



Native Vegetation Clearing Permit Supporting Documentation

Murchison Hydrogen Renewables Project

Murchison Hydrogen Renewables Pty Ltd as trustee for
Murchison Hydrogen Renewables Trust

21 December 2021

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1. Introduction

1.1 Project background

Murchison Hydrogen Renewables Pty Ltd (Murchison Hydrogen Renewables) is developing the Murchison Hydrogen Renewables Project (the Project), which is a planned 5.4 GW Power-to-X project that combines onshore wind and solar energy to produce 100% green ammonia. The Project site is located 20 km north of Kalbarri entirely within the Murchison Pastoral Lease (registered number N050525) (Figure 2-1).

Murchison Hydrogen Renewables expects that the Project will require assessment under Part IV of the *Environmental Protection Act 1986* (EP Act) and has commenced pre-referral discussions with the Environmental Protection Authority (EPA) regarding the environmental assessment process. Prior to formal referral of the Project to the EPA Murchison Hydrogen Renewables proposes to undertake a minor initial geotechnical investigation program.

1.1.1 Development Envelope

To support the development of the Project, GHD proposes to undertake a geotechnical investigation across the Development Envelope (DE) to further understand the varying soil systems. The geotechnical works will consist of up to 55 geotechnical test pits, located within or in close proximity to pre-cleared tracks that already exist to minimise disturbance to the native vegetation.

A DE of 79,963 ha has been defined, within which all of the test pits, boreholes and access tracks will be located (Figure 2-2). The test sites to be disturbed are approximately 30 m by 30 m. Where possible, pits and boreholes will be located on existing cleared areas. The total clearing area will be less than 5 ha.

1.2 Purpose of this report

The purpose of this Native Vegetation Clearing Permit (NVCP) supporting document is to inform the Department of Water and Environmental Regulation (DWER) of the ten clearing principles assessment outcome for the geotechnical works, and potential impacts that may result from the proposed geotechnical works. This document has been prepared in support of an application for a NVCP (purpose) under Section 51E of Part V of the EP Act.

This document includes:

- An overview of works required and description of clearing activities to be undertaken (Section 2)
- An overview of existing environment (Section 3)
- An assessment of potential impacts identified (Section 4)
- Environmental management measures to be implemented to minimise clearing impacts (Section 5)
- An assessment against the Ten Clearing Principles, as defined in Schedule 5 of the EP Act (Section 6)
- Identification of other environmental and heritage approvals applicable to the proposed works (Section 7)
- Assessment whether offsets are applicable to the proposed works (Section 8)

1.3 Scope and limitations

This report: has been prepared by GHD for Murchison Hydrogen Renewables Pty Ltd as trustee for Murchison Hydrogen Renewables Trust and may only be used and relied on by Murchison Hydrogen Renewables Pty Ltd as trustee for Murchison Hydrogen Renewables Trust for the purpose agreed between GHD and Murchison Hydrogen Renewables Pty Ltd as trustee for Murchison Hydrogen Renewables Trust as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Murchison Hydrogen Renewables Pty Ltd as trustee for Murchison Hydrogen Renewables Trust arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

2. Description of clearing activities

2.1 Boreholes and test pits

Up to 55 geotechnical test pits are proposed to be constructed within the DE. For the test pits, a clearing area of 30 m by 30 m is required. Where possible, pits and boreholes will be located entirely, or partially, on existing cleared areas. The proposed locations shown on Figure 2-3, are generally on existing tracks to minimise clearing requirements. However, should site conditions at the time of geotechnical investigations prevent the test sites from being constructed within the cleared areas e.g. due to water-logged tracks from rain, then the total clearing area would be up to 5 ha.

Figure 2-3 presents a total of 74 potential test sites that may be cleared. 74 test sites have been identified to provide flexibility to adjust the program either based on geotechnical conditions or should access restrictions prevent realisation of some sites. The 74 potential sites will not all be cleared. Clearing will be limited to a maximum of 55 sites.



Legend
 Site boundary

Paper Size ISO A3
 0 10 20
 Kilometres
 Map Projection: Transverse Mercator
 Horizontal Datum: GDA2020
 Grid: GDA2020 MGA Zone 50

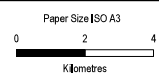
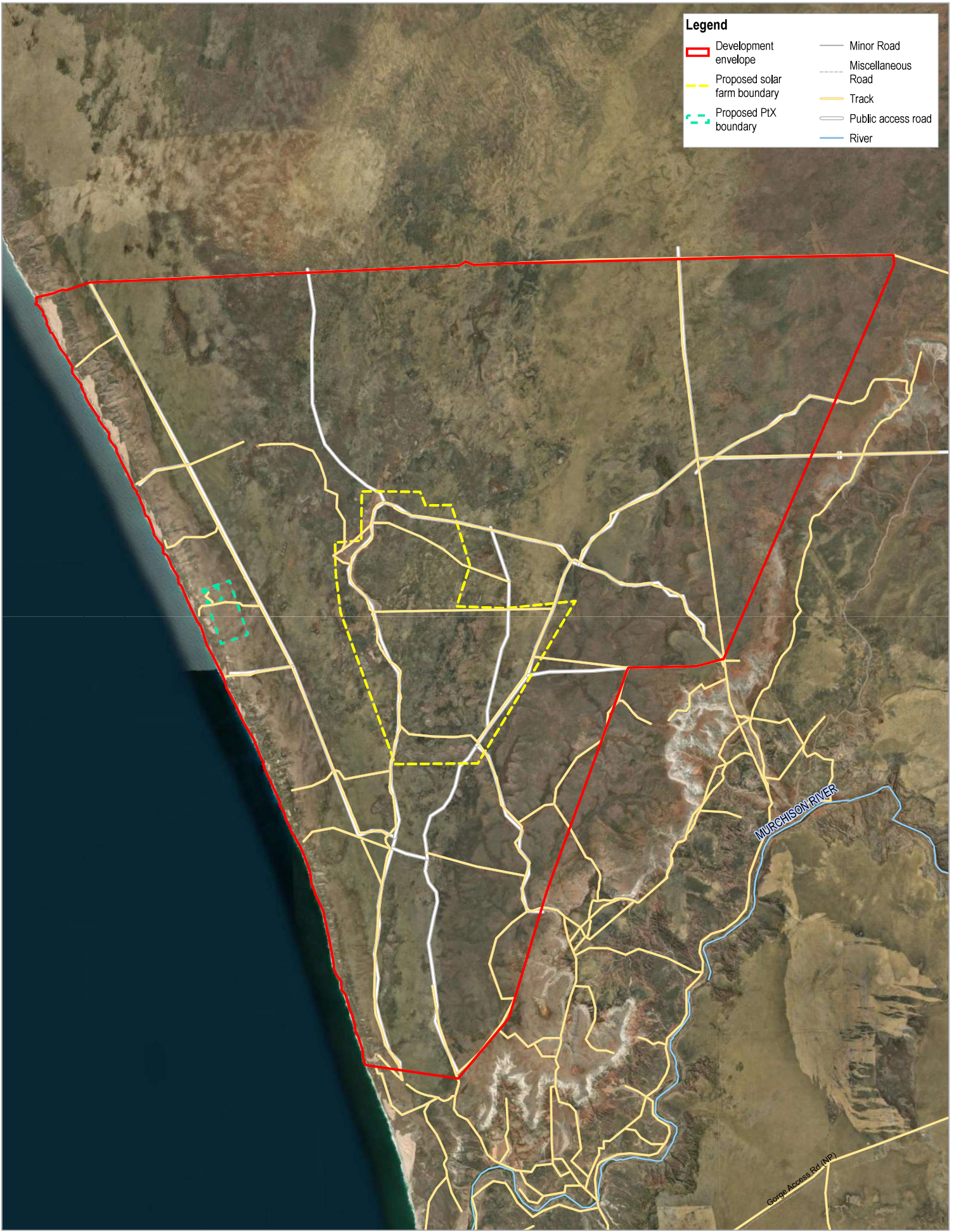


Murchison Hydrogen Renewables Project

Project No. 12553823
 Revision No. 0
 Date 22/12/2021

Regional location

FIGURE 2-1



Map Projection: Transverse Mercator
 Horizontal Datum: GDA2020
 Grid: GDA2020 MGA Zone 50

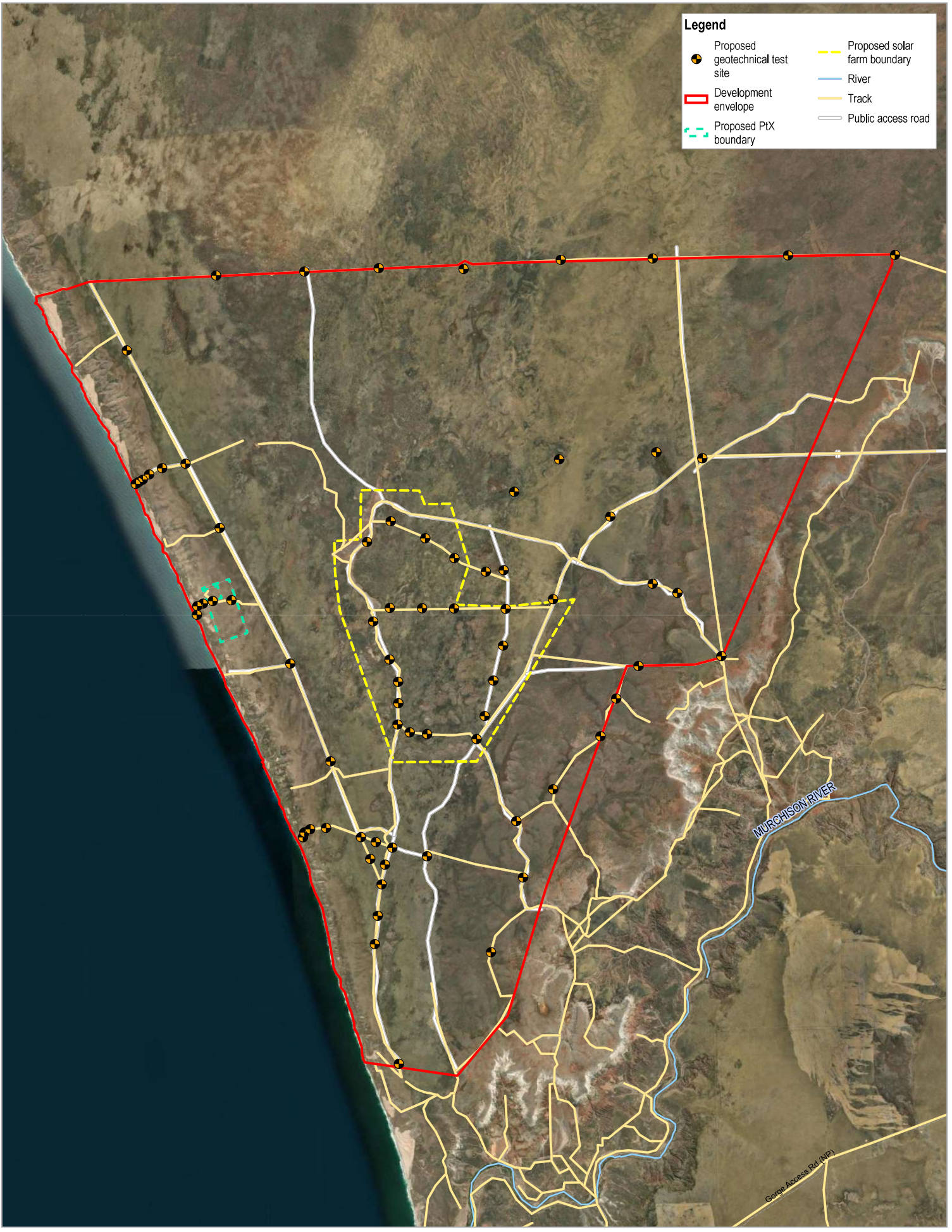


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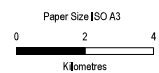
Development envelope

FIGURE 2-2



Legend

- Proposed geotechnical test site
- ▭ Development envelope
- ▭ Proposed PtX boundary
- ▭ Proposed solar farm boundary
- River
- Track
- Public access road



Map Projection: Transverse Mercator
 Horizontal Datum: GDA2020
 Grid: GDA2020 MGA Zone 50



Murchison Hydrogen Renewables Project

Potential geotechnical sites

Project No. 12553823
 Revision No. 0
 Date 22/12/2021

FIGURE 2-3

3. Existing environment

3.1 Climate

The Kalbarri area experiences a warm Mediterranean climate with mild, wet winters and warm, dry summers. Temperature data from the Kalbarri weather station indicates the mean maximum temperature ranges from 34.1°C in February to 21.9°C in July, and the area has an annual mean maximum temperature of 27.7°C. Kalbarri receives little rainfall which falls predominantly from May through to August and the area has a mean annual rainfall of around 337.7 mm (BoM, 2021). The Bureau of Meteorology (BoM) Kalbarri Station (site number: 008251) is the nearest weather station to the DE with long term data.

Figure 3-1 presents the temperature and rainfall statistics from the Kalbarri weather station.

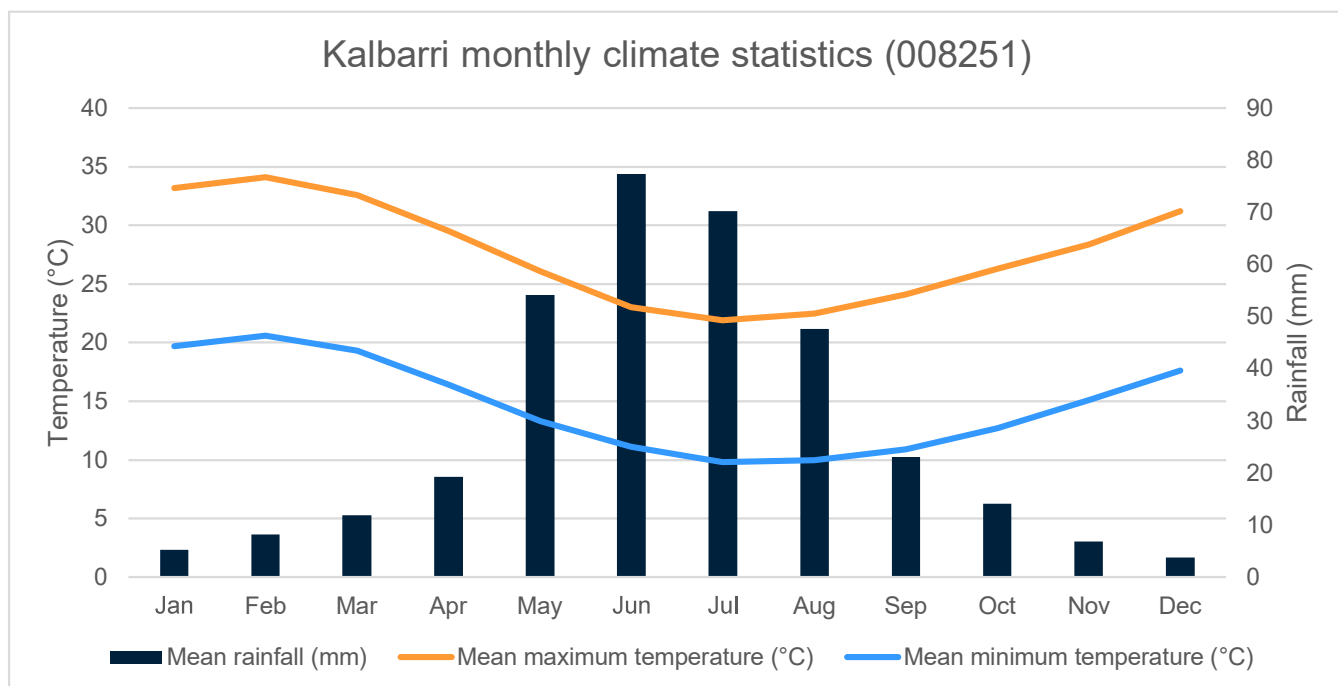


Figure 3-1 Kalbarri monthly climate statistics (BOM weather station: 008251)

3.2 Land use

The DE is entirely within a Pastoral station that is used for grazing goats. Murchison Pastoral Lease (registered number N050525).

3.3 Geology and soils

3.3.1 Soils

The soil landscape changes from calcrete plateaux, mesas, hills and footslopes supporting annual grasslands, herbfields and degraded chenopod shrublands in the east of the DE. Through to elevated, undulating limestone plains with thin sand cover, sea cliffs and low hills supporting low heath, mallee shrublands and paper bark thickets in the western coastal section of the DE. Commonly found throughout the DE mid-region is undulating sand plains and occasional dunes supporting shrub heath and tree heath vegetation (GoWA 2021X).

3.3.2 Topography

Topography within the DE varies from low lying draining lines, to flats and up to higher elevated sandy dunes and limestone ridges. The limestone is rugged, reaching an elevation of greater than 150 m along the coastal areas in the western portion of the DE. Topography through the mid-region of the DE lies lower in the landscape, allowing for water to pool and infiltrate the ground. The topography again rises in the southeastern region of the DE, comparable to the height of the limestone ridge.

3.3.3 Acid sulfate soils

A review of Acid Sulfate Soil (ASS) risk mapping indicates ASS is not present in the DE, and therefore not present in the geotechnical investigation sites. The closest potential ASS site is along the Murchison River, which at its closest point, is approximately 5 km south of the DE. Given the presence of limestone throughout the DE the occurrence of any ASS is not expected.

3.4 Hydrology

Desktop searches of publicly available data layers identified the water resources present in the DE. These are detailed below in Table 1.

Table 1 Water resources within the development envelope

Aspect	Details	Results
Groundwater areas (GoWA 2021X)	Groundwater areas proclaimed under the Rights in Water and Irrigation Act, 1914.	Gascoyne Groundwater Area
Surface Water Areas	Surface water areas proclaimed under the RIWI Act	None present
Irrigation Districts (DWER-037)	Irrigation Districts proclaimed under the RIWI Act	None present
Rivers	Rivers proclaimed under the Rights in RIWI Act	None present
Public Drinking Water Source Areas	PDWSA is a collective term used for the description of Water Reserves, Catchment Areas and Underground Pollution Control Areas declared (gazetted) under the provisions of the <i>Metropolitan Water Supply, Sewage and Drainage Act 1909 (WA)</i> or the <i>Country Areas Water Supply Act 1947 (WA)</i>	None present, Kalbarri Water Reserve 8 km south of DE.
Waterways Management Areas	Areas proclaimed under the Waterway Conservation Act 1976 (WA). These are Albany waterways, Avon River, Wilson Inlet, Peel – Harvey estuaries and Leschenault Inlet.	None present

3.4.1 Groundwater

There are no PDWSAs within the DE; however, the Kalbarri Water Reserve is located approximately 8 km south of the DE. The closest investigation site is approximately 10 km from the PDWSA.

The DE is situated on the Proclaimed Gascoyne Groundwater Area under the RIWI Act (GoWA 2021X).

3.4.2 Surface water and drainage

No rivers, as recognised under the RIWI Act, intercept or are within the vicinity of the DE (GoWA 2021X). Additionally, no RIWI Act protected surface waters or management areas are found within 20 km of the DE.

3.4.3 Wetlands

No Internationally (Ramsar) or nationally important wetlands are located within the DE. The closest important wetland is the Murchison River (Lower Reaches) listed in the Directory of Important Wetlands in Australia (GoWA 2021X). This wetland is approximately 5 km south of the DE.

3.5 Flora and vegetation

3.5.1 Survey effort

A basic flora survey was undertaken by Senior Botanist Joel Collins and Senior Zoologist Glen Gaikhorst in Spring of 2021, from November 15 to November 19. The goal of this survey was to scope suitable sites for the geotechnical investigation, ensuring conservation significant flora would be avoided. The survey identified areas of existing clearing.

3.5.2 Regional biogeography

The DE predominantly lies within the Geraldton Sandplains IBRA bioregion and within the Geraldton Hills IBRA subregion. The Geraldton Sandplains bioregion comprises the central and northern Perth Basin, the Pinjarra Orogen, and the south end of the Carnarvon Basin. Outcrops of Jurassic siltstones and sandstones can be heavily lateralized. Extensive proteaceous heaths and scrub-heaths often with emergent mallees, *Banksia* and *Actinostrobos*, occur on an undulating, lateritic sandplain mantling Permian to Cretaceous strata. These heaths are rich in endemics. Sandplains are most extensive in the north and southeast where the region overlaps the edges of the Carnarvon Basin and Yilgarn Craton respectively. Extensive York gum and acacia woodlands occur on alluvial outwash plains associated with drainage and with valleys in the hill country. Areas of coastal aeolian sands and limestone support proteaceous heath and Acacia scrubs (Kendrick and Stanley 2001).

3.5.3 Broad vegetation mapping and extents

Broad scale (1:250,000) pre-European vegetation mapping of the area was completed by Beard (1975) at an association level. Mapping indicates eight vegetation associations are present within the DE:

- Shrublands tree-heath between sandhills; *Banksia ashbyi*, *Grevillea gordoniana*, *Acacia* spp., *Melaleuca* and mallee (association 368)
- Shrublands; heath on coastal limestone (association 402)
- Shrublands; scrub-heath on sandplain (association 380)
- Shrublands; *Acacia rostellifera* thicket (association 17)
- Shrublands; *Melaleuca cardiophylla* thicket (association 387)
- Shrublands; scrub-heath on coastal association, yellow sandplain (association 408)
- Mosaic: Shrublands; scrub-heath on coastal association on yellow sandplain / Shrublands; acacia patchy scrub (association 401)
- Shrublands; *Acacia ligulata* scrub-heath (association 403)

The pre-European mapping has been adapted and digitised by Shepherd et al. (2002). The extent of vegetation associations have been determined by the state-wide vegetation remaining extent calculations maintained by DBCA (latest update April 2019 – GoWA 2021b). As shown in Table 2, the proposed geotechnical investigation sites represent less than 0.001% of each vegetation association's calculated current extents at all scales (e.g. State, IBRA bioregion, IBRA subregion and LGA).

Table 2 Extent of pre-European vegetation associations within the DE (Beard 1975, GoWA 2020)

Pre-European Vegetation Association	Scale	Pre-European extent (ha)	Current extent (ha)	Remaining (%)	%current extent in all DBCA managed land (proportion of current extent)	Area within the DE (ha)	% of current extent within the DE	Area within the investigation sites (ha)	% of current extent within the investigation sites
368	State: Western Australia	330,110.25	330,110.25	100.00	73.46	1687	0.01	0.09	Less than 0.001
	IBRA bioregion: Geraldton Sandplains	416.19	416.19	100.00	94.18	1687	4.05	0.09	Less than 0.001
	IBRA subregion: Geraldton Hills	416.19	416.19	100.00	94.18	1687	4.05	0.09	Less than 0.001
	LGA: Shire of Northampton	10,731.21	10,731.21	100.00	64.15	1687	0.16	0.09	Less than 0.001
402	State: Western Australia	51,592.94	51,155.81	99.15	63.13	17273	0.34	1.62	Less than 0.001
	IBRA bioregion: Geraldton Sandplains	50,723.54	50,406.65	99.38	62.78	17273	0.34	1.62	Less than 0.001
	IBRA subregion: Geraldton Hills	50,723.54	50,406.65	99.38	62.78	17273	0.34	1.62	Less than 0.001
	LGA: Shire of Northampton	21,286.52	20,913.05	98.25	14.65	17273	0.83	1.62	Less than 0.001
380	State: Western Australia	580,374.88	351,916.09	60.64	40.01	20024	0.06	0.81	Less than 0.001
	IBRA bioregion: Geraldton Sandplains	507,696.88	319,288.64	62.89	39.60	20024	0.06	0.81	Less than 0.001
	IBRA subregion: Geraldton Hills	507,696.88	319,288.64	62.89	39.60	20024	0.06	0.81	Less than 0.001
	LGA: Shire of Northampton	323,476.98	249,037.61	76.99	31.88	20024	0.08	0.81	Less than 0.001
17	State: Western Australia	76,633.84	67,605.49	88.22	13.06	10311	0.15	0.81	Less than 0.001
	IBRA bioregion: Geraldton Sandplains	54,078.08	45,159.85	83.51	13.44	10311	0.23	0.81	Less than 0.001
	IBRA subregion: Geraldton Hills	49,605.04	42,016.28	84.70	13.26	10311	0.25	0.81	Less than 0.001
	LGA: Shire of Northampton	49,549.89	41,939.33	84.64	13.29	10311	0.25	0.81	Less than 0.001
387	State: Western Australia	14,898.42	13,571.67	91.09	4.35	16	0.00	N/A	N/A
	IBRA bioregion: Geraldton Sandplains	8,203.59	6,948.11	84.70	7.07	16	0.00	N/A	N/A
	IBRA subregion: Geraldton Hills	8,203.59	6,948.11	84.70	7.07	16	0.00	N/A	N/A
	LGA: Shire of Northampton	6,686.94	6,431.65	96.18	7.57	16	0.00	N/A	N/A
408	State: Western Australia	328,527.29	149,051.65	45.37	66.83	1023	0.01	N/A	N/A
	IBRA bioregion: Geraldton Sandplains	328,527.29	149,051.65	45.37	66.83	1023	0.01	N/A	N/A
	IBRA subregion: Geraldton Hills	328,527.29	149,051.65	45.37	66.83	1023	0.01	N/A	N/A
	LGA: Shire of Northampton	251,429.27	141,161.39	56.14	70.07	1023	0.01	N/A	N/A
401	State: Western Australia	32,726.65	32,726.65	100.00	24.91	24589	0.75	2.34	Less than 0.001
	IBRA bioregion: Geraldton Sandplains	32,603.86	32,603.86	100.00	24.63	24589	0.75	2.34	Less than 0.001
	IBRA subregion: Geraldton Hills	32,603.86	32,603.86	100.00	24.63	24589	0.75	2.34	Less than 0.001
	IBRA subregion: Geraldton Hills	32,603.86	32,603.86	100.00	24.63	24589	0.75	2.34	Less than 0.001

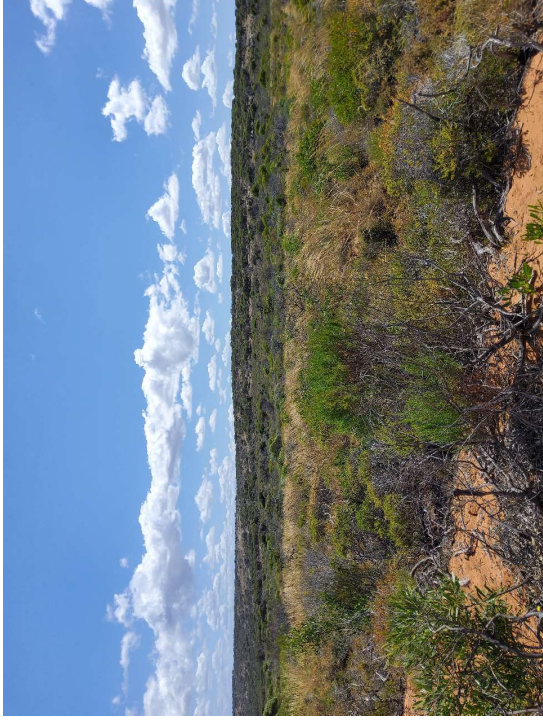

403	LGA: Shire of Northampton	32,401.50	32,401.50	100.00	24.16	24589	0.76	2.34	Less than 0.001
	State: Western Australia	11,635.38	11,113.55	95.52	56.89	4472	0.40	0.99	Less than 0.001
	IBRA bioregion: Geraldton Sandplains	11,536.78	11,105.99	96.27	56.93	4472	0.40	0.99	Less than 0.001
	IBRA subregion: Geraldton Hills	11,536.78	11,105.99	96.27	56.93	4472	0.40	0.99	Less than 0.001
	LGA: Shire of Northampton	5,740.51	5,440.62	94.78	12.15	4472	0.82	0.99	Less than 0.001

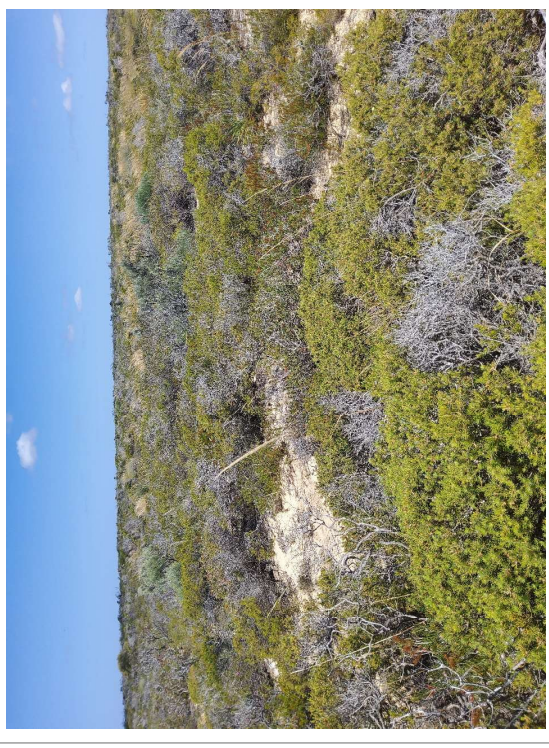
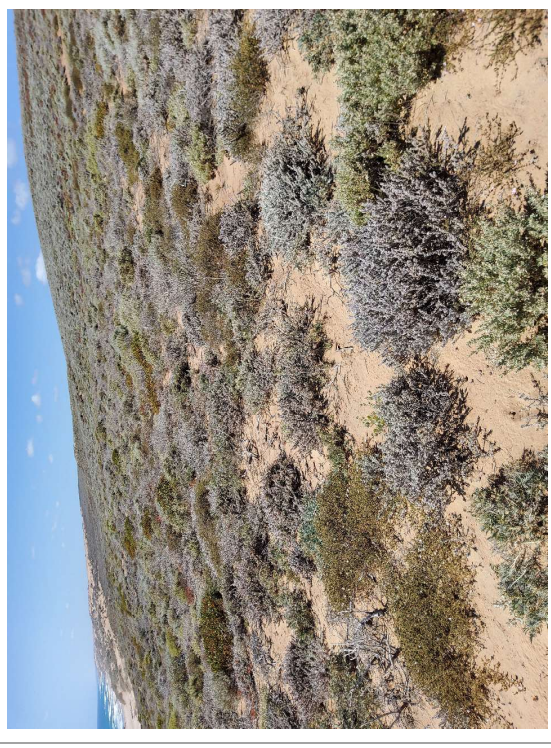
3.5.4 Vegetation types and condition

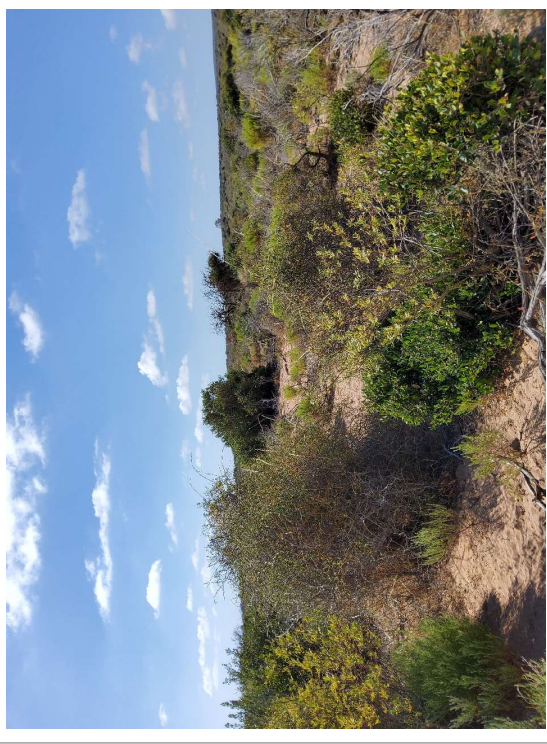

The preliminary survey of the geotechnical sites identified 20 vegetation types, primarily in Very Good to Excellent condition but with the cleared vegetation type being Completely Degraded. This cleared vegetation type is typical of the tracks where the geotechnical investigations will primarily occur. The vegetation in Very Good to Excellent condition is found several metres from the track clearing, the vegetation directly adjacent to the track is considered Good to Degraded due to the disturbance to the vegetation associated with the use of the track by the pastoralist.

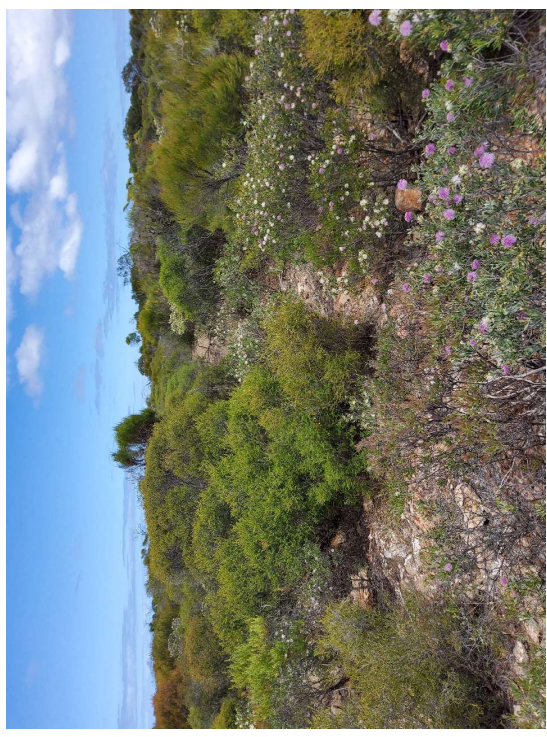

In total, 74 potential geotechnical test pit sites have been identified. Of these, this Supporting Document proposed approval to clear up to 55 sites. All 55 sites are found adjacent to cleared tracks that currently exist within the pastoral station.

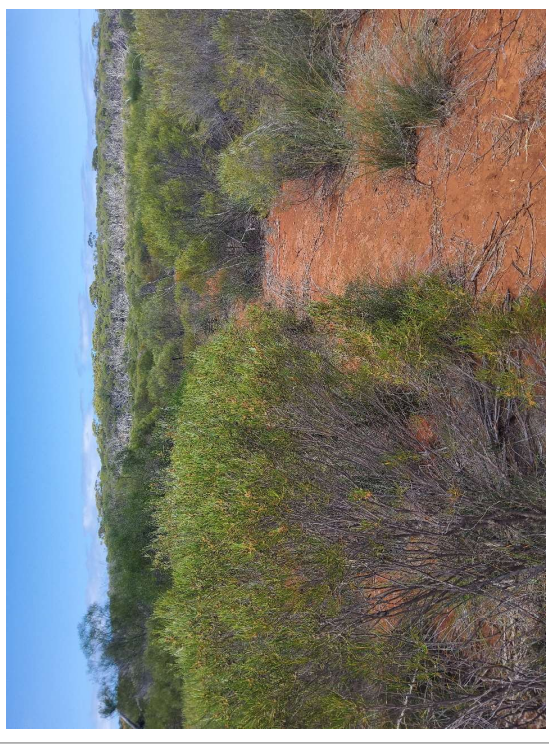

Table 3 Recorded vegetation types


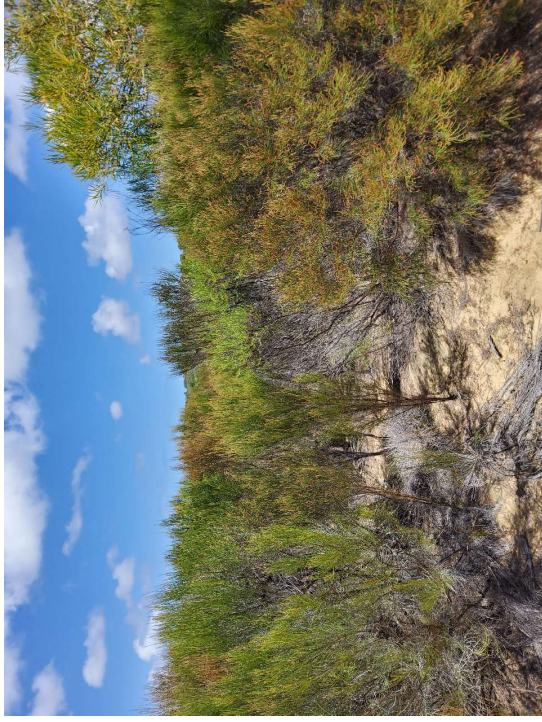
Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT01	<i>Melaleuca cardiophylla</i> shrubland on sand with rocky limestone outcropping and ridges. Associated species include <i>Olearia</i> sp. Kennedy Range (G. Byrne 66), <i>Rhagodia preissii</i> , <i>Acacia rostellifera</i> , <i>Ptilotus divaricatus</i> and <i>Alyogyne hakeifolia</i> .	Very good - excellent	Four total: – Site 28 (229905 E, 6967321 N) – Site 38 (210440 E, 6966557 N) – Site 54 (219482 E, 6960371 N) – Site 55 (218681 E, 6960454 N)	
VT02	<i>Acacia rostellifera</i> , <i>Acacia</i> sp, <i>Melaleuca systena</i> low shrubland over <i>Triodia</i> sp open hummock grassland on yellow sand with limestone on coastal undulating low rises. Associated species include <i>Olearia</i> sp. Kennedy Range (G. Byrne 66) and <i>Grevillea</i> sp.	Very good – excellent	10 total: – Site 15 (207238 E, 6972663 N) – Site 39 (209576 E, 6966523 N) – Site 40 (209123 E, 6966398 N) – Site 43 (213159 E, 6963628 N) – Site 57 (215017 E, 6959109 N) – Site 60 (214078 E, 6955977 N) – Site 61 (214811 E, 6956036 N) – Site 71 (217203 E, 6951975 N) – Site 72 (217066 E, 6950665 N) – Site 74 (218181 E, 6945131 N)	

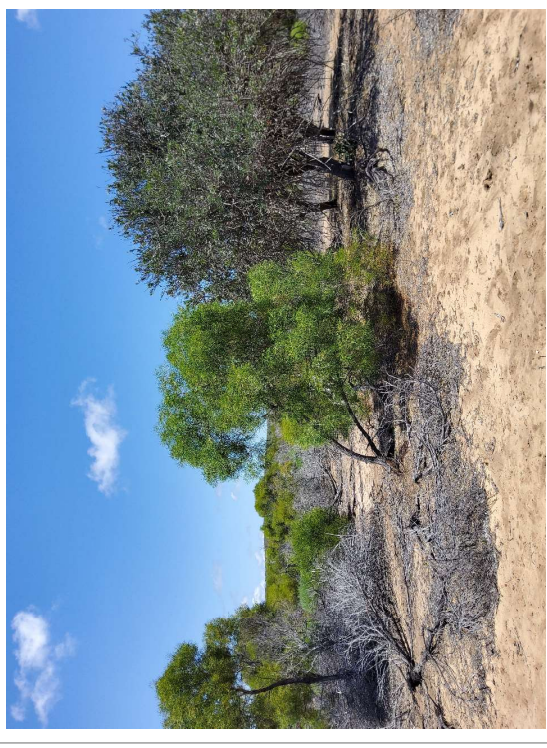

Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites Located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT03	<p><i>Banksia</i> sp., <i>Melaleuca</i> sp and <i>Grevillea</i> sp low shrubland over <i>Triodia</i> sp open hummock grassland over <i>Ecdeiocolea monostachya</i> sedges on yellow sand with occasional limestone.</p>	<p>Very good – excellent</p>	<p>Nine total: – Site 1 (205605 E, 6978105 N) – Site 14 (208320 E, 6972870 N) – Site 20 (209896 E, 6969897 N) – Site 62 (216427 E, 6955607 N) – Site 63 (217114 E, 6955380 N) – Site 64 (217879 E, 6955121 N) – Site 68 (217534 E, 6954337 N) – Site 69 (216859 E, 6954603 N)</p>	
VT04	<p><i>Frankenia</i> sp, <i>Mairenana</i> sp, <i>Atriplex</i> sp low shrubland on sand over limestone on coastal slopes and rises. Associated species include <i>Acanthocarpus preissii</i>, <i>Olearia axillaris</i> and <i>Scaevola</i> sp.</p>	<p>Very good – excellent</p>	<p>Six total: – Site 18 (206141 E, 6972014 N) – Site 19 (206018 E, 6971935 N) – Site 41 (208863 E, 6966287 N) – Site 42 (208848 E, 6965883 N) – Site 58 (213751 E, 6955606 N) – Site 59 (213818 E, 6955830 N)</p>	


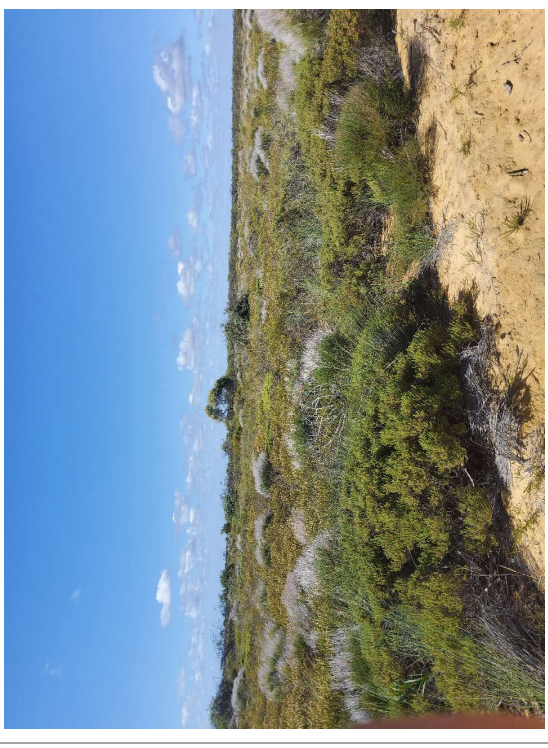
Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT05	<p><i>Alyxia buxifolia</i>, <i>Melaleuca cardiophylla</i> and <i>Exocarpos aphyllus</i> open shrubland on sandplain. Associated species include <i>Acanthocarpus preissii</i>, <i>Scaevola</i> sp. and <i>Olearia</i> sp. Kennedy Range (G. Byrne 66).</p>	<p>Very good – excellent</p>	<p>Two total: – Site 16 (206640 E, 6972374 N) – Site 17 (206334 E, 6972126 N)</p>	
VT06	<p><i>Melaleuca</i> sp, <i>Melaleuca cardiophylla</i> and <i>Alyxia buxifolia</i> low shrubland on sand on low rises. Associated species include <i>Atriplex</i> sp.</p>	<p>Very good – excellent</p>	<p>Three total: – Site 47 (222547 E, 6962847 N) – Site 49 (218153 E, 6961800 N) – Site 56 (218119 E, 6960814 N)</p>	



Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT07	<i>Allocasuarina campestris</i> , <i>Melaleuca cardiophylla</i> and <i>Melaleuca</i> sp shrubland on sand with limestone outcropping.	Very good – excellent	No investigation sites in this vegetation type	
VT08	<i>Eucalyptus loxophleba</i> subsp. <i>supralaevis</i> open woodland on sandy loam flats. Associated species include <i>Ptilotus obovatus</i> , <i>Maireana</i> sp and <i>Sclerolaena</i> sp.	Very good – excellent	Three total: – Site 46 (228222 E, 6962016 N) – Site 51 (227498 E, 6960272 N) – Site 52 (225304 E, 6957823 N)	

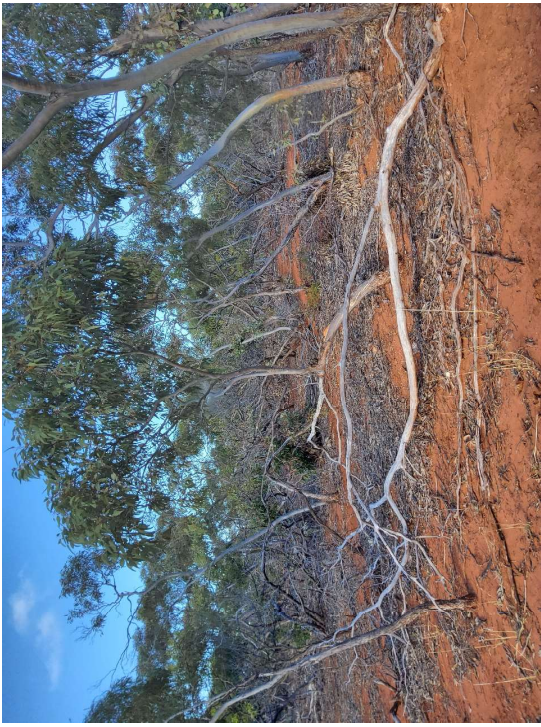

Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT09	<p><i>Melaleuca uncinata</i>, <i>Acacia</i> sp and <i>Allocasuarina campestris</i> shrubland with scattered <i>Eucalyptus</i> sp mallee over <i>Ecdicecolea monostachya</i> sedges on orange sandy loam on flats.</p>	<p>Very good – excellent</p>	<p>Three total: – Site 31 (229251 E, 6963520 N) – Site 66 (223606 E, 6956351 N) – Site 67 (223918 E, 6953745 N)</p>	
VT10	<p><i>Eucalyptus</i> sp mallee over <i>Banksia</i> sp, <i>Actinostrobilus</i> sp and <i>Malleostemon/Scholtzia</i> sp shrubland over <i>Triodia</i> sp open hummock grassland over <i>Ecdicecolea monostachya</i> sedges on sandy loam flats.</p>	<p>Very good – excellent</p>	<p>Two total: – Site 25 (222198 E, 6967880 N) – Site 65 (219481 E, 6954724 N)</p>	

Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites Located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT11	<i>Banksia</i> sp., <i>Xylomelum angustifolium</i> , <i>Allocasuarina campestris</i> and <i>Malleostemon/Scholtzia</i> sp shrubland on pale yellow sand.	Very good – excellent	<p>14 total:</p> <ul style="list-style-type: none"> – Site 3 (213811 E, 6981752 N) – Site 4 (217249 E, 6981909 N) – Site 5 (221170 E, 6981868 N) – Site 6 (225661 E, 6982295 N) – Site 7 (229906 E, 6982355 N) – Site 8 (236168 E, 6982497 N) – Site 9 (241109 E, 6982521 N) – Site 10 (232205 E, 6973122 N) – Site 23 (219397 E, 6969426 N) – Site 30 (233084 E, 6963974 N) – Site 36 (217758 E, 6966202 N) – Site 37 (216990 E, 6965578 N) – Site 44 (217746 E, 6963822 N) – Site 73 (222435 E, 6950291 N) 	
VT12	<i>Acacia</i> sp., <i>Allocasuarina campestris</i> , <i>Grevillea</i> sp over <i>Ecdiocolea monostachya</i> sedges on yellow sand plains. Associated species include <i>Hakea</i> sp and <i>Olearia</i> sp. Kennedy Range (G. Byrne 66).	Very good – excellent	<p>Two total:</p> <ul style="list-style-type: none"> – Site 35 (219254 E, 6966189 N) – Site 53 (221769 E, 6960141 N) 	

Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT13	<p><i>Acacia rostellifera</i> and <i>Santalum acuminatum</i> open shrubland on pale brown sand. Associated species include <i>Alectryon oleifolius</i> subsp. <i>oleifolius</i> and <i>Pimelea microcephala</i>.</p>	<p>Very good – excellent</p>	<p>One total: – Site 2 (209731 E, 6981568 N)</p>	
VT14	<p><i>Eucalyptus</i> sp mallee over <i>Allocasuarina campestris</i>, <i>Melaleuca uncinata</i> and <i>Banksia</i> sp shrubland over <i>Ecdicecolea monostachya</i> sedges on yellow sandplain. Associated species include <i>Grevillea</i> sp and <i>Dicrastylis</i> sp.</p>	<p>Very good – excellent</p>	<p>One total: – Site 29 (231053 E, 6966894 N)</p>	

Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT15	<p><i>Eucalyptus camaldulensis</i> scattered trees over <i>Acacia</i> sp and <i>Olearia</i> sp. Kennedy Range (G. Byrne 66) shrubland over <i>Triodia</i> sp on pale yellow sand close to claypan system.</p>	<p>Very good – excellent</p>	<p>One total: – Site 48 (218145 E, 6962790 N)</p>	
VT16	<p><i>Banksia</i> sp, <i>Grevillea</i> sp and <i>Actinostrobus</i> sp open shrubland over mixed low shrubland/heath over <i>Ecdicecolea monostachya</i> sedges on yellow sandplain. Associated species include <i>Melaleuca</i> sp, <i>Calytrix</i> sp and <i>Conospermum</i> sp.</p>	<p>Very good – excellent</p>	<p>Eight total: – Site 22 (217800 E, 6970207 N) – Site 24 (220745 E, 6968506 N) – Site 27 (227952 E, 6970427 N) – Site 32 (225304 E, 6966609 N) – Site 33 (223113 E, 6966162 N) – Site 34 (220732 E, 6966180 N) – Site 45 (222995 E, 6964461 N) – Site 50 (222142 E, 6961209 N)</p>	

Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT17	<i>Casuarina obesa</i> scattered trees over <i>Tecticornia</i> sp on brown clay on drainage claypan	Degraded	Three total: – Site 11 (230075 E, 6973402 N) – Site 12 (225585 E, 6973069 N) – Site 21 (216704 E, 6969252 N)	
VT18	<i>Eucalyptus</i> sp mallee over <i>Melaleuca</i> sp and <i>Olearia</i> sp, Kennedy Range (G. Byrne 66) shrubland on brown sandy loam.	Very good - excellent	No investigation sites in this vegetation type	

Vegetation Type	Vegetation Type Description	Condition and extent (ha)	Sites located in Vegetation Type (centroid of 30 m x 30 m proposed clearing)	Photograph
VT19	<i>Eucalyptus</i> sp mallee stands of mallee with limited understorey.	Very good - excellent	No investigation sites in this vegetation type	
Cleared	Cleared areas devoid of native vegetation (paths/roads)	Degraded	Two total: – Site 13 (223510 E, 6971572 N) – Site 26 (223022 E, 6967947 N)	

3.5.5 Significant ecological communities

The Threatened Ecological Community (TEC) / Priority Ecological Community (PEC) database did not identify any TEC/PECs occurring within the DE but did identify four PECs outside the DE, as follows and as shown in Figure 3-2:

- Kalbarri Ironstone Community (Priority 1): three known location, closest is approximately 15 km east of the southern region of the DE, other two known locations of this PEC are 25 km and 35 km southeast of the DE.
- Highway Land System (Priority 3): three known location, closest is approximately 15 km east of the northern region of the DE, other two known locations of this PEC are 22 km and 53 km east of the DE.
- Cullawarra Land System (Priority 3): known location is 45 km north west of the DE.
- Tamala Land System (Priority 3): known location is 46 km north west of the DE.

No TEC/PECs were recorded within the DE.

3.5.6 Flora diversity

The *NatureMap* (DBCA 2007-) database identified 1084 taxa previously recorded within a 40 km radius from the centre of the DE (114° 10' 40" E, 27° 22' 43" S), forming a study area encompassing the DE and the surrounding area. This total comprised of 1020 native taxa and 64 naturalised (introduced) taxa. Dominant families recorded included Myrtaceae (179 taxa), Fabaceae (102 taxa) and Proteaceae (75 taxa).

The *NatureMap* database search is provided in Appendix A.

3.5.7 Conservation significant flora

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) (DAWE 2021) and *NatureMap* (DBCA 2007-) database identified the presence/potential presence of 105 conservation significant flora within a 40 km radius of the DE. This included:

- 10 Threatened taxa
- Nine Priority 1 taxa
- 43 Priority 2 taxa
- 29 Priority 3 taxa
- 14 Priority 4 taxa.

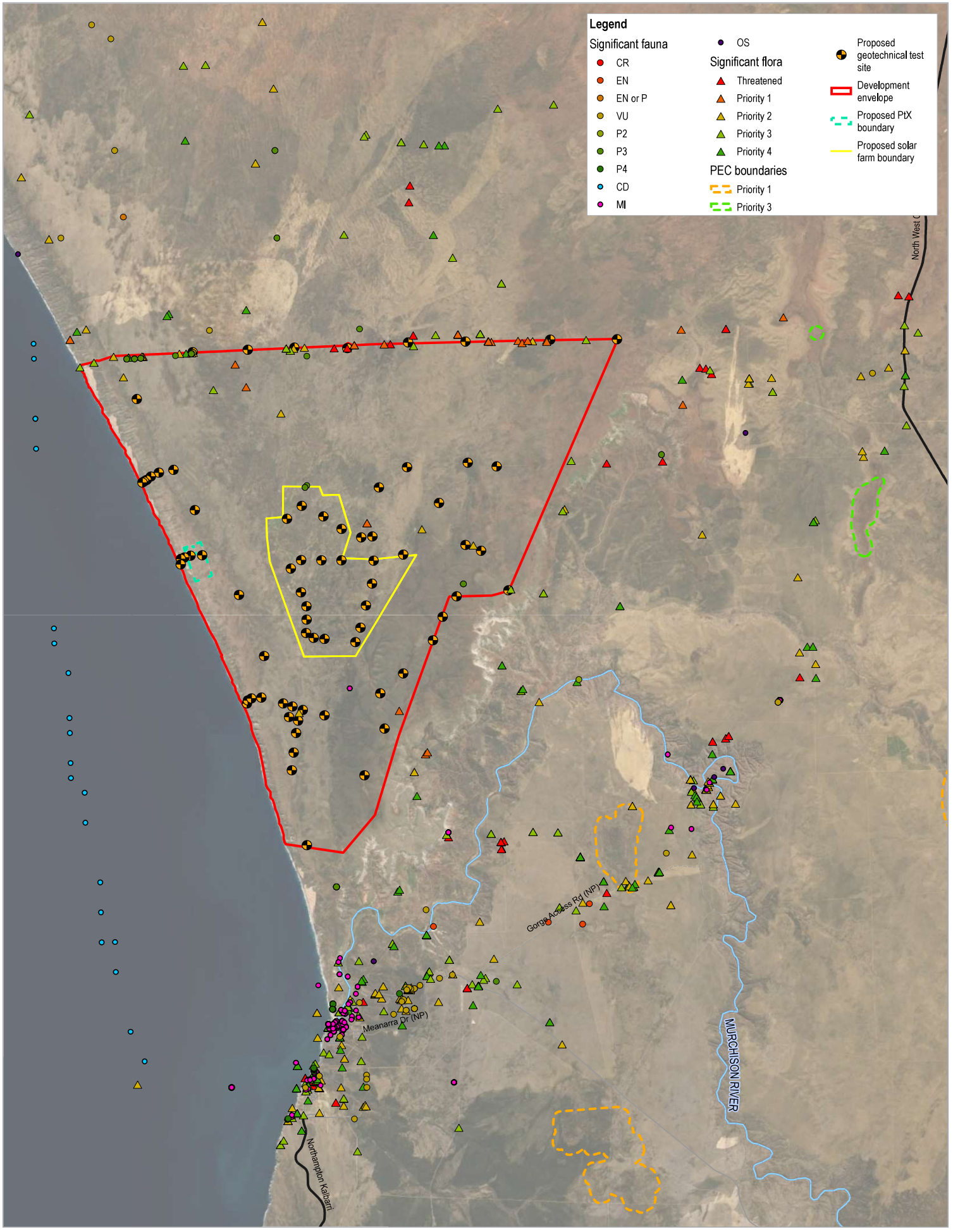
The flora and vegetation survey recorded no Threatened flora species listed under the EPBC Act and/or the *Biodiversity Conservation Act 2016* (BC Act) within the area proposed for geotechnical investigation sites. No DBCA listed Priority flora taxa were recorded within the proposed geotechnical investigation sites. The survey did locate populations of *Verticordia polytricha* (P4) and *Verticordia dichroma* var. *dichroma* (P3) within the DE, however, these populations did not extend into the proposed geotechnical investigation sites and were more than 50 m from the population boundary.

Likelihood of occurrence

The basic flora survey did not identify any Threatened or Priority flora within the geotechnical investigation sites. It is Unlikely that any conservation listed flora taxa would occur within the proposed geotechnical investigation sites.

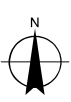
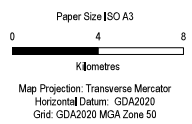
3.5.8 Weeds

The EPBC Act PMST (DAWE 2021) did not identify any Weeds of National Significance (WoNS) occurring within the DE or within a 5 km radius of the DE.



Legend

Significant fauna	● OS	● Proposed geotechnical test site
● CR	Significant flora	▭ Development envelope
● EN	▲ Threatened	▭ Proposed PTX boundary
● EN or P	▲ Priority 1	▭ Proposed solar farm boundary
● VU	▲ Priority 2	
● P2	▲ Priority 3	
● P3	▲ Priority 4	
● P4		
● CD	PEC boundaries	
● MI	▭ Priority 1	
	▭ Priority 3	



Murchison Hydrogen Renewables Project

Project No. 12553823
Revision No. 0
Date 22/12/2021

Environmental constraints

FIGURE 3-2

3.6 Fauna

3.6.1 Survey effort

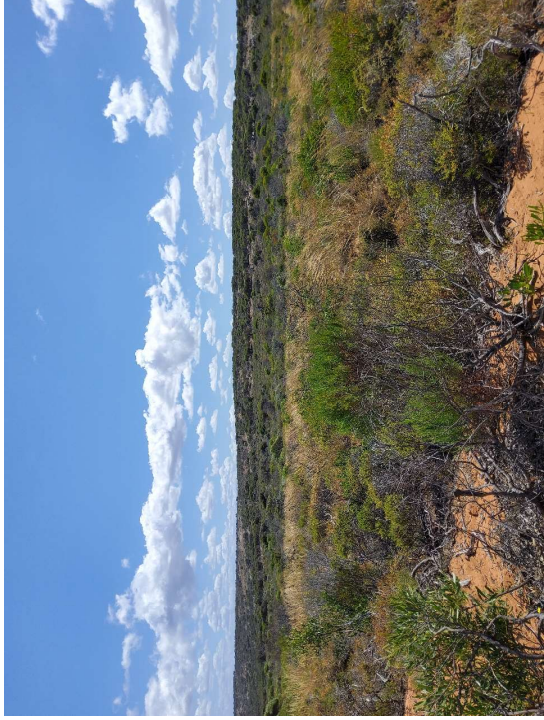
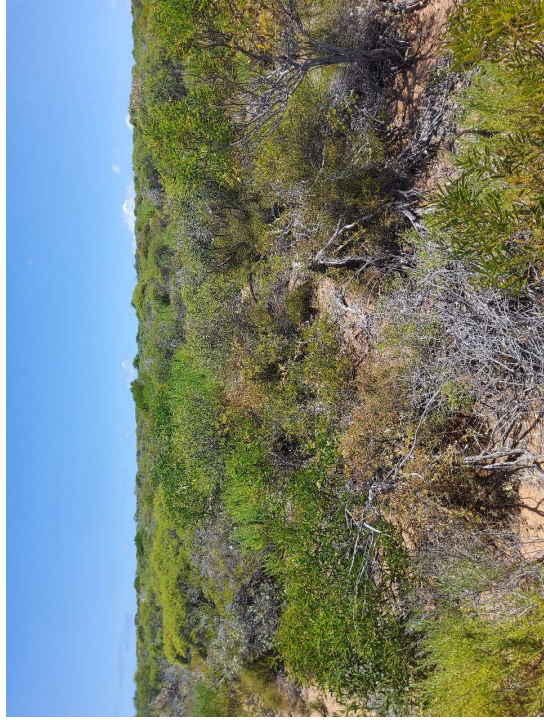
A basic fauna survey was undertaken by Senior Zoologist Glen Gaikhorst and Senior Botanist Joel Collins in Spring of 2021, from November 15 to November 19. The goal of this survey was to scope suitable sites for the geotechnical investigation, ensuring conservation significant fauna would be avoided.



Fauna habitats within the DE were assigned by reviewing vegetation types by a Senior Zoologist Glen Gaikhorst.

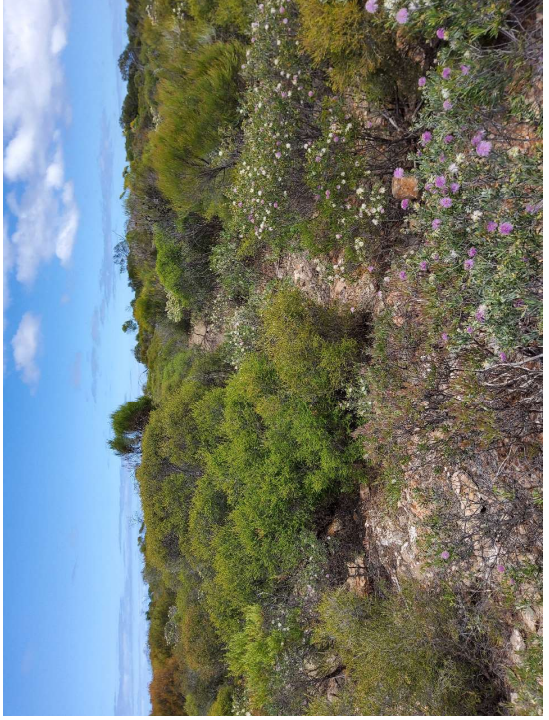

3.6.2 Fauna habitat


The site survey identified 12 broad fauna habitat types, excluding cleared areas, during a preliminary survey of proposed geotechnical investigation sites. The fauna habitats generally aligned with the vegetation types with some grouping of similar vegetation types. The fauna habitats are described in Table 4.


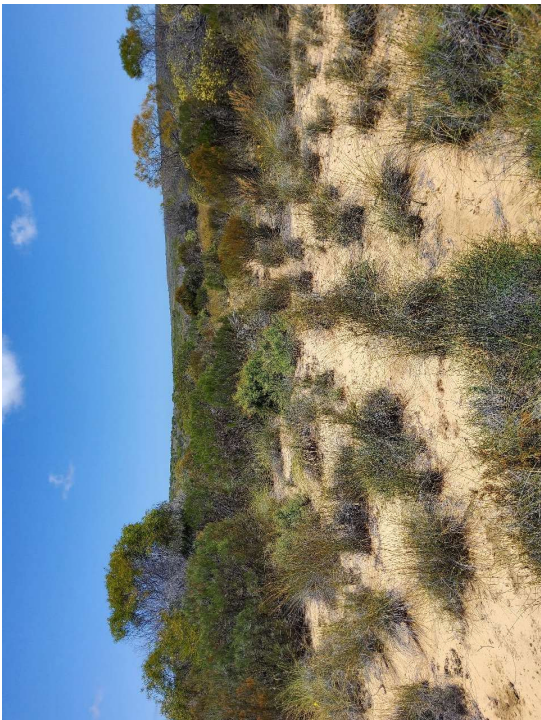
Table 4 Fauna habitat types within the survey area

Habitat type	Photograph	Sites located in habitat type
<p><i>Melaleuca cardiophylla</i> shrubland on sand with rocky limestone outcropping and ridges. Aligns with VT01.</p>		<p>Four total:</p> <ul style="list-style-type: none"> - Site 28 (229905 E, 6967321 N) - Site 38 (210440 E, 6966557 N) - Site 54 (219482 E, 6960371 N) - Site 55 (218681 E, 6960454 N)
<p>Mixed coastal shrublands over Triodia hummock grassland on yellow sand on limestone. Aligns with VT02, VT03 and VT05</p>		<p>21 total:</p> <ul style="list-style-type: none"> - Site 15 (207238 E, 6972663 N) - Site 39 (209576 E, 6966523 N) - Site 40 (209123 E, 6966398 N) - Site 43 (213159 E, 6963628 N) - Site 57 (215017 E, 6959109 N) - Site 60 (214078 E, 6955977 N) - Site 61 (214811 E, 6956036 N) - Site 71 (217203 E, 6951975 N) - Site 72 (217066 E, 6950665 N) - Site 74 (218181 E, 6945131 N) - Site 1 (205605 E, 6978105 N) - Site 14 (208320 E, 6972870 N) - Site 20 (209896 E, 6969897 N) - Site 62 (216427 E, 6955607 N) - Site 63 (217114 E, 6955380 N) - Site 64 (217879 E, 6955121 N) - Site 68 (217534 E, 6954337 N)

Habitat type	Photograph	Sites located in habitat type
<p><i>Frankenia</i> sp, <i>Mairenana</i> sp, <i>Atriplex</i> sp low shrubland on sand over limestone on coastal slopes and rises. Aligns with VT04.</p>		<ul style="list-style-type: none"> - Site 69 (216859 E, 6954603 N) - Site 16 (206640 E, 6972374 N) - Site 17 (206334 E, 6972126 N) <p>Six total:</p> <ul style="list-style-type: none"> - Site 18 (206141 E, 6972014 N) - Site 19 (206018 E, 6971935 N) - Site 41 (208863 E, 6966287 N) - Site 42 (208848 E, 6965883 N) - Site 58 (213751 E, 6955606 N) - Site 59 (213818 E, 6955830 N)
<p><i>Melaleuca</i> sp, <i>Melaleuca cardiophylla</i> and <i>Alyxia buxifolia</i> low shrubland on sand on low rises. Aligns with VT06.</p>		<p>Three total:</p> <ul style="list-style-type: none"> - Site 47 (222547 E, 6962847 N) - Site 49 (218153 E, 6961800 N) - Site 56 (218119 E, 6960814 N)

Habitat type	Photograph	Sites located in habitat type
<p><i>Allocasuarina campestris</i>, <i>Melaleuca cardiophylla</i> and <i>Melaleuca</i> sp shrubland on sand with limestone outcropping or orange sandy loam on flats. Aligns with VT07, VT09 and VT12.</p>		<p>Five total:</p> <ul style="list-style-type: none"> - Site 31 (229251 E, 6963520 N) - Site 66 (223606 E, 6956351 N) - Site 67 (223918 E, 6953745 N) - Site 35 (219254 E, 6966189 N) - Site 53 (221769 E, 6960141 N)
<p><i>Eucalyptus loxophleba</i> subsp. <i>supralaevis</i> open woodlands on loam flats. Aligns with VT08.</p>		<p>Three total:</p> <ul style="list-style-type: none"> - Site 46 (228222 E, 6962016 N) - Site 51 (227498 E, 6960272 N) - Site 52 (225304 E, 6957823 N)

Habitat type	Photograph	Sites located in habitat type
<p><i>Eucalyptus</i> sp mallee over <i>Banksia</i> sp, <i>Actinostrobus</i> sp and <i>Malleostemon/Scholtzia</i> sp shrubland over <i>Triodia</i> sp open hummock grassland over <i>Ecdicecolea monostachya</i> sedges on sandy loam flats. Aligns with VT10.</p>		<p>Two total:</p> <ul style="list-style-type: none"> - Site 25 (222198 E, 6967880 N) - Site 65 (219481 E, 6954724 N)
<p><i>Banksia</i> sp, <i>Xylomelum angustifolium</i>, <i>Allocasuarina campestris</i>, <i>Grevillea</i> sp and <i>Malleostemon/Scholtzia</i> sp shrublands and low heath on pale yellow sand. Aligns with VT 11, VT16.</p>		<p>22 total:</p> <ul style="list-style-type: none"> - Site 3 (213811 E, 6981752 N) - Site 4 (217249 E, 6981909 N) - Site 5 (221170 E, 6981868 N) - Site 6 (225661 E, 6982295 N) - Site 7 (229906 E, 6982355 N) - Site 8 (236168 E, 6982497 N) - Site 9 (241109 E, 6982521 N) - Site 10 (232205 E, 6973122 N) - Site 23 (219397 E, 6969426 N) - Site 30 (233084 E, 6963974 N) - Site 36 (217758 E, 6966202 N) - Site 37 (216990 E, 6965578 N) - Site 44 (217746 E, 6963822 N) - Site 73 (222435 E, 6950291 N) - Site 22 (217800 E, 6970207 N) - Site 24 (220745 E, 6968506 N) - Site 27 (227952 E, 6970427 N) - Site 32 (225304 E, 6966609 N)

Habitat type	Photograph	Sites located in habitat type
<p><i>Acacia rostellifera</i> and <i>Santalum acuminatum</i> open shrubland on pale brown sand. Aligns with VT13.</p>		<ul style="list-style-type: none"> - Site 33 (223113 E, 6966162 N) - Site 34 (220732 E, 6966180 N) - Site 45 (222995 E, 6964461 N) - Site 50 (222142 E, 6961209 N) <p>One total:</p> <ul style="list-style-type: none"> - Site 2 (209731 E, 6981568 N)
<p><i>Eucalyptus</i> sp mallee over mixed shrubland over sedges on yellow sandplain. Aligns with VT14 and VT18 and VT19.</p>		<p>One total:</p> <ul style="list-style-type: none"> - Site 29 (231053 E, 6966894 N)

Habitat type	Photograph	Sites located in habitat type
<p><i>Eucalyptus camaldulensis</i> scattered trees over mixed shrubland over <i>Triodia</i> sp on pale yellow sand close to claypan system. Align with VT15.</p>		<p>One total:</p> <ul style="list-style-type: none"> - Site 48 (218145 E, 6962790 N)
<p><i>Casuarina obesa</i> scattered trees over <i>Tecticornia</i> sp on brown clay on drainage claypan. Aligns with VT17.</p>		<p>Three total:</p> <ul style="list-style-type: none"> - Site 11 (230075 E, 6973402 N) - Site 12 (225585 E, 6973069 N) - Site 21 (216704 E, 6969252 N)

Habitat type	Photograph	Sites located in habitat type
<p>Cleared - areas devoid of native vegetation (paths/roads)</p>		<p>Two total:</p> <ul style="list-style-type: none"> - Site 13 (223510 E, 6971572 N) - Site 26 (223022 E, 6967947 N)

3.6.3 Fauna diversity

The *NatureMap* (DBCA 2007-) database identified 478 species previously recorded within a 40 km radius from the centre of the DE (114° 10' 40" E, 27° 22' 43" S), forming a study area encompassing the DE and the surrounding area. This total comprised nine amphibian, 153 bird, 91 fish, 133 invertebrate, 18 mammal and 74 reptile species. Of these species recorded, 472 are native and 6 are naturalised (introduced) species.

3.6.4 Conservation significant fauna

The *NatureMap* (DBCA 2007-) database and the EPBC Act PMST, considering the DE and a 5 km buffer (DAWE 2021), identified the presence/potential presence of 45 conservation significant fauna, Appendix B and Appendix C respectively. This total does not include those species that are exclusively marine as no marine habitat is present. The desktop assessment identified:

- 26 species listed as Threatened under the EPBC Act and/or BC Act
- Two species listed at Priority 3 under the BC Act
- Three species listed at Priority 4 under the BC Act
- 12 species protected under international agreement
- One species specially protected.

No threatened or priority fauna species or evidence of their presence were identified in the surveyed geotechnical sites within the proposed geotechnical sites.

Likelihood of occurrence

A likelihood of occurrence assessment was conducted post-field survey for the conservation significant fauna identified above in the desktop assessments. The likelihood of occurrence assessment concluded that 10 species are likely to occur, and the remaining species are highly unlikely to occur within the proposed geotechnical sites. Species likely to occur are listed in Table 5.

Table 5 Conservation significant fauna likely to occur in the clearing area

Conservation significant species	EPBC	DBCAs	Likelihood of occurrence
<i>Actitis hypoleucos</i> (Common Sandpiper)	IA	IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Anous tenuirostris melanops</i>	VU	EN	Highly Unlikely. There is no suitable habitat present in the DE
<i>Ardenna pacifica</i> (Wedge-tailed Shearwater)	IA	IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Arenaria interpres</i> (Ruddy Turnstone)	IA	IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Calidris alba</i> (Sanderling)	IA	IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Calidris canutus</i>	EN	EN	Highly Unlikely. There is no suitable habitat present in the DE
<i>Calidris ferruginea</i> (Curlew Sandpiper)	CE	T	Highly Unlikely. There is no suitable habitat present in the DE
<i>Calidris ruficollis</i> (Red-necked Stint)	IA	IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)	EN	T	Likely. Suitable foraging habitat is present within the DE, however, foraging evidence was not recorded during the survey. Breeding habitat was not present within the DE.
<i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	Highly Unlikely. There is no suitable habitat present in the DE
<i>Charadrius mongolus</i> (Lesser Sand Plover)		T	Highly Unlikely. There is no suitable habitat present in the DE
<i>Dasyurus geoffroyi</i> (Chuditch, Western Quoll)	VU	T	Likely. Suitable habitat is present and species is likely to disperse through the area in low numbers
<i>Egernia stokesii badia</i>	EN		Likely. Suitable habitat is present
<i>Falco hypoleucos</i>	VU		Likely. Suitable habitat is present
<i>Falco peregrinus</i> (Peregrine Falcon)		S	Likely. Suitable habitat is present
<i>Hydroprogne caspia</i> (Caspian Tern)		IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Idiosoma nigrum</i> (Shield-backed Trapdoor Spider)	VU	T	Likely. Suitable habitat is present
<i>Leipoa ocellata</i> (Malleefowl)	VU	T	Likely. Suitable habitat is present. The survey did not record malleefowl mounds within the DE.
<i>Lerista humphriesi</i> (taper-tailed West Coast slider (Murchison River), skink)		P3	Likely. Suitable habitat is present
<i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Limosa lapponica menzibieri</i>	CE		Highly Unlikely. There is no suitable habitat present in the DE
<i>Notamacropus eugenii</i> subsp. <i>derbianus</i> (Tamar Wallaby, Tamar)		P4	Likely. Suitable habitat is present
<i>Numenius madagascariensis</i>	CE		Highly Unlikely. There is no suitable habitat present in the DE
<i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	Highly Unlikely. There is no suitable habitat present in the DE

Conservation significant species	EPBC	DBC	Likelihood of occurrence
<i>Pletholax gracilis</i> subsp. <i>edelenis</i> (Keelless Lizard (Shark Bay))		P3	Likely. Suitable habitat is present
<i>Pluvialis squatarola</i> (Grey Plover)	EN	IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Rostratula australis</i>	VU	P4	Highly Unlikely. There is no suitable habitat present in the DE
<i>Sternula nereis nereis</i>	IA	IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Synemon gratiosa</i> (Graceful Sunmoth)		P4	Highly Unlikely. There is no suitable habitat present in the DE
<i>Thalasseus bergii</i> (Crested Tern)		P4	Highly Unlikely. There is no suitable habitat present in the DE
<i>Tringa brevipes</i> (Grey-tailed Tattler)		IA	Highly Unlikely. There is no suitable habitat present in the DE
<i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	Highly Unlikely. There is no suitable habitat present in the DE

Fauna likelihood of occurrence assessment guidelines

Assessment outcome	Description
Known	The species was recorded or has been recorded recently by reputable observers.
Likely	Species are likely to occur in the study area where there is suitable habitat within the study area and there are recent records of occurrence of the species in close proximity to the study area. OR Species known distribution overlaps with the study area and there is suitable habitat within the study area.
Unlikely	Species assessed as unlikely include those species previously recorded in the study area however: -There is limited (i.e. the type, quality and quantity of the habitat is generally poor or restricted) habitat in the study area. -The suitable habitat within the study area is isolated from other areas of suitable habitat and the species has no capacity to migrate into the study area. OR Those species that have a known distribution overlapping with the study area however: -There is limited habitat in the study area (i.e. the type, quality and quantity of the habitat is generally poor or restricted). -The suitable habitat within the study area is isolated from other areas of suitable habitat and the species has no capacity to migrate into the study area.
Highly unlikely	Species that are considered highly unlikely to occur in the study area include: -Those species that have no suitable habitat within the study area. -Those species that have become locally extinct, or are not known to have ever been present in the region of the study area.

Fauna likelihood of occurrence assessment term definitions

Term	Description
Desktop study area	A 5 km buffer area around the study area
Study area	Development Envelope (DE)
CR	Critically endangered
EN	Endangered
VU	Vulnerable
IA	International Agreement – listed as a migratory species
Mi	Migratory
CD	Conservation dependent
OS	Other specially protected fauna
P1 – P4	Priority 1 – Priority 4. Threatened and Priority fauna ranking
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
BC Act	<i>Biodiversity Conservation Act 2016</i>
DBCA	Department of Biodiversity, Conservation and Attractions

3.7 Conservation areas

The DE does not intersect any DBCA managed land or water areas. The closest DBCA managed land areas are Zuytdorp Nature Reserve, 3 km north of the DE, and Kalbarri National Park, 10 km southeast of the DE (GoWA 2021X) (Figure 2-1).

3.8 Environmentally sensitive areas

No Environmentally Sensitive Areas (ESAs) intersect or are adjacent to the DE. Two ESAs do exist to the North and south of the DE, at a distance of 3 km and 10 km respectively (GoWA 2021X).

4. Assessment of impacts

4.1 Potential impacts to vegetation and flora

4.1.1 Vegetation

Potential impacts to vegetation include:

- Removal of approximately 5 ha of vegetation for geotechnical locations
- Introduction or spread of weeds on site
- Dust impacts to adjacent vegetation

With the 79,963 ha DE the total proposed clearing is 5 ha, this represents less than 0.001% of the DE.

The vegetation types and associated condition for each type proposed to be cleared for the works is detailed in Table 6.

Table 6 Extent of vegetation clearing

Vegetation Type	Condition and extent (ha)	Number of Geotechnical sites	Total of VT in proposed investigation sites (ha)
VT01	Very good - excellent	Four	0.36
VT02	Very good – excellent	10	0.9
VT03	Very good – excellent	Nine	0.81
VT04	Very good – excellent	Six	0.54
VT05	Very good – excellent	Two	0.18
VT06	Very good – excellent	Three	0.27
VT07	Very good – excellent	No investigation sites in this vegetation type	-
VT08	Very good – excellent	Three	0.27
VT09	Very good – excellent	Three	0.27
VT10	Very good – excellent	Two	0.18
VT11	Very good – excellent	14	1.26
VT12	Very good – excellent	Two	0.18
VT13	Very good – excellent	One	0.09
VT14	Very good – excellent	One	0.09
VT15	Very good – excellent	One	0.09
VT16	Very good – excellent	Eight	0.72
VT17	Degraded	Three	0.27
VT18	Very good - excellent	No investigation sites in this vegetation type	-
VT19	Very good - excellent	No investigation sites in this vegetation type	-
Total			6.48

4.1.2 Flora

No priority flora is proposed to be cleared within the DE. The location of the investigation sites was designed to ensure significant flora species in the clearing area were avoided. For all Priority flora within the DE, at least a 50 m buffer has been applied to ensure priority flora are a sufficient distance from clearing areas.

4.2 Potential impacts to fauna and fauna habitat

Potential impacts to fauna and fauna habitat include:

- Removal of up to 5 ha of fauna habitat
- Vehicle strike
- Decline in fauna habitat due to introduction and/or spread of weeds

There is potential for fauna diversity and fauna habitat to be impacted by clearing activities. However, clearing 5 ha amounts less than 0.001% of the DE being cleared (GoWA 2020X). The fauna habitat types within the DE will remain well connected and part of a larger contiguous landscape of similar habitats within the local area and surrounding region.

Table 7 describes the extent of clearing within each fauna habitat type.

Table 7 Extent of clearing within each fauna habitat

Fauna habitat	Number of Geotechnical sites	Total habitat in proposed investigation sites (ha)
<i>Melaleuca cardiophylla</i> shrubland on sand with rocky limestone outcropping and ridges. Aligns with VT01.	Four total	0.36
Mixed coastal shrublands over <i>Triodia</i> hummock grassland on yellow sand on limestone. Aligns with VT02, VT03 and VT05	21 total	1.89
<i>Frankenia</i> sp, <i>Mairenana</i> sp, <i>Atriplex</i> sp low shrubland on sand over limestone on coastal slopes and rises. Aligns with VT04.	Six total	0.54
<i>Melaleuca</i> sp, <i>Melaleuca cardiophylla</i> and <i>Alyxia buxifolia</i> low shrubland on sand on low rises. Aligns with VT06.	Three total	0.27
<i>Allocasuarina campestris</i> , <i>Melaleuca cardiophylla</i> and <i>Melaleuca</i> sp shrubland on sand with limestone outcropping or orange sandy loam on flats. Aligns with VT07, VT09 and VT12.	Five total	0.45
<i>Eucalyptus loxophleba</i> subsp. <i>supralaevis</i> open woodlands on loam flats.	Three total	0.27
<i>Eucalyptus</i> sp mallee over <i>Banksia</i> sp, <i>Actinostrobos</i> sp and <i>Malleostemon/Scholtzia</i> sp shrubland over <i>Triodia</i> sp open hummock grassland over <i>Ecdeiocolea monostachya</i> sedges on sandy loam flats. Aligns with VT10.	Two total	0.18
<i>Banksia</i> sp, <i>Xylomelum angustifolium</i> , <i>Allocasuarina campestris</i> , <i>Grevillea</i> sp and <i>Malleostemon/Scholtzia</i> sp shrublands and low heath on pale yellow sand. Aligns with VT 11, VT16.	22 total	1.98
<i>Acacia rostelifera</i> and <i>Santalum acuminatum</i> open shrubland on pale brown sand. Aligns with VT13.	One total	0.09
<i>Eucalyptus</i> sp mallee over mixed shrubland over sedges on yellow sandplain. Aligns with VT14 and VT18 and VT19.	One total	0.09
<i>Eucalyptus camaldulensis</i> scattered trees over mixed shrubland over <i>Triodia</i> sp on pale yellow sand close to claypan system. Align with VT15.	One total	0.09
<i>Casuarina obesa</i> scattered trees over <i>Tecticornia</i> sp on brown clay on drainage claypan. Aligns with VT17.	Three total	0.27
Total	74	6.48

4.3 Potential impacts to erosion, flooding and salinity

There is potential for erosion, flooding and salinity impacts during the geotechnical works. The clearing area comprises of 5 ha within a DE of 79,963 ha, which amounts to 0.001% clearing footprint within the DE.

Given the relatively small amount of hectares to be cleared and the relative distance between small clearings, there is an insignificant impact to erosion, flooding and salinity within the broader area, particularly given that clearing sites will be located adjacent to existing tracks and

No riparian vegetation will be cleared and there will be no disturbance to any drainage lines.

The current surface water hydrology is free-draining sand without pronounced watercourses. The surface water hydrological environment is expected to be maintained. No increased incidence of flooding increase salinity or erosion along drainage lines is likely to occur as a result of the proposed clearing due to the limited clearing extents over the length of the DE.

5. Environmental management framework

Murchison Hydrogen Renewables will use the hierarchy of avoid, minimise, reduce and rehabilitate to mitigate the environmental impacts of the geotechnical works. Potential impacts to the following environmental factors have been considered during avoidance, mitigation and establishing appropriate management efforts:

- Vegetation and flora
- Fauna habitat.

Impact avoidance, mitigation and management measures are detailed in Section 5.1.1 to Section 5.2.1.

5.1 Impact avoidance and minimisation through design

5.1.1 Flora and Vegetation

Flora and vegetation loss has been avoided through design of the geotechnical locations, which are all on or adjacent to existing access tracks within the DE. When considering placement of the geotechnical tests, a site by site assessment with designers, geotechnicians and the environmental team occurred, to identify constraints and the most practicable location of the geotechnical sites, using existing access tracks and existing cleared areas wherever possible.

No proposed test pits are located within VT7, VT18 or VT19.

Impacts to flora and vegetation will be minimised by selecting existing access tracks and sparsely vegetated or bare soil access tracks and borehole/ test pit locations where possible during geotechnical works.

Conservation significant areas to be avoided will be provided to the geotechnical team in hard copy and digital format to ensure sites of environmental significance are avoided in the field when deciding the location of boreholes, test pits and access tracks within the geotechnical corridor.

Priority flora have at least a 50 m buffer away from clearing areas

5.2 Impact avoidance and management measures applied on site

5.2.1 Loss of flora, vegetation and fauna habitat

The following avoidance strategies will be adopted onsite during the geotechnical investigation:

- The geotechnical team will utilise existing tracks and roads where possible, only veering off existing tracks and roads at approximately 500 - 700 m intervals with an access track width of approximately 20 meters to allow for the drill rig and light vehicle access to borehole locations. Vegetation will be driven over and not removed, where practicable.
- Preference will be given to Degraded or already cleared vegetation in proximity to access tracks when selecting borehole locations.
- Boreholes are to be capped and the cleared drill pad area will have topsoil reinstated to facilitate natural regrowth.
- Upon the conclusion of drilling each borehole, the same access track will be used to return to the main road. Preference will be given to Degraded or already cleared vegetation when selecting access tracks where terrain allows.
- All vehicles will be cleaned before entering site to mitigate the risk of weeds entering the site or spreading.

6. Assessment against the 10 clearing principles

The clearing of vegetation in Western Australia is regulated by DWER and requires a permit under Part V of the EP Act, except when a project is assessed under Schedule 6 of the Act or is prescribed by regulation in the Environmental Protection (Clearing Native Vegetation) Regulations 2004.

In making a decision about a clearing permit application under section 51O of the EP Act, the CEO of DWER must consider the clearing principles contained in Schedule 5 of the EP Act so far as they are relevant to the matter under consideration. The ten clearing principles aims to ensure that potential impacts resulting from removal of native vegetation can be assessed holistically.

To support the NVCP application for the geotechnical investigation project, an assessment of the proposed clearing against the ten clearing principles outlined in Schedule 5 of the EP Act has been undertaken and presented in Table 8.

The assessment was undertaken with reference to DWER guideline *A guide to the assessment of applications to clear native vegetation under Part V Division 2 of the Environmental Protection Act 1986* (DWER 2014).

This assessment concluded the proposed clearing associated with the geotechnical investigative works is unlikely to be at variance to any clearing principles.

Table 8 Assessment against the ten clearing principles

Clearing principle	Assessment of impacts	Outcome
<p>(a) Native vegetation should not be cleared if it comprises a high level of biological diversity</p>	<p>Broad scale (1:250,000) pre-European vegetation mapping (Beard 1975) identifies eight vegetation associations are present within the DE. These associations are all well represented within the region with at least 83% of the pre-European vegetation extent remaining for most vegetation associations, except 380 and 408 which have approximately 60% and 45% of their pre-European extent remaining. No clearing will be occurring in association 408 and the clearing in association 380 will be less than 0.001% of the remaining extent.</p> <p>The vegetation within the DE is primarily <i>acacia/melaleuca</i> shrublands and areas of open woodland and is consistent and contiguous with native vegetation to the north, east and south. The vegetation present is also expected to be represented with conservation tenure including the Zuytdorp Nature Reserve (3 km north of the DE) and Kalbarri National Park (10 km southeast of the DE).</p> <p>The <i>NatureMap</i> (DBCA 2007-) database identified 1084 taxa previously recorded within a 40 km radius from the centre of the DE. This total comprised of 1020 native taxa and 64 naturalised (introduced) taxa. Dominant families recorded included Myrtaceae (179 taxa), Fabaceae (102 taxa) and Proteaceae (75 taxa).</p> <p>The EPBC Act PMST and NatureMap database identified the presence/potential presence of 105 conservation significant flora within a 40 km radius of the DE. This included:</p> <ul style="list-style-type: none"> - 10 Threatened taxa - Nine Priority 1 taxa - 43 Priority 2 taxa - 29 Priority 3 taxa - 14 Priority 4 taxa. <p>All of the 74 potential geotechnical test pits were inspected, which determined that no Threatened flora species listed under the EPBC Act and/or the BC Act within the area proposed for geotechnical investigation sites. During the site inspections, one Priority species listed by the DBCA were recorded. As a result, the test site was relocated to an area within Priority flora. On this basis no Priority flora are proposed to be cleared.</p> <p>The preliminary survey of the geotechnical sites identified 20 vegetation types, primarily in excellent condition but with the cleared vegetation type being completely degraded. The test sites were specifically chosen to minimise clearing requirements and have been located on or adjacent to existing access tracks, specifically in areas that are already cleared or are partially cleared with lower diversity.</p> <p>The native vegetation to be cleared is comprised of vegetation types and taxa typical to the region. The native vegetation is not considered to comprise a high level of biological diversity compared to the surrounding area and is anticipated to regrow in these areas. It is, therefore, considered that the clearing is unlikely to be at variance with this principle.</p>	<p>The proposed clearing is unlikely to be at variance to this principle.</p>
<p>(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.</p>	<p>A NatureMap database search identified 478 species previously recorded within a 40 km radius of the DE. This total comprised</p> <ul style="list-style-type: none"> - nine amphibian - 153 bird 	<p>The proposed clearing is unlikely to be at</p>

Clearing principle	Assessment of impacts	Outcome
	<ul style="list-style-type: none"> - 91 fish - 133 invertebrate - 18 mammal - 74 reptile species. <p>Of these species recorded, 472 are native and 6 are naturalised (introduced) species.</p> <p>A search of the EPBC Act PMST and NatureMap database identified the presence/potential presence of 45 conservation significant fauna within a 40 km buffer of the DE (excluding). This total does not include those species that are exclusively marine as no marine habitat is present. The desktop assessment identified:</p> <ul style="list-style-type: none"> - 26 species listed as Threatened under the EPBC Act and/or BC Act - Two species listed at Priority 3 under the BC Act - Three species listed at Priority 4 under the BC Act - 12 species protected under international agreement - One species specially protected. <p>The likelihood assessment determined that 10 of these species were likely to occur within the DE. The survey conducted during the preliminary site visit identified Grass wren – northwest coast; however, this was outside of the identified test pit locations.</p> <p>No Threatened or Priority fauna species or evidence of their presence were identified in the surveyed geotechnical sites within the DE.</p> <p>There is potential for fauna diversity and fauna habitat to be impacted by clearing activities. Removal of approximately 5 ha of habitat suitable amounts to less than 0.01% of the DE. The fauna habitat types within the DE will remain well connected and part of a larger contiguous landscape of similar habitats within the local area and surrounding region. Habitats present within the DE are well represented in the local and regional area given the extent of native vegetation adjacent to the DE footprint, and in nearby conservation areas.</p> <p>The DE is unlikely to support significant locally or regionally unique habitat for indigenous fauna dependent on the habitats present in within the DE.</p> <p>The clearing will be small 30 x 30 m test pit sites spread throughout the DE. The proposed clearing is unlikely to have significant impact on the fauna habitat for conservation significant fauna.</p> <p>The proposed clearing is unlikely to be at variance with this principle.</p>	<p>variance to this principle.</p>
<p>(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora</p>	<p>The EPBC Act PMST and NatureMap database identified the presence/potential presence of 105 conservation significant flora within a 40 km radius of the DE. This included:</p> <ul style="list-style-type: none"> - 10 Threatened taxa - Nine Priority 1 taxa - 43 Priority 2 taxa - 29 Priority 3 taxa - 14 Priority 4 taxa. 	<p>The proposed clearing is unlikely to be at variance to this principle.</p>

Clearing principle	Assessment of impacts	Outcome
	<p>All of the 74 potential geotechnical test pits were inspected, which determined that no Threatened flora species listed under the EPBC Act and/or the BC Act within the area proposed for geotechnical investigation sites. During the site inspections, one Priority species listed by the DBCA were recorded. As a result, the test site was relocated to an area within Priority flora. On this basis no Priority flora are proposed to be cleared.</p> <p>The proposed clearing is unlikely to be at variance with this principle. ✓</p>	
(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community	<p>The Threatened Ecological Community (TEC) / Priority Ecological Community (PEC) database did not identify any TEC/PECs occurring within the DE but did identify two PECs outside the DE. One occurring approximately 15 km to the southeast and the other 15 km east of the DE.</p> <p>The proposed clearing is unlikely to be at variance with this principle. ✓</p>	The proposed clearing is unlikely to be at variance to this principle.
(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared	<p>Broad scale (1:250,000) pre-European vegetation mapping (Beard 1975) identifies eight vegetation associations are present within the DE. These associations are all well represented within the region with at least 83% of the pre-European vegetation extent remaining for most vegetation associations, except 380 and 408 which have approximately 60% and 45% of their pre-European extent remaining. No clearing will be occurring in association 408 and the clearing in association 380 will be less than 0.001% of the remaining extent.</p> <p>The vegetation within the DE is primarily acacia/melaleuca shrublands and areas of open woodland and is consistent and contiguous with native vegetation to the north, east and south. The vegetation present is also expected to be represented with conservation tenure including the Zuytdorp Nature Reserve (3 km north of the DE) and Kalbarri National Park (10 km southeast of the DE).</p> <p>Removal of approximately 5 ha of habitat suitable amounts to less than 0.01% of the DE.</p> <p>The proposed clearing is unlikely to be at variance with this principle. ✓</p>	The proposed clearing is unlikely to be at variance to this principle.
(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland	<p>The test pit sites have all been determined to avoid watercourses or associated vegetation. There will be no clearing of any vegetation associated with watercourses.</p> <p>The proposed clearing is unlikely to be at variance with this principle. ✓</p>	Not at variance to this principle.
(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation	<p>The underlying soil type is primarily sandy with limited drainage structures throughout the DE. The test sites have all been located on flat areas that are adjacent to existing tracks on flat locations. The test pits will be filled and flattened and then allowed to rehabilitate.</p> <p>There are no ASS in the DE and not chance.</p> <p>The proposed clearing is unlikely to be at variance with this principle. ✓</p>	The proposed clearing is unlikely to be at variance to this principle.
(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area	<p>The DE does not intersect any nearby conservation areas, Zuytdorp Nature Reserve or Kalbarri National Park. No clearing will be undertaken within these conservation areas.</p> <p>The proposed clearing is unlikely to impact the environmental values of Zuytdorp Nature Reserve or Kalbarri National Park. ✓</p>	Not at variance to this principle.
(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water	<p>No Internationally (Ramsar) or Nationally Important Wetlands intersect the DE.</p> <p>The DE is located within the proclaimed Gascoyne Groundwater Area.</p> <p>The DE does not intersect any surface water areas or rivers proclaimed under the RIWI Act. ✓</p>	Not at variance to this principle.

Clearing principle	Assessment of impacts	Outcome
	<p>It is considered unlikely any clearing will significantly disturb or interrupt natural drainage and surface run-off patterns. However, during heavy localised rainfall events, erosion may occur in cleared areas resulting in localised, short-term soil erosion and/or sedimentation. It is unlikely clearing will have an impact on groundwater levels or quality. The proposed activity associated with the clearing will not alter the current hydrological regime within the DE due to the relatively minimal clearing proposed within an area causing minimal sheetflow over a short time scale, with adequate surrounding native vegetation to allow water to infiltrate.</p> <p>The proposed clearing is unlikely to cause deterioration in surface water and ground water quality.</p>	
(k) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding	<p>The underlying soil type is primarily sandy with limited drainage structures throughout the DE. The test sites have all been located on flat areas that are adjacent to existing tracks on flat locations. The test pits will be filled and flattened and then allowed to rehabilitate.</p> <p>The proposed clearing is unlikely to be at variance with this principle.</p>	Not at variance to this principle.

7. Other approvals

7.1 Aboriginal heritage

Aboriginal heritage sites have been identified from an assessment of public databases and consultation with traditional owners. The location of geotechnical test sites has been designed to avoid identified heritage sites. As such, site disturbance approvals under the *Aboriginal Heritage Act 1972* are not considered necessary.

The geotechnical test sites are considered low risk in terms of heritage sites, as they are all located in or adjacent to disturbed areas.

7.2 Referral to the department of Agriculture, Water and Environment

The decision whether to refer the geotechnical works to DAWE is based upon whether it may have a significant affect Matter of National Environmental Significance (MNES), which are protected EPBC Act. These include; World Heritage properties, National Heritage places, wetlands of international importance (listed under the Ramsar convention), Commonwealth land or marine areas, migratory species protected under international agreements, nuclear actions, nationally threatened species and ecological communities and water resources.

GHD conducted an assessment of significant impacts on MNES for the works. Based on this assessment there are no obvious triggers to suggest referral of the project to DAWE (GHD 2020b). The geotechnical works will not have a significant impact on MNES or impact Commonwealth land and therefore referral is not required.

7.3 Referral to the Environmental Protection Authority

The proposed clearing to support geotechnical works does not have sufficient environmental impacts such to warrant referral to the EPA under Part IV of the EP Act. Environmental impacts can be adequately managed under Part V of the EP Act via a clearing permit.

Murchison Hydrogen Renewables has commenced consultation with the EPA regarding referral of the entire project; however, no referral has been submitted. The consultation with the EPA included the requirement to undertake an initial geotechnical investigation prior to referral under Part IV of the EP Act.

8. Offsets

Environmental offsets are conservation actions that provide environmental benefits intended to counterbalance significant residual environmental impacts associated with a proposal (GoWA 2014).

Murchison Hydrogen Renewables have considered requirements to counterbalance the residual impacts through environmental offsets for geotechnical works. Consideration has been given to requirements of the Western Australian Government's Environmental Offset Policy (GoWA 2011) and the Western Australian Offsets Guidelines (GoWA 2014).

Murchison Hydrogen Renewables operates on a hierarchy of avoid, minimize, reduce, rehabilitate and offset environmental impacts. This hierarchy is achieved primarily through changes in scope and design, development and implementation of the environmental management plans or strategies and finally, if required, development of an offset proposal. Application of the management hierarchy has been documented throughout this document.

The assessment against the ten clearing principles concluded the proposed clearing is not at variance with any of the ten clearing principles. Therefore, offsets are not proposed to compensate for the residual impacts associated with the proposed clearing.

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Appendices

Appendix A

NatureMap flora species report

40km NatureMap Flora Report

Created By Guest user on 24/11/2021

Kingdom Plantae
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 114° 10' 40" E, 27° 22' 43" S
Buffer 40km
Group By Conservation Status

Conservation Status	Species	Records
Non-conservation taxon	979	3941
Priority 1	9	34
Priority 2	43	204
Priority 3	29	132
Priority 4	14	97
Rare or likely to become extinct	10	50
TOTAL	1084	4458

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Rare or likely to become extinct				
1.	40911 <i>Androcalva bivillosa</i>		T	
2.	4599 <i>Beyeria lepidopetala</i> (Short-petalled Beyeria)		T	
3.	19218 <i>Caladenia barbarella</i>		T	
4.	15337 <i>Caladenia bryceana</i> subsp. <i>cracens</i>		T	
5.	13618 <i>Caladenia elegans</i>		T	
6.	1620 <i>Caladenia wanosa</i> (Kalbarri Spider Orchid)		T	
7.	13633 <i>Drakaea concolor</i>		T	
8.	5560 <i>Eucalyptus beardiana</i> (Beard's Mallee)		T	
9.	5821 <i>Hypocalymma longifolium</i>		T	
10.	7570 <i>Lechenaultia chlorantha</i> (Kalbarri Leschenaultia)		T	
Priority 1				
11.	14262 <i>Chamelaucium</i> sp. <i>Coolcalalaya</i> (A.H. Burbidge 4233)		P1	
12.	46361 <i>Desmocladius ferruginipes</i>		P1	
13.	2840 <i>Macarthuria georgeana</i>		P1	
14.	46595 <i>Malleostemon nerrenensis</i>		P1	
15.	37680 <i>Micromyrtus collina</i>		P1	
16.	19907 <i>Pileanthus aurantiacus</i>		P1	Y
17.	20449 <i>Scaevola</i> sp. <i>Golden hairs</i> (D. & B. Bellairs 1450 A)		P1	Y
18.	14350 <i>Thryptomene</i> sp. <i>Carrarang</i> (M.E. Trudgen 7420)		P1	
19.	12438 <i>Verticordia lepidophylla</i> var. <i>quantula</i>		P1	
Priority 2				
20.	14077 <i>Acacia gelasina</i>		P2	
21.	11375 <i>Acacia leptospermoides</i> subsp. <i>obovata</i>		P2	
22.	14145 <i>Acacia stereophylla</i> var. <i>cylindrata</i>		P2	
23.	1768 <i>Adenanthos acanthophyllus</i>		P2	
24.	7830 <i>Angianthus microcephalus</i> (Small-headed Angianthus)		P2	
25.	20695 <i>Astroloma</i> sp. <i>Kalbarri</i> (D. & B. Bellairs 1368)		P2	
26.	5368 <i>Baeckea subcuneata</i>		P2	
27.	30231 <i>Bossiaea inundata</i>		P2	
28.	44895 <i>Caladenia longicauda</i> subsp. <i>minima</i>		P2	
29.	40823 <i>Calandrinia vernicosa</i>		P2	
30.	35802 <i>Calothamnus cupularis</i>		P2	
31.	5464 <i>Calytrix harvestiana</i>		P2	
32.	5470 <i>Calytrix paucicostata</i>		P2	
33.	5475 <i>Calytrix purpurea</i>		P2	
34.	7934 <i>Chthonocephalus tomentellus</i>		P2	
35.	4794 <i>Cryptandra glabriflora</i>		P2	
36.	29556 <i>Enekbatus cristatus</i>		P2	
37.	38240 <i>Geleznowia</i> sp. <i>Red Bluff</i> (A. Crawford ADC 597)		P2	

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
38.	2097 <i>Grevillea stenomera</i> (Lace Net Grevillea)		P2	
39.	6863 <i>Hemigenia pimelifolia</i>		P2	
40.	46593 <i>Malleostemon costatus</i>		P2	
41.	46825 <i>Malleostemon microphyllus</i>		P2	
42.	19382 <i>Melaleuca boeophylla</i>		P2	
43.	5945 <i>Melaleuca oldfieldii</i>		P2	
44.	14220 <i>Millotia jacksonii</i>		P2	
45.	2257 <i>Persoonia brachystylis</i> (Short-styled <i>Persoonia</i>)		P2	
46.	16339 <i>Platysace</i> sp. Kalbarri (D. & B. Bellairs 1383)		P2	
47.	12580 <i>Scaevola chrysopogon</i>		P2	
48.	16277 <i>Schoenus</i> sp. Kalbarri (K.R. Newbey 9352)		P2	
49.	49109 <i>Scholtzia corrugata</i>		P2	
50.	49110 <i>Scholtzia denticulata</i>		P2	
51.	49123 <i>Scholtzia oleosa</i>		P2	
52.	16293 <i>Scholtzia</i> sp. Folly Hill (M.E. Trudgen 12097)		P2	
53.	49134 <i>Scholtzia tenuissima</i> (Delicate <i>Scholtzia</i>)		P2	
54.	49137 <i>Scholtzia truncata</i>		P2	
55.	46822 <i>Seringia saxatilis</i> (Gorge fire-bush)		P2	
56.	44683 <i>Thryptomene calcicola</i>		P2	Y
57.	9194 <i>Thryptomene johnsonii</i>		P2	Y
58.	16820 <i>Thryptomene</i> sp. Eagle Gorge (A.G. Gunness 2360)		P2	
59.	46755 <i>Thysanotus fragrans</i>		P2	
60.	29482 <i>Thysanotus</i> sp. Kalbarri (D. & B. Bellairs 1523 A)		P2	
61.	12409 <i>Verticordia dasystylis</i> subsp. kalbarriensis		P2	
62.	12426 <i>Verticordia galeata</i>		P2	Y

Priority 3

63.	14136 <i>Acacia plautella</i>		P3	
64.	1207 <i>Acanthocarpus parviflorus</i>		P3	
65.	6948 <i>Anthocercis intricata</i>		P3	
66.	6951 <i>Anthroche myoporoides</i> (Myoporium-like <i>Anthroche</i>)		P3	
67.	1262 <i>Arnocrinum drummondii</i>		P3	
68.	4596 <i>Beyeria gardneri</i>		P3	
69.	5459 <i>Calytrix formosa</i>		P3	
70.	18359 <i>Carpobrotus</i> sp. Thevenard Island (M. White 050)		P3	
71.	5494 <i>Chamaelaucium marchantii</i>		P3	
72.	41023 <i>Dasymalla glutinosa</i>		P3	
73.	1980 <i>Grevillea costata</i>		P3	
74.	2031 <i>Grevillea leucoclada</i>		P3	
75.	2083 <i>Grevillea rogersoniana</i> (Rogersons' <i>Grevillea</i>)		P3	
76.	17776 <i>Guichenotia impudica</i>		P3	
77.	6869 <i>Hemigenia saligna</i>		P3	
78.	5043 <i>Lasiopetalum oldfieldii</i>		P3	
79.	5044 <i>Lasiopetalum oppositifolium</i>		P3	
80.	3020 <i>Lepidium biplicatum</i>		P3	
81.	2841 <i>Macarthuria intricata</i>		P3	
82.	41442 <i>Mirbelia corallina</i>		P3	
83.	17911 <i>Pileanthus bellus</i>		P3	
84.	49104 <i>Scholtzia bellairsiorum</i>		P3	
85.	14241 <i>Stenanthemum divaricatum</i>		P3	
86.	44691 <i>Thryptomene caduca</i>		P3	
87.	17880 <i>Triodia dielsii</i>		P3	
88.	12405 <i>Verticordia cooloomia</i>		P3	Y
89.	12413 <i>Verticordia densiflora</i> var. <i>roseostella</i>		P3	
90.	14712 <i>Verticordia dichroma</i> var. <i>dichroma</i>		P3	
91.	12417 <i>Verticordia dichroma</i> var. <i>syntoma</i>		P3	

Priority 4

92.	1598 <i>Caladenia integra</i> (Mantis Orchid, Smooth-lipped Spider Orchid)		P4	
93.	7241 <i>Eremophila microtheca</i> (Heath-like <i>Eremophila</i>)		P4	
94.	13544 <i>Eucalyptus zopherophloia</i> (Blackbutt Mallee)		P4	
95.	5193 <i>Frankenia confusa</i>		P4	
96.	4033 <i>Jacksonia velutina</i>		P4	
97.	3043 <i>Lepidium puberulum</i>		P4	
98.	13774 <i>Lepidobolus densus</i>		P4	
99.	36203 <i>Liparophyllum congestiflorum</i>		P4	
100.	17026 <i>Scaevola kallophylla</i>		P4	
101.	19953 <i>Stachystemon nematophorus</i>		P4	
102.	17885 <i>Triodia bromoides</i>		P4	
103.	12399 <i>Verticordia capillaris</i>		P4	
104.	6111 <i>Verticordia polytricha</i> (Northern Cauliflower)		P4	

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
105.	1399 <i>Wurmbea murchisoniana</i>		P4	
Non-conservation taxon				
106.	3197 <i>Acacia aciphylla</i>			
107.	3199 <i>Acacia acuaria</i>			
108.	3225 <i>Acacia ashbyae</i>			
109.	3238 <i>Acacia bidentata</i>			
110.	3242 <i>Acacia blakelyi</i>			
111.	15472 <i>Acacia cavealis</i>			
112.	13072 <i>Acacia chartacea</i>			
113.	3262 <i>Acacia cochlearis</i> (Rigid Wattle)			
114.	3269 <i>Acacia coolgardiensis</i> (Spinifex Wattle)			
115.	20435 <i>Acacia daphnifolia</i>			
116.	3323 <i>Acacia ericifolia</i>			
117.	3324 <i>Acacia erinacea</i>			
118.	18442 <i>Acacia hopperiana</i>			
119.	3376 <i>Acacia idiomorpha</i>			
120.	3409 <i>Acacia lasiocarpa</i> (Panjang)			
121.	11611 <i>Acacia lasiocarpa</i> var. <i>lasiocarpa</i>			
122.	3412 <i>Acacia latipes</i>			
123.	11448 <i>Acacia leptospermoides</i> subsp. <i>leptospermoides</i>			
124.	3419 <i>Acacia ligulata</i> (Umbrella Bush, Watarka)			
125.	15477 <i>Acacia lineolata</i> subsp. <i>lineolata</i>			
126.	3443 <i>Acacia microcalyx</i>			
127.	3452 <i>Acacia murrayana</i> (Sandplain Wattle)			
128.	3466 <i>Acacia oldfieldii</i>			
129.	3474 <i>Acacia oxyclada</i>			
130.	16142 <i>Acacia puncticulata</i>			
131.	3508 <i>Acacia quadrisulcata</i>			
132.	19499 <i>Acacia ramulosa</i> var. <i>ramulosa</i>			
133.	3515 <i>Acacia restiacea</i>			
134.	3519 <i>Acacia rhodophloia</i>			
135.	3525 <i>Acacia rostellifera</i> (Summer-scented Wattle)			
136.	3527 <i>Acacia saligna</i> (Orange Wattle, Kudjong)			
137.	30033 <i>Acacia saligna</i> subsp. <i>lindleyi</i>			
138.	3532 <i>Acacia scirpifolia</i>			
139.	13078 <i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>			
140.	3546 <i>Acacia signata</i>			
141.	20343 <i>Acacia</i> sp. Murchison River (B.R. Maslin 7789)			
142.	3549 <i>Acacia spathulifolia</i>			
143.	12268 <i>Acacia sphenophylla</i>			
144.	15294 <i>Acacia stereophylla</i> var. <i>stereophylla</i>			
145.	3577 <i>Acacia tetragonophylla</i> (Kurara, Wakalpuka)			
146.	3587 <i>Acacia ulicina</i>			
147.	3604 <i>Acacia xanthina</i> (White-stemmed Wattle)			
148.	1208 <i>Acanthocarpus preissii</i>			
149.	1209 <i>Acanthocarpus robustus</i>			
150.	20797 <i>Acanthocarpus</i> sp. Ajana (C.A. Gardner 8596)			
151.	20798 <i>Acanthocarpus</i> sp. Cooloomia (S.D. Hopper 3301)			
152.	7814 <i>Actinobole condensatum</i>			
153.	4582 <i>Adriana quadripartita</i> (Bitter Bush)			
154.	17202 <i>Agonis flexuosa</i> var. <i>flexuosa</i>			
155.	11487 <i>Alectryon oleifolius</i> subsp. <i>oleifolius</i>			
156.	1720 <i>Allocasuarina acutivalvis</i>			
157.	1721 <i>Allocasuarina campestris</i>			
158.	1731 <i>Allocasuarina huegeliana</i> (Rock Sheoak, Kwool)			
159.	1732 <i>Allocasuarina humilis</i> (Dwarf Sheoak)			
160.	2648 <i>Alternanthera denticulata</i> (Lesser Joyweed)			
161.	4904 <i>Alyogyne cuneiformis</i> (Coastal Hibiscus)			
162.	4905 <i>Alyogyne hakeifolia</i>			
163.	4907 <i>Alyogyne pinoniana</i> (Sand Hibiscus)			
164.	42940 <i>Alyogyne</i> sp. Geraldton (R. Davis 3487)			
165.	43023 <i>Alyogyne</i> sp. Hutt River (B.J. Lepschi & T.R. Lally 2310)			
166.	42921 <i>Alyogyne</i> sp. Kalbarri (P.G. Wilson 6720)			Y
167.	6565 <i>Alyxia buxifolia</i> (Dysentery Bush)			
168.	12025 <i>Amphipogon caricinus</i> var. <i>caricinus</i>			
169.	200 <i>Amphipogon turbinatus</i>			
170.	26458 <i>Amphiroa anceps</i>			
171.	26463 <i>Amphiroa gracilis</i>			
172.	13267 <i>Amyema linophylla</i> subsp. <i>linophylla</i>			
173.	2378 <i>Amyema melaleuca</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
174.	2381 <i>Amyema miraculosa</i>			
175.	13266 <i>Amyema miraculosa</i> subsp. <i>miraculosa</i>			
176.	40914 <i>Androcalva gaudichaudii</i>			
177.	7827 <i>Angianthus cunninghamii</i> (Coast Angianthus)			
178.	1409 <i>Anigozanthos humilis</i> (Catspaw)			
179.	11434 <i>Anigozanthos humilis</i> subsp. <i>humilis</i>			
180.	1410 <i>Anigozanthos kalbarriensis</i> (Kalbarri Catspaw)			
181.	11565 <i>Anigozanthos manglesii</i> subsp. <i>quadrans</i>			
182.	29 <i>Anogramma leptophylla</i> (Annual Fern)			
183.	2332 <i>Anthobolus foveolatus</i>			
184.	6945 <i>Anthocercis genistoides</i>			
185.	6947 <i>Anthocercis ilicifolia</i>			
186.	11537 <i>Anthocercis ilicifolia</i> subsp. <i>caldariola</i>			
187.	6953 <i>Anthotroche walcottii</i>			
188.	3691 <i>Aotus phyllicoides</i>			
189.	3180 <i>Aphanopetalum clematideum</i>			
190.	1119 <i>Aphelia nutans</i>			
191.	6210 <i>Apium annuum</i>			
192.	6211 <i>Apium prostratum</i> (Sea Celery)			
193.	7838 <i>Arctotheca calendula</i> (Cape Weed, African Marigold)	Y		
194.	12063 <i>Aristida holathera</i> var. <i>holathera</i>			
195.	1364 <i>Asphodelus fistulosus</i> (Onion Weed)	Y		
196.	6328 <i>Astroloma glaucescens</i>			
197.	6336 <i>Astroloma serratifolium</i> (Kondrung)			
198.	2450 <i>Atriplex amnicola</i> (Swamp Saltbush)			
199.	2463 <i>Atriplex isatidea</i> (Coast Saltbush)			
200.	17235 <i>Austrostipa crinita</i>			
201.	17237 <i>Austrostipa elegantissima</i>			
202.	17239 <i>Austrostipa exilis</i>			
203.	17244 <i>Austrostipa macalpinei</i>			
204.	17246 <i>Austrostipa nitida</i>			
205.	17251 <i>Austrostipa scabra</i>			
206.	10767 <i>Baeckea pentagonantha</i>			
207.	5365 <i>Baeckea robusta</i>			
208.	36019 <i>Baeckea</i> sp. <i>East Nabawa</i> (M.E. Trudgen MET 21623)			
209.	35297 <i>Baeckea</i> sp. <i>Eurardy Station</i> (Wildflower Society of W.A. EURA 15)			
210.	18181 <i>Baeckea</i> sp. <i>Murchison River</i> (M.E. Trudgen 12009)			
211.	1799 <i>Banksia ashbyi</i> (Ashby's Banksia)			
212.	1800 <i>Banksia attenuata</i> (Slender Banksia, Piara)			
213.	32627 <i>Banksia borealis</i> subsp. <i>borealis</i>			
214.	32521 <i>Banksia fraseri</i>			
215.	32524 <i>Banksia fraseri</i> var. <i>ashbyi</i>			
216.	11386 <i>Banksia leptophylla</i> var. <i>melletica</i>			
217.	1829 <i>Banksia lindleyana</i> (Porcupine Banksia)			
218.	1834 <i>Banksia menziesii</i> (Firewood Banksia)			
219.	1842 <i>Banksia prionotes</i> (Acorn Banksia)			
220.	1847 <i>Banksia sceptrum</i> (Sceptre Banksia)			
221.	1855 <i>Banksia victoriae</i> (Woolly Orange Banksia)			
222.	741 <i>Baumea articulata</i> (Jointed Rush)			
223.	743 <i>Baumea juncea</i> (Bare Twigrush)			
224.	17761 <i>Beaufortia aestiva</i> (Kalbarri Beaufortia)			
225.	4594 <i>Beyeria cinerea</i>			
226.	34237 <i>Beyeria cinerea</i> subsp. <i>borealis</i>			
227.	46339 <i>Bidens subalternans</i> var. <i>araneosa</i>	Y		
228.	7856 <i>Blennospora drummondii</i>			
229.	6609 <i>Bonamia rosea</i> (Feltly Bellflower)			
230.	4409 <i>Boronia coerulescens</i>			
231.	11498 <i>Boronia coerulescens</i> subsp. <i>spicata</i>			
232.	11274 <i>Boronia coerulescens</i> subsp. <i>spinescens</i>			
233.	4414 <i>Boronia cymosa</i> (Granite Boronia)			
234.	4437 <i>Boronia purdieana</i> (Winter Boronia)			
235.	17664 <i>Boronia purdieana</i> subsp. <i>calcicola</i>			
236.	17665 <i>Boronia purdieana</i> subsp. <i>purdieana</i>			
237.	11381 <i>Boronia ramosa</i> subsp. <i>anethifolia</i>			
238.	1273 <i>Borya sphaerocephala</i> (Pincushions)			
239.	3710 <i>Bossiaea eriocarpa</i> (Common Brown Pea)			
240.	3719 <i>Bossiaea spinescens</i>			
241.	4999 <i>Brachychiton gregorii</i> (Desert Kurrajong, Ngalta)			
242.	7878 <i>Brachyscome iberidifolia</i>			
243.	3000 <i>Brassica tournefortii</i> (Mediterranean Turnip)	Y		

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
244.	244 <i>Briza maxima</i> (Blowfly Grass)	Y		
245.	252 <i>Bromus madritensis</i> (Madrid Brome)	Y		
246.	7413 <i>Brunonia australis</i> (Native Cornflower)			
247.	1366 <i>Bulbine semibarbata</i> (Leek Lily)			
248.	750 <i>Bulbostylis barbata</i>			
249.	1386 <i>Burchardia rosea</i>			
250.	29439 <i>Caesia</i> sp. Wongan (K.F. Kenneally 8820)			
251.	18035 <i>Caladenia bicallata</i> subsp. <i>bicallata</i>			
252.	1586 <i>Caladenia discoidea</i> (Dancing Orchid)			
253.	1588 <i>Caladenia drummondii</i> (Winter Spider Orchid)			
254.	1592 <i>Caladenia flava</i> (Cowslip Orchid)			
255.	15349 <i>Caladenia flava</i> subsp. <i>maculata</i>			
256.	15355 <i>Caladenia hirta</i> subsp. <i>rosea</i>			
257.	46535 <i>Caladenia incensum</i> (Glistening spider orchid)			
258.	1599 <i>Caladenia latifolia</i> (Pink Fairy Orchid)			
259.	15360 <i>Caladenia longicauda</i> subsp. <i>borealis</i>			
260.	17760 <i>Caladenia nobilis</i>			
261.	15374 <i>Caladenia pachychila</i>			
262.	15378 <i>Caladenia reptans</i> subsp. <i>impensa</i>			
263.	18019 <i>Caladenia vulgata</i>			
264.	2848 <i>Calandrinia corrigioloides</i> (Strap Purslane)			
265.	2852 <i>Calandrinia disperma</i>			
266.	2853 <i>Calandrinia eremaea</i> (Twining Purslane)			
267.	2856 <i>Calandrinia liniflora</i> (Parakeelya)			
268.	2860 <i>Calandrinia polyandra</i> (Parakeelya)			
269.	2861 <i>Calandrinia polypetala</i>			
270.	2867 <i>Calandrinia remota</i>			
271.	31132 <i>Calandrinia</i> sp. <i>Truncate capsules</i> (A. Markey & S. Dillon 3474)			
272.	5395 <i>Callistemon phoeniceus</i> (Lesser Bottlebrush, Dubarda)			
273.	36560 <i>Callitris arenaria</i> (Sandplain Cypress)			
274.	7891 <i>Calocephalus francisii</i> (Fine-leaf Beauty-heads)			
275.	7895 <i>Calocephalus multiflorus</i> (Yellow-top)			
276.	5401 <i>Calothamnus blepharospermus</i>			
277.	5402 <i>Calothamnus borealis</i>			
278.	34196 <i>Calothamnus chrysanthereus</i> (Claw Flower)			
279.	35856 <i>Calothamnus glaber</i>			
280.	5420 <i>Calothamnus oldfieldii</i>			
281.	35696 <i>Calothamnus phellosus</i>			
282.	5426 <i>Calothamnus quadrifidus</i> (One-sided Bottlebrush, Kwowdjard)			
283.	35758 <i>Calothamnus quadrifidus</i> subsp. <i>homalophyllus</i> (Murchison Clawflower)			
284.	35759 <i>Calothamnus quadrifidus</i> subsp. <i>obtusus</i>			
285.	5429 <i>Calothamnus sanguineus</i> (Silky-leaved Blood flower, Pindak)			
286.	7903 <i>Calotis hispidula</i> (Bindy Eye)			
287.	7905 <i>Calotis multicaulis</i> (Many-stemmed Burr-daisy)			
288.	5443 <i>Calytrix brevifolia</i>			
289.	5450 <i>Calytrix depressa</i>			
290.	5460 <i>Calytrix fraseri</i> (Pink Summer Calytrix)			
291.	5468 <i>Calytrix oldfieldii</i>			
292.	5476 <i>Calytrix sapphirina</i>			
293.	5479 <i>Calytrix strigosa</i>			
294.	32461 <i>Campylopus bicolor</i> var. <i>bicolor</i>			
295.	32338 <i>Campylopus introflexus</i>	Y		
296.	2981 <i>Capparis spinosa</i>			
297.	1162 <i>Cartonema philydroides</i>			
298.	2948 <i>Cassytha aurea</i>			
299.	12073 <i>Cassytha aurea</i> var. <i>aurea</i>			
300.	11351 <i>Cassytha aurea</i> var. <i>hirta</i>			
301.	2951 <i>Cassytha flava</i> (Dodder Laurel)			
302.	2955 <i>Cassytha nodiflora</i>			
303.	2956 <i>Cassytha pomiformis</i> (Dodder Laurel)			
304.	2957 <i>Cassytha racemosa</i> (Dodder Laurel)			
305.	11799 <i>Cassytha racemosa</i> forma <i>racemosa</i>			
306.	1742 <i>Casuarina obesa</i> (Swamp Sheoak, Kuli)			
307.	258 <i>Cenchrus ciliaris</i> (Buffel Grass)	Y		
308.	259 <i>Cenchrus echinatus</i> (Burrgrass)	Y		
309.	41568 <i>Cenchrus setaceus</i> (Fountain Grass)	Y		
310.	7916 <i>Centaurea melitensis</i> (Maltese Cockspur, Malta Thistle)	Y		
311.	6542 <i>Centaureum tenuiflorum</i>	Y		
312.	1125 <i>Centrolepis drummondiana</i>			
313.	1130 <i>Centrolepis humillima</i> (Dwarf Centrolepis)			

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314.	7922 <i>Cephalopterum drummondii</i> (Pompom Head)			
315.	17685 <i>Chaetanthus aristatus</i>			
316.	11299 <i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>			
317.	42580 <i>Chamelaucium gracile</i>			
318.	5498 <i>Chamelaucium uncinatum</i> (Geraldton Wax)			
319.	12818 <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>			
320.	31768 <i>Cheiranthra simplicifolia</i>			
321.	2489 <i>Chenopodium gaudichaudianum</i> (Cottony Saltbush)			
322.	267 <i>Chloris gayana</i> (Rhodes Grass)	Y		
323.	270 <i>Chloris pumilio</i>			
324.	272 <i>Chloris virgata</i> (Feathertop Rhodes Grass)	Y		
325.	13114 <i>Chorizema racemosum</i>			
326.	765 <i>Chrysitrix distigmata</i>			
327.	7933 <i>Chthonocephalus pseudevax</i> (Woolly Groundheads)			
328.	4853 <i>Clematicissus angustissima</i>			
329.	10804 <i>Clematis linearifolia</i>			
330.	2778 <i>Codonocarpus cotinifolius</i> (Native Poplar, Kundurangu)			
331.	4550 <i>Comesperma calymega</i> (Blue-spike Milkwort)			
332.	4555 <i>Comesperma integerimum</i>			
333.	4561 <i>Comesperma scoparium</i> (Broom Milkwort)			
334.	40872 <i>Commersonia borealis</i>			
335.	40922 <i>Commersonia densiflora</i>			
336.	2776 <i>Commicarpus australis</i> (Perennial Tar Vine)			
337.	15608 <i>Conospermum acerosum</i> subsp. <i>hirsutum</i>			
338.	15511 <i>Conospermum boreale</i>			
339.	15513 <i>Conospermum boreale</i> subsp. <i>boreale</i>			
340.	15041 <i>Conospermum canaliculatum</i>			
341.	16849 <i>Conospermum microflorum</i>			
342.	1882 <i>Conospermum stoechadis</i> (Common Smokebush)			
343.	15611 <i>Conospermum stoechadis</i> subsp. <i>stoechadis</i> (Common Smokebush)			
344.	1885 <i>Conospermum triplinervium</i> (Tree Smokebush)			
345.	43109 <i>Conostephium laeve</i>			
346.	6349 <i>Conostephium preissii</i>			
347.	1418 <i>Conostylis aculeata</i> (Prickly Conostylis)			
348.	11469 <i>Conostylis aculeata</i> subsp. <i>echinissima</i>			
349.	12028 <i>Conostylis aculeata</i> subsp. <i>septentrionora</i>			
350.	1420 <i>Conostylis androstemma</i> (Trumpets)			
351.	1423 <i>Conostylis aurea</i> (Golden Conostylis)			
352.	1427 <i>Conostylis candicans</i> (Grey Cottonhead)			
353.	12027 <i>Conostylis candicans</i> subsp. <i>calcicola</i>			
354.	11979 <i>Conostylis candicans</i> subsp. <i>flavifolia</i>			
355.	1446 <i>Conostylis prolifera</i> (Mat Cottonheads)			
356.	1448 <i>Conostylis resinosa</i>			
357.	1450 <i>Conostylis robusta</i>			
358.	1456 <i>Conostylis stylioides</i>			
359.	5502 <i>Conothamnus trinervis</i>			
360.	6614 <i>Convolvulus remotus</i>			
361.	2891 <i>Corrigiola litoralis</i> (Strapwort)	Y		
362.	11834 <i>Corynotheca micrantha</i> var. <i>acanthoclada</i>			
363.	11283 <i>Corynotheca micrantha</i> var. <i>micrantha</i>			
364.	7944 <i>Cotula bipinnata</i> (Ferny Cotula)	Y		
365.	7945 <i>Cotula coronopifolia</i> (Waterbuttons)	Y		
366.	7946 <i>Cotula cotuloides</i> (Smooth Cotula)			
367.	3137 <i>Crassula colorata</i> (Dense Stonecrop)			
368.	15706 <i>Crassula natans</i> var. <i>minus</i>	Y		
369.	35839 <i>Cristonia stenophylla</i>			
370.	16018 <i>Cryptandra arbutiflora</i> var. <i>borealis</i>			
371.	31614 <i>Cryptandra multispina</i>			
372.	4802 <i>Cryptandra mutila</i>			
373.	4811 <i>Cryptandra spyridioides</i>			
374.	17118 <i>Cullen leucanthum</i>			
375.	6663 <i>Cuscuta epithymum</i> (Lesser Dodder, Greater Dodder)	Y		
376.	15400 <i>Cyanicula amplexans</i>			
377.	15114 <i>Cyanicula gemmata</i>			
378.	54 <i>Cyclosorus interruptus</i>			
379.	279 <i>Cymbopogon ambiguus</i> (Scentgrass)			
380.	48280 <i>Cynanchum viminale</i> subsp. <i>australe</i>			
381.	283 <i>Cynodon dactylon</i> (Couch)	Y		
382.	794 <i>Cyperus gymnocaulos</i> (Spiny Flat-sedge)			
383.	818 <i>Cyperus vaginatus</i> (Stiffleaf Sedge)			

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384.	6959 <i>Cyphanthera racemosa</i>			
385.	7421 <i>Dampiera altissima</i> (Tall Dampiera)			
386.	7448 <i>Dampiera incana</i> (Hoary Dampiera)			
387.	11326 <i>Dampiera incana</i> var. <i>fuscescens</i>			
388.	11723 <i>Dampiera incana</i> var. <i>incana</i>			
389.	7453 <i>Dampiera lindleyi</i>			
390.	7475 <i>Dampiera spicigera</i> (Spiked Dampiera)			
391.	5506 <i>Darwinia capitellata</i>			
392.	5520 <i>Darwinia oldfieldii</i>			
393.	5522 <i>Darwinia pauciflora</i>			
394.	5534 <i>Darwinia virescens</i> (Murchison Darwinia)			
395.	26752 <i>Dasyclonium incisum</i>			
396.	3796 <i>Daviesia benthamii</i>			
397.	11879 <i>Daviesia hakeoides</i> subsp. <i>hakeoides</i>			
398.	16582 <i>Daviesia intricata</i>			
399.	16585 <i>Daviesia nudiflora</i> subsp. <i>nudiflora</i>			
400.	3833 <i>Daviesia podophylla</i>			
401.	14986 <i>Daviesia ramosissima</i>			
402.	17663 <i>Desmocladus asper</i>			
403.	17846 <i>Desmocladus parthenicus</i>			
404.	1259 <i>Dianella revoluta</i> (Blueberry Lily)			
405.	1290 <i>Dichopogon tyleri</i>			
406.	6760 <i>Dicrastylis fulva</i>			
407.	14176 <i>Dicrastylis</i> sp. <i>Peron Peninsula</i> (M.E. Trudgen 7373)			
408.	310 <i>Digitaria brownii</i> (Cotton Panic Grass)			
409.	1509 <i>Dioscorea hastifolia</i> (Warrine, Warram)			
410.	4456 <i>Diplolaena grandiflora</i> (Wild Rose)			
411.	15274 <i>Diplolaena mollis</i>			
412.	18542 <i>Diplopeltis huegelii</i> subsp. <i>subintegra</i>			
413.	4747 <i>Diplopeltis intermedia</i>			
414.	11763 <i>Diplopeltis intermedia</i> var. <i>incana</i> (Grey Pepperflower)			
415.	11669 <i>Diplopeltis intermedia</i> var. <i>intermedia</i>			
416.	4748 <i>Diplopeltis petiolaris</i>			
417.	26790 <i>Dipterosiphonia prorepens</i>			
418.	7055 <i>Dischisma capitatum</i> (Woolly-headed Dischisma)	Y		
419.	32347 <i>Ditrichum difficile</i>			
420.	46854 <i>Diuris carecta</i>			
421.	46853 <i>Diuris oraria</i>			
422.	4754 <i>Dodonaea aptera</i> (Coast Hop-bush)			
423.	4756 <i>Dodonaea caespitosa</i>			
424.	4766 <i>Dodonaea inaequifolia</i>			
425.	4775 <i>Dodonaea pinifolia</i>			
426.	11247 <i>Dodonaea viscosa</i> subsp. <i>angustissima</i>			
427.	11202 <i>Dodonaea viscosa</i> subsp. <i>spatulata</i> (Sticky Hop-bush)			
428.	3098 <i>Drosera glanduligera</i> (Pimpernel Sundew)			
429.	48768 <i>Drosera hirsuta</i>			
430.	8910 <i>Drosera humilis</i>			
431.	3109 <i>Drosera menziesii</i> (Pink Rainbow)			
432.	3113 <i>Drosera neesii</i> (Jewel Rainbow)			
433.	29177 <i>Drosera prostrata</i>			
434.	3127 <i>Drosera radicans</i>			
435.	3128 <i>Drosera ramellosa</i> (Branched Sundew)			
436.	3129 <i>Drosera rechingeri</i>			
437.	3131 <i>Drosera stolonifera</i> (Leafy Sundew)			
438.	8915 <i>Drosera thysanosepala</i> (Fringed Rainbow)			
439.	44508 <i>Duma florulenta</i>			
440.	31334 <i>Duperreya sericea</i>			
441.	2504 <i>Dysphania plantaginella</i>			
442.	2506 <i>Dysphania rhadinostachya</i>			
443.	32351 <i>Eccremidium pulchellum</i>			
444.	1066 <i>Ecdeiocola monostachya</i>			
445.	38514 <i>Ecdeiocola rigens</i>			
446.	11485 <i>Ehrharta brevifolia</i> var. <i>cuspidata</i>	Y		
447.	349 <i>Ehrharta longiflora</i> (Annual Veldt Grass)	Y		
448.	2989 <i>Emblingia calceoliflora</i>			
449.	2511 <i>Enchylaena tomentosa</i> (Barrier Saltbush)			
450.	12064 <i>Enchylaena tomentosa</i> var. <i>tomentosa</i> (Barrier Saltbush)			
451.	32357 <i>Ephemerum cristatum</i>			
452.	370 <i>Eragrostis barrelieri</i>	Y		
453.	376 <i>Eragrostis curvula</i> (African Lovegrass)	Y		

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454.	378 <i>Eragrostis dielsii</i> (Mallee Lovegrass)			
455.	17610 <i>Eragrostis tenuifolia</i>	Y		
456.	13954 <i>Eremaea dendroidea</i>			
457.	5539 <i>Eremaea ebracteata</i>			
458.	14102 <i>Eremaea ebracteata</i> var. <i>ebracteata</i>			
459.	7189 <i>Eremophila clarkei</i> (Turpentine Bush)			
460.	7193 <i>Eremophila decipiens</i> (Slender Fuchsia)			
461.	14895 <i>Eremophila decipiens</i> subsp. <i>decipiens</i>			
462.	7198 <i>Eremophila deserti</i>			
463.	7215 <i>Eremophila glabra</i> (Tar Bush)			
464.	17175 <i>Eremophila glabra</i> subsp. <i>albicans</i>			
465.	17173 <i>Eremophila glabra</i> subsp. <i>psammophora</i>			
466.	14191 <i>Eremophila glabra</i> subsp. <i>tomentosa</i>			
467.	7216 <i>Eremophila glutinosa</i>			
468.	7230 <i>Eremophila latrobei</i> (Warty Fuchsia Bush, Mintjingka)			
469.	17168 <i>Eremophila oldfieldii</i> subsp. <i>oldfieldii</i>			
470.	7269 <i>Eremophila serrulata</i> (Serrate-leaved Eremophila)			
471.	400 <i>Eriachne aristidea</i>			
472.	417 <i>Eriachne pulchella</i> (Pretty Wanderrie)			
473.	15410 <i>Eriochilus dilatatus</i> subsp. <i>dilatatus</i>			
474.	426 <i>Eriochloa pseudoacrotricha</i> (Perennial Cupgrass)			
475.	4331 <i>Erodium aureum</i>	Y		
476.	4333 <i>Erodium cicutarium</i> (Common Storksbill)	Y		
477.	4335 <i>Erodium cygnorum</i> (Blue Heronsbill)			
478.	12895 <i>Eucalyptus arachnaea</i> subsp. <i>arachnaea</i>			
479.	9141 <i>Eucalyptus baudiniana</i>			
480.	5580 <i>Eucalyptus camaldulensis</i> (River Gum, Yabalinyba)			
481.	35344 <i>Eucalyptus camaldulensis</i> subsp. <i>arida</i>			
482.	35345 <i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i> (Blunt-budded River Red Gum)			
483.	15494 <i>Eucalyptus diminuta</i>			
484.	15804 <i>Eucalyptus dolichocera</i>			
485.	5638 <i>Eucalyptus erythrocorys</i> (Illyrarrie)			
486.	5640 <i>Eucalyptus eudesmioides</i> (Malalie, Martarli)			
487.	5654 <i>Eucalyptus fruticosa</i>			
488.	5658 <i>Eucalyptus gittinsii</i> (Northern Sandplain Mallee)			
489.	19472 <i>Eucalyptus gittinsii</i> subsp. <i>gittinsii</i>			
490.	5681 <i>Eucalyptus jucunda</i> (Yuna Mallee)			
491.	20303 <i>Eucalyptus kochii</i> subsp. <i>borealis</i>			
492.	11295 <i>Eucalyptus loxophleba</i> subsp. <i>loxophleba</i> (York Gum)			
493.	13038 <i>Eucalyptus loxophleba</i> subsp. <i>supralaevis</i>			
494.	13018 <i>Eucalyptus mannensis</i> subsp. <i>vespertina</i>			
495.	5722 <i>Eucalyptus obtusiflora</i> (Dongara Mallee)			
496.	5725 <i>Eucalyptus oldfieldii</i> (Oldfield's Mallee)			
497.	5730 <i>Eucalyptus oraria</i> (Oorangmandee)			
498.	18348 <i>Eucalyptus pallida</i>			
499.	5756 <i>Eucalyptus pyriformis</i> (Pear-fruited Mallee)			
500.	5761 <i>Eucalyptus rigidula</i> (Stiff-leaved Mallee)			
501.	5762 <i>Eucalyptus roycei</i> (Shark Bay Mallee)			
502.	18347 <i>Eucalyptus selachiana</i>			
503.	<i>Eucalyptus</i> sp.			
504.	12882 <i>Eucalyptus subangusta</i> subsp. <i>pusilla</i>			
505.	12883 <i>Eucalyptus subangusta</i> subsp. <i>subangusta</i>			
506.	5793 <i>Eucalyptus transcontinentalis</i> (Redwood, Pungul)			
507.	14548 <i>Eucalyptus victrix</i>			
508.	4617 <i>Euphorbia australis</i> (Namana)			
509.	4620 <i>Euphorbia boophthona</i> (Gascoyne Spurge)			
510.	4626 <i>Euphorbia drummondii</i> (Caustic Weed, Piwi)			
511.	42869 <i>Euphorbia porcata</i>			
512.	4644 <i>Euphorbia shakoensis</i>			
513.	12097 <i>Euphorbia tannensis</i> subsp. <i>eremophila</i> (Desert Spurge)			
514.	10977 <i>Exocarpos aphyllus</i> (Leafless Ballart)			
515.	10765 <i>Exocarpos sparteus</i> (Broom Ballart, Djuk)			
516.	20216 <i>Ficinia nodosa</i> (Knotted Club Rush)			
517.	5209 <i>Frankenia pauciflora</i> (Seaheath)			
518.	5212 <i>Frankenia setosa</i> (Bristly Frankenia)			
519.	907 <i>Gahnia trifida</i> (Coast Saw-sedge)			
520.	20473 <i>Gastrolobium ebracteolatum</i>			
521.	20482 <i>Gastrolobium nervosum</i>			
522.	3912 <i>Gastrolobium oxylobioides</i> (Champion Bay Poison)			
523.	38242 <i>Geleznovia</i> sp. <i>Marchagee</i> (A. Crawford ADC 1353)			

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524.	4483 <i>Geleznovia verrucosa</i>			
525.	12780 <i>Gilberta tenuifolia</i>			
526.	33620 <i>Glischrocaryon angustifolium</i>			
527.	6143 <i>Glischrocaryon aureum</i> (Common Popflower)			
528.	6144 <i>Glischrocaryon flavescens</i>			
529.	3938 <i>Glycine canescens</i> (Silky Glycine)			
530.	7989 <i>Gnephosis brevifolia</i> (Short-leaved Gnephosis)			
531.	8002 <i>Gnephosis tenuissima</i>			
532.	19215 <i>Gompholobium glutinosum</i>			
533.	3957 <i>Gompholobium tomentosum</i> (Hairy Yellow Pea)			
534.	6148 <i>Gonocarpus confertifolius</i>			
535.	11801 <i>Gonocarpus confertifolius</i> var. <i>helmsii</i>			
536.	7495 <i>Goodenia berardiana</i>			
537.	29362 <i>Goodenia coerulea</i>			
538.	17806 <i>Goodenia drummondii</i> subsp. <i>drummondii</i>			
539.	7513 <i>Goodenia hassallii</i>			
540.	12551 <i>Goodenia micrantha</i>			
541.	7531 <i>Goodenia occidentalis</i>			
542.	7538 <i>Goodenia pulchella</i>			
543.	1954 <i>Grevillea annulifera</i> (Prickly Plume Grevillea)			
544.	1956 <i>Grevillea argyrophylla</i> (Silvery-leaved Grevillea)			
545.	15763 <i>Grevillea biformis</i> subsp. <i>biformis</i>			
546.	1966 <i>Grevillea brachystachya</i> (Short-spiked Grevillea)			
547.	1973 <i>Grevillea candelabroides</i>			
548.	8831 <i>Grevillea commutata</i>			
549.	18116 <i>Grevillea commutata</i> subsp. <i>commutata</i>			
550.	18130 <i>Grevillea commutata</i> subsp. <i>pinnatisecta</i>			
551.	13453 <i>Grevillea didymobotrya</i> subsp. <i>didymobotrya</i>			
552.	1989 <i>Grevillea dielsiana</i> (Diels Grevillea)			
553.	2001 <i>Grevillea eriostrachya</i> (Flame Grevillea, Kaliny-kalinypa)			
554.	8832 <i>Grevillea excelsior</i> (Flame Grevillea)			
555.	2012 <i>Grevillea gordoniana</i>			
556.	13430 <i>Grevillea hakeoides</i> subsp. <i>stenophylla</i>			
557.	2022 <i>Grevillea integrifolia</i> (Entire-leaved Grevillea)			
558.	2023 <i>Grevillea intricata</i>			
559.	2032 <i>Grevillea leucopteris</i> (White Plume Grevillea)			
560.	15981 <i>Grevillea obliquistigma</i> subsp. <i>obliquistigma</i>			
561.	13416 <i>Grevillea petrophiloides</i> subsp. <i>petrophiloides</i>			
562.	8838 <i>Grevillea pinaster</i>			
563.	8839 <i>Grevillea preissii</i>			
564.	2109 <i>Grevillea trachytheca</i> (Rough-fruit Grevillea)			
565.	20020 <i>Guichenotia astropletha</i>			
566.	19600 <i>Guichenotia basivirida</i>			
567.	19885 <i>Guichenotia intermedia</i>			
568.	5011 <i>Guichenotia ledifolia</i>			
569.	5012 <i>Guichenotia macrantha</i> (Large-flowered Guichenotia)			
570.	2783 <i>Gyrostemon racemiger</i>			
571.	2784 <i>Gyrostemon ramulosus</i> (Corkybark)			
572.	2788 <i>Gyrostemon subnudus</i>			
573.	1465 <i>Haemodorum discolor</i>			
574.	1473 <i>Haemodorum simulans</i>			
575.	2131 <i>Hakea auriculata</i>			
576.	2135 <i>Hakea bucculenta</i> (Red Pokers)			
577.	2136 <i>Hakea candolleana</i>			
578.	2140 <i>Hakea circumalata</i>			
579.	2146 <i>Hakea costata</i> (Ribbed Hakea)			
580.	2166 <i>Hakea incrassata</i> (Marble Hakea)			
581.	2175 <i>Hakea lissocarpha</i> (Honey Bush)			
582.	16901 <i>Hakea orthorrhyncha</i> var. <i>filiformis</i>			
583.	16902 <i>Hakea orthorrhyncha</i> var. <i>orthorrhyncha</i>			
584.	2198 <i>Hakea pycnoneura</i>			
585.	2207 <i>Hakea stenophylla</i>			
586.	18060 <i>Hakea stenophylla</i> subsp. <i>notialis</i>			
587.	2214 <i>Hakea trifurcata</i> (Two-leaf Hakea)			
588.	17485 <i>Halgania anagaloides</i>			
589.	6685 <i>Halgania argyrophylla</i>			
590.	10904 <i>Halgania bebrana</i>			
591.	6693 <i>Halgania littoralis</i>			
592.	6696 <i>Halgania sericiflora</i>			
593.	6180 <i>Haloragis trigonocarpa</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
594.	17781 <i>Hannafordia quadrivalvis</i> subsp. <i>quadrivalvis</i>			
595.	8008 <i>Helianthus annuus</i> (<i>Sunflower, Common Sunflower</i>)	Y		
596.	17299 <i>Heliotropium ammophilum</i>			
597.	6707 <i>Heliotropium curassavicum</i> (<i>Smooth Heliotrope</i>)			
598.	8045 <i>Helipterum craspedioides</i> (<i>Yellow Billy Buttons</i>)			
599.	6837 <i>Hemiandra leiantha</i>			
600.	6839 <i>Hemiandra pungens</i> (<i>Snakebush</i>)			
601.	6849 <i>Hemigenia diplanthera</i>			
602.	6858 <i>Hemigenia macrantha</i>			
603.	6870 <i>Hemigenia scabra</i>			
604.	5108 <i>Hibbertia acerosa</i> (<i>Needle Leaved Guinea Flower</i>)			
605.	5115 <i>Hibbertia conspicua</i> (<i>Leafless Hibbertia</i>)			
606.	5120 <i>Hibbertia desmophylla</i>			
607.	19685 <i>Hibbertia glabrisepala</i>			
608.	5158 <i>Hibbertia potentilliflora</i>			
609.	5160 <i>Hibbertia pungens</i>			
610.	5162 <i>Hibbertia racemosa</i> (<i>Stalked Guinea Flower</i>)			
611.	<i>Hibbertia</i> sp.			
612.	5171 <i>Hibbertia spicata</i>			
613.	11481 <i>Hibbertia spicata</i> subsp. <i>spicata</i>			
614.	5173 <i>Hibbertia subvaginata</i>			
615.	4927 <i>Hibiscus drummondii</i> (<i>Drummond's Hibiscus</i>)			
616.	5806 <i>Homalocalyx aureus</i>			
617.	8476 <i>Hordeum hystrix</i> (<i>Mediterranean Region Barley Grass</i>)	Y		
618.	449 <i>Hordeum leporinum</i> (<i>Barley Grass</i>)	Y		
619.	12741 <i>Hyalosperma cotula</i>			
620.	12743 <i>Hyalosperma glutinosum</i>			
621.	5216 <i>Hybanthus calycinus</i> (<i>Wild Violet</i>)			
622.	5221 <i>Hybanthus floribundus</i>			
623.	12007 <i>Hybanthus floribundus</i> subsp. <i>floribundus</i>			
624.	6232 <i>Hydrocotyle hispidula</i>			
625.	6240 <i>Hydrocotyle scutellifera</i>			
626.	8086 <i>Hypochoeris glabra</i> (<i>Smooth Catsear</i>)	Y		
627.	7171 <i>Hypoestes floribunda</i> (<i>Bunu</i>)			
628.	3970 <i>Indigofera australis</i> (<i>Australian Indigo</i>)			
629.	40320 <i>Indigofera australis</i> subsp. <i>hesperia</i>			
630.	11 <i>Isoetes drummondii</i> (<i>Quillwort</i>)			
631.	911 <i>Isolepis congrua</i>			
632.	917 <i>Isolepis marginata</i> (<i>Coarse Club-rush</i>)			
633.	2227 <i>Isopogon divergens</i> (<i>Spreading Coneflower</i>)			
634.	7396 <i>Isotoma hypocrateriformis</i> (<i>Woodbridge Poison</i>)			
635.	3992 <i>Isotropis cuneifolia</i> (<i>Granny Bonnets</i>)			
636.	14627 <i>Isotropis</i> sp. <i>Shark Bay (M.E. Trudgen 7170)</i>			
637.	3998 <i>Jacksonia angulata</i>			
638.	14780 <i>Jacksonia arenicola</i>			
639.	4006 <i>Jacksonia cupullifera</i>			
640.	4015 <i>Jacksonia hakeoides</i>			
641.	20709 <i>Jacksonia ramulosa</i>			
642.	14785 <i>Jacksonia rigida</i>			
643.	1179 <i>Juncus caespiticius</i> (<i>Grassy Rush</i>)			
644.	11922 <i>Juncus kraussii</i> subsp. <i>australiensis</i>			
645.	1188 <i>Juncus pallidus</i> (<i>Pale Rush</i>)			
646.	3664 <i>Labichea cassioides</i>			
647.	3667 <i>Labichea lanceolata</i> (<i>Tall Labichea</i>)			
648.	11289 <i>Labichea lanceolata</i> subsp. <i>lanceolata</i>			
649.	6780 <i>Lachnostachys eriobotrya</i> (<i>Lambswool</i>)			
650.	6781 <i>Lachnostachys ferruginea</i> (<i>Rusty Lambstail</i>)			
651.	11413 <i>Lamarchea hakeifolia</i> var. <i>brevifolia</i>			
652.	468 <i>Lamarckia aurea</i> (<i>Goldentop</i>)	Y		
653.	20154 <i>Lapeirousia anceps</i>	Y		Y
654.	9099 <i>Lasiopetalum angustifolium</i> (<i>Narrow Leaved Lasiopetalum</i>)			
655.	13289 <i>Lawrencella davenportii</i>			
656.	13284 <i>Lawrencella rosea</i>			
657.	1308 <i>Laxmannia sessiliflora</i> (<i>Nodding Lily</i>)			
658.	11732 <i>Laxmannia sessiliflora</i> subsp. <i>sessiliflora</i>			
659.	7577 <i>Lechenaultia hirsuta</i> (<i>Hairy Leschenaultia</i>)			
660.	7580 <i>Lechenaultia linarioides</i> (<i>Yellow Leschenaultia</i>)			
661.	3029 <i>Lepidium linifolium</i>			
662.	3030 <i>Lepidium lyratogynum</i>			
663.	3037 <i>Lepidium phlebopetalum</i> (<i>Veined Peppergrass</i>)			

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664.	1075 <i>Lepidobolus preissianus</i>			
665.	18074 <i>Lepidobolus preissianus</i> subsp. <i>preissianus</i>			
666.	925 <i>Lepidosperma angustatum</i>			
667.	930 <i>Lepidosperma costale</i>			
668.	944 <i>Lepidosperma scabrum</i>			
669.	<i>Lepidosperma</i> sp.			
670.	29145 <i>Lepidosperma</i> sp. <i>Zuytdorp</i> (G.J. Keighery & N. Gibson 1710)			
671.	947 <i>Lepidosperma tenue</i>			
672.	2352 <i>Leptomeria preissiana</i>			
673.	15428 <i>Leptosema aphyllum</i>			
674.	17640 <i>Leptosema tomentosum</i>			
675.	6376 <i>Leucopogon cordifolius</i> (Heart-leaf Beard-heath)			
676.	6382 <i>Leucopogon cucullatus</i>			
677.	6403 <i>Leucopogon hispidus</i>			
678.	6430 <i>Leucopogon planifolius</i>			
679.	19577 <i>Leucopogon</i> sp. <i>Kalbarri</i> (J.M. Powell 1695)			
680.	28301 <i>Leucopogon</i> sp. <i>Murchison</i> (R.J. Cranfield 9224)			
681.	6448 <i>Leucopogon stronglylophyllus</i>			
682.	7672 <i>Levenhookia octomaculata</i> (Eight-spotted Stylewort)			
683.	9289 <i>Lobelia anceps</i> (Angled Lobelia)			
684.	7403 <i>Lobelia heterophylla</i> (Wing-seeded Lobelia)			
685.	7407 <i>Lobelia rhytidosperma</i> (Wrinkled-seeded Lobelia)			
686.	16798 <i>Logania litoralis</i>			
687.	<i>Lolium</i> sp.			
688.	1231 <i>Lomandra maritima</i>			
689.	4060 <i>Lotus australis</i> (Austral Trefoil)			
690.	18049 <i>Lyginia imberbis</i>			
691.	36375 <i>Lysimachia arvensis</i> (Pimpernel)	Y		
692.	6456 <i>Lysinema ciliatum</i> (Curry Flower)			
693.	34736 <i>Lysinema pentapetalum</i>			
694.	2839 <i>Macarthuria australis</i>			
695.	5861 <i>Malleostemon hursthousei</i>			
696.	5864 <i>Malleostemon peltiger</i>			
697.	46594 <i>Malleostemon uniflorus</i>			
698.	19421 <i>Marianthus bicolor</i> (Painted Marianthus)			
699.	17632 <i>Marianthus ringens</i>			
700.	76 <i>Marsilea hirsuta</i> (Nardoo)			
701.	4079 <i>Medicago polymorpha</i> (Burr Medic)	Y		
702.	37580 <i>Melaleuca acutifolia</i>			
703.	5870 <i>Melaleuca adnata</i>			
704.	19383 <i>Melaleuca beardii</i>			
705.	19384 <i>Melaleuca bisulcata</i>			
706.	5884 <i>Melaleuca calothamnoides</i>			
707.	19048 <i>Melaleuca campanae</i>			
708.	5887 <i>Melaleuca cardiophylla</i> (Tangling Melaleuca)			
709.	5893 <i>Melaleuca concreta</i>			
710.	5895 <i>Melaleuca conothamnoides</i>			
711.	5896 <i>Melaleuca cordata</i>			
712.	18125 <i>Melaleuca delta</i>			
713.	5908 <i>Melaleuca eleuterostachya</i>			
714.	19452 <i>Melaleuca eulobata</i>			
715.	5911 <i>Melaleuca filifolia</i> (Wiry Honey-myrtle)			
716.	15602 <i>Melaleuca fulgens</i> subsp. <i>steadmanii</i>			
717.	18129 <i>Melaleuca hollidayi</i>			
718.	19049 <i>Melaleuca idana</i>			
719.	18452 <i>Melaleuca laetifica</i>			
720.	19522 <i>Melaleuca lara</i>			
721.	5930 <i>Melaleuca leiopyxis</i>			
722.	18112 <i>Melaleuca leuropoma</i>			
723.	18435 <i>Melaleuca longistaminea</i>			
724.	5936 <i>Melaleuca megacephala</i>			
725.	9183 <i>Melaleuca nematophylla</i> (Wiry Honey-myrtle)			
726.	5954 <i>Melaleuca psammophila</i>			
727.	5958 <i>Melaleuca radula</i> (Graceful Honey-myrtle)			
728.	5959 <i>Melaleuca raphiophylla</i> (Swamp Paperbark)			
729.	5961 <i>Melaleuca scabra</i> (Rough Honey-myrtle, Wurru Bush)			
730.	18598 <i>Melaleuca systema</i>			
731.	5984 <i>Melaleuca uncinata</i> (Broom Bush, Kwidjard)			
732.	19610 <i>Melaleuca venusta</i>			
733.	5987 <i>Melaleuca viminea</i> (Mohan)			

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734.	13280 <i>Melaleuca viminea</i> subsp. <i>viminea</i>			
735.	4085 <i>Melilotus indicus</i>	Y		
736.	954 <i>Mesomelaena preissii</i>			
737.	955 <i>Mesomelaena pseudostygia</i>			
738.	27067 <i>Metagoniolithon chara</i>			
739.	27074 <i>Microdictyon umbilicatum</i>			
740.	6000 <i>Micromyrtus racemosa</i>			
741.	8814 <i>Microtis brownii</i>			
742.	8105 <i>Millotia myosotidifolia</i>			
743.	41444 <i>Mirbelia balsiformis</i>			
744.	4089 <i>Mirbelia depressa</i>			
745.	4097 <i>Mirbelia ramulosa</i>			
746.	18222 <i>Mirbelia</i> sp. <i>Zuytdorp</i> (G.J. Keighery & N. Gibson 1688)			Y
747.	4100 <i>Mirbelia spinosa</i>			
748.	4104 <i>Mirbelia trichocalyx</i>			
749.	490 <i>Monachather paradoxus</i>			
750.	37440 <i>Monopsis debilis</i> var. <i>depressa</i>	Y		
751.	19584 <i>Monotaxis bracteata</i>			
752.	2412 <i>Muehlenbeckia adpressa</i> (Climbing Lignum)			
753.	7289 <i>Myoporum caprarioides</i> (Slender Myoporum)			
754.	8114 <i>Myriocephalus appendiculatus</i> (White-tip Myriocephalus)			
755.	8116 <i>Myriocephalus gueriniae</i>			
756.	17925 <i>Myriocephalus oldfieldii</i>			
757.	492 <i>Neurachne alopecuroidea</i> (Foxytail Mulga Grass)			
758.	6976 <i>Nicotiana occidentalis</i> (Native Tobacco)			
759.	6978 <i>Nicotiana rotundifolia</i> (Round-leaved Tobacco)			
760.	2401 <i>Nuytsia floribunda</i> (Christmas Tree, Mudja)			
761.	2364 <i>Olax aurantia</i>			
762.	8127 <i>Olearia axillaris</i> (Coastal Daisybush)			
763.	8136 <i>Olearia homolepis</i>			
764.	8148 <i>Olearia revoluta</i>			
765.	<i>Olearia</i> sp.			
766.	42024 <i>Olearia</i> sp. <i>Kennedy Range</i> (G. Byrne 66)			
767.	18256 <i>Opercularia spermacocea</i>			
768.	18255 <i>Opercularia vaginata</i> (Dog Weed)			
769.	17 <i>Ophioglossum lusitanicum</i> (Adders Tongue)			
770.	46222 <i>Orianthera biloba</i>			
771.	46313 <i>Orianthera flaviflora</i>			
772.	46254 <i>Orianthera spermacocea</i>			
773.	11749 <i>Orthrosanthus laxus</i> var. <i>laxus</i> (Morning Iris)			
774.	4355 <i>Oxalis perennans</i>			
775.	4356 <i>Oxalis pes-caprae</i> (Soursob)	Y		
776.	15963 <i>Paracaleana lyonsii</i>			
777.	15422 <i>Paracaleana terminalis</i>			
778.	513 <i>Paractaenium novae-hollandiae</i> (Reflexed Panic Grass)			
779.	11232 <i>Paractaenium novae-hollandiae</i> subsp. <i>novae-hollandiae</i>			
780.	516 <i>Parapholis incurva</i> (Coast Barbgrass)	Y		
781.	12670 <i>Parietaria cardiostegia</i>			
782.	1762 <i>Parietaria debilis</i> (Pellitory)			
783.	518 <i>Paspalidium clementii</i> (Clements Paspalidium)			
784.	528 <i>Paspalum distichum</i> (Water Couch)	Y		
785.	1543 <i>Patersonia drummondii</i> (Drummond's Patersonia)			
786.	1550 <i>Patersonia occidentalis</i> (Purple Flag, Koma)			
787.	30476 <i>Patersonia occidentalis</i> var. <i>latifolia</i>			
788.	30472 <i>Patersonia occidentalis</i> var. <i>occidentalis</i>			
789.	43761 <i>Pauridia occidentalis</i> var. <i>occidentalis</i>			
790.	4346 <i>Pelargonium littorale</i>			
791.	20611 <i>Pembertonia latisquamea</i>			
792.	7593 <i>Pentaptilon careyi</i>			
793.	2254 <i>Persoonia acicularis</i>			
794.	15626 <i>Persoonia biglandulosa</i>			
795.	15629 <i>Persoonia hexagona</i>			
796.	2274 <i>Persoonia saundersiana</i>			
797.	15632 <i>Persoonia stricta</i>			
798.	3675 <i>Petalostylis labicheoides</i> (Slender Petalostylis)			
799.	2286 <i>Petrophile brevifolia</i>			
800.	2290 <i>Petrophile conifera</i>			
801.	40722 <i>Petrophile conifera</i> subsp. <i>conifera</i>			
802.	40740 <i>Petrophile foremanii</i>			
803.	2301 <i>Petrophile macrostachya</i>			

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804.	29192 <i>Petrophile pilostyla</i> subsp. <i>pilostyla</i>			
805.	2307 <i>Petrophile semifurcata</i>			
806.	551 <i>Phalaris minor</i> (Lesser Canary Grass)	Y		
807.	20460 <i>Pheladenia deformis</i>			
808.	18537 <i>Philotheca brucei</i> subsp. <i>brucei</i>			
809.	18508 <i>Philotheca sericea</i>			
810.	3058 <i>Phlegmatospermum drummondii</i> (Drummond's Phlegmatospermum)			
811.	6734 <i>Phyla nodiflora</i> var. <i>nodiflora</i>	Y		
812.	4675 <i>Phyllanthus calycinus</i> (False Boronia)			
813.	17626 <i>Phyllanthus erwinii</i>			
814.	4680 <i>Phyllanthus maderaspatensis</i>			
815.	4685 <i>Phyllanthus scaber</i>			
816.	6008 <i>Phymatocarpus porphyrocephalus</i>			
817.	6009 <i>Pileanthus filifolius</i> (Summer Coppercups)			
818.	20219 <i>Pileanthus peduncularis</i> subsp. <i>peduncularis</i>			
819.	20229 <i>Pileanthus peduncularis</i> subsp. <i>pilifer</i>			
820.	18250 <i>Pileanthus vernicosus</i>			
821.	5231 <i>Pimelea angustifolia</i> (Narrow-leaved Pimelea)			
822.	5232 <i>Pimelea argentea</i> (Silvery Leaved Pimelea)			
823.	5246 <i>Pimelea gilgiana</i>			
824.	5254 <i>Pimelea leucantha</i>			
825.	5256 <i>Pimelea microcephala</i> (Shrubby Riceflower, Banjine)			
826.	11185 <i>Pimelea microcephala</i> subsp. <i>microcephala</i>			
827.	5263 <i>Pimelea sessilis</i>			
828.	41300 <i>Pittosporum phillyreoides</i> (Weeping Pittosporum, Yaliti)			
829.	6811 <i>Pityrodia hemigenioides</i>			
830.	11785 <i>Plantago coronopus</i> subsp. <i>commutata</i>	Y		
831.	6262 <i>Platysace xerophila</i>			
832.	45237 <i>Podolepis aristata</i> subsp. <i>aristata</i>			
833.	8173 <i>Podolepis capillaris</i> (Wiry Podolepis)			
834.	8177 <i>Podolepis lessonii</i>			
835.	8182 <i>Podotheca angustifolia</i> (Sticky Longheads)			
836.	8184 <i>Podotheca gnaphalioides</i> (Golden Long-heads)			
837.	8187 <i>Pogonolepis muelleriana</i>			
838.	8188 <i>Pogonolepis stricta</i>			
839.	2905 <i>Polycarpon tetraphyllum</i> (Fourleaf Allseed)	Y		
840.	582 <i>Polypogon monspeliensis</i> (Annual Beardgrass)	Y		
841.	4688 <i>Poranthera drummondii</i>			
842.	4691 <i>Poranthera microphylla</i> (Small Poranthera)			
843.	15425 <i>Prasophyllum calcicola</i>			
844.	1671 <i>Prasophyllum elatum</i> (Tall Leek Orchid)			
845.	8189 <i>Pseudognaphalium luteoalbum</i> (Jersey Cudweed)			
846.	1 <i>Psilotum nudum</i>			
847.	13255 <i>Pterochaeta paniculata</i>			
848.	27195 <i>Pterocladia lucida</i>			
849.	41982 <i>Pterostylis microglossa</i>			
850.	1697 <i>Pterostylis scabra</i> (Bronze Shell Orchid)			
851.	18657 <i>Pterostylis</i> sp. <i>inland</i> (A.C. Beaglehole 11880)			
852.	2717 <i>Ptilotus divaricatus</i> (Climbing Mulla Mulla)			
853.	11797 <i>Ptilotus drummondii</i> var. <i>minor</i>			
854.	48602 <i>Ptilotus eremita</i>			
855.	2721 <i>Ptilotus exaltatus</i> (Tall Mulla Mulla)			
856.	2727 <i>Ptilotus gaudichaudii</i>			
857.	2729 <i>Ptilotus grandiflorus</i>			
858.	2733 <i>Ptilotus humilis</i>			
859.	2742 <i>Ptilotus manglesii</i> (Pom Poms, Mulamula)			
860.	2747 <i>Ptilotus obovatus</i> (Cotton Bush)			
861.	2751 <i>Ptilotus polystachyus</i> (Prince of Wales Feather)			
862.	40841 <i>Ptilotus stirlingii</i> subsp. <i>stirlingii</i>			
863.	2766 <i>Ptilotus villosiflorus</i>			
864.	16367 <i>Pyrorchis nigricans</i> (Red beaks, Elephants ears)			
865.	41041 <i>Quoya atriplicina</i>			
866.	41043 <i>Quoya cuneata</i>			
867.	41063 <i>Quoya loxocarpa</i>			
868.	41062 <i>Quoya oldfieldii</i> (Oldfields Foxglove)			
869.	41080 <i>Quoya verbascina</i> (Golden Bush)			
870.	11927 <i>Ranunculus sessiliflorus</i> var. <i>sessiliflorus</i>			
871.	8197 <i>Reichardia tingitana</i> (False Sowthistle)	Y		
872.	2581 <i>Rhagodia drummondii</i>			
873.	2583 <i>Rhagodia latifolia</i>			

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874.	11728 <i>Rhagodia latifolia</i> subsp. <i>latifolia</i>			
875.	2584 <i>Rhagodia preissii</i>			
876.	11240 <i>Rhagodia preissii</i> subsp. <i>obovata</i>			
877.	11254 <i>Rhagodia preissii</i> subsp. <i>preissii</i>			
878.	13306 <i>Rhodanthe battii</i>			
879.	13241 <i>Rhodanthe chlorocephala</i> subsp. <i>rosea</i>			
880.	13300 <i>Rhodanthe citrina</i>			
881.	13291 <i>Rhodanthe condensata</i>			
882.	13234 <i>Rhodanthe manglesii</i>			
883.	13248 <i>Rhodanthe oppositifolia</i>			
884.	13309 <i>Rhodanthe spicata</i>			
885.	13254 <i>Rhodanthe stricta</i>			
886.	4698 <i>Ricinocarpos muricatus</i>			
887.	45152 <i>Roebuckiella cheilocarpa</i>			
888.	45158 <i>Roebuckiella cheilocarpa</i> var. <i>integra</i>			Y
889.	45148 <i>Roebuckiella ciliocarpa</i>			
890.	48891 <i>Roepera fruticulosa</i>			
891.	48901 <i>Roepera similis</i>			
892.	11151 <i>Rostraria pumila</i>	Y		
893.	44608 <i>Rosulabryum billardieri</i>			
894.	46434 <i>Rumex hypogaeus</i>	Y		
895.	2443 <i>Rumex vesicarius</i> (Ruby Dock)	Y		
896.	115 <i>Ruppia megacarpa</i>			
897.	<i>Ruppia</i> sp.			
898.	40425 <i>Rytidosperma caespitosum</i>			
899.	2906 <i>Sagina apetala</i> (Annual Pearlwort)	Y		
900.	48430 <i>Salicornia quinqueflora</i>			
901.	6483 <i>Samolus junceus</i>			
902.	6484 <i>Samolus repens</i> (Creeping Brookweed)			
903.	2356 <i>Santalum acuminatum</i> (Quandong, Warrga)			
904.	2359 <i>Santalum spicatum</i> (Sandalwood, Wilarak)			
905.	4706 <i>Sauropus crassifolius</i>			
906.	7595 <i>Scaevola anchusifolia</i>			
907.	7603 <i>Scaevola canescens</i> (Grey Scaevola)			
908.	7606 <i>Scaevola crassifolia</i> (Thick-leaved Fan-flower)			
909.	7619 <i>Scaevola lanceolata</i> (Long-leaved Scaevola)			
910.	7626 <i>Scaevola nitida</i> (Shining Fanflower)			
911.	7634 <i>Scaevola phlebopetala</i> (Velvet Fanflower)			
912.	7637 <i>Scaevola porocarya</i> (Striate-fruit Scaevola)			
913.	7643 <i>Scaevola sericophylla</i>			
914.	7644 <i>Scaevola spinescens</i> (Currant Bush, Maroon)			
915.	13152 <i>Scaevola thesioides</i> subsp. <i>thesioides</i>			
916.	7648 <i>Scaevola tomentosa</i> (Raggedleaf Fanflower)			
917.	12588 <i>Scaevola virgata</i>			
918.	41660 <i>Schenkia australis</i>			
919.	48834 <i>Schinus terebinthifolia</i>	Y		
920.	8200 <i>Schoenia cassiniana</i> (Schoenia)			
921.	16257 <i>Schoenoplectus subulatus</i>			
922.	971 <i>Schoenus andrewsii</i>			
923.	972 <i>Schoenus armeria</i>			
924.	982 <i>Schoenus clandestinus</i>			
925.	992 <i>Schoenus grandiflorus</i> (Large Flowered Bogrusher)			
926.	994 <i>Schoenus humilis</i>			
927.	998 <i>Schoenus latitans</i>			
928.	1002 <i>Schoenus nanus</i> (Tiny Bog Rush)			
929.	1009 <i>Schoenus pleiostemoneus</i>			
930.	16254 <i>Schoenus</i> sp. G Broad Sheath (K.L. Wilson 2633)			
931.	1026 <i>Schoenus unispiculatus</i>			
932.	17409 <i>Schoenus variicellae</i>			
933.	6029 <i>Scholtzia capitata</i> (Pom-pom Scholtzia)			
934.	49117 <i>Scholtzia longipedata</i>			Y
935.	49118 <i>Scholtzia longipedata</i> subsp. <i>longipedata</i>			
936.	44567 <i>Scholtzia obovata</i>			
937.	6036 <i>Scholtzia oligandra</i> (Pink Scholtzia)			
938.	20094 <i>Scholtzia</i> sp. Murchison (M.E. Trudgen 1685)			
939.	15427 <i>Scholtzia spatulata</i>			
940.	6040 <i>Scholtzia uberiflora</i>			
941.	6041 <i>Scholtzia umbellifera</i>			
942.	25884 <i>Senecio pinnatifolius</i> var. <i>latilobus</i>			
943.	25883 <i>Senecio pinnatifolius</i> var. <i>pinnatifolius</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
944.	18444 <i>Senna charlesiana</i>			
945.	12305 <i>Senna glutinosa</i> subsp. <i>chatelainiana</i>			
946.	12314 <i>Senna pleurocarpa</i> var. <i>pleurocarpa</i>			
947.	46818 <i>Seringia hermanniifolia</i> (Crinkle-leaved firebush)			
948.	46824 <i>Seringia velutina</i> (Velvet firebush)			
949.	606 <i>Setaria dielsii</i> (Diels' Pigeon Grass)			
950.	4970 <i>Sida calyxhymenia</i> (Tall Sida)			
951.	2909 <i>Silene gallica</i> (French Catchfly)	Y		
952.	2910 <i>Silene nocturna</i> (Mediterranean Catchfly)	Y		
953.	3070 <i>Sisymbrium irio</i> (London Rocket)	Y		
954.	6988 <i>Solanum americanum</i> (Glossy Nightshade)	Y		
955.	7011 <i>Solanum hesperium</i>			
956.	7018 <i>Solanum lasiophyllum</i> (Flannel Bush, Mindjulu)			
957.	7023 <i>Solanum nummularium</i> (Money-leaved Solanum)			
958.	7025 <i>Solanum oldfieldii</i>			
959.	7026 <i>Solanum orbiculatum</i> (Wild Tomato)			
960.	11241 <i>Solanum orbiculatum</i> subsp. <i>orbiculatum</i> (Round-leaved Solanum)			
961.	7037 <i>Solanum symonii</i>			
962.	8231 <i>Sonchus oleraceus</i> (Common Sowthistle)	Y		
963.	1312 <i>Sowerbaea laxiflora</i> (Purple Tassels)			
964.	2912 <i>Spergula arvensis</i> (Corn Spurry)	Y		
965.	4203 <i>Sphaerolobium gracile</i>			
966.	625 <i>Spinifex longifolius</i> (Beach Spinifex)			
967.	635 <i>Sporobolus virginicus</i> (Marine Couch)			
968.	4713 <i>Stachystemon axillaris</i> (Leafy Stachystemon)			
969.	4730 <i>Stackhousia dielsii</i> (Yellow Stackhousia)			
970.	4734 <i>Stackhousia muricata</i>			
971.	43541 <i>Stackhousia</i> sp. Hairy fruited (E.N.S. Jackson 1387)			
972.	43601 <i>Stackhousia</i> sp. Mid west coastal (D. & B. Bellairs 6561)			
973.	2918 <i>Stellaria media</i> (Chickweed)	Y		
974.	12487 <i>Stemodia florulenta</i>			
975.	7102 <i>Stemodia viscosa</i> (Pagurda)			
976.	16190 <i>Stenanthemum complicatum</i>			
977.	15065 <i>Stenanthemum notiale</i> subsp. <i>notiale</i>			
978.	13476 <i>Stenanthemum pomaderoides</i>			
979.	3076 <i>Stenopetalum filifolium</i>			
980.	19403 <i>Stenopetalum gracile</i>			
981.	3079 <i>Stenopetalum pedicellare</i>			
982.	30278 <i>Stylidium androsaceum</i>			
983.	17187 <i>Stylidium burbidgeanum</i>			
984.	7715 <i>Stylidium dispernum</i>			
985.	7720 <i>Stylidium elongatum</i> (Tall Triggerplant)			
986.	17412 <i>Stylidium kalbarriense</i>			
987.	48472 <i>Stylidium ponticulis</i>			
988.	25837 <i>Stylidium purpureum</i> (Purple Fountain Triggerplant)			
989.	7785 <i>Stylidium repens</i> (Matted Triggerplant)			
990.	17578 <i>Stylidium udusicola</i>			
991.	3181 <i>Stylobasium australe</i>			
992.	3182 <i>Stylobasium spathulatum</i> (Pebble Bush)			
993.	1260 <i>Stypandra glauca</i> (Blind Grass)			
994.	12355 <i>Swainsona affinis</i>			
995.	4220 <i>Swainsona canescens</i> (Grey Swainsona)			
996.	4229 <i>Swainsona gracilis</i>			
997.	15532 <i>Synaphea spinulosa</i> subsp. <i>spinulosa</i>			
998.	33319 <i>Tecticornia indica</i> subsp. <i>bidens</i>			
999.	4256 <i>Templetonia retusa</i> (Cockies Tongues)			
1000.	2791 <i>Tersonia cyathiflora</i> (Button Creeper)			
1001.	2821 <i>Tetragonia diptera</i>			
1002.	2823 <i>Tetragonia implexicoma</i> (Bower Spinach)			
1003.	1035 <i>Tetralia microcarpa</i>			
1004.	1701 <i>Thelymitra antennifera</i> (Vanilla Orchid)			
1005.	1702 <i>Thelymitra campanulata</i> (Shirt Orchid)			
1006.	20732 <i>Thelymitra petrophila</i>			
1007.	1714 <i>Thelymitra sargentii</i> (Freckled Sun Orchid)			
1008.	23992 <i>Thelymitra</i> sp. Murchison (A.S. George 9542)			
1009.	673 <i>Themeda triandra</i>			
1010.	5077 <i>Thomasia cognata</i>			
1011.	2644 <i>Threlkeldia diffusa</i> (Coast Bonefruit)			
1012.	6051 <i>Thryptomene baeckeacea</i>			
1013.	6055 <i>Thryptomene denticulata</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1014.	44698 <i>Thryptomene globifera</i>			
1015.	20366 <i>Thryptomene</i> sp. Red Bluff (A.G. Gunness 2358)			
1016.	6067 <i>Thryptomene stronglyphylla</i>			
1017.	48213 <i>Thyridia repens</i>			
1018.	46756 <i>Thysanotus exfimbriatus</i>			
1019.	1338 <i>Thysanotus manglesianus</i> (Fringed Lily)			
1020.	1343 <i>Thysanotus patersonii</i>			
1021.	1347 <i>Thysanotus ramulosus</i>			
1022.	29456 <i>Thysanotus</i> sp. Twining Wheatbelt (N.H. Brittan 81/29)			
1023.	1351 <i>Thysanotus sparteus</i>			
1024.	1352 <i>Thysanotus speckii</i>			
1025.	1356 <i>Thysanotus teretifolius</i>			
1026.	1357 <i>Thysanotus thyrsoides</i>			
1027.	6266 <i>Trachymene coerulea</i> (Blue Lace Flower)			
1028.	19042 <i>Trachymene coerulea</i> subsp. <i>leucopetala</i>			
1029.	6268 <i>Trachymene cyanopetala</i>			
1030.	6272 <i>Trachymene elachocarpa</i>			
1031.	6279 <i>Trachymene ornata</i> (Spongefruit)			
1032.	6280 <i>Trachymene pilosa</i> (Native Parsnip)			
1033.	27340 <i>Tricleocarpa cylindrica</i>			
1034.	1361 <i>Tricoryne elatior</i> (Yellow Autumn Lily)			
1035.	29477 <i>Tricoryne</i> sp. Mullewa (G.J. Keighery 12080)			
1036.	4292 <i>Trifolium campestre</i> (Hop Clover)	Y		
1037.	33276 <i>Triglochin isingiana</i>			
1038.	18587 <i>Triglochin nana</i>			
1039.	19174 <i>Triglochin</i> sp. A Flora of Australia (G.J. Keighery 2477)			
1040.	17882 <i>Triodia danthonioides</i>			
1041.	48319 <i>Tripogonella loliiformis</i>			
1042.	4737 <i>Tripterococcus brunonis</i> (Winged Stackhousia)			
1043.	32451 <i>Triquetrella papillata</i>			
1044.	8254 <i>Urospermum picroides</i> (False Hawkbit)	Y		
1045.	38388 <i>Ursinia anthemoides</i> subsp. <i>anthemoides</i>	Y		
1046.	7153 <i>Utricularia tenella</i>			
1047.	7658 <i>Velleia discophora</i> (Cabbage Poison)			
1048.	8257 <i>Vellereophyton dealbatum</i> (White Cudweed)	Y		
1049.	7666 <i>Verreauxia reinwardtii</i> (Common Verreauxia)			
1050.	6073 <i>Verticordia chrysantha</i>			
1051.	14709 <i>Verticordia chrysostachys</i> var. <i>chrysostachys</i>			
1052.	12411 <i>Verticordia densiflora</i> var. <i>cespitosa</i>			
1053.	12414 <i>Verticordia densiflora</i> var. <i>stelluligera</i>			
1054.	15623 <i>Verticordia etheliana</i> var. <i>etheliana</i>			
1055.	12423 <i>Verticordia etheliana</i> var. <i>formosa</i>			
1056.	6094 <i>Verticordia lepidophylla</i>			Y
1057.	15622 <i>Verticordia lepidophylla</i> var. <i>lepidophylla</i>			
1058.	6098 <i>Verticordia monadelpha</i> (Pink Woolly Featherflower)			
1059.	12443 <i>Verticordia monadelpha</i> var. <i>callitricha</i>			
1060.	10822 <i>Verticordia nobilis</i>			
1061.	6102 <i>Verticordia oculata</i>			
1062.	6107 <i>Verticordia pennigera</i>			
1063.	6108 <i>Verticordia pholidophylla</i>			
1064.	6109 <i>Verticordia picta</i> (Painted Featherflower)			
1065.	15615 <i>Verticordia spicata</i> subsp. <i>spicata</i>			
1066.	4325 <i>Viminaria juncea</i> (Swishbush, Koweda)			
1067.	8268 <i>Vittadinia humerata</i>			
1068.	724 <i>Vulpia myuros</i> (Rat's Tail Fescue)	Y		
1069.	7384 <i>Wahlenbergia capensis</i> (Cape Bluebell)	Y		
1070.	7389 <i>Wahlenbergia preissii</i>			
1071.	8275 <i>Waitzia acuminata</i> (Orange Immortelle)			
1072.	13331 <i>Waitzia acuminata</i> var. <i>acuminata</i>			
1073.	13330 <i>Waitzia acuminata</i> var. <i>albicans</i>			
1074.	13328 <i>Waitzia nitida</i>			
1075.	8281 <i>Waitzia podolepis</i>			
1076.	8282 <i>Waitzia suaveolens</i> (Fragrant Waitzia)			
1077.	6939 <i>Westringia dampieri</i>			
1078.	1393 <i>Wurmbea dilatata</i>			
1079.	12072 <i>Wurmbea dioica</i> subsp. <i>alba</i>			
1080.	1397 <i>Wurmbea inframediana</i>			
1081.	1398 <i>Wurmbea monantha</i>			
1082.	1401 <i>Wurmbea pygmaea</i>			
1083.	1252 <i>Xanthorrhoea drummondii</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
1084.	2330 <i>Xylomelum angustifolium</i> (Sandplain Woody Pear)			

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 B

***NatureMap* fauna species report**

40km NatureMap Fauna Report

Created By Guest user on 24/11/2021

Kingdom Animalia
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 114° 10' 40" E, 27° 22' 43" S
Buffer 40km
Group By Conservation Status

Conservation Status	Species	Records
Non-conservation taxon	451	3529
Other specially protected fauna	2	31
Priority 2	1	1
Priority 3	2	22
Priority 4	3	26
Protected under international agreement	12	127
Rare or likely to become extinct	7	57
TOTAL	478	3793

Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Rare or likely to become extinct				
1.	24784 <i>Calidris ferruginea</i> (Curlew Sandpiper)		T	
2.	24734 <i>Calyptorhynchus latirostris</i> (Carnaby's Cockatoo, White-tailed Short-billed Black Cockatoo)		T	
3.	25575 <i>Charadrius leschenaultii</i> (Greater Sand Plover)		T	
4.	25576 <i>Charadrius mongolus</i> (Lesser Sand Plover)		T	
5.	24092 <i>Dasyurus geoffroyi</i> (Chuditch, Western Quoll)		T	
6.	33917 <i>Idiosoma nigrum</i> (Shield-backed Trapdoor Spider)		T	
7.	24557 <i>Leipoa ocellata</i> (Malleefowl)		T	
Protected under international agreement				
8.	41323 <i>Actitis hypoleucos</i> (Common Sandpiper)		IA	
9.	48573 <i>Ardenna pacifica</i> (Wedge-tailed Shearwater)		IA	
10.	25736 <i>Arenaria interpres</i> (Ruddy Turnstone)		IA	
11.	24780 <i>Calidris alba</i> (Sanderling)		IA	
12.	24788 <i>Calidris ruficollis</i> (Red-necked Stint)		IA	
13.	48587 <i>Hydroprogne caspia</i> (Caspian Tern)		IA	
14.	30932 <i>Limosa lapponica</i> (Bar-tailed Godwit)		IA	
15.	24497 <i>Oceanites oceanicus</i> (Wilson's Storm-petrel)		IA	
16.	48591 <i>Pandion cristatus</i> (Osprey, Eastern Osprey)		IA	
17.	24383 <i>Pluvialis squatarola</i> (Grey Plover)		IA	
18.	48597 <i>Thalasseus bergii</i> (Crested Tern)		IA	
19.	24808 <i>Tringa nebularia</i> (Common Greenshank, greenshank)		IA	
Other specially protected fauna				
20.	25624 <i>Falco peregrinus</i> (Peregrine Falcon)		S	
21.	24051 <i>Megaptera novaeangliae</i> (Humpback Whale)		S	
Priority 2				
22.	34022 <i>Hypseleotris aurea</i> (Golden Gudgeon)		P2	
Priority 3				
23.	25141 <i>Lerista humphriesi</i> (taper-tailed West Coast slider (Murchison River), skink)		P3	
24.	25006 <i>Pletholax gracilis</i> subsp. <i>edelensis</i> (Keeled Legless Lizard (Shark Bay))		P3	
Priority 4				
25.	48024 <i>Notamacropus eugenii</i> subsp. <i>derbianus</i> (Tamar Wallaby, Tamar)		P4	
26.	33992 <i>Synemon gratioiosa</i> (Graceful Sunmoth)		P4	
27.	24803 <i>Tringa brevipes</i> (Grey-tailed Tattler)		P4	
Non-conservation taxon				
28.	<i>Abudedefduf sordidus</i>			
29.	24559 <i>Acanthagenys rufogularis</i> (Spiny-cheeked Honeyeater)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
30.	<i>Acanthistius pardalotus</i>			
31.	<i>Acanthistius serratus</i>			
32.	24260 <i>Acanthiza apicalis</i> (Broad-tailed Thornbill, Inland Thornbill)			
33.	24261 <i>Acanthiza chrysorrhoa</i> (Yellow-rumped Thornbill)			
34.	24265 <i>Acanthiza uropygialis</i> (Chestnut-rumped Thornbill)			
35.	<i>Acanthopagrus butcheri</i>			
36.	25535 <i>Accipiter cirrocephalus</i> (Collared Sparrowhawk)			
37.	24281 <i>Accipiter cirrocephalus</i> subsp. <i>cirrocephalus</i> (Collared Sparrowhawk)			
38.	25536 <i>Accipiter fasciatus</i> (Brown Goshawk)			
39.	<i>Alboa worooa</i>			
40.	<i>Aldrichetta forsteri</i>			
41.	<i>Allenichthys glauerti</i>			
42.	<i>Amblyomma triguttatum</i>			
43.	<i>Amniataba caudavittata</i>			
44.	30833 <i>Amphibolurus longirostris</i> (Long-nosed Dragon)			
45.	<i>Aname mainae</i>			
46.	24312 <i>Anas gracilis</i> (Grey Teal)			
47.	24316 <i>Anas superciliosa</i> (Pacific Black Duck)			
48.	47414 <i>Anhinga novaehollandiae</i> (Australasian Darter)			
49.	25241 <i>Antaresia stimsoni</i> subsp. <i>stimsoni</i> (Stimson's Python)			
50.	24561 <i>Anthochaera carunculata</i> (Red Wattlebird)			
51.	<i>Apogon rueppellii</i>			
52.	24993 <i>Aprasia smithi</i> (Black-tipped Worm-lizard)			
53.	<i>Aprasia</i> sp.			
54.	24285 <i>Aquila audax</i> (Wedge-tailed Eagle)			
55.	<i>Aracana aurita</i>			
56.	<i>Araneus eburneiventris</i>			
57.	<i>Araneus senicaudatus</i>			
58.	41324 <i>Ardea modesta</i> (great egret, white egret)			
59.	24340 <i>Ardea novaehollandiae</i> (White-faced Heron)			
60.	24341 <i>Ardea pacifica</i> (White-necked Heron)			
61.	24610 <i>Ardeotis australis</i> (Australian Bustard)			
62.	41375 <i>Arenophryne xiphorhyncha</i> (Southern Sandhill Frog)			
63.	<i>Argiope protensa</i>			
64.	<i>Argiope trifasciata</i>			
65.	25566 <i>Artamus cinereus</i> (Black-faced Woodswallow)			
66.	24355 <i>Artamus minor</i> (Little Woodswallow)			
67.	24356 <i>Artamus personatus</i> (Masked Woodswallow)			
68.	24357 <i>Artamus superciliosus</i> (White-browed Woodswallow)			
69.	<i>Arthritica semen</i>			
70.	<i>Asadipus phaleratus</i>			
71.	<i>Aulonogyus strigosus</i>			
72.	<i>Austracantha minax</i>			
73.	<i>Austroepigomphus</i> (<i>Xerogomphus</i>) <i>gordoni</i>			
74.	<i>Austrolabrus maculatus</i>			
75.	24318 <i>Aythya australis</i> (Hardhead)			
76.	<i>Backbourkia collina</i>			
77.	<i>Backbourkia heroine</i>			
78.	<i>Baetidae</i> sp.			
79.	<i>Barbuligobius boehlkei</i>			
80.	<i>Barnardius zonarius</i>			
81.	<i>Batrachomatus wingi</i>			
82.	<i>Bezzia</i> sp. 2 (SAP)			
83.	<i>Bigenditia zuytdorp</i>			
84.	24319 <i>Biziura lobata</i> (Musk Duck)			
85.	<i>Brachionus</i> cf. <i>nilsoni</i> (SAP)			
86.	<i>Brachionus quadridentatus cluniorbicularis</i>			
87.	42381 <i>Brachyurophis semifasciatus</i> (Southern Shovel-nosed Snake)			
88.	24725 <i>Cacatua roseicapilla</i> subsp. <i>assimilis</i> (Galah)			
89.	25716 <i>Cacatua sanguinea</i> (Little Corella)			
90.	25598 <i>Cacomantis flabelliformis</i> (Fan-tailed Cuckoo)			
91.	24427 <i>Cacomantis flabelliformis</i> subsp. <i>flabelliformis</i> (Fan-tailed Cuckoo)			
92.	42307 <i>Cacomantis pallidus</i> (Pallid Cuckoo)			
93.	<i>Caenidae</i> sp.			
94.	24269 <i>Calamanthus campestris</i> (Rufous Fieldwren)			
95.	<i>Callogobius mucosus?</i>			Y
96.	25717 <i>Calyptorhynchus banksii</i> (Red-tailed Black-Cockatoo)			
97.	<i>Candonocypris novaehollandiae</i>			
98.	24253 <i>Capra hircus</i> (Goat)	Y		
99.	<i>Centropogon australis</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
100.	<i>Ceratopogonidae</i> sp.			
101.	<i>Cercophonius granulosus</i>			
102.	24564 <i>Certhionyx variegatus</i> (Pied Honeyeater)			
103.	24377 <i>Charadrius ruficapillus</i> (Red-capped Plover)			
104.	<i>Chelmonops curiosus</i>			
105.	24321 <i>Chenonetta jubata</i> (Australian Wood Duck, Wood Duck)			
106.	47909 <i>Cheramoeca leucosterna</i> (White-backed Swallow)			
107.	<i>Chironominae</i> sp.			
108.	<i>Chironomus</i> aff. <i>alternans</i> (V24) (CB)			
109.	<i>Chroicocephalus novaehollandiae</i>			
110.	24431 <i>Chrysococcyx basalis</i> (Horsfield's Bronze Cuckoo)			
111.	24288 <i>Circus approximans</i> (Swamp Harrier)			
112.	24289 <i>Circus assimilis</i> (Spotted Harrier)			
113.	<i>Cladotanytarsus</i> sp. A (SAP)			
114.	<i>Cleidopus gloriamaris</i>			
115.	<i>Cloeon</i> sp.			
116.	<i>Cocotropus?</i> sp.			Y
117.	<i>Coelopynia pruinosa</i>			
118.	<i>Coenagrionidae</i> sp.			
119.	25675 <i>Colluricincla harmonica</i> (Grey Shrike-thrush)			
120.	24399 <i>Columba livia</i> (Domestic Pigeon)	Y		
121.	25568 <i>Coracina novaehollandiae</i> (Black-faced Cuckoo-shrike)			
122.	<i>Corbiculidae</i> sp.			
123.	<i>Corduliidae</i> sp.			
124.	<i>Coris auricularis</i>			
125.	<i>Corixidae</i> sp.			
126.	<i>Cormocephalus aurantiipes</i>			
127.	24416 <i>Corvus bennetti</i> (Little Crow)			
128.	25592 <i>Corvus coronoides</i> (Australian Raven)			
129.	24671 <i>Coturnix pectoralis</i> (Stubble Quail)			
130.	24420 <i>Cracticus nigrogularis</i> (Pied Butcherbird)			
131.	25595 <i>Cracticus tibicen</i> (Australian Magpie)			
132.	25596 <i>Cracticus torquatus</i> (Grey Butcherbird)			
133.	<i>Craterocephalus cuneiceps</i>			
134.	25456 <i>Crenadactylus ocellatus</i> (Clawless Gecko)			
135.	24919 <i>Crenadactylus ocellatus</i> subsp. <i>horni</i> (Clawless Gecko)			
136.	24918 <i>Crenadactylus ocellatus</i> subsp. <i>ocellatus</i> (Clawless Gecko)			
137.	30893 <i>Cryptoblepharus buchananii</i>			
138.	25020 <i>Cryptoblepharus plagioccephalus</i>			
139.	<i>Cryptochironomus griseidorsum</i>			
140.	<i>Cryptoerithus halli</i>			
141.	<i>Cryptoerithus quobba</i>			
142.	30899 <i>Ctenophorus adelaidensis</i> (Southern Heath Dragon, Western Heath Dragon)			
143.	25460 <i>Ctenophorus maculatus</i> (Spotted Military Dragon)			
144.	24881 <i>Ctenophorus maculatus</i> subsp. <i>maculatus</i> (Spotted Military Dragon)			
145.	24882 <i>Ctenophorus nuchalis</i> (Central Netted Dragon)			
146.	24886 <i>Ctenophorus reticulatus</i> (Western Netted Dragon)			
147.	24889 <i>Ctenophorus scutulatus</i> (Lozenge-marked Dragon)			
148.	25027 <i>Ctenotus australis</i>			
149.	25039 <i>Ctenotus fallens</i>			
150.	25065 <i>Ctenotus pantherinus</i> subsp. <i>pantherinus</i> (Leopard Ctenotus)			
151.	25074 <i>Ctenotus schomburgkii</i>			
152.	<i>Culicidae</i> sp.			
153.	<i>Culicoides</i> sp.			
154.	25087 <i>Cyclodomorphus celatus</i> (Western Slender Blue-tongue)			
155.	24322 <i>Cygnus atratus</i> (Black Swan)			
156.	<i>Cypretta baylyi</i>			
157.	<i>Cypricerus</i> sp. 415 'humped' (CB)			
158.	24995 <i>Delma australis</i>			
159.	25766 <i>Delma fraseri</i> (Fraser's Legless Lizard)			
160.	25004 <i>Delma tincta</i>			
161.	25296 <i>Demansia psammophis</i> subsp. <i>reticulata</i> (Yellow-faced Whipsnake)			
162.	25607 <i>Dicaeum hirundinaceum</i> (Mistletoebird)			
163.	<i>Dicrotendipes jobetus</i>			
164.	<i>Dingosa murata</i>			
165.	<i>Dingosa serrata</i>			
166.	24938 <i>Diplodactylus ornatus</i>			
167.	24940 <i>Diplodactylus pulcher</i>			
168.	<i>Dipulus caecus</i>			
169.	24470 <i>Dromaius novaehollandiae</i> (Emu)			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
170.	24650 <i>Drymodes brunneopygia</i> (Southern Scrub-robin)			
171.	<i>Dytiscidae</i> sp.			
172.	<i>Egretta garzetta</i>			
173.	<i>Egretta novaehollandiae</i>			
174.	<i>Elanus axillaris</i>			
175.	<i>Eleotris aurea</i>			Y
176.	47937 <i>Euseyornis melanops</i> (Black-fronted Dotterel)			
177.	<i>Enigmapercis reducta</i>			
178.	<i>Enoplosus armatus</i>			
179.	<i>Eolophus roseicapillus</i>			
180.	24651 <i>Eopsaltria australis</i> subsp. <i>griseogularis</i> (Western Yellow Robin)			
181.	<i>Epinephelides armatus</i>			
182.	<i>Epinephelus cooides</i>			
183.	<i>Epinephelus rivulatus</i>			
184.	<i>Epinephelus tauvina</i>			
185.	24567 <i>Epthianura albifrons</i> (White-fronted Chat)			
186.	24570 <i>Epthianura tricolor</i> (Crimson Chat)			
187.	<i>Eriophora biapicata</i>			
188.	<i>Ethmostigmus rubripes</i>			
189.	<i>Euasteron carmarvon</i>			
190.	24368 <i>Eurostopus argus</i> (Spotted Nightjar)			
191.	<i>Eviota bimaculata</i>			
192.	25621 <i>Falco berigora</i> (Brown Falcon)			
193.	25622 <i>Falco cenchroides</i> (Australian Kestrel, Nankeen Kestrel)			
194.	25623 <i>Falco longipennis</i> (Australian Hobby)			
195.	<i>Ferrissia petterdi</i>			
196.	25727 <i>Fulica atra</i> (Eurasian Coot)			
197.	25730 <i>Gallirallus philippensis</i> (Buff-banded Rail)			
198.	24959 <i>Gehyra variegata</i>			
199.	24401 <i>Geopelia cuneata</i> (Diamond Dove)			
200.	25585 <i>Geopelia striata</i> (Zebra Dove)			
201.	24403 <i>Geopelia striata</i> subsp. <i>placida</i> (Peaceful Dove)			
202.	<i>Gerres subfasciatus</i>			
203.	<i>Gerridae</i> sp.			
204.	25530 <i>Gerygone fusca</i> (Western Gerygone)			
205.	47962 <i>Glyciphila melanops</i> (Tawny-crowned Honeyeater)			
206.	24443 <i>Grallina cyanoleuca</i> (Magpie-lark)			
207.	<i>Gymnothorax woodwardi</i>			
208.	25627 <i>Haematopus fuliginosus</i> (Sooty Oystercatcher)			
209.	24487 <i>Haematopus longirostris</i> (Pied Oystercatcher)			
210.	24293 <i>Haliaeetus leucogaster</i> (White-bellied Sea-Eagle)			
211.	24295 <i>Haliastur sphenurus</i> (Whistling Kite)			
212.	<i>Halicampus brocki</i>			
213.	<i>Halichoeres brownfieldi</i>			
214.	<i>Halophryne ocellatus</i>			
215.	<i>Helcogramma decurrens</i>			
216.	25408 <i>Heleioporus albopunctatus</i> (Western Spotted Frog)			
217.	25412 <i>Heleioporus psammophilus</i> (Sand Frog)			
218.	<i>Hemicordulia tau</i>			
219.	<i>Hemigaleus australiensis</i>			
220.	<i>Heteroclinus</i> sp.			
221.	<i>Heteroclinus whitleyi</i> (ms)			
222.	24961 <i>Heteronotia binoei</i> (Bynoe's Gecko)			
223.	47965 <i>Hieraaetus morphnoides</i> (Little Eagle)			
224.	25734 <i>Himantopus himantopus</i> (Black-winged Stilt)			
225.	24491 <i>Hirundo neoxena</i> (Welcome Swallow)			
226.	<i>Histrio histrio</i>			
227.	<i>Hoggicosa alfi</i>			
228.	<i>Hogna crispipes</i>			
229.	<i>Hydraenidae</i> sp.			
230.	<i>Hydrochus lateviridis</i>			
231.	<i>Hydrophilidae</i> sp.			
232.	44656 <i>Hydrophis major</i> (Olive-headed seasnake, greater seasnake)			
233.	<i>Hyperlophus vittatus</i>			
234.	<i>Hyphydrus elegans</i>			
235.	<i>Hyporhamphus regularis</i>			
236.	<i>Hypseleotris compressa</i>			
237.	<i>Hypseleotris</i> sp.			
238.	<i>Ilyocypris australiensis</i>			
239.	<i>Indolpium</i> sp.			

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240.	<i>Ischnura heterosticta heterosticta</i>			
241.	<i>Isometroides vescus</i>			
242.	<i>Isopedella saundersi</i>			
243.	<i>Istiblennius meleagris</i>			
244.	<i>Kyphosus cornelii</i>			
245.	<i>Laccophilus sharpi</i>			
246.	<i>Lampona cylindrata</i>			
247.	<i>Lamponina scutata</i>			
248.	<i>Larsia albiceps</i>			
249.	24511 <i>Larus novaehollandiae</i> subsp. <i>novaehollandiae</i> (Silver Gull)			
250.	25638 <i>Larus pacificus</i> (Pacific Gull)			
251.	<i>Latrodectus hasseltii</i>			
252.	<i>Leiopotherapon unicolor</i>			
253.	<i>Leptoceridae</i> sp.			
254.	25129 <i>Lerista connivens</i>			
255.	25133 <i>Lerista elegans</i>			
256.	25144 <i>Lerista kendricki</i>			
257.	25148 <i>Lerista lineopunctulata</i>			
258.	25151 <i>Lerista macropisthopus</i> subsp. <i>fusciceps</i>			
259.	30922 <i>Lerista micra</i>			
260.	25160 <i>Lerista planiventralis</i> subsp. <i>decora</i>			
261.	25165 <i>Lerista praepedita</i>			
262.	25177 <i>Lerista varia</i>			
263.	<i>Lethrinus nebulosus</i>			
264.	<i>Lethrinus punctulatus</i>			
265.	<i>Lethrinus</i> sp.			
266.	25005 <i>Lialis burtonis</i>			
267.	<i>Libellulidae</i> sp.			
268.	25661 <i>Lichmera indistincta</i> (Brown Honeyeater)			
269.	24582 <i>Lichmera indistincta</i> subsp. <i>indistincta</i> (Brown Honeyeater)			
270.	25415 <i>Limnodynastes dorsalis</i> (Western Banjo Frog)			
271.	<i>Limnogonus</i> sp.			
272.	<i>Liza subviridis</i>			
273.	<i>Longrita zuytdorp</i>			
274.	<i>Lotella rhacinus</i>			
275.	42414 <i>Lucasium alboguttatum</i>			
276.	<i>Lycosa australicola</i>			
277.	<i>Lycosa godeffroyi</i>			
278.	<i>Macrogyrus angustatus</i>			
279.	24132 <i>Macropus fuliginosus</i> (Western Grey Kangaroo)			
280.	<i>Mainosa longipes</i>			
281.	25651 <i>Malurus lamberti</i> (Variegated Fairy-wren)			
282.	24544 <i>Malurus lamberti</i> subsp. <i>assimilis</i> (Variegated Fairy-wren)			
283.	25652 <i>Malurus leucopterus</i> (White-winged Fairy-wren)			
284.	24549 <i>Malurus leucopterus</i> subsp. <i>leuconotus</i> (White-winged Fairy-wren)			
285.	24551 <i>Malurus pulcherrimus</i> (Blue-breasted Fairy-wren)			
286.	25654 <i>Malurus splendens</i> (Splendid Fairy-wren)			
287.	24583 <i>Manorina flavigula</i> (Yellow-throated Miner)			
288.	<i>Masasteron sampeyae</i>			
289.	<i>Meedo harveyi</i>			
290.	25758 <i>Megalurus gramineus</i> (Little Grassbird)			
291.	47997 <i>Melanodryas cucullata</i> (Hooded Robin)			
292.	25663 <i>Melithreptus brevirostris</i> (Brown-headed Honeyeater)			
293.	24736 <i>Melopsittacus undulatus</i> (Budgerigar)			
294.	<i>Menemerus bivittatus</i>			
295.	25184 <i>Menetia greyii</i>			
296.	25491 <i>Menetia surda</i>			
297.	25186 <i>Menetia surda</i> subsp. <i>cresswelli</i>			
298.	24598 <i>Merops ornatus</i> (Rainbow Bee-eater)			
299.	<i>Mesovelidae</i> sp.			
300.	<i>Microcanthus strigatus</i>			
301.	<i>Microcarbo melanoleucos</i>			
302.	25693 <i>Microeca fascinans</i> (Jacky Winter)			
303.	<i>Microvelia</i> (<i>Austromicrovelia</i>) <i>peramoena</i>			
304.	<i>Missulena granulosa</i>			
305.	<i>Mituliodon tarantulinus</i>			
306.	24904 <i>Moloch horridus</i> (Thorny Devil)			
307.	<i>Molycrta vokes</i>			
308.	<i>Monacanthus chinensis</i>			
309.	25191 <i>Morethia lineocellata</i>			

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310.	25192 <i>Morethia obscura</i>			
311.	48008 <i>Morus serrator</i> (Australasian Gannet)			
312.	<i>Mugil cephalus</i>			
313.	<i>Muraenichthys</i> sp.			
314.	24223 <i>Mus musculus</i> (House Mouse)	Y		
315.	<i>Myandra bicincta</i>			
316.	25420 <i>Myobatrachus gouldii</i> (Turtle Frog)			
317.	<i>Naididae</i> (ex <i>Tubificidae</i>)			
318.	<i>Neatypus obliquus</i>			
319.	<i>Necterosoma regulare</i>			
320.	25248 <i>Neelaps bimaculatus</i> (Black-naped Snake)			
321.	<i>Nematolosa come</i>			
322.	<i>Nematolosa vlaminghi</i>			
323.	<i>Nematoda</i> sp.			
324.	25425 <i>Neobatrachus kunapalari</i> (Kunapalari Frog)			
325.	25426 <i>Neobatrachus pelobatooides</i> (Humming Frog)			
326.	25428 <i>Neobatrachus wilsmorei</i> (Plonking Frog)			
327.	<i>Nephila edulis</i>			
328.	25497 <i>Nephurus levis</i>			
329.	24967 <i>Nephurus levis</i> subsp. <i>levis</i>			
330.	24968 <i>Nephurus levis</i> subsp. <i>occidentalis</i>			
331.	<i>Nicodamus mainae</i>			
332.	<i>Nitocra near</i> sp. 4 (SAP)			
333.	<i>Notalina spira</i>			
334.	<i>Notolabrus parilus</i>			
335.	24224 <i>Notomys alexis</i> (Spinifex Hopping-mouse)			
336.	<i>Notonectidae</i> sp.			
337.	25564 <i>Nycticorax caledonicus</i> (Rufous Night Heron)			
338.	24194 <i>Nyctophilus geoffroyi</i> (Lesser Long-eared Bat)			
339.	24742 <i>Nymphicus hollandicus</i> (Cockatiel)			
340.	24407 <i>Ocyphaps lophotes</i> (Crested Pigeon)			
341.	<i>Odax acroptilus</i>			
342.	<i>Oecetis</i> sp.			
343.	<i>Oecobius navus</i>			
344.	<i>Orectolobus</i> sp.			
345.	24618 <i>Oreoica gutturalis</i> (Crested Bellbird)			
346.	<i>Orthetrum caledonicum</i>			
347.	<i>Orthocladinae</i> sp.			
348.	25680 <i>Pachycephala rufiventris</i> (Rufous Whistler)			
349.	24692 <i>Pachyptila belcheri</i> (Slender-billed Prion)			
350.	<i>Parablennius postoculomaculatus</i>			
351.	<i>Paracladopelma</i> sp. A (nr M2) (SAP)			
352.	<i>Parapercis haackei</i>			
353.	<i>Paraplotosus albilabris</i>			
354.	<i>Parastenocarididae</i> sp.			
355.	25254 <i>Parasuta monachus</i>			
356.	25682 <i>Pardalotus striatus</i> (Striated Pardalote)			
357.	<i>Parma occidentalis</i>			
358.	<i>Parupeneus spilurus</i>			
359.	24648 <i>Pelecanus conspicillatus</i> (Australian Pelican)			
360.	<i>Pemppheris klunzingeri</i>			
361.	48060 <i>Petrochelidon ariel</i> (Fairy Martin)			
362.	48061 <i>Petrochelidon nigricans</i> (Tree Martin)			
363.	24659 <i>Petroica goodenovii</i> (Red-capped Robin)			
364.	<i>Petroscirtes breviceps</i>			
365.	25697 <i>Phalacrocorax carbo</i> (Great Cormorant)			
366.	24667 <i>Phalacrocorax sulcirostris</i> (Little Black Cormorant)			
367.	25699 <i>Phalacrocorax varius</i> (Pied Cormorant)			
368.	24409 <i>Phaps chalcoptera</i> (Common Bronzewing)			
369.	<i>Phryganoporus candidus</i>			
370.	48071 <i>Phylidonyris niger</i> (White-cheeked Honeyeater)			
371.	24841 <i>Platalea flavipes</i> (Yellow-billed Spoonbill)			
372.	<i>Plectorhinchus pictus</i>			
373.	25007 <i>Pletholax gracilis</i> subsp. <i>gracilis</i> (Keeled Legless Lizard)			
374.	25703 <i>Podargus strigoides</i> (Tawny Frogmouth)			
375.	25704 <i>Podiceps cristatus</i> (Great Crested Grebe)			
376.	25510 <i>Pogona minor</i> (Dwarf Bearded Dragon)			
377.	24907 <i>Pogona minor</i> subsp. <i>minor</i> (Dwarf Bearded Dragon)			
378.	24681 <i>Poliocephalus poliocephalus</i> (Hoary-headed Grebe)			
379.	<i>Polypedilum leei</i>			

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380.	<i>Polypedilum watsoni</i>			
381.	<i>Pomatomus saltatrix</i>			
382.	24683 <i>Pomatostomus superciliosus</i> (White-browed Babbler)			
383.	<i>Priolepis nuchifasciata</i>			
384.	<i>Procladius paludicola</i>			
385.	<i>Prodidomus woodleigh</i>			
386.	<i>Protonibea</i> sp.			Y
387.	25261 <i>Pseudechis australis</i> (Mulga Snake)			
388.	<i>Pseudochromis wilsoni</i>			
389.	<i>Pseudogobius olorum</i>			
390.	<i>Pseudolampona boree</i>			
391.	24230 <i>Pseudomys albocinereus</i> (Ash-grey Mouse)			
392.	24237 <i>Pseudomys hermannsburgensis</i> (Sandy Inland Mouse)			
393.	42416 <i>Pseudonaja mengdeni</i> (Western Brown Snake)			
394.	25263 <i>Pseudonaja modesta</i> (Ringed Brown Snake)			
395.	25433 <i>Pseudophryne guentheri</i> (Crawling Toadlet)			
396.	<i>Pseudorhombus jenynsii</i>			
397.	24390 <i>Psophodes occidentalis</i> (Western Wedgebill, Chiming Wedgebill)			
398.	<i>Pteragogus enneacanthus</i>			
399.	24173 <i>Pteropus scapulatus</i> (Little Red Flying-fox)			
400.	42344 <i>Pumella albifrons</i> (White-fronted Honeyeater)			
401.	25008 <i>Pygopus lepidopodus</i> (Common Scaly Foot)			
402.	25009 <i>Pygopus nigriceps</i>			
403.	24278 <i>Pyrrholaemus brunneus</i> (Redthroat)			
404.	<i>Rachycentron canadum</i>			
405.	<i>Radfordia notomys</i>			
406.	<i>Rhabdosargus sarba</i>			
407.	48096 <i>Rhipidura albiscapa</i> (Grey Fantail)			
408.	25614 <i>Rhipidura leucophrys</i> (Willie Wagtail)			
409.	<i>Scirtidae</i> sp.			
410.	<i>Scobinichthys granulatus</i>			
411.	<i>Scolopendra laeta</i>			
412.	<i>Scolopendra morsitans</i>			
413.	<i>Scorpaena gasta</i>			
414.	<i>Scorpaenodes steenei</i>			
415.	25534 <i>Sericornis frontalis</i> (White-browed Scrubwren)			
416.	24280 <i>Sericornis frontalis</i> subsp. <i>balstoni</i> (White-browed Scrubwren)			
417.	24279 <i>Sericornis frontalis</i> subsp. <i>maculatus</i> (White-browed Scrubwren)			
418.	<i>Serpulidae</i> sp.			Y
419.	<i>Siganus</i> sp.			
420.	<i>Sillago schomburgkii</i>			
421.	<i>Sillago</i> sp.			
422.	25266 <i>Simoselaps bertholdi</i> (Jan's Banded Snake)			
423.	25267 <i>Simoselaps littoralis</i> (West Coast Banded Snake)			
424.	<i>Simuliidae</i> sp.			
425.	30948 <i>Smicromis brevirostris</i> (Weebill)			
426.	24109 <i>Sminthopsis dolichura</i> (Little long-tailed Dunnart)			
427.	24112 <i>Sminthopsis granulipes</i> (White-tailed Dunnart)			
428.	24114 <i>Sminthopsis hirtipes</i> (Hairy-footed Dunnart)			
429.	<i>Solegnathus lettiensis</i>			
430.	<i>Spinasteron westi</i>			
431.	<i>Staphylinidae</i> sp.			
432.	<i>Stenochironomus</i> sp.			
433.	<i>Storena formosa</i>			
434.	25590 <i>Streptopelia senegalensis</i> (Laughing Turtle-Dove)	Y		
435.	24936 <i>Strophurus michaelsoni</i>			
436.	25518 <i>Strophurus spinigerus</i>			
437.	24942 <i>Strophurus spinigerus</i> subsp. <i>spinigerus</i>			
438.	24946 <i>Strophurus strophurus</i>			
439.	24259 <i>Sus scrofa</i> (Pig)	Y		
440.	<i>Synchiropus</i> sp.			
441.	<i>Tabanidae</i> sp.			
442.	25705 <i>Tachybaptus novaehollandiae</i> (Australasian Grebe, Black-throated Grebe)			
443.	24331 <i>Tadorna tadornoides</i> (Australian Shelduck, Mountain Duck)			
444.	30870 <i>Taeniopygia guttata</i> (Zebra Finch)			
445.	<i>Tanypodinae</i> sp.			
446.	<i>Tanytarsus fuscithorax/semibarbitarsus</i>			
447.	24167 <i>Tarsipes rostratus</i> (Honey Possum, Noolbenger)			
448.	<i>Tasmanicosa leuckartii</i>			
449.	<i>Tasmanocoenis tillyardi</i>			

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
450.	<i>Tetragnatha nitens</i>			
451.	<i>Thalassoma septemfasciata</i>			
452.	<i>Thereuopoda lesueurii</i>			
453.	<i>Thiaridae</i> sp.			
454.	24845 <i>Threskiornis spinicollis</i> (Straw-necked Ibis)			
455.	25203 <i>Tiliqua occipitalis</i> (Western Bluetongue)			
456.	25207 <i>Tiliqua rugosa subsp. rugosa</i>			
457.	<i>Tipulidae</i> sp.			
458.	25549 <i>Todiramphus sanctus</i> (Sacred Kingfisher)			
459.	<i>Trachichthys australis</i>			
460.	<i>Triaenodes</i> sp. P1=P2 (PSW)			
461.	<i>Trichocycclus nigropunctatus</i>			
462.	<i>Trichonotus</i> sp.			
463.	<i>Triplectides australis</i>			
464.	24983 <i>Underwoodisaurus milii</i> (Barking Gecko)			
465.	<i>Upeneichthys stotti</i>			
466.	<i>Urodacus hartmeyeri</i>			
467.	<i>Urodacus mckenziei</i>			
468.	<i>Urolophus</i> sp.			
469.	25212 <i>Varanus eremius</i> (Pygmy Desert Monitor)			
470.	25218 <i>Varanus gouldii</i> (Bungarra or Sand Monitor)			
471.	25526 <i>Varanus tristis</i> (Racehorse Monitor)			
472.	<i>Venator koyuga</i>			
473.	<i>Venatrix arenaris</i>			
474.	24205 <i>Vespadelus finlaysoni</i> (Finlayson's Cave Bat)			
475.	24040 <i>Vulpes vulpes</i> (Red Fox)	Y		
476.	<i>Xanthagrimon erythroneurum</i>			
477.	<i>Zephyrichthys barryi</i>			
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 C

PMST results



EPBC Act Protected Matters Report

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

Report created: 24-Nov-2021

[Summary](#)

[Details](#)

[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)

Summary

Matters of National Environment Significance

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

World Heritage Properties:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	50
Listed Migratory Species:	42

Other Matters Protected by the EPBC Act

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

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

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

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	62
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	1
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

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

State and Territory Reserves:	3
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	1
Key Ecological Features (Marine):	None
Biologically Important Areas:	4
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [\[Resource Information \]](#)

Name	State	Legal Status	Buffer Status
Shark Bay, Western Australia	WA	Declared property	In buffer area only

National Heritage Places [\[Resource Information \]](#)

Name	State	Legal Status	Buffer Status
Natural			
Shark Bay, Western Australia	WA	Listed place	In buffer area only

Commonwealth Marine Area [\[Resource Information \]](#)

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name	Buffer Status
EEZ and Territorial Sea	In buffer area only

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

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area	In feature area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding likely to occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Breeding likely to occur within area	In feature area
FISH			
Thunnus maccoyii Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area
MAMMAL			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In feature area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Dasyurus geoffroi Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area	In feature area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area	In feature area
PLANT			
Androcalva bivillosa Stragglng Androcalva [87807]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Caladenia barbarella Small Dragon Orchid, Common Dragon Orchid [68686]	Endangered	Species or species habitat known to occur within area	In feature area
Caladenia bryceana subsp. cracens Northern Dwarf Spider-orchid [64556]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caladenia elegans Elegant Spider-orchid [56775]	Endangered	Species or species habitat likely to occur within area	In feature area
Caladenia hoffmanii Hoffman's Spider-orchid [56719]	Endangered	Species or species habitat likely to occur within area	In feature area
Drakaea concolor Kneeling Hammer-orchid [56777]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Eucalyptus beardiana Beard's Mallee [18933]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Hypocalymma longifolium Long-leaved Myrtle [8081]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lechenaultia chlorantha Kalbarri Leschenaultia [16763]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Stachystemon nematophorus Three-flowered Stachystemon [81447]	Vulnerable	Species or species habitat known to occur within area	In feature area
Wurmbea tubulosa Long-flowered Nancy [12739]	Endangered	Species or species habitat may occur within area	In buffer area only
REPTILE			
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat likely to occur within area	In feature area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In feature area
SHARK			
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In feature area

SPIDER

Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat known to occur within area	In feature area
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Listed Migratory Species

[[Resource Information](#)]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In feature area
Hydroprogne caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In feature area
Onychoprion anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Sternula albifrons Little Tern [82849]		Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Migratory Marine Species			
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat may occur within area	In feature area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area	In feature area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area	In feature area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In feature area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In feature area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	In feature area
Migratory Terrestrial Species			
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Migratory Wetlands Species			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area	In feature area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area	In feature area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area	In feature area
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris canutus Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Species or species habitat may occur within area	In feature area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area	In feature area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Foraging, feeding or related behaviour known to occur within area	In feature area
Larus pacificus Pacific Gull [811]		Foraging, feeding or related behaviour known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat likely to occur within area	In feature area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area	In feature area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Foraging, feeding or related behaviour likely to occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area	In feature area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Puffinus assimilis Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Stercorarius skua as Catharacta skua Great Skua [823]		Species or species habitat may occur within area	In buffer area only
Sternula albifrons as Sterna albifrons Little Tern [82849]		Species or species habitat may occur within area	In feature area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche cauta Shy Albatross [89224]	Endangered	Species or species habitat may occur within area	In feature area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area	In feature area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Fish			
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area	In feature area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	In feature area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area	In feature area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area	In feature area
Haliichthys taeniophorus Ribbioned Pipehorse, Ribbioned Seadragon [66226]		Species or species habitat may occur within area	In feature area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area	In feature area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area	In feature area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area	In feature area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area	In feature area
Lissocampus fatiloquus Prophet's Pipefish [66250]		Species or species habitat may occur within area	In feature area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area	In feature area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area	In feature area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area	In feature area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In feature area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In feature area
Mammal			
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area	In feature area
Reptile			
Aipysurus foliosquama Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Aipysurus pooleorum Shark Bay Seasnake [66061]		Species or species habitat may occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat known to occur within area	In feature area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat known to occur within area	In feature area
Disteira kingii Spectacled Seasnake [1123]		Species or species habitat may occur within area	In feature area
Disteira major Olive-headed Seasnake [1124]		Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area	In feature area
Pelamis platurus Yellow-bellied Seasnake [1091]		Species or species habitat may occur within area	In feature area

Whales and Other Cetaceans [Resource Information]

Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area	In feature area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area	In feature area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area	In feature area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area	In feature area

Current Scientific Name	Status	Type of Presence	Buffer Status
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area	In feature area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area	In feature area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area	In feature area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area	In feature area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area	In feature area

Australian Marine Parks [\[Resource Information \]](#)

Park Name	Zone & IUCN Categories	Buffer Status
Abrolhos	Multiple Use Zone (IUCN VI)	In buffer area only

Extra Information

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

Protected Area Name	Reserve Type	State	Buffer Status
Nerren Nerren	NRS Addition - Gazettal in Progress	WA	In buffer area only
Part Murchison house	NRS Addition - Gazettal in Progress	WA	In feature area
Zuytdorp	Nature Reserve	WA	In buffer area only

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

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action				
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area

Biologically Important Areas

Scientific Name	Behaviour	Presence	Buffer Status
Seabirds			
Ardenna pacifica Wedge-tailed Shearwater [84292]	Breeding	Known to occur	In feature area
Puffinus assimilis tunneyi Little Shearwater [59363]	Foraging (in high numbers)	Known to occur	In feature area
Whales			
Balaenoptera musculus brevicauda Pygmy Blue Whale [81317]	Distribution	Known to occur	In feature area
Megaptera novaeangliae Humpback Whale [38]	Migration (north and south)	Known to occur	In feature area

Caveat

1 PURPOSE

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

The report contains the mapped locations of:

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

2 DISCLAIMER

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

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

3 DATA SOURCES

Threatened ecological communities

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

Threatened, migratory and marine species

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

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

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

4 LIMITATIONS

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

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

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

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

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

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

Acknowledgements

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

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

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

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

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