Eurasian Coot)			
216.	907 <i>Gahnia trifida</i> (Coast Saw-sedge)			
217.	7323 <i>Galium murale</i> (Small Goosegrass)	Y		
218.	24763 <i>Gallinula tenebrosa</i> subsp. <i>tenebrosa</i> (Dusky Moorhen)			
219.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
220.	20346 <i>Gamochaeta coarctata</i>	Y		
221.	4339 <i>Geranium molle</i> (Dove's Foot Cranesbill)	Y		
222.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
223.	1520 <i>Gladiolus caryophyllaceus</i> (Wild Gladiolus)	Y		
224.	3957 <i>Gompholobium tomentosum</i> (Hairy Yellow Pea)			
225.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
226.	1982 <i>Grevillea crithmifolia</i>			
227.	15839 <i>Grevillea preissii</i> subsp. <i>preissii</i>			
228.	2119 <i>Grevillea vestita</i>			
229.	12824 <i>Grevillea vestita</i> subsp. <i>vestita</i>			
230.	<i>Gymnothorax woodwardi</i>			
231.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
232.	2175 <i>Hakea lissocarpha</i> (Honey Bush)			
233.	2214 <i>Hakea trifurcata</i> (Two-leaf Hakea)			
234.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			
235.	3961 <i>Hardenbergia comptoniana</i> (Native Wisteria)			
236.	25410 <i>Heleioporus eyrei</i> (Moaning Frog)			
237.	3016 <i>Heliophila pusilla</i>	Y		
238.	6710 <i>Heliotropium europaeum</i> (Common Heliotrope)	Y		
239.	25119 <i>Hemiergis quadrilineata</i>			
240.	<i>Heterodontus portusjacksoni</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
241.	5135 <i>Hibbertia hypericoides</i> (Yellow Buttercups)			
242.	5162 <i>Hibbertia racemosa</i> (Stalked Guinea Flower)			
243.	48381 <i>Hibbertia striata</i>			
244.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
245.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
246.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
247.	<i>Hogna crispipes</i>			
248.	6222 <i>Homalosciadium homalocarpum</i>			
249.	448 <i>Hordeum glaucum</i> (Northern Barley Grass)	Y		
250.	3968 <i>Hovea trisperma</i> (Common Hovea)			
251.	12859 <i>Hovea trisperma</i> var. <i>trisperma</i>			
252.	5216 <i>Hybanthus calycinus</i> (Wild Violet)			
253.	5218 <i>Hybanthus debilissimus</i>			
254.	6224 <i>Hydrocotyle blepharocarpa</i>			
255.	25366 <i>Hydrophis elegans</i> (Elegant Seasnake, Bar-bellied Seasnake)			
256.	43384 <i>Hydrophis platurus</i> (Yellow-bellied Seasnake)			
257.	35070 <i>Hypocalymma angustifolium</i> subsp. <i>Swan Coastal Plain</i> (G.J. Keighery 16777)			
258.	5825 <i>Hypocalymma robustum</i> (Swan River Myrtle)			
259.	8086 <i>Hypochoeris glabra</i> (Smooth Catsear)	Y		
260.	<i>Idiommata blackwalli</i>			
261.	910 <i>Isolepis cernua</i> (Nodding Club-rush)			
262.	20199 <i>Isolepis cernua</i> var. <i>cernua</i>			
263.	917 <i>Isolepis marginata</i> (Coarse Club-rush)			
264.	<i>Isopeda leishmanni</i>			
265.	8092 <i>Ixiolaena viscosa</i> (Sticky Ixiolaena)			
266.	1178 <i>Juncus bufonius</i> (Toad Rush)	Y		
267.	1185 <i>Juncus kraussii</i> (Sea Rush)			
268.	4044 <i>Kennedia prostrata</i> (Scarlet Runner)			
269.	24070 <i>Kogia breviceps</i> (Pygmy Sperm Whale)			
270.	1370 <i>Lachenalia reflexa</i>	Y		
271.	467 <i>Lagurus ovatus</i> (Hare's Tail Grass)	Y		
272.	<i>Lampona cylindrata</i>			
273.	30920 <i>Larus crassirostris</i> (Black-tailed Gull)			Y
274.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
275.	925 <i>Lepidosperma angustatum</i>			
276.	937 <i>Lepidosperma longitudinale</i> (Pithy Sword-sedge)			
277.	<i>Lepidosperma</i> sp.			
278.	15418 <i>Leptoceras menziesii</i>			
279.	25133 <i>Lerista elegans</i>			
280.	6427 <i>Leucopogon parviflorus</i> (Coast Beard-heath)			
281.	6436 <i>Leucopogon propinquus</i>			
282.	25005 <i>Lialis burtonis</i>			
283.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
284.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
285.	4362 <i>Linum marginale</i> (Wild Flax)			
286.	25378 <i>Litoria adelaidensis</i> (Slender Tree Frog)			
287.	25388 <i>Litoria moorei</i> (Motorbike Frog)			
288.	9289 <i>Lobelia anceps</i> (Angled Lobelia)			
289.	7408 <i>Lobelia tenuior</i> (Slender Lobelia)			
290.	1223 <i>Lomandra caespitosa</i> (Tufted Mat Rush)			
291.	1231 <i>Lomandra maritima</i>			
292.	1198 <i>Luzula meridionalis</i> (Field Woodrush)			
293.	<i>Lycosa godeffroyi</i>			
294.	1097 <i>Lyginia barbata</i>			
295.	85 <i>Macrozamia riedlei</i> (<i>Zamia</i> , <i>Djiridji</i>)			
296.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
297.	<i>Maxillicosta scabriceps</i>			
298.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
299.	13271 <i>Melaleuca huegelii</i> subsp. <i>huegelii</i>			
300.	5959 <i>Melaleuca maphiophylla</i> (Swamp Paperbark)			
301.	5978 <i>Melaleuca teretifolia</i> (Banbar)			
302.	13280 <i>Melaleuca viminea</i> subsp. <i>viminea</i>			
303.	4516 <i>Melia azedarach</i> (White Cedar)			
304.	25184 <i>Menetia greyii</i>			
305.	25185 <i>Menetia maini</i>			
306.	25186 <i>Menetia surda</i> subsp. <i>cresswelli</i>			
307.	25187 <i>Menetia surda</i> subsp. <i>surda</i>			
308.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
309.	955 <i>Mesomelaena pseudostygia</i>			
310.	<i>Microcarbo melanoleucos</i>			

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
311.	485 <i>Microlaena stipoides</i> (Weeping Grass)			
312.	<i>Missulena granulosa</i>			
313.	<i>Missulena hoggi</i>			
314.	25188 <i>Morethia adelaidensis</i>			
315.	25189 <i>Morethia boulengeri</i>			
316.	25191 <i>Morethia lineocellata</i>			
317.	25192 <i>Morethia obscura</i>			
318.	25193 <i>Morethia ruficauda</i> subsp. <i>exquisita</i>			
319.	25194 <i>Morethia ruficauda</i> subsp. <i>ruficauda</i>			
320.	25195 <i>Morethia storri</i>			
321.	48008 <i>Morus serrator</i> (Australasian Gannet)			
322.	2412 <i>Muehlenbeckia adpressa</i> (Climbing Lignum)			
323.	24223 <i>Mus musculus</i> (House Mouse)	Y		
324.	<i>Myandra bicincta</i>			
325.	25252 <i>Notechis scutatus</i> (Tiger Snake)			
326.	25197 <i>Notoscincus ornatus</i> subsp. <i>ornatus</i>			
327.	2401 <i>Nuytsia floribunda</i> (Christmas Tree, Mudja)			
328.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
329.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
330.	8149 <i>Olearia rudis</i> (Rough Daisybush)			
331.	7348 <i>Opercularia hispidula</i> (Hispid Stinkweed)			
332.	<i>Ophisurus serpens</i>			
333.	24085 <i>Oryctolagus cuniculus</i> (Rabbit)	Y		
334.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
335.	516 <i>Parapholis incurva</i> (Coast Barbgrass)	Y		
336.	25681 <i>Pardalotus punctatus</i> (Spotted Pardalote)			
337.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
338.	24630 <i>Pardalotus striatus</i> subsp. <i>westraliensis</i> (Striated Pardalote)			
339.	24642 <i>Passer montanus</i> (Eurasian Tree Sparrow)	Y		
340.	1550 <i>Patersonia occidentalis</i> (Purple Flag, Koma)			
341.	24674 <i>Pavo cristatus</i> (Common Peafowl, Indian Peafowl)	Y		
342.	<i>Pegasus volitans</i>			
343.	4346 <i>Pelargonium littorale</i>			
344.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
345.	16984 <i>Persicaria lapathifolia</i>	Y		
346.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
347.	48066 <i>Petroica boodang</i> (Scarlet Robin)			
348.	2299 <i>Petrophile linearis</i> (Pixie Mops)			
349.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
350.	25698 <i>Phalacrocorax melanoleucos</i> (Little Pied Cormorant)			
351.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
352.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
353.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
354.	<i>Phlebia rufa</i>			
355.	<i>Phlebia subceracea</i>			
356.	1478 <i>Phlebocarya ciliata</i>			
357.	<i>Phryganoporus candidus</i>			
358.	6734 <i>Phyla nodiflora</i> var. <i>nodiflora</i>	Y		
359.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
360.	24596 <i>Phylidonyris novaehollandiae</i> (New Holland Honeyeater)			
361.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
362.	<i>Phyllophryne scortea</i>			
363.	20652 <i>Physalis angulata</i>	Y		
364.	6983 <i>Physalis peruviana</i> (Cape Gooseberry)	Y		
365.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
366.	24750 <i>Platycercus zonarius</i> subsp. <i>semitorquatus</i> (Twenty-eight Parrot)			
367.	25007 <i>Pletholax gracilis</i> subsp. <i>gracilis</i> (Keeled Legless Lizard)			
368.	577 <i>Poa poiformis</i> (Coastal Poa)			
369.	578 <i>Poa porphyroclados</i>			
370.	24679 <i>Podargus strigoides</i> subsp. <i>brachypterus</i> (Tawny Frogmouth)			
371.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
372.	8175 <i>Podolepis gracilis</i> (Slender Podolepis)			
373.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
374.	24908 <i>Pogona minor</i> subsp. <i>mitchelli</i> (Dwarf Bearded Dragon)			
375.	24909 <i>Pogona nullarbor</i> (Nullarbor Bearded Dragon)			
376.	24681 <i>Poliocephalus poliocephalus</i> (Hoary-headed Grebe)			
377.	25722 <i>Polytelis anthopeplus</i> (Regent Parrot)			
378.	4691 <i>Poranthera microphylla</i> (Small Poranthera)			
379.	25731 <i>Porphyrio porphyrio</i> (Purple Swamphen)			
380.	24767 <i>Porphyrio porphyrio</i> subsp. <i>bellus</i> (Purple Swamphen)			

Name ID	Species Name	Naturalised	Conservation Code	1 Endemic To Query Area
381.	24769 <i>Porzana fluminea</i> (Australian Spotted Crane)			
382.	24771 <i>Porzana tabuensis</i> (Spotless Crane)			
383.	1670 <i>Prasophyllum drummondii</i> (Swamp Leek Orchid)			
384.	<i>Prionosternum nitidiceps</i>			
385.	<i>Prionosternum scutatatum</i>			
386.	25199 <i>Proablepharus reginae</i>			
387.	25200 <i>Proablepharus tenuis</i>			
388.	25201 <i>Pseudemoia baudini</i>			
389.	25511 <i>Pseudonaja affinis</i> (Dugite)			
390.	25259 <i>Pseudonaja affinis</i> subsp. <i>affinis</i> (Dugite)			
391.	42416 <i>Pseudonaja mengdeni</i> (Western Brown Snake)			
392.	24702 <i>Pterodroma brevirostris</i> (Kerguelen Petrel)			
393.	15426 <i>Pterostylis aspera</i>			
394.	2751 <i>Ptilotus polystachyus</i> (Prince of Wales Feather)			
395.	<i>Purpleicephalus spurius</i>			
396.	25008 <i>Pygopus lepidopodus</i> (Common Scaly Foot)			
397.	25009 <i>Pygopus nigriceps</i>			
398.	24245 <i>Rattus rattus</i> (Black Rat)	Y		
399.	24776 <i>Recurvirostra novaehollandiae</i> (Red-necked Avocet)			
400.	11341 <i>Rhagodia baccata</i> subsp. <i>baccata</i>			
401.	4822 <i>Rhamnus alaternus</i> (Buckthorn)	Y		
402.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
403.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
404.	1556 <i>Romulea rosea</i> (Guildford Grass)	Y		
405.	10970 <i>Rostraria cristata</i>	Y		
406.	6483 <i>Samolus junceus</i>			
407.	6484 <i>Samolus repens</i> (Creeping Brookweed)			
408.	7595 <i>Scaevola anchusifolia</i>			
409.	7606 <i>Scaevola crassifolia</i> (Thick-leaved Fan-flower)			
410.	48834 <i>Schinus terebinthifolia</i>	Y		
411.	982 <i>Schoenus clandestinus</i>			
412.	1004 <i>Schoenus nitens</i> (Shiny Bog-rush)			
413.	6033 <i>Scholtzia involucreta</i> (Spiked Scholtzia)			
414.	25878 <i>Senecio condylus</i>			
415.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
416.	<i>Servaea spinibarbis</i>			
417.	2909 <i>Silene gallica</i> (French Catchfly)	Y		
418.	<i>Simaetha tenuior</i>			
419.	25267 <i>Simoselaps littoralis</i> (West Coast Banded Snake)			
420.	30948 <i>Smicromis brevirostris</i> (Weebill)			
421.	7022 <i>Solanum nigrum</i> (Black Berry Nightshade)	Y		
422.	7037 <i>Solanum symonii</i>			
423.	9367 <i>Sonchus hydrophilus</i> (Native Sowthistle)			
424.	8231 <i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
425.	1312 <i>Sowerbaea laxiflora</i> (Purple Tassels)			
426.	635 <i>Sporobolus virginicus</i> (Marine Couch)			
427.	2918 <i>Stellaria media</i> (Chickweed)	Y		
428.	19403 <i>Stenopetalum gracile</i>			
429.	24522 <i>Sterna bergii</i> (Crested Tern)			
430.	48594 <i>Sternula nereis</i> (Fairy Tern)			
431.	2316 <i>Stirlingia latifolia</i> (Blueboy)			
432.	25597 <i>Strepera versicolor</i> (Grey Currawong)			
433.	25589 <i>Streptopelia chinensis</i> (Spotted Turtle-Dove)	Y		
434.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
435.	24942 <i>Strophurus spinigerus</i> subsp. <i>spinigerus</i>			
436.	7774 <i>Stylidium piliferum</i> (Common Butterfly Triggerplant)			
437.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
438.	24682 <i>Tachybaptus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
439.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
440.	4256 <i>Templetonia retusa</i> (Cockies Tongues)			
441.	2791 <i>Tersonia cyathiflora</i> (Button Creeper)			
442.	<i>Tetragnatha demissa</i>			
443.	<i>Tetragnatha nitens</i>			
444.	1708 <i>Thelymitra fuscolutea</i> (Chestnut Sun Orchid)			
445.	5077 <i>Thomasia cognata</i>			
446.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
447.	1339 <i>Thysanotus multiflorus</i> (Many-flowered Fringe Lily)			
448.	25202 <i>Tiliqua multifasciata</i> (Central Blue-tongue)			
449.	25203 <i>Tiliqua occipitalis</i> (Western Bluetongue)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
450.	25519 <i>Tiliqua rugosa</i>			
451.	25207 <i>Tiliqua rugosa subsp. rugosa</i>			
452.	<i>Torquigener pleurogramma</i>			
453.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
454.	1481 <i>Tribonanthes australis</i> (Southern Tiurndin)			
455.	25723 <i>Trichoglossus haematodus</i> (Rainbow Lorikeet)			
456.	25521 <i>Trichosurus vulpecula</i> (Common Brushtail Possum)			
457.	24158 <i>Trichosurus vulpecula subsp. vulpecula</i> (Common Brushtail Possum)			
458.	1361 <i>Tricoryne elatior</i> (Yellow Autumn Lily)			
459.	1363 <i>Tricoryne tenella</i>			
460.	4292 <i>Trifolium campestre</i> (Hop Clover)	Y		
461.	151 <i>Triglochin striata</i>			
462.	708 <i>Triticum aestivum</i> (Wheat)	Y		
463.	24069 <i>Tursiops truncatus</i> (Bottlenose Dolphin)			
464.	99 <i>Typha orientalis</i> (Bulrush, Cumbungi)			
465.	25762 <i>Tyto alba</i> (Barn Owl)			
466.	38388 <i>Ursinia anthemoides subsp. anthemoides</i>	Y		
467.	25227 <i>Varanus tristis subsp. tristis</i> (Racehorse Monitor)			
468.	<i>Venatrix pullastra</i>			
469.	722 <i>Vulpia bromoides</i> (Squirrel Tail Fescue)	Y		
470.	724 <i>Vulpia myuros</i> (Rat's Tail Fescue)	Y		
471.	12052 <i>Vulpia myuros forma megalura</i>	Y		
472.	33101 <i>Vulpia myuros forma myuros</i>	Y		
473.	6658 <i>Wilsonia backhousei</i> (Narrow-leaf Wilsonia)			
474.	1394 <i>Wurmbea dioica</i> (Early Nancy)			
475.	12072 <i>Wurmbea dioica subsp. alba</i>			
476.	1256 <i>Xanthorrhoea preissii</i> (Grass tree, Palga)			
477.	1049 <i>Zantedeschia aethiopica</i> (Arum Lily)	Y		
478.	25765 <i>Zosterops lateralis</i> (Grey-breasted White-eye, Silvereye)			

Conservation Codes

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

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

APPENDIX 2

Protected Matters Search Tool Report



EPBC Act Protected Matters Report

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

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

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

Report created: 05/08/21 19:01:10

[Summary](#)

[Details](#)

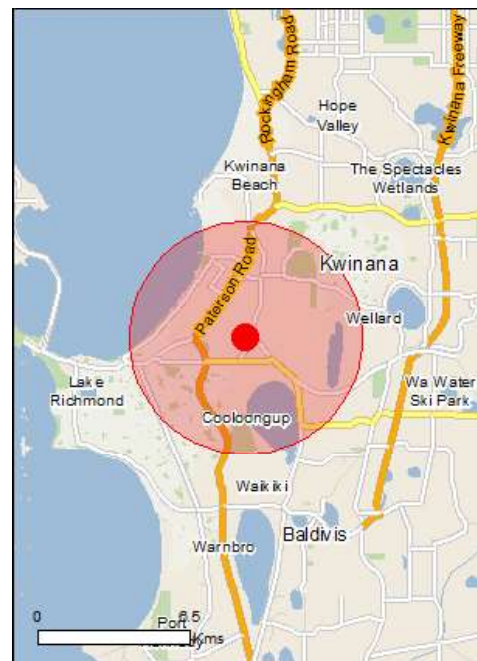
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



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[Coordinates](#)

Buffer: 5.0Km



Summary

Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	48
Listed Migratory Species:	51

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Land:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	80
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	2
Regional Forest Agreements:	None
Invasive Species:	36
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)		[Resource Information]
Name		Proximity
Becher point wetlands		Within 10km of Ramsar
Forrestdale and thomsons lakes		Within 10km of Ramsar
Peel-yalgorup system		20 - 30km upstream

Listed Threatened Ecological Communities		[Resource Information]
<p>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.</p>		

Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community may occur within area
Sedgelands in Holocene dune swales of the southern Swan Coastal Plain	Endangered	Community known to occur within area
Tuart (Eucalyptus gomphocephala) Woodlands and Forests of the Swan Coastal Plain ecological community	Critically Endangered	Community likely to occur within area

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calyptorhynchus banksii naso Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus baudinii Baudin's Cockatoo, Long-billed Black-Cockatoo [769]	Endangered	Species or species habitat likely to occur within area
Calyptorhynchus latirostris Carnaby's Cockatoo, Short-billed Black-Cockatoo [59523]	Endangered	Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat known to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat may occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat known to occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Critically Endangered	Species or species habitat likely to occur within area
Plants		
Andersonia gracilis Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat may occur within area
Diuris micrantha Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat may occur within area
Drakaea elastica Glossy-leaved Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
Drakaea micrantha Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
Synaphea sp. Serpentine (G.R. Brand 103) [86879]	Critically Endangered	Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur

Name	Status	Type of Presence
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Sharks		
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Foraging, feeding or related behaviour likely to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Hydroprogne caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Onychoprion anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
Sterna dougalli Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaena glacialis australis Southern Right Whale [75529]	Endangered*	Breeding known to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area
Charadrius dubius Little Ringed Plover [896]		Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Species or species habitat known to occur

Name	Threatened	Type of Presence
Tringa glareola Wood Sandpiper [829]		within area Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [[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.

Name
Commonwealth Land - Defence - ROCKINGHAM - NAVY CPSO

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

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat likely to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species

Name	Threatened	Type of Presence
Calidris ruficollis Red-necked Stint [860]		habitat known to occur within area Species or species habitat known to occur within area
Calidris subminuta Long-toed Stint [861]		Species or species habitat known to occur within area
Catharacta skua Great Skua [59472]		Species or species habitat may occur within area
Charadrius dubius Little Ringed Plover [896]		Species or species habitat known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Species or species habitat known to occur within area
Larus pacificus Pacific Gull [811]		Foraging, feeding or related behaviour may occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]		Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within

Name	Threatened	Type of Presence
Merops ornatus Rainbow Bee-eater [670]		area Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Species or species habitat known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Puffinus assimilis Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat known to occur within area
Sterna anaethetus Bridled Tern [814]		Foraging, feeding or related behaviour likely to occur within area
Sterna caspia Caspian Tern [59467]		Foraging, feeding or related behaviour known to occur within area
Sterna dougalli Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat known to occur within area
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area
Fish		
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Hippocampus subelongatus West Australian Seahorse [66722]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
Lissocampus fatiloquus Prophet's Pipefish [66250]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Mitotichthys meraculus Western Crested Pipefish [66259]		Species or species habitat may occur within area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat known to occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence

Name	Status	Type of Presence
Mammals		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Leda	WA
Unnamed WA51658	WA

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

Name	Status	Type of Presence
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Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Funambulus pennantii Northern Palm Squirrel, Five-striped Palm Squirrel [129]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur

Name	Status	Type of Presence
Vulpes vulpes Red Fox, Fox [18]		within area Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Broom [2800]		Species or species habitat likely to occur within area
Genista sp. X Genista monspessulana Broom [67538]		Species or species habitat may occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Olea europaea Olive, Common Olive [9160]		Species or species habitat may occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salix spp. except S.babylonica, S.x calodendron & S.x reichardtii Willows except Weeping Willow, Pussy Willow and Sterile Pussy Willow [68497]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area
Reptiles		

Name	Status	Type of Presence
Hemidactylus frenatus Asian House Gecko [1708]		Species or species habitat likely to occur within area

Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-32.26939 115.77587

Acknowledgements

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

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

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

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

APPENDIX 3
Flora Species List

SPECIES LIST – Lots 12 and 13 Lodge Drive, East Rockingham

MONOCOTYLEDONS

ASPARAGACEAE

**Asparagus asparagoides*

ASPHODELACEAE

**Asphodelus fistulosus*

**Trachyandra divaricata*

PAPAVERACEAE

**Fumaria capreolata*

POACEAE

**Avena fatua*

**Briza minor*

**Bromus diandrus*

**Ehrharta longiflora*

**Lagurus ovatus*

**Lolium perenne*

**Lolium rigidum*

DICOTYLEDONS

ANACARDIACEAE

**Schinus terebinthifolius*

APOCYNACEAE

**Gomphocarpus fruticosus*

ASTERACEAE

**Arctotheca calendula*

**Cirsium vulgare*

**Erigeron bonariensis*

**Hypochaeris glabra*

**Sonchus asper*

**Sonchus oleraceus*

**Taraxacum officinale*

**Urospermum picroides*

BRASSICACEAE

**Raphanus raphanistrum*

CARIFOLIACEAE

**Sisalix atropurpurea*

CARYOPHYLLACEAE

**Petrorhagia dubia*

CRASSULACEAE

**Crassula glomerata*

EUPHORBIACEAE

**Euphorbia peplus*

**Euphorbia terracina*

FABACEAE

Acacia rostellifera

Acacia saligna

**Medicago polymorpha*

**Melilotus indicus*

Trifolium sp

**Trifolium campestre*

MALVACEAE

**Malva parviflora*

MYRTACEAE

Eucalyptus gomphocephala

Melaleuca huegelii

Melaleuca raphiophylla

OXALIDACEAE

**Oxalis pes-caprae*

PAPAVERACEAE

**Fumaria capreolata*

PRIMULACEAE

**Lysimachia arvensis*

RANUNCULACEAE

Clematis linearifolia

RHAMNACEAE

**Rhamnus alaternus*

Spyridium globulosum

RUBIACEAE

**Galium murale*

SOLANACEAE

**Solanum nigrum*

APPENDIX 4

Quadrat Data

QUADRAT LR1

50 384615 E 6428945 N

Vegetation: *Eucalyptus gomphocephala* (Tuart) Woodland over weeds
Condition: Completely Degraded
Landform: Flat
Soil: Mulch
Date: 15.10.21
Recorder: P. van der Moezel



QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
<i>Eucalyptus gomphocephala</i>	12	25
* <i>Avena fatua</i>	1.2	10
* <i>Rhamnus alaternus</i>	1.2	1
* <i>Gomphocarpus fruticosus</i>	1.1	15
* <i>Schinus terebinthifolius</i>	1	<1
* <i>Ehrharta longiflora</i>	1	25
<i>Acacia rostellifera</i>	0.8	1
* <i>Melilotus indicus</i>	0.6	<1
* <i>Raphanus raphanistrum</i>	0.6	<1
* <i>Lolium rigidum</i>	0.5	2
* <i>Sonchus asper</i>	0.5	1
<i>Acacia saligna</i>	0.5	<1
* <i>Solanum nigrum</i>	0.4	5
* <i>Trachyandra divaricata</i>	0.4	<1
* <i>Sonchus oleraceus</i>	0.4	<1
* <i>Bromus diandrus</i>	0.4	<1
* <i>Briza minor</i>	0.4	<1
* <i>Lysimachia arvensis</i>	0.3	2
* <i>Euphorbia terracina</i>	0.3	1

SPECIES	HEIGHT (m)	COVER (%)
* <i>Asphodelus fistulosus</i>	0.3	<1
* <i>Arctotheca calendula</i>	0.3	<1
* <i>Malva parviflora</i>	0.2	1
* <i>Oxalis pes-caprae</i>	0.2	10
* <i>Fumaria capreolata</i>	0.1	10
* <i>Euphorbia peplus</i>	0.1	<1
* <i>Trifolium sp</i>	<0.1	<1
* <i>Taraxacum officinale</i>	Flat	<1
* <i>Cirsium vulgare</i>	Flat	<1
* <i>Hypochaeris glabra</i>	Flat	<1
* <i>Asparagus asparagoides</i>	Climber	2

* introduced species

QUADRAT LR2

50 384589 E 6428959 N

Vegetation: *Eucalyptus gomphocephala* (Tuart) Woodland over mulch and weeds

Condition: Completely Degraded

Landform: Flat

Soil: Mulch

Date: 15.10.21

Recorder: P. van der Moezel



QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
<i>Eucalyptus gomphocephala</i>	15	20
* <i>Avena fatua</i>	1	10
* <i>Ehrharta longiflora</i>	0.7	5
* <i>Rhamnus alaternus</i>	0.5	1
* <i>Bromus diandrus</i>	0.4	10
* <i>Sonchus asper</i>	0.4	<1
* <i>Euphorbia terracina</i>	0.3	<1
* <i>Medicago polymorpha</i>	0.3	40
* <i>Fumaria capreolata</i>	0.3	<1
* <i>Oxalis pes-caprae</i>	0.2	20
* <i>Sixalix atropurpurea</i>	0.1	<1
* <i>Lysimachia arvensis</i>	0.1	<1
* <i>Asparagus asparagoides</i>	Climber	<1

* introduced species

QUADRAT LR3

50 384623 E 6429172 N

Vegetation: *Eucalyptus gomphocephala* (Tuart) Woodland over mulch and weeds
Condition: Completely Degraded
Landform: Flat
Soil: Mulch
Date: 15.10.21
Recorder: P. van der Moezel



QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
<i>Eucalyptus gomphocephala</i>	15	25
* <i>Rhamnus alaternus</i>	2	2
* <i>Avena fatua</i>	1	20
<i>Melaleuca huegelii</i>	1	1
* <i>Gomphocarpus fruticosus</i>	0.8	1
* <i>Ehrharta longiflora</i>	0.7	1
* <i>Bromus diandrus</i>	0.4	5
* <i>Euphorbia terracina</i>	0.3	<1
* <i>Oxalis pes-caprae</i>	0.2	2
* <i>Trifolium campestre</i>	0.2	1
<i>Acacia rostellifera</i>	0.2	<1
* <i>Asphodelus fistulosus</i>	0.2	<1
* <i>Solanum nigrum</i>	0.1	<1
* <i>Lysimachia arvensis</i>	0.1	<1
* <i>Asparagus asparagoides</i>	Climber	1
<i>Clematis linearifolia</i>	Climber	<1

* introduced species

QUADRAT LR4

50 384722 E 6429230 N

Vegetation: *Eucalyptus gomphocephala* (Tuart) Woodland over weeds
Condition: Completely Degraded
Landform: Flat
Soil: Mulch
Date: 15.10.21
Recorder: P. van der Moezel



QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
<i>Eucalyptus gomphocephala</i>	14	20
<i>Spyridium globulosum</i>	1	2
* <i>Rhamnus alaternus</i>	1	1
* <i>Solanum nigrum</i>	1	1
* <i>Gomphocarpus fruticosus</i>	0.8	10
* <i>Ehrharta longiflora</i>	0.8	50
* <i>Sonchus oleraceus</i>	0.8	20
<i>Acacia rostellifera</i>	0.7	10
* <i>Bromus diandrus</i>	0.5	5
* <i>Euphorbia terracina</i>	0.5	<1
* <i>Euphorbia peplus</i>	0.2	4
* <i>Lysimachia arvensis</i>	0.2	1
* <i>Trifolium campestre</i>	0.2	<1
* <i>Fumaria capreolata</i>	0.1	1
* <i>Hypochaeris glabra</i>	Flat	<1
* <i>Taraxacum officinale</i>	Flat	<1
* <i>Asparagus asparagoides</i>	Climber	1
<i>Clematis linearifolia</i>	Climber	<1

* introduced species

QUADRAT LR5

50 384574 E 6428903 N

Vegetation: Weeds
Condition: Completely Degraded
Landform: Flat
Soil: Mulch
Date: 15.10.21
Recorder: P. van der Moezel



QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
* <i>Avena fatua</i>	1	10
* <i>Bromus diandrus</i>	0.5	10
* <i>Rhamnus alaternus</i>	0.4	<1
* <i>Solanum nigrum</i>	0.4	<1
* <i>Lolium rigidum</i>	0.3	<1
* <i>Ehrharta longiflora</i>	0.3	<1
* <i>Trifolium campestre</i>	0.2	15
* <i>Fumaria capreolata</i>	0.2	2
* <i>Euphorbia terracina</i>	0.2	1
* <i>Medicago polymorpha</i>	0.1	5
* <i>Oxalis pes-caprae</i>	0.1	1

* introduced species

QUADRAT LR6

50 384549 E 6429225 N

Vegetation: *Melaleuca raphiophylla*/*M. huegelii* Low Open Woodland over weeds

Condition: Completely Degraded

Landform: Flat

Soil: Mulch

Date: 15.10.21

Recorder: P. van der Moezel



QUADRAT (10 x 10m)

SPECIES	HEIGHT (m)	COVER (%)
<i>Melaleuca raphiophylla</i>	5	10
<i>Melaleuca huegelii</i>	4	2
<i>Spyridium globulosum</i>	1.4	5
* <i>Gompholobium fruticosus</i>	1.4	1
* <i>Avena fatua</i>	1.2	2
<i>Acacia rostellifera</i>	0.6	2
* <i>Urospermum picroides</i>	0.6	1
* <i>Ehrharta longiflora</i>	0.5	25
* <i>Euphorbia terracina</i>	0.5	1
* <i>Lolium perenne</i>	0.4	5
* <i>Sonchus oleraceus</i>	0.4	1
* <i>Petrorhagia dubia</i>	0.4	<1
* <i>Asphodelus fistulosus</i>	0.4	<1
* <i>Erigeron bonariensis</i>	0.3	<1
* <i>Lagurus ovatus</i>	0.3	<1
* <i>Briza minor</i>	0.2	<1

SPECIES	HEIGHT (m)	COVER (%)
<i>*Lysimachia arvensis</i>	0.1	4
<i>*Trifolium campestre</i>	0.1	2
<i>*Crassula glomerata</i>	0.1	1
<i>*Euphorbia peplus</i>	0.1	1
<i>*Galium murale</i>	<0.1	<1
<i>*Taraxacum officinale</i>	Flat	<1
<i>*Asparagus asparagoides</i>	Climber	<1

* introduced species

APPENDIX 5

Conservation Codes

Conservation Codes for Western Australian Flora and Fauna

Specially protected fauna or flora are species* which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such. Conservation codes have been transitioned under regulations 170, 171 and 172 of the *Biodiversity Conservation Regulations 2018*.

T Threatened species – Schedules 1-4

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

- **Threatened fauna** is that subset of ‘Specially Protected Fauna’ listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.
- **Threatened flora** is that subset of ‘Rare Flora’ listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

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

CR Critically endangered species

Threatened species considered to be “*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN Endangered species

Threatened species considered to be “*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU Vulnerable species

Threatened species considered to be “*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*”.

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife*

Conservation (Specially Protected Fauna) Notice 2018 for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

EX Presumed extinct species

Species where “*there is no reasonable doubt that the last member of the species has died*”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that “*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

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; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

Priority 1: 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, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

Priority 2: 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, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

Priority 3: 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. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

Priority 4: Rare, Near Threatened and other species in need of monitoring

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

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

Western Australian Ecological Communities

Threatened Ecological Communities

The BC Act provides for the statutory listing of threatened ecological communities (TECs) by the Minister.

Presumed Totally Destroyed (PD)

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.

Critically Endangered (CR)

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.

Endangered (EN)

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.

Vulnerable (VU)

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.

Priority Ecological Communities

Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community List under priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community. Ecological communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Priority One: Poorly-known ecological communities

Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤ 5 occurrences or a total area of ≤ 100 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.

Priority Two: Poorly-known ecological communities

Communities that are known from few occurrences with a restricted distribution (generally ≤ 10 occurrences or a total area of $\leq 200\text{ha}$). 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.

Priority Three: Poorly known ecological communities

- (i) 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 or:
- (ii) 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), or;
- (iii) munities 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 much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc.

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.

Priority Four: 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.

- (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.
- (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.
- (iii) Ecological communities that have been removed from the list of threatened communities during the past five years.

Priority Five: Conservation Dependent ecological communities

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.

Commonwealth of Australia Conservation Codes

Threatened Flora and Fauna

Threatened fauna and flora may be listed under Section 178 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) in any one of the following six categories:

Extinct

A native species is eligible to be included in the extinct category 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 is eligible to be included in the extinct in the wild category at a particular time if, at that time:

- a) it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
- 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.

Critically endangered

A taxon is Critically Endangered when the best available evidence indicates that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations, and it is therefore considered to be facing an extremely high risk of extinction in the wild.

Endangered

A taxon is Endangered when the best available evidence indicates that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations, and it is therefore considered to be facing a very high risk of extinction in the wild.

Vulnerable

A taxon is Vulnerable when the best available evidence indicates that it meets any of the five criteria for the category identified in Part 7.01 of the EPBC Regulations, and it is therefore considered to be facing a high risk of extinction in the wild.

Conservation dependent

A native species is eligible to be included in the conservation dependent category at a particular time if, at that time:

- a) the species is the focus of a specific conservation program the cessation of which would result in the species becoming vulnerable, endangered or critically endangered; or
- b) the following subparagraphs are satisfied:
 - i. the species is a species of fish;

- 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;
- iii. the plan of management is in force under a law of the Commonwealth or of a State or Territory;
- iv. cessation of the plan of management would adversely affect the conservation status of the species.

The EPBC Act does not provide for listing in a data deficient category. Where sufficient data (evidence) is unavailable to allow assessment by the Threatened Species Scientific Committee against the criteria for listing, the species are found to be ineligible. A recommendation is made to the Minister to not include the species in any category under the EPBC Act. For reasons of transparency and to inform future research, the Threatened Species Scientific Committee publishes the names of those species found to be data deficient. As data deficient is not a listing category under the EPBC Act, this has no statutory implications and the species is not considered to be listed under the EPBC Act.

Threatened Ecological Communities

Threatened Ecological communities under the EPBC Act are listed in three categories.

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).