Lot 309 Kerosene Lane and Lot 302 Mandurah Road, Baldivis

# **Environmental Assessment Report**





28/03/2018



# **DOCUMENT CONTROL**

## TITLE

Lots 309 Kerosene Lane & Lot 302 Mandurah Road Baldivis,

Environmental Assessment Report

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## 1 BACKGROUND INFORMATION

#### 1.1 Site Location

This environmental assessment relates to Lot 309 Kerosene Lane and Lot 302 Mandurah Road, Baldivis. Approximately 30 percent of these properties contain degraded remnant vegetation and the remaining area is cleared. The survey area is 9 km east south east of the Rockingham city centre in the municipality of the City of Rockingham and within the locality of Baldivis (Figure 1).

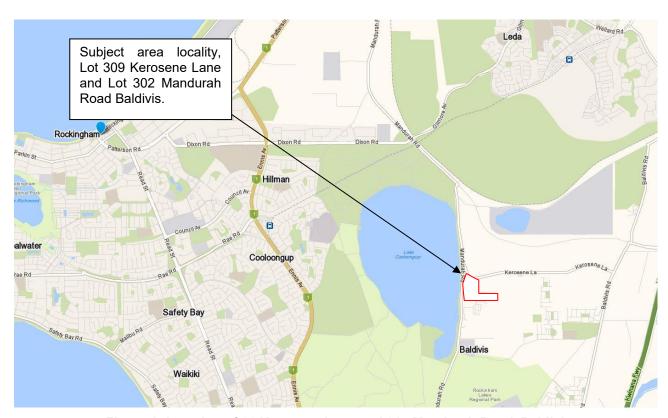


Figure 1: Location of 26 Kerosene Lane and 815 Mandurah Road, Baldivis

## 1.2 Site details and surrounding land uses

To the north of the survey area (north of Kerosene Lane) is a nature reserve R22428, vested in the Conservation Commission. This reserve contains high quality remnant vegetation and is continuous with intact forest and wetlands owned by BHP Billiton to the east. To the west of the survey area is Lake Cooloongup, within the Rockingham Lakes Regional Park. This wetland system is separated from the survey area and R22428 by Mandurah Road and other private property. To the east of the survey area are private lands containing a mix of remnant vegetation, residences and market gardens. To the south is a high-density lifestyle village that is separated from the survey area by a solid fence.

Assessment of historical Landgate imagery indicates the survey area has predominately remained in a similar state as to what is seen in the present day. Over time the area has been cleared to allow for residential development to the west along Mandurah Road. Vegetation within the central area of the survey area has also gradually been cleared, with large mature trees remaining among cleared ground. The eastern portion of the survey area has remained in a similar state throughout time, with imagery indicating a thinning and some clearing. The site presents as historically grazed with evidence of little to no midstorey vegetation observed.



# 1.3 Alignment with legislation, policies and planning documents

This environmental assessment is aligned to State and Federal government legislation (Table 1) and has been prepared to conform to the following guidelines, policies, regional and sub-regional plans

- Environmental Protection (Peel Inlet Harvey Estuary) Policy 1992;
- Environmental Protection (Swan Coastal Plain) Policy 1992;
- Environmental Protection Authority (2008) Environmental Guidance for Planning and Development Guidance Statement 33, Attachment B4-5;
- Environmental Protection Authority (2009) Peel-Harvey Coastal Catchment Water Quality Improvement Plan;
- Environmental Protection of Wetlands Position Statement No.4 (EPA 2001);
- Liveable Neighbourhoods (2007);
- Planning Bulletin 92 Urban Water Management;
- State Planning Policy 2.8 Bush Land Policy for the Perth Metropolitan Region;
- State Planning Policy 2.9 Water Resources.
- City of Rockingham Planning Policy No.3.1.1 Rural Land Strategy;
- City of Rockingham Planning Policy No.3.4.2 POS in Residential Areas;
- Overman et al. (2010) Rockingham Lakes Regional Park Proposed Final Management Plan;
- Perth and Peel Development Outlook 2011/12;
- Urban Land Development Outlook 2013/14– southern metropolitan spatial plan.

Table 1: Government legislation applicable to this report

Legislation	Responsible Government Agency	Aspect
Biosecurity and Agriculture	Department of Agriculture, Western	Weeds and pest animals
Management Act 2007 (BAM Act)	Australia	
Environmental Protection Act	Office of the Environmental	Assessment and management
1986 (Part IV)	Protection Authority	environmental impact
Environmental Protection	Department of Environmental	Clearing of native vegetation
(Clearing of Native Vegetation)	Regulation	
Regulations 2004		
Soil and Land Conservation Act	Department of Agriculture and Food	Protection of soil resources
1945		
Wildlife Concentation Act 1050	Department of Darks and Wildlife	Drataction of indigenous wildlife
Wildlife Conservation Act 1950	Department of Parks and Wildlife	Protection of indigenous wildlife
The Environment Protection and	The Commonwealth Department of	Protection of vulnerable and
Biodiversity Conservation Act	Environment.	threatened species of national
1999 (EPBC Act).		significance



## 2 ENVIRONMENTAL ASSESSMENT

## 2.1 Climate

The study area experiences a Mediterranean climate with warm to hot, dry summers and mild, wet winters. High-pressure cells dominate climatic patterns during summer and the passage of cold fronts and associated low-pressure cells dominate during winter. Strong sea breezes occur during late November to early March.

The nearest Bureau of Meteorology (BOM) site is located at Medina Research Centre (Site Number: 009194). This station has been recording since 1983 and the highest maximum temperature recorded in this period is 45.0°C on 26 December 2007; the lowest maximum temperature recorded is 11.4 on 12 June 2005 (BOM 2015). The mean rainfall between 1983 and 2015 for this site is 733 mm with the maximum mean rainfall occurring in June and July at 143.5 mm and 147.5 mm respectively. The highest daily rainfall recorded during this period was 230 mm on 9 February 1992 (BOM 2015).

# 2.2 Regional Context

The survey area lies within the Swan Coastal Plain Interim Biogeographic Regional Area (IBRA bioregion, an area that includes urban developments associated with the City of Perth and dominated by woodlands of *Banksia* and tuart on sandy soils and paperbark in swampy areas (McKenzie *et al.* 2002). The overall condition of natural ecosystems in the region is classed as degraded, a trend which is considered likely to continue (McKenzie et al. 2002). Up to 15 percent of the bioregion is reserved for conservation (all tenures), however the threats are numerous and pervasive.

# 2.3 Geology, geomorphology and soils

The survey area is located within the Spearwood Dune system (McArthur and Bartle 1980) which is described as depressions and gently undulating hills (average 20 m relief), with the underlying materials dominated by Pleistocene aolianites (Tamala Limestone). Drainage channels are absent and the processes of sheet wash, basin sedimentation, karstification and subterranean solution are important geomorphic processes in the development of wetlands in this area.

The cleared upland areas on both properties have a surface geology of limestone, predominantly calcarenite with surficial sediments and shallow aquifers (Geological Survey of Western Australia 1978, DoW 2015). No outcropping of limestone is evident onsite other than on firebreaks, where the surficial sediments have been disturbed.

There is no evidence of soil contamination or existing soils impacts within the survey area, other than that associated with firebreak maintenance, surface disturbance associated with loss of vegetation and water movement.

The survey area is not located within an acid sulphate soil risk area. There was no observed evidence of disturbed active acid sulphate soils onsite.





Figure 2: Dominant soil type on 26 Kerosene Lane and 815 Mandurah Road, Baldivis

#### 2.4 Wetlands

A search of the WALGA Environmental Planning Tool (2018) shows there are no wetlands, lakes, waterbodies or reservoirs within the subject site. Three Conservation category wetlands are located within 1km of the subject site. Lake Cooloongup-White Lake is located to the west of Mandurah Road, Kerosene Lane Swamp is located to the north-east of Kerosene Lane and Opwin Swamp is located to the south east along near Fifty Road.

# 2.5 Hydrology

Estimated depths to groundwater have been taken from The Department of Water and Environmental Regulation (DWER) online Perth groundwater Atlas Map (DWER 2017). Multiple locations where interrogated in order to provide information across the subject site based on contours (e.g. low and higher areas). These are presented below in Table 2. Refer to Appendix E for site specific details.

Table 2: Groundwater contours for Lots 26 Kerosene Lane and 815 Mandurah Road, Baldivis

Groundwater levels (m)	Lot 309	Lot 309	Lot 302	Lot 302	Lot 302	Lot 302
Natural surface level (AHD)	16	20.3	7.5	17.5	13	20.2
Water table level (AHD)	1	1	1	1	1	1
Depth to groundwater	15	19.3	6.5	16.5	12	19.2
Base of aquifer	36	40.3	27.5	37.5	33	40.2
Depth of groundwater	21	21	21	21	21	21

The groundwater salinity within the area is recorded as 1000-1500 mg/ L, which is considered brackish (DWER 2017). There is no evidence of hydrological modifications within the survey area.

There are five old bores located within 1 km of the survey area (DoW 2015b; Table 3)



Table 3: Bore data relevant to Lots 26 Kerosene Lane and 815 Mandurah Road, Baldivis

Site ID	AWRC Ref	Category	Data Availability		
20023831	61404527	Groundwater	Discrete water level readings and water quality readings taken in 1952		
20024098	61404735	Groundwater	roundwater Discrete water level readings taken 1981		
20023810	61406691	Groundwater Discrete water quality readings taken in 1900			
20023951	61404630	Groundwater	Discrete water level readings and water quality readings taken 1975-76		
20023858	61404553	Groundwater	Discrete water level readings and water quality readings taken 1967		

## 2.6 Surface water features

There are no watercourses within the subject site, nor are there any areas that lend themselves to season inundation or waterlogging (no vegetation present to indicate either of these).

#### 2.7 Contaminated Sites

A search of the Department of Water and Environmental Regulation (DWER) shows that there are no documented contaminated areas across the subject site. The adjacent lot to the south containing the Lifestyle Village has been classified as "Remediated – for restricted use". Refer to Appendix D. Historical aerial photographs indicate the land uses has been used for grazing since approximately the 1970's. Aerial photographs from Landgate show that the area was largely vegetated in 1965, with clearing and grazing becoming evident in the following 1974 aerial image.

During the advertisement period for the proposed structure plan a submission by Nickel West was made to the City of Rockingham (CoR). This submission outlined that Lot 2209 Millar Road is registered as a Contaminated Site with ongoing remediation works being carried out. The CoR indicated that are also broader studies being carried out in the area to assess impacts on groundwater. A monitoring bore was installed in January 2017 in the proposed POS area, refer to the Urbaqua LWMS Addendum report for further detail.



## 3 VEGETATION AND THREATENED FLORA

# 3.1 Desktop flora inventory and field methods

Desktop inventory of potential flora species likely to occur within 10 km of the survey area was undertaken using the following databases:

- Nature Map Database Search (combined data from DPaW, WA Museum and WA Herbarium)
   (DPaW 2015);
- Protected matters search tool (DoE 2015); and
- WA Herbarium records accessed through Flora Base (Western Australian Herbarium, DPaW)

The list compiled from this data is based on observations from a broader area than the survey area and is likely to include species that would not occur in the actual survey area due to a lack of suitable habitat. The data also included very old records and in some cases the species in question may have become locally or regionally extinct.

The conservation significance of flora species has been assessed using data from the following sources:

- Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Administered by the Australian Government Department of the Environment (DoE);
- Wildlife Conservation Act 1950 (WC Act). Administered by the Western Australian Department of Parks and Wildlife (DPaW);
- DPaW Priority Flora list. A non-legislative list maintained by DPaW for management purposes.

Karlene Bain, a botanist from Bio Diverse Solutions undertook a level 1 flora and vegetation survey on 8 July 2015. The survey area was traversed on foot. The flora was systematically recorded and collections of plant specimens were made where further identification was required. This was not a spring survey but the species diversity within the survey area was relatively low and where flowers were required for accurate identification, potential habitat was used as an indication of the likelihood of species occurrence and to identify the need for follow up flora surveys in spring.

All plant specimens collected during the field survey were handled and identified in accordance with the requirements of the Western Australian Herbarium. Nomenclature of recorded species follows that recommended by the Western Australian Herbarium (DEC 2008).



# 3.2 Vegetation Units

Vegetation units were mapped in the field using a GPS. Six main vegetation units were identified within the survey area (Figures 3 and 4) including:

- Isolated occurrences of *Eucalyptus gomphocephala* with a variety of understories including a weedy understorey dominated by \**Pelargonium capitatum* and \*Pennisetum clandestinum, an understorey dominated by weedy species as well as *Acacia sp. rostellifera, Acacia pulchella (var. goadbyi?)* and *Olearia axillaris.*
- Isolated occurrences of mallee form and tree form *Eucalyptus marginata* and *Banksia sessilis var. cygnorum* with a weedy understorey dominated by \**Pennisetum clandestinum*.
- Open forest of mature Eucalyptus gomphocephala with an understorey dominated by weedy species and Acacia sp. rostellifera.
- Regenerating forest of *Eucalyptus gomphocephala* with a weedy understorey.
- A small area consisting of thickets of Acacia pulchella (var. goadbyi?).
- A small area consisting of remnant Jacksonia shrub land, with a disturbed and weedy understorey.







Isolated occurrences of *Eucalyptus gomphocephala* with a variety of understories a) a weedy understorey dominated by *Pelargonium capitatum* and Pennisetum *clandestinum*, b) an understorey dominated by weedy species as well as *Acacia sp. rostellifera*, c) an understorey dominated by weedy species as well as *Olearia axillaris*.







Isolated occurrences of mallee form and tree form *Eucalyptus* marginata (Jarrah) and *Banksia sessilis var. cygnorum* with a weedy understorey dominated by *Pennisetum clandestinum* 

Regenerating forest of *Eucalyptus gomphocephala* with a weedy understorey.

Figure 3: Vegetation units mapped on Lots 26 Kerosene Lane and 815 Mandurah Road, Baldivis



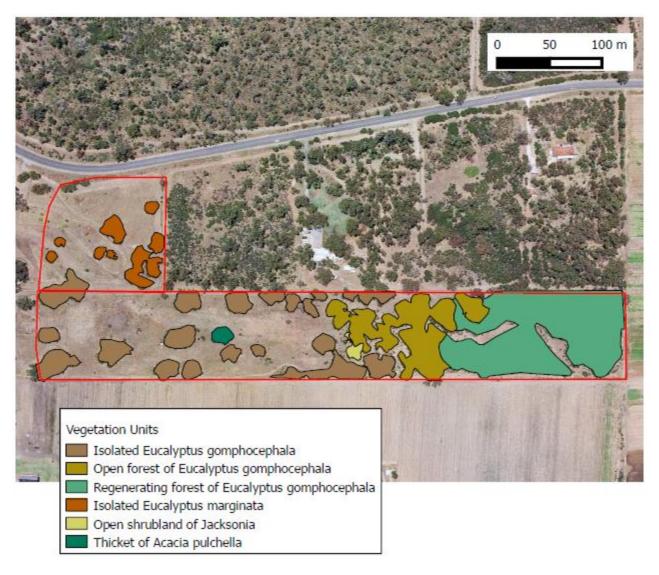


Figure 4: Vegetation units mapped within 26 Kerosene Lane and 815 Mandurah Road, Baldivis



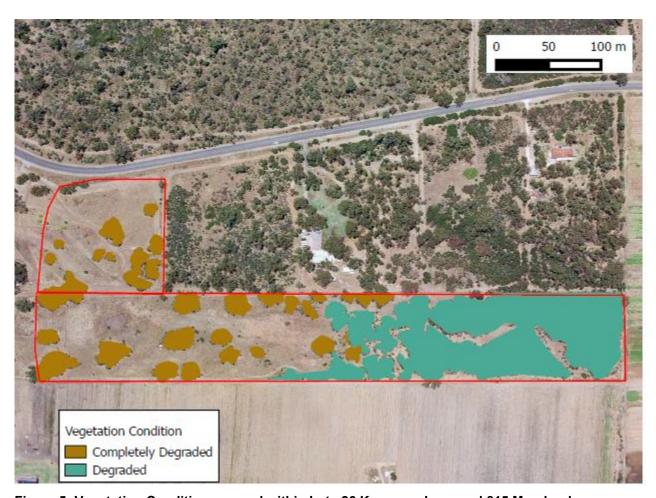
# 3.3 Vegetation Condition

The vegetation condition for the survey area has been determined by applying the Keighery condition rating scale (Keighery 1994, Appendix A) and has been mapped below (Figure 5).

Cleared areas were not mapped, as these can be seen from the aerial photographs. Isolated occurrences of *Eucalyptus gomphocephala* and *Eucalyptus marginata* with a completely weedy understorey were considered completely degraded given that vegetation structure is non-existent and there is no native understorey to contribute to regeneration potential or habitat quality. The trees are mature and may provide some habitat value for fauna.

Mature and regenerating forest of *Eucalyptus gomphocephala* in the eastern section of 815 Mandurah Road ranged in condition from "*completely degraded to degraded*" (Keighery 1994), with native vegetation highly disturbed and having been completely replaced by weedy species in many areas. The eastern-most areas of regenerating forest were less degraded than the fringing areas, however weed species were dominant throughout and the native understorey and any complexity of vegetation structure were largely absent. The significant mature and juvenile trees of *Eucalyptus gomphocephala* and *Eucalyptus marginata* located in the POS area in the central and eastern portion of the site may be able to be retained.

There was a weed index of between 90 and 100% across the entire survey area.



<u>Figure 5: Vegetation Condition mapped within Lots 26 Kerosene Lane and 815 Mandurah Road, Baldivis (Keighery 1994).</u>



# 3.4 Flora Survey

During the field survey 29 taxa, consisting of 11 families, 23 genera and 27 species were found. The most common families were the Poaceae and the Asteraceae. This list includes only 10 native species (Table 4) and 19 introduced species (Table 6, Section 3.7). No plant taxa identified during the survey are listed under the *EPBC Act 1999*, the *Wildlife Conservation Act 1950* or on the DPaW Priority species lists.

Broad vegetation mapping based on geographic, geological, climate and vegetation characteristics, places the survey area within the Spearwood vegetation association, which is defined as medium tuart woodland (Beard 1979)

<u>Table 4: Native flora species recorded from Lots 26 Kerosene Lane and 815 Mandurah Road, Baldivis</u>
(See Table 6, Section 3.7 for weed species)

Family	Genus	Species	Common Name
Aizoaceae	Carpobrotus	Sp.	Pig face
Apiaceae	Apium	prostratum	Sea Celery
Asteraceae	Olearia	axillaris	Coastal Daisy Bush
Dilleniaceae	Hibbertia	cuneiformis	Cutleaf Hibbertia
Fabaceae	Acacia	rostellifera	Summer-scented Wattle
Fabaceae	Hardenbergia	comptoniana	
Fabaceae	Jacksonia	furcellata	Grey Stinkwood
Myrtaceae	Eucalyptus	gomphocephala	Tuart
Myrtaceae	Eucalyptus	marginata ssp.	Jarrah
Proteaceae	Banksia	sessilis var. cygnorum	



# 3.5 Threatened Flora Search

A search of the WA Herbarium database and the Declared Rare Flora and Priority Species List was undertaken and did not identify any known records of Priority Flora or Declared Rare Flora (Appendix D) pursuant to Subsection 2 of Section 23F of the *Wildlife Conservation Act 1950*, in the survey area. Several species were found within 10 km of the survey area, but targeted field surveys for these species did not locate any populations within the survey area. A risk assessment has been undertaken to identify the likelihood of these species occurring in the survey area despite them having not been detected (Table 5).

Table 5: Probability of detecting threatened flora species within the survey area during a winter survey

Species	Status	Potential habitat present	Comment
Acacia benthamii	P2	N	Typically associated with limestone breakaways. No suitable habitat within survey area. Within flowering period for this species, given the seasonal conditions.
Acacia lasiocarpa var. bracteolata long peduncle variant	P1	N	Associated with swampy areas, winter wet lowlands. No suitable habitat within survey area. Within flowering period for this species
Caladenia huegelii	DRF	N	Associated with jarrah and banksia woodland over dense understorey, within 20 km of the coast and in deep grey-white sands of the Bassendean sand-dune system. No suitable habitat and no basal leaves of Caladenia were detected during the survey.
Cyathochaeta teretifolia	P3	N	Associated with swamps and creek edges. No suitable habitat within survey area. Within flowering period for this species
Diuris micrantha	DRF	N	Associated with winter-wet swamps. No suitable habitat within survey area. Within flowering period for this species
Dodonaea hackettiana	P4	N	Associated with outcropping limestone and lake upland. No suitable habitat within survey area. Within flowering period for this species.
Drakaea elastica	DRF	N	Associated with low-lying situations adjoining winter-wet swamps. No suitable habitat within survey area and no Drakaea basal leaves were detected during the survey.
Jacksonia sericea	P4	N	Associated with calcareous soils. Habitat onsite is marginal. The species was not detected during the survey.
Stylidium longitubum	P3	N	Associated with seasonal wetlands. No suitable habitat within survey area. No species of Stylidium were located within the survey area.
Pimelea calcicola	P3	N	Associated with coastal limestone ridges. No suitable habitat within survey area. No species of Pimelea were located within the survey area.
Schoenus capillifolius	P3	N	Associated with brown mud clay pans. No suitable habitat within survey area



## **Table 5: Continued**

Species	Status	Potential habitat present	Comment
Thelymitra variegata	P3	Y	Associated with sandy soils in Jarrah and Banksia woodland. Marginal habitat is present. Survey was completed within the flowering period of this species; no basal leaves or flowers were found.
Boronia juncea subsp. juncea	P1	Y	Associated with low scrub on sandy soils. Marginal habitat occurs on site however, the current scrubby nature of the habitat is likely to be unnatural. No species of Boronia were located during the survey.
Stylidium ireneae	P4	N	Sandy loam. Associated with valleys near creek lines, and Agonis woodland. No suitable habitat within survey area. No species of Stylidium were located within the survey area.
Tribonanthes purpurea	VU	N	Associated with seasonally wet soils in moss swards & herb fields among granite. No suitable habitat within survey area.

Based on the above table and the outcomes of the field survey, it is highly unlikely that any of the above-listed flora species occur within the survey area.

# 3.6 Threatened Ecological and Priority Ecological Communities

A search for Threatened Ecological Communities (TECs) within 10km of the survey area using the Protected Matters Search Tool, and a 5km DBCA database enquiry indicted there was the probability of 7 TECs occurring. These include:

- Banksia Woodlands of the Swan Coastal Plain;
  - Varies in structure and composition. Occurs in well-drained soil with a dominant tree layer of Banksia sp. of at least one of four key species (Banksia attenuata, Banksia menziesii, Banksia prionotes, and/or Banksia ilicifolia) with scattered Eucalypts and other tree species often present. The understorey is a species rich mixture of sclerophyllous shrubs, sedges and herbs (Commonwealth of Australia, 2016).
- Claypans of the Swan Coastal Plain;
  - Generally, occurs as a shrubland over a ground layer of geophytes, herbs and sedges, where clay soils form an impermeable layer close to the landscape surface, forming wetlands that rely solely on rainfall to fill, drying to impervious pans in summer. The community is distinctively characterised by suites of geophytes and annual flora that flower sequentially. Generally speaking, there are no dominant species which characterise the community (Threatened Species Scientific Committee, 2012a).
  - There are four types of clay pan communities, Herb rich saline shrublands in clay pans, Herb rich shrublands in clay pans, Dense shrublands on clay flats and Shrublands on dry clay flats (Threatened Species Scientific Committee, 2012b).
- Corymbia calophylla Kingia australis woodlands on heavy soils of the Swan Coastal Plain;
  - Located within the eastern area of the Swan Coastal Plain on heavy soils between Capel and Hazelmere. Typically characterised by an overstorey of Corymbia calophylla; an understorey of shrubs, herbs, rushes and sedges such as Banksia nivea, Philotheca spicata, Kingia australis and Xanthorrhoea preissii, Cyathochaeta avenacea, Dampiera linearis, Haemodorum laxum, Desmocladus fasciculatus, Mesomelaena tetragona and Tetraria octandra (DEC, 2011a).



- Corymbia calophylla Xanthorrhoea preissii woodlands and shrublands of the Swan Coastal Plain;
  - Located within the eastern area of the Swan Coastal Plain on heavy soils between Bullsbrook and Waterloo. Characterised by a dominate overstorey of Corymbia calophylla with occasional Eucalyptus wandoo; and un understorey of shrubs and herbs such as Xanthorrhoea preissii, Acacia pulchella, Dryandra nivea, Gompholobium marginatum, Hypocalymma angustifolia, Burchardia umbellata, Cyathochaeta avenacea and Neurachne alopecuroidea (English and Blyth, 2000).
- Sedgelands in Holocene dune swales of the southern Swan Coastal Plain;
  - Occurs between Holocene dunes in linear damplands, occasionally in sumplands. The community is characterised by Acacia rostellifera, Acacia saligna, Xanthorrhoea preissii, Baumea juncea, Ficinia nodosa, Lepidosperma gladiatum and Poa porphyroclados (DEC, 2011b).
- Thrombolite (microbial) community of coastal freshwater lakes of the Swan Coastal Plain (Lake Richmond);
  - Occurs at Lake Richmond in Rockingham on relic foredune plain on Holocene sands. Characterised by rock-like formations that form in the littoral zone due to aggregation of micro-organisms (Threatened Species Scientific Committee,2008). The community is described as having a "complex association of photosynthetic cyanobacteria and purple sulphur bacteria, eukaryotic microalgae and true bacteria" (Endangered Species Scientific Subcommittee, 2000).
- Woodlands over sedgelands in Holocene dune swales of the southern swan coastal plain;
  - No conservation advice could be found for this TEC.

Based on flora species and general habitat characteristics none of these TECs were deemed to be present. Furthermore, a search for TECs within the Swan IBRA bioregion on the DPaW database found that there are no known TECs present in the survey site. Refer to Appendix B.

## 3.7 Priority Ecological Communities

Information provided by DBCA database searches in 2018 (note GIS data provided only see evidence Appendix B) indicate that there was the probability of 4 PEC within a 5km search radius. These include:

- Northern Spearwood shrublands and woodlands:
  - Northern Spearwood shrublands and woodlands ('community type 24') (Can be a component of the Endangered *Banksia* Woodlands of the Swan Coastal Plain EPBC listed TEC)
  - Endangered TEC (part) Heaths with scattered Eucalyptus gomphocephala occurring on deeper soils north from Woodman Point. Most sites occur on the Cottesloe unit of the Spearwood system. The heathlands in this group typically include Dryandra sessilis, Calothamnus quadrifidus, and Schoenus grandiflorus.
- Banksia dominated woodlands of the Swan Coastal Plain IBRA region
  - Canopy is most commonly dominated or co-dominated by Banksia attenuata and/or B. menziesii. Other Banksia species that can dominate in the community are B. prionotes or B. ilicifolia. It typically occurs on well drained, low nutrient soils on sandplain landforms, particularly deep Bassendean and Spearwood sands and occasionally on Quindalup sands; it is also common on sandy colluvium and aeolian sands of the Ridge Hill Shelf, Whicher Scarp and Dandaragan Plateau and can occur in other less common scenarios.
- Southern Swan Coastal Plain Eucalyptus gomphocephala Agonis flexuosa woodlands (type 25) (Can form a component of the Endangered Banksia Woodlands of the Swan Coastal Plain EPBC listed TEC or the Tuart Woodlands of the Swan Coastal Plain PEC)



- Endangered TEC (part) Woodlands of Eucalyptus gomphocephala Agonis flexuosa south of Woodman Point. Recorded from the Karrakatta, Cottesloe and Vasse units. Dominants other than tuart were occasionally recorded, including Corymbia calophylla at Paganoni block and Eucalyptus decipiens at Kemerton. Occasionally dominants other than tuarts were recorded (Corymbia calophylla and Eucalyptus decipiens) however tuarts are emergent nearby. Banksias found in this community include Banksia attenuata, B. grandis and B. littoralis. Tuart formed the overstorey nearby however.
- Walyungup microbial Brackish microbial community number 1 (Lake Walyungup)
  - o Microbial community formed in Lake Walyungup, Rockingham. Data required about status and composition.
  - Threats: altered water levels and quality, damage from illegal access to lake bed.

Of these, only the Northern Spearwood shrublands and woodlands PEC was identified as potentially occurring across the subject site. There is limited information from DBCA available in terms of species present within the community, from the public available information and through vegetation floristic survey the PEC was not deemed present in the survey area.



<sup>\*</sup>Please note descriptions have been taken from DBCA PEC Version 27.

## 3.7 Weeds and Disturbance

Of the 29 taxa recorded within the survey area, 19 (66 %) were introduced species (Table 6).

Table 6: Weed species recorded within the survey area

Family	Species	Common Name	BAM Rating	EWS Rating	SWAN Rating
Apiaceae	Foeniculum vulgare	Fennel	None	TBA	None
Araceae	Zantedeschia aethiopica	Arum Lily			
Asclepiadaceae	Gomphocarpus fruticosis	Cotton bush	C3	Mod	None
Asteraceae	Ambrosia psilostachya	Perennial Ragweed	None	Low	None
Asteraceae	Hypochaeris glabra	Smooth Catsear	None	Mod	None
Asteraceae	Sonchus oleraceus	Common Sowthistle	None	Mod	None
Asteraceae	Ursinia anthemoides	Ursinia	None	Mod	None
Chenopodiaceae	Atriplex prostrata	Hastate orache	None	TBA	None
Cyperaceae	Cyperus sp.	Tufted Sedge	None	Mod	None
Fabaceae	Lupinus cosentinii	Sandplain Lupin	None	High	None
Fumariaceae	Fumaria capreolata	White fumitory	None	Mild	None
Geraniaceae	Pelargonium capitatum	Rose Pelargonium	None	High	None
Oxalidaceae	Oxalis pes-caprae	Soursob	None	Mild	None
Poaceae	Avena barbata	Bearded Oat	None	Mod	None
Poaceae	Briza maxima	Blowfly Grass	None	Mod	None
Poaceae	Cynodon dactylon	Couch	None	Mod	High
Poaceae	Lagurus ovatus	Hare's Tail Grass	None	High	None
Poaceae	Lolium rigidum	Wimmera Ryegrass	None	Mod	None
Poaceae	Pennisetum clandestinum	Kikuyu	None	Mod	None

There were high levels of weed invasion throughout the survey area. On Lot 26 Kerosene Lane, the weed cover was between 95 and 100 %, irrespective of canopy. On Lot 815 Mandurah Road, the western section of the property also had a weed cover of between 95 and 100 %. In the Tuart forest and regeneration areas in the eastern section of Lot 815 Mandurah Road, the canopy was relatively intact however, weeds still comprised 90-95% of the understorey.

Of the weeds recorded, one species (*Gomphocarpus fruticosis*) is a declared pest under the *Biosecurity and Agriculture Management Act 2007* with a C3 management requirement. Three species (*Lupinus cosentinii, Pelargonium capitatum* and *Lagurus ovatus*) are considered a high priority for control and/or research as identified in the Environmental Weeds Strategy for Western Australia (CALM 1999 Table 6). The strategy classifies weeds according to their relative level of threat to conservation (high medium or low) and this rating is based their relative level of invasiveness, distribution and environmental impacts (Appendix C).

None of these listed species have been identified in the list of the 30 highest priority weeds in the Swan NRM Region through the environmental weed census and prioritisation for the Swan NRM Region (Bettink and Keighery 2008).



## 4 FAUNA

# 4.1 Desktop Fauna Inventory and Field Methods

Desktop inventory of potential fauna species likely to occur within 10 km of the survey area was undertaken using the following databases:

- DPaW's Nature Map Database Search (combined data from DPaW, Western Australian Museum and Birds Australia) (DPaW 2015);
- DPaW Threatened Fauna database; and
- Protected matters search tool (DoE 2015).

The list compiled from this data (Appendix F) is based on observations from a broader area than the survey area and is likely to include species that are vagrants or would not occur in the actual survey area due to a lack of suitable habitat or poor ecological connectivity. The databases also often included very old records and in some cases the species in question may have become locally or regionally extinct.

The conservation significance of fauna species has been assessed using data from the following sources:

- Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Administered by the Australian Government Department of the Environment (DoE);
- Wildlife Conservation Act 1950 (WC Act). Administered by the Western Australian Department of Parks and Wildlife (DPaW);
- Red List produced by the Species Survival Commission (SSC) of the World Conservation Union (also known as the IUCN Red List - the acronym derived from its former name of the International Union for Conservation of Nature and Natural Resources). The Red List has no legislative power in Australia but is used as a framework for State and Commonwealth categories and criteria; and
- DPaW Priority Fauna list. A non-legislative list maintained by DPaW for management purposes.

The *EPBC Act* also requires the compilation of a list of migratory species that are recognised under international treaties including the:

- Japan Australia Migratory Bird Agreement 1981 (JAMBA). Species listed under JAMBA are also protected under Schedule 3 of the WC Act;
- China Australia Migratory Bird Agreement 1998 (CAMBA);
- Republic of Korea-Australia Migratory Bird Agreement 2007 (ROKAMBA); and
- Bonn Convention 1979 (The Convention on the Conservation of Migratory Species of Wild Animals).

All migratory bird species listed in the annexes to these bilateral agreements are protected in Australia as matters of national environmental significance under the *EPBC Act*.

The conservation status of all vertebrate fauna species listed as occurring or possibly occurring in the vicinity of the Project area has been assessed using the most recent lists published in accordance with the above-mentioned instruments and is indicated as such in the fauna listings of this report. A full listing of conservation codes are provided in Appendix G.

A number of other species not listed in official lists can also be considered of local or regional conservation significance. These include species that have a restricted range, those that occur in breeding colonies and those at the limit of their range.

It can be difficult to identify what may be significant invertebrate species in Western Australia (e.g. Short Range Endemics - SREs) as there is a lack of knowledge on invertebrates, there is currently no general standard for invertebrate survey work and there is a shortage of invertebrate taxonomic expertise (Harvey 2002). For this survey, the assessment for conservation significant invertebrates has been limited to those listed by the DPaW and *EPBC Act* database searches (which rely on



distribution records and known habitat preferences). No assessment of the potential for SREs to be present has been made.

#### Field Methods

Field survey work was carried out by an experienced zoologist from Bio Diverse Solutions on the 8 July 2015. Vegetation units observed during the site survey were used to define broad fauna habitat types across the site (See section 3.2 and Figures 3 and 4). The main aim of the habitat assessment was to determine the likelihood of threatened species utilising the area and the significance of the habitat to them.

Targeted assessment was carried out for each of the threatened species identified in the desktop inventory of potential fauna species likely to occur within 10 km of the site. Targeted assessment techniques included:

- Survey for potential breeding trees for Calyptorhynchus banksii naso (Forest Red-tailed Black Cockatoo), Calyptorhynchus baudinii (Baudin's Cockatoo) and Calyptorhynchus latirostris (Carnaby's Black-Cockatoo), including identification of all suitable trees species within the survey area with a Diameter at Breast Height (DBH) of over 50cm.
- Surveys for foraging habitat for *Calyptorhynchus banksii naso* (Forest Red-tailed Black Cockatoo), *Calyptorhynchus baudinii* (Baudin's Cockatoo) and *Calyptorhynchus latirostris* (Carnaby's Black-Cockatoo), including observation of any actual foraging evidence such as chewed nuts, cones or stripped bark.
- Roosting habitat survey including direct (dawn and dusk surveys) and indirect (faecal material, feathers) for Calyptorhynchus banksii naso (Forest Red-tailed Black Cockatoo), Calyptorhynchus baudinii (Baudin's Cockatoo), Calyptorhynchus latirostris (Carnaby's Black-Cockatoo), Ardea ibis (Cattle Egret) and Plegadis falcinellus (Glossy Ibis).
- Pre-dawn spotlight for mammals and diurnal assessment of habitat and evidence of activity (diggings, faecal material, tracks, runnels, discarded food material) for *Hydromys* chrysogaster (Rakali), Isoodon obesulus fusciventer (Quenda) and Macropus irma (Western Brush Wallaby).
- Survey of calling birds and potential habitat for Actitis hypoleucos (Common Sandpiper), Apus pacificus (Fork-tailed Swift), Ardea ibis (Cattle Egret), Ardea modesta (Eastern Great Egret), Arenaria interpres (Ruddy Turnstone), Calidris acuminata (Sharp-tailed Sandpiper), Calidris alba (Sanderling), Calidris ferruginea (Curlew Sandpiper), Calidris ruficollis (Rednecked Stint), Calidris subminuta (Long-toed Stint), Calidris tenuirostris (Great Knot), Falco peregrinus (Peregrine Falcon), Limosa Iapponica (Bar-tailed Godwit), Merops ornatus (Rainbow Bee-eater), Numenius madagascariensis (Eastern Curlew), Plegadis falcinellus (Glossy Ibis), Sterna caspia (Caspian Tern), Sterna nereis subsp. nereis (Fairy Tern), Thinornis rubricollis (Hooded Plover), Tringa glareola (Wood Sandpiper) and Tringa nebularia (Common Greenshank).
- Survey for nests of *Haliaeetus leucogaster* (White-bellied Sea-Eagle) and *Merops ornatus* (Rainbow Bee-eater).
- Survey for host species and potential habitat for Synemon gratiosa (Graceful Sunmoth)
- Survey of potential habitat and/ or occurrence of Westralunio carteri (Carter's Freshwater Mussell)
- Hand searches in leaf litter, under shrubs and in loose soil under Banksias for Lerista lineata (Perth Slider, Lined Skink) and Neelaps calonotos (Black-striped Snake).

The conclusions presented are based upon opportunistic field data collected over a limited period of time and are indicative of the environmental condition of the site at the time. Some fauna species are reported as potentially occurring within the study area based on the presence of suitable habitat (quality and extent) within the study area or immediately adjacent. With respect to opportunistic observations, the possibility exists that certain species may not have been detected during field investigations due to seasonal inactivity during the field survey, species present within micro habitats



not surveyed, cryptic species able to avoid detection and transient wide-ranging species not present during the survey period. Lack of observational data on some species should therefore not necessarily be taken as an indication that a species is absent from the site.

## 4.2 Fauna Habitat Assessment

A description of the broadly defined fauna habitats within the study area (based on vegetation units) is given in Section 3.2. The approximate extent of each identified unit is shown in Figure 3. The location of 102 habitat trees observed during the field survey (tree with a DBH >50cm) are shown in Figure 6. Fallen hollow logs were totally absent from the site. Assessments of actual and potential habitat trees identified is presented below in Table 7 with corresponding photographs in Figure 7.

It is recommended that these trees are preserved where possible into Public Open Space (POS), street reserves and drainage areas. This will be subject to final engineering design at subdivision stages. A Tree Protection Plan (TPP) is recommended to be prepared at subdivision stage and should generally cover:

- Site inspections by professional arborist to determine tree health, vigour and habitat potential;
- Findings and opinions of the arborist specialist in regards to retained trees protection prior to construction commencing and ongoing protection and maintenance of the tress on site:
- Details on methods of protection of trees during construction (barriers, fencing, protection of root zone etc) and
- Long term monitoring and compliance.

Actual and potential Significant Habitat Trees identified across the subject site are shown below in Figure 6 and described within Table 7 and Figure 7. Actual Significant Trees to be retained across the site are shown in Figure 8 and demonstrated in the POS Concept Landscaping Drawings, refer to Appendix G.

On the request of CoR all non-significant trees >10cm DBH (and <50cm DBH) where recorded across the whole of the site to determine ability for trees to be retained. Refer to Appendix F. Non-significant trees (i.e. trees >10cm and <50cm) are proposed to be retained in the POS areas and possibly in streetscaping zones and will be subject to detailed designs at subdivision stages. Information from the non-significant tree survey has been combined into the POS Landscaping Plans Appendix G.



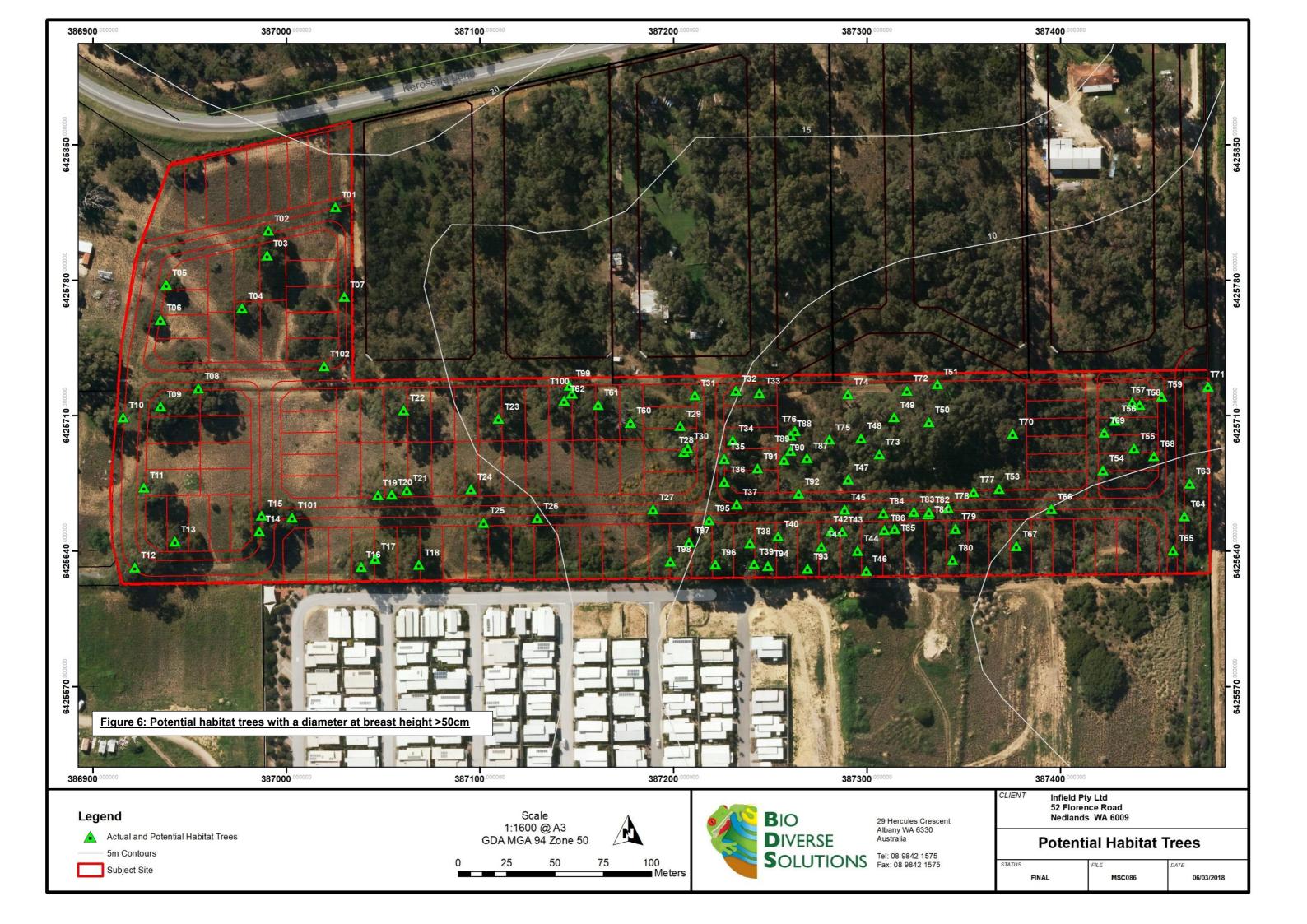


Table 7: Assessment of potential habitat trees with DBH>500mm at Kerosene Lane, Baldivis

ID	Latitude	Longitude	Species	DBH (mm)	Photo No.	Hollows (Y/N)	Dimensions of entrance	Potential habitat value	Comments
T01	-32.2987	115.8	J	560	9918	N		N	Limited future hollow forming potential
T02	-32.2989	115.8	Τ	523	9919	N		N	Limited future hollow forming potential
T03	-32.299	115.8	Т	1022	9920	N		Y	Branches contain some bulk and hollow forming potential
T04	-32.2992	115.8	J	815	9222	N		Υ	
T05	-32.2991	115.799	J	550	9225	N		N	Limited future hollow forming potential
T06	-32.2993	115.799	J	544	9227	N		N	Limited future hollow forming potential
T07	-32.2992	115.8	J	1210	9929	N		N	Limited future hollow forming potential
T08	-32.2996	115.799	Τ	1610	9930	N		Υ	
T09	-32.2997	115.799	Т	1508	9931	N		Υ	
T10	-32.2997	115.799	Т	1396	9932, 33	Υ	50x25	Υ	
T11	-32.3	115.799	J	939	9934	N		Υ	
T12	-32.3004	115.799	Т	1622	9935, 36	Υ	15x15	Υ	
T13	-32.3003	115.799	Т	1021	9937	N		Υ	
T14	-32.3003	115.8	Т	1578	9938	N		Υ	
T15	-32.3002	115.8	Т	1149	9939	N		Υ	
T16	-32.3004	115.8	Т	761	9940	N		Υ	
T17	-32.3004	115.8	Т	998	9941	N		Υ	
T18	-32.3004	115.801	J	1085	9942	N		Υ	
T19	-32.3001	115.8	J	1623	9943, 46	Υ	50x15	Υ	
T20	-32.3001	115.8	Т	1002	9944	N		Υ	
T21	-32.3001	115.8	Т	933	9945	N		Υ	
T22	-32.2997	115.8	Т	1985	9447, 48	Υ	20x20	Υ	
T23	-32.2997	115.801	Τ	749	9949	N		Υ	
T24	-32.3001	115.801	Т	661	9950	N		N	Limited future hollow forming potential
T25	-32.3002	115.801	Т	1264	9951	N		Υ	
T26	-32.3002	115.801	Τ	1237	9952	N		Υ	Hollow butt
T27	-32.3002	115.802	T	1235	9953	N		Υ	
T28	-32.2999	115.802	Τ	950	9954	N		Υ	
T29	-32.2998	115.802	Τ	805	9955	N		Υ	
T30	-32.2999	115.802	Т	550	9956	N		Υ	
T31	-32.2996	115.802	Т	1228	9957, 58	Υ	60x50	Υ	



Table 7: Continued

ID	Latitude	Longitude	Species	DBH (mm)	Photo No.	Hollows (Y/N)	Dimensions of entrance	Potential habitat value	Comments
T32	-32.2996	115.802	Т	972	9959	N		Υ	
T33	-32.2996	115.802	T	977	9960	N		Υ	
T34	-32.2999	115.802	Т	1019	9961	N		Υ	
T35	-32.2999	115.802	Т	1116	9962	N		Υ	
T36	-32.3	115.802	T	1066	9963	N		Υ	
T37	-32.3002	115.802	J	1019	9964	N		N	Secondary crown on a 1/3 base; tree unlikely to remain standing long enough to form hollows
T38	-32.3003	115.802	J	1093	9965	N		Υ	
T39	-32.3004	115.802	J	1452	9966, 67	Υ	25x25	Υ	
T40	-32.3003	115.802	Т	1075	9668	N		Υ	
T41	-32.3004	115.803	Т	920	9669	N		Υ	
T42	-32.3003	115.803	Т	1105	9670, 71	Υ	30x10	Υ	
T43	-32.3003	115.803	Т	880	9672	N		Υ	
T44	-32.3004	115.803	Т	1195	9973	N		Υ	
T45	-32.3002	115.803	J	665	9974	N		N	Limited future hollow forming potential
T46	-32.3005	115.803	Т	910	9976	N		Υ	
T47	-32.3	115.803	T	974	9975	N		Υ	
T48	-32.2998	115.803	J	705	9977	N		N	Limited future hollow forming potential
T49	-32.2998	115.803	J	1190	9978, 79	Υ	60x60	Υ	
T50	-32.2998	115.803	Τ	1642	9980, 81	Υ	20x20	Υ	
T52	-32.2996	115.803	Т	959	9982	N		Υ	
T53	-32.3001	115.804	Т	1298	9983, 84	Υ	7x7	Υ	
T54	-32.3	115.804	T	824	9985	N		Υ	
T55	-32.2999	115.804	Т	1079	9986	N		Υ	
T56	-32.2998	115.804	Т	1977	9987	N		N	Limited future hollow forming potential
T57	-32.2997	115.804	T	1322	9988	N		N	Limited future hollow forming potential
T58	-32.2997	115.804	Т	1245	9989	N		Υ	
T59	-32.2997	115.805	Т	1440	9990	N		Υ	
T60	-32.2998	115.802	T	973	9991	N		N	Dead; no hollow forming potential
T61	-32.2997	115.801	Τ	701	9992	N		N	Limited future hollow forming potential
T62	-32.2997	115.801	Т	971	9993	N		Υ	

Table 7: Continued



ID	Latitude	Longitude	Species	DBH (mm)	Photo No.	Hollows (Y/N)	Dimensions of entrance	Potential habitat value	Comments
T63	-32.3001	115.805	T	886	8023	N		Υ	
T64	-32.3002	115.805	T	1329	8025	N		Υ	
T65	-32.3004	115.805	T	929	8026	N		Υ	
T66	-32.3002	115.804	T	614	8031	N		Υ	
T67	-32.3004	115.804	T	531	8039	N		Υ	
T68	-32.2999	115.805	T	520	8044	N		Υ	
T69	-32.2998	115.804	T	765	8045	N		Υ	
T70	-32.2998	115.804	T	790	8046	N		Υ	
T71	-32.2996	115.805	Т	656	8047	N		Υ	
T72	-32.2996	115.803	J	680	8048	N		Υ	
T73	-32.2999	115.803	J	634	8051	N		Υ	
T74	-32.2996	115.803	J	654	8052	N		Υ	
T75	-32.2999	115.803	J	623	8053	N		Υ	
T76	-32.2998	115.803	J	540	8055	N		Υ	
T77	-32.3001	115.804	T	522	8056	N		Υ	
T78	-32.3002	115.803	Т	784	8057	N		Υ	
T79	-32.3003	115.803	T	616	8059	N		Υ	
T80	-32.3004	115.803	T	712	8061	N		Υ	
T81	-32.3002	115.803	Т	908	8062	N		Υ	
T82	-32.3002	115.803	Т	620	8063	N		Υ	
T83	-32.3002	115.803	T	725	8056	N		Υ	
T84	-32.3002	115.803	Т	937	8065	N		Υ	
T85	-32.3003	115.803	Т	560	8066	N		Υ	
T86	-32.3003	115.803	Т	699	8068	N		Υ	
T87	-32.2999	115.803	Т	645	8069	N		Υ	
T88	-32.2998	115.803	J	545	8070	N		Υ	
T89	-32.2999	115.803	J	504	8072	N		Υ	
T90	-32.2999	115.803	J	709	8075	N		Υ	
T91	-32.3	115.802	J	660	8075	N		Υ	
T92	-32.3001	115.803	J	508	8076	N		Υ	
T93	-32.3005	115.803	J	522	8077	N		N	Limited future hollow forming potential
T94	-32.3004	115.802	J	505	8078	N		N	Limited future hollow forming potential
T95	-32.3002	115.802	J	573	8079	N		N	Limited future hollow forming potential

Table 7: Continued



ID	Latitude	Longitude	Species	DBH (mm)	Photo No.	Hollows (Y/N)	Dimensions of entrance	Potential habitat value	Comments
T96	-32.3004	115.802	Т	550	8081	Υ		N	Limited future hollow forming potential
T97	-32.3003	115.802	Т	544	8082	N		N	Dead / hollow trunk, no hollow forming potential
T98	-32.3004	115.802	Т	502	8083	N		N	Limited future hollow forming potential
T99	-32.2996	115.801	Т	571	8085	N		N	Limited future hollow forming potential
T100	-32.2996	115.801	Т	653	8087	N		Υ	
T101	-32.3002	115.8	J	500	8089	N		N	Limited future hollow forming potential
T102	-32.2995	115.8	J	535	8091	N		N	Limited future hollow forming potential







Photo ID: 9919 Tree ID: T02



Photo ID: 9920 Tree ID: T03



Photo ID: 9222





Photo ID: 9225 Tree ID: T05

Figure 7: Actual and potential habitat trees for Cockatoos at Kerosene Lane Baldivis





Figure 7: Continued



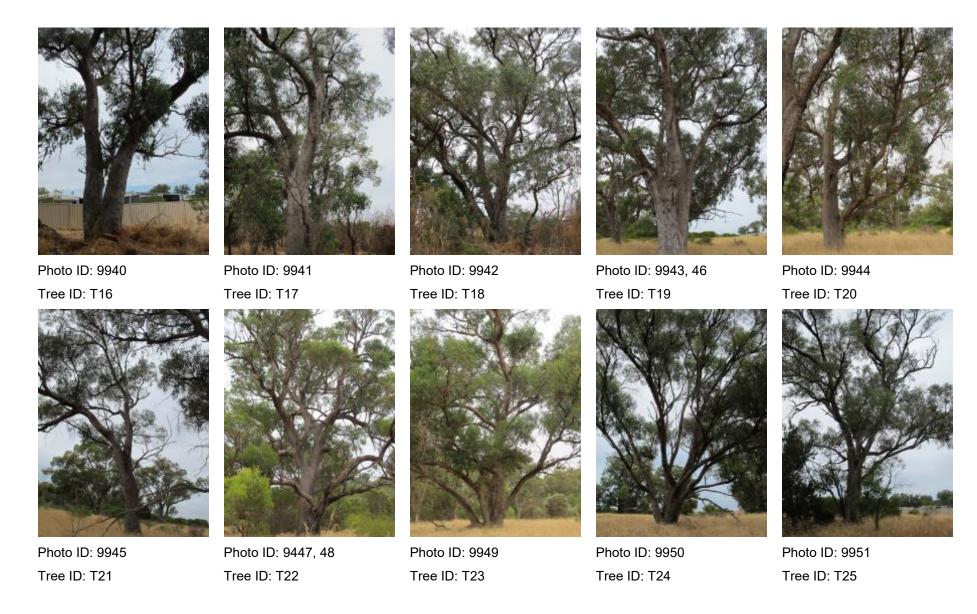


Figure 7: Continued



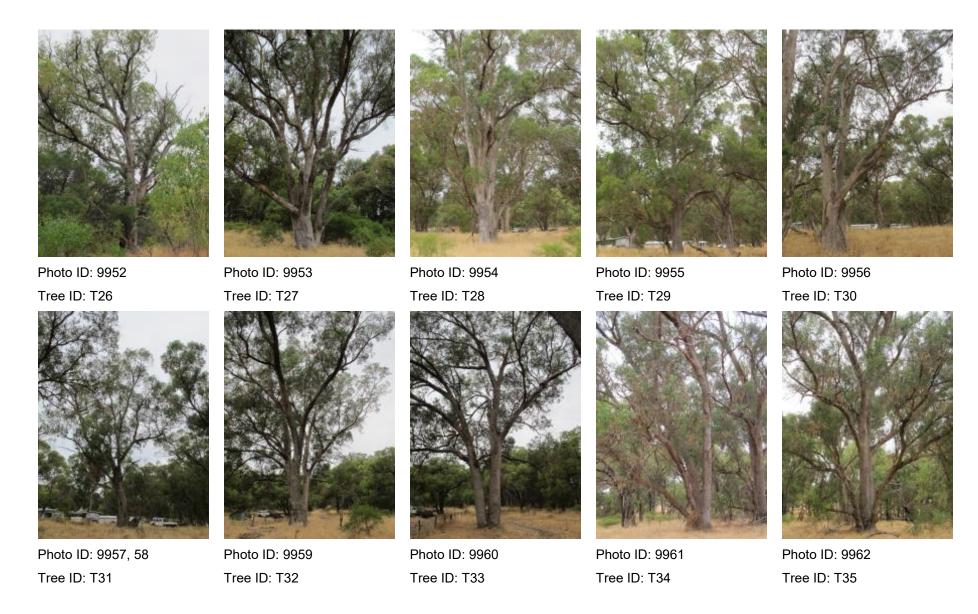


Figure 7: Continued





Figure 7: Continued





Figure 7: Continued





Figure 7: Continued





Figure 7: Continued





Figure 7: Continued





Figure 7: Continued





Photo ID: 8082 Tree ID: T97



Photo ID: 8083 Tree ID: T98



Photo ID: 8085 Tree ID: T99



Photo ID: 8087 Tree ID: T100



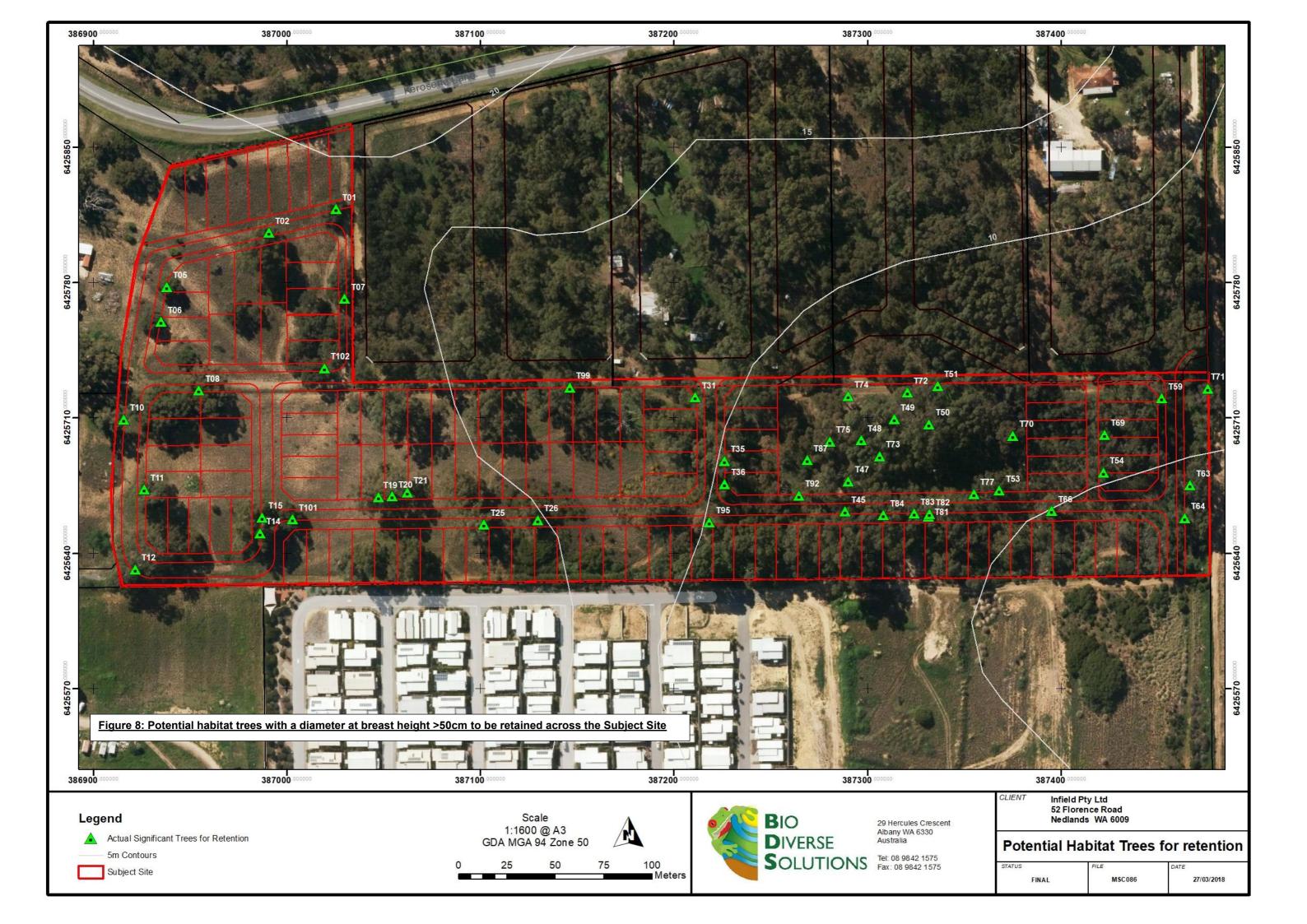
Photo ID: 8089 Tree ID: T101



Photo ID: 8091 Tree ID: T102

Figure 7: Continued





#### **Conservation Significant Fauna**

A review of the *EPBC Act* threatened fauna list, DPaW's Threatened Fauna Database and Priority List, unpublished reports and scientific publications identified 34 threatened, specially protected, priority or migratory fauna species as potentially occurring within 10 km of the survey area (Appendix F). A brief account of these species with details on their distribution and habitat preference and likelihood of occurrence within the survey area is shown in Table 8.

In summary, one vertebrate fauna species of conservation significance was positively identified as utilising the survey area during targeted field survey, this being *Isoodon obesulus fusciventer* (Quenda), which was identified from fresh diggings, faecal material and tracks throughout the survey area (Figure 10), and in particular moving between the south-eastern section and the nature reserve to the north. The understorey in the survey area is unlikely to provide effective protection from predators and quenda using the site are unlikely to have long-term viability, if they are resident. It is more likely that they are moving into this area to feed and sheltering in the adjoining nature reserve. Track patterns observed during the survey support this, with fresh tracks evident in the morning heading up the hill from Lot 26 Kerosene Lane into the nature reserve to the north.

In addition, while there was no evidence of feeding or roosting activity within the survey area, potential breeding trees were identified for *Calyptorhynchus banksii subsp. naso* (Forest Red-tailed Black-Cockatoo), *Calyptorhynchus baudinii* (Baudin's Cockatoo), and *Calyptorhynchus latirostris* (Carnaby's Cockatoo) (Figure 6 and 8).

It is noted that during the original survey and in the follow up survey in 2018 no signs of feeding or roosting activity was identified or observed. This further indicates that the area is not presently utilised by either of the three threatened Cockatoo species. The Black Cockatoo Referral Guidelines (DSEWPaC, 2012) state that clearing of more than 1ha of quality foraging habitat and clearing of a known night roost site or any clearing which may impact foraging or roosting habitat has a high likelihood of resulting in significant impacts. In such instances referral under the *EPBC Act* is recommended. Although more than 1 ha of habitat will be cleared the client has indicated that significant trees will be retained across the site where able to be accommodated. Furthermore, the two surveys have found no indications / evidence the site is utilised for feeding, roosting or breeding and thus is unlikely to be an area of <u>quality</u> or <u>significant</u> foraging. Although the clearing may trigger an *EPBC Act* referral the degraded state and the lack of evidence of utilisation it is likely a decision of Not a Controlled Action would occur.

The area also contained very marginal habitat for an additional four species of conservation significance, including *Merops ornatus* (Rainbow Bee-eater), *Plegadis falcinellus* (Glossy Ibis), *Macropus irma* (Western Brush Wallaby) and *Neelaps calonotos* (Black-striped Snake). These species were not sighted during the survey period and evidence of their presence in the survey area was not found. It is considered highly unlikely that these species are using habitat within the survey area.



Table 8: Potential threatened fauna species within 10 km of the survey area with details on their habitat preference and likelihood of occurrence within the survey area.

Class	Species	Stat	Preferred Habitat	Likelihood of occurrence in survey
		us		area
Bird	Actitis hypoleucos (Common Sandpiper)	IA	Muddy margins or rocky shores of coastal wetlands and some inland wetlands (Higgins and Davies 1996).	No suitable habitat within the survey area.
Bird	Apus pacificus (Fork-tailed Swift)	IA	Over open habitats, including riparian woodland and teatree swamps, low scrub, heathland or saltmarsh (Higgins 1999).	No suitable habitat within the survey area.
Bird	Ardea ibis (Cattle Egret)	IA	Predominately shallow, open and fresh wetlands including meadows and swamps with low emergent vegetation. Roosts in trees or amongst ground vegetation in or near lakes and swamps (Marchant & Higgins 1990; Morton et al. 1989).	No suitable habitat within the survey area.
Bird	Ardea modesta (Eastern Great Egret)	IA	Wetland habitats with shallow water (Kushlan & Hancock 2005)	No suitable habitat within the survey area.
Bird	Arenaria interpres (Ruddy Turnstone)	IA	Prefers exposed rocky coastlines. Roosts on beaches, above the tideline (Higgins & Davies 1996).	No suitable habitat within the survey area.
Bird	Calidris acuminata (Sharp- tailed Sandpiper)	IA	Muddy edges of shallow fresh or brackish wetlands, with inundated or emergent sedges or other low vegetation (Higgins & Davies 1996).	No suitable habitat within the survey area.
Bird	Calidris alba (Sanderling)	IA	Open sandy beaches exposed to open sea-swell (Higgins & Davies 1996).	No suitable habitat within the survey area.
Bird	Calidris ferruginea (Curlew Sandpiper)	VU	Intertidal mudflats in sheltered coastal areas, non-tidal swamps and lakes near the coast (Higgins & Davies 1996).	No suitable habitat within the survey area.
Bird	Calidris ruficollis (Red-necked Stint)	IA	Coastal areas, including sheltered inlets and sometimes also ephemeral or permanent shallow wetlands (Higgins & Davies 1996).	No suitable habitat within the survey area.
Bird	Calidris subminuta (Long-toed Stint)	IA	Shallow freshwater or brackish wetlands (Higgins & Davies 1996).	No suitable habitat within the survey area.



## Table 8: Continued

Class	Species	Status	Preferred Habitat	Likelihood of occurrence in survey
				area
Bird	Calidris tenuirostris (Great Knot)	VU	Sheltered coastal habitats, with large intertidal mudflats and occasionally coastal swamps (Higgins & Davies 1996).	No suitable habitat within the survey area.
Bird	Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black-Cockatoo)	VU	Jarrah-Marri forests and forests of Blackbutt, Wandoo, Tuart, Albany Blackbutt, Yate and Flooded Gum (Abbott 1998).	Potentially suitable roosting and breeding habitat in large remnant Tuart trees. Marginal foraging habitat but no evidence of this species feeding onsite.
Bird	Calyptorhynchus baudinii (Baudin's Cockatoo)	EN	Jarrah -Marri forest, Karri forest, and less frequently in woodlands of Wandoo, Blackbutt, Flooded Gum and Yate; feeds on Eucalypts and proteaceous trees/ shrubs	Potentially suitable roosting and breeding habitat in large remnant Tuart trees. Marginal foraging habitat but no evidence of this species feeding onsite.
Bird	Calyptorhynchus latirostris (Carnaby's Cockatoo)	EN	Salmon Gum, Wandoo, Tuart woodland and less often Marri, Jarrah or Karri forest; feed in shrub or heath land dominated by Hakea, Dryandra, Banksia and Grevillea species (Higgins 1999)	Potentially suitable roosting and breeding habitat in large remnant Tuart trees. Marginal foraging habitat but no evidence of this species feeding onsite.
Bird	Falco peregrinus (Peregrine Falcon)	S	Mountain ranges, river valleys in tall forest or coastlines with steep cliffs (Johnstone and Storr 1998).	No suitable habitat within the survey area.
Bird	Haliaeetus leucogaster (Whitebellied Sea-Eagle)	IA	Coastal habitats and terrestrial wetlands with large areas of open water (Marchant & Higgins 1993).	No suitable habitat within the survey area and no evidence of nests.
Bird	Limosa lapponica (Bar-tailed Godwit)	IA	Coastal habitats such as large intertidal sand flats, banks, mudflats, estuaries and inlets (Marchant & Higgins 1993).	No suitable habitat within the survey area.
Bird	Merops ornatus (Rainbow Bee-eater)	1A	Open forests and woodlands, shrub lands, and various cleared or semi-cleared habitats, often in close proximity to permanent water (Higgins 1999).	Potentially suitable habitat within the area. No evidence of the birds using the habitat or of old or fresh nesting burrows within the survey area.
Bird	Numenius madagascariensis (Eastern Curlew)	VU	Sheltered coasts, especially estuaries, harbours and coastal lagoons with large intertidal mud or sand flats, often with seagrass beds (Marchant and Higgins 1993)	No suitable habitat within the survey area.



## Table 8: Continued

Class	Species	Status	Preferred Habitat	Likelihood of occurrence in survey area
Bird	Plegadis falcinellus (Glossy Ibis)	IA	Edges of lakes and rivers, flood-plains, wet meadows, swamps (Marchant & Higgins 1990).	Potential roosting habitat within the survey area. Dawn surveys did not detect roosting and no evidence below the trees that these birds use the site.
Bird	Sterna caspia (Caspian Tern)	IA	Sheltered coastal embayment's and near-coastal or inland terrestrial wetlands (Higgins & Davis 1996).	No suitable habitat within the survey area.
Bird	Sterna nereis subsp. nereis (Fairy Tern)	VU	Sheltered sandy beaches, spits and banks of estuarine or lacustrine (lake) islands, wetlands and mainland coastline.	No suitable habitat within the survey area.
Bird	Thalassarche chlororhynchos subsp. carteri (Indian Yellow-nosed Albatross)	EN	Marine and pelagic (Marchant and Higgins 1990).	No suitable habitat within the survey area.
Bird	Thinornis rubricollis (Hooded Plover)	P4	Sheltered sandy beaches and salt lakes	No suitable habitat within the survey area.
Bird	Tringa glareola (Wood Sandpiper)	IA	Well-vegetated, shallow, freshwater wetlands (Higgins & Davies 1996).	No suitable habitat within the survey area.
Bird	Tringa nebularia (Common Greenshank)	IA	Inland wetlands and sheltered coastal habitats (Higgins and Davies 1996)	No suitable habitat within the survey area.
Invert	Synemon gratiosa (Graceful Sun moth)	P4	Coastal heath land on Quindalup dunes, associated with Lomandra maritime and Banksia woodland on Spearwood and Bassendean dunes, associated with L. hermaphrodita (Bishop et al. 2010).	No suitable habitat or host species within the survey area.
Invert	Westralunio carteri (Carter's Freshwater Mussel)	VU	Freshwater lakes, rivers and streams (Klunzinger and Walker 2014)	No suitable habitat within the survey area.



## Table 8: Continued

Class	Species	Status	Preferred Habitat	Likelihood of occurrence in survey area
Mammal	Hydromys chrysogaster (Rakali)	P4	Freshwater habitats, from subalpine streams and other inland waterways to lakes, swamps, and farm dams.	No suitable habitat within the survey area.
Mammal	Isoodon obesulus subsp. fusciventer (Quenda)	P5	Scrubby, often swampy, vegetation with dense cover up to 1 m high (Maxwell et al. 1996).	Suitable habitat present and evidence of activity (tracks, diggings and faecal material) were observed within survey area.
Mammal	Macropus irma (Western Brush Wallaby)	P4	Open forest or woodland, particularly open, seasonally-wet flats with low grasses and open scrubby thickets.	Marginal habitat present onsite, however there was no evidence of this species occupying or using the survey area.
Reptile	Lerista lineata (Perth Slider, Lined Skink)	P3	White sands (Storr et al. 1999) under areas of shrubs and heath where it inhabits loose soil and leaf litter (Nevill 2005) particularly in association with banksias (Bush et al. 2002).	No white sands onsite. Leaf litter searches did not yield any evidence of this species; however, it is possible that it occurs beneath the seasonal constraints of the survey.
Reptile	Neelaps calonotos (Black- striped Snake)	P3	Coastal dunes and Banksia woodlands where it shelters in leaf litter under trees and shrubs, loose surface soil and abandoned stick-ant nests (Bush et al. 2010).	Marginal habitat onsite. Leaf litter searches did not yield any evidence of this species; however, it is possible that it occurs beneath the soil, given the seasonal constraints of the survey.
Reptile	Pogona minor subsp. minima (Dwarf Bearded Dragon)	VU	This species has only been recorded from Houtman Abrolhos (Islands) near Geraldton WA. There are no records on the Australian mainland.	No suitable habitat within the survey area.







Diggings and tracks of Isoodon obesulus fusciventer





Examples of potential habitat trees for *Calyptorhynchus banksii subsp. naso*, *Calyptorhynchus baudinii*, and *Calyptorhynchus latirostris* 

Figure 9: Photographic evidence of threatened fauna within the survey area



#### 4.3 Common Taxa

The field survey identified nine fauna species including three species of amphibian, 23 species of bird and a gastropod (Table 9).

<u>Table 9: Fauna species identified during field survey of Lot 26 Kerosene Lane and 815 Mandurah Road, Baldivis.</u>

Class	Family	Species	Common Name
Bird	Artamidae	Gymnorhina tibicen	Australian Magpie
Bird	Cacatuidae	Cacatua sanguinea	Little Corella
Bird	Campephagidae	Coracina novaehollandiae	Black-faced Cuckoo-shrike
Bird	Corvidae	Corvus coronoides	Australian Raven
Bird	Cuculidae	Cacomantis flabelliformis	Fan-tailed Cuckoo
Bird	Cuculidae	Cacomantis pallidus	Pallid Cuckoo
Bird	Halcyonidae	Dacelo novaeguineae	Laughing Kookaburra
Bird	Meliphagidae	Anthochaera carunculata	Red Wattlebird
Bird	Meliphagidae	Phylidonyris novaehollandiae	New Holland Honeyeater
Bird	Zosteropidae	Zosterops lateralis	Silvereye
Mammal	Peramelidae	Isoodon obesulus fusciventer	Quenda
Mammal	Vespertilionidae	Chalinolobus gouldii	Gould's Wattled Bat
Reptile	Gekkonidae	Christinus marmoratus	Marbled Gecko
Reptile	Pygopodidae	Aprasia repens	Sand-plain Worm-lizard



#### 4.4 Introduced Taxa

The introduced fox (*Vulpes vulpes*), European rabbit (*Oryctolagus cuniculus*), feral and/ or domestic cat (*Felis catus*), introduced rat (*Rattus rattus*) and introduced mouse (*Mus mus*) are likely to occur within the survey area, given the proximity of this site to larger areas of native vegetation as well as to urban areas. Diggings and faecal material of rabbits were located onsite.

Fox population densities range from 0.2 – 12 adults/ km² in some urban populations with fox groups having well defined home ranges and the size of the home range averaging approximately 30 ha (Animal Pest Management Services 2011). The fox is an opportunistic predator and scavenger and has been recognised as a serious threat to Australian native fauna.

Feral cats are nocturnal hunters capable of killing prey up to their own body size. Home ranges of between 1 and 10 km may be expected during times of food shortage. Feral cats have been implicated in the decline of Australian terrestrial vertebrates and are thought to have contributed to the extinction of a number of small to medium sized ground-dwelling mammals and ground-nesting birds in arid Australia (Burbidge and McKenzie 1989).

Feral predators such as foxes and cats have the potential to be concentrated in remnant bushland areas and have an adverse impact on the abundance and diversity of native fauna species occurring within the wetland areas through predation.

European rabbits are nocturnal grazers, foraging on green grass and herbs. They compete with native herbivores and can have a significant impact on plant regeneration by eating seeds and seedlings. Introduced rodents also compete with native fauna for food and nesting habitat and can have a significant impact on plant regeneration.



#### **5 ECOLOGICAL LINKAGES**

Linkage with adjacent bushland areas has been identified as a natural attribute of high priority in the assessment of regional significance (EPA 2002). Two types of linked (or potentially linked) sequences of ecological communities were identified by the EPA and these include vegetated sequences and river corridors. The vegetated sequences are further divided into two groups – those that link North-South predominantly along landforms and vegetation complexes; and those that link East-West across landform and vegetation complexes (EPA 2002).

The survey area is connected to Cooloongup Lake, within the Rockingham Lakes Regional Park on its western boundary and to a nature reserve vested in the Conservation Commission on its northern boundary (Figure 10). However, a significant and high use road (Mandurah Road) physically disrupts this ecological linkage to the west and the supplementary value of the vegetation within the survey area is compromised by large areas of clearing, degraded understorey and relatively small size.

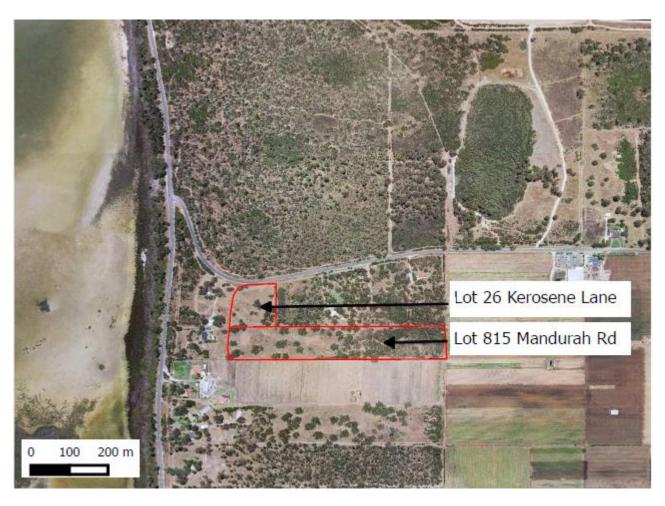


Figure 10: Contextual landscapes surrounding Lots 26 Kerosene Lane and 815 Mandurah Road, Baldivis



#### 6 DISEASE

Vegetation death caused by *Phytophthora cinnamomi* (dieback) represents one of the biggest threats to biodiversity in Western Australia. Given the location of the survey area downslope of a relatively well used road (Kerosene Lane) with significant sheet water run-off from vehicles and surrounding lands where dieback is unmanaged, there is a high likelihood of that the disease is present onsite.

There were however three areas where mature Banksias (*Banksia sessilis var. cygnorum* and *Banksia grandis*) were persisting as isolated trees, suggesting that these individuals had escaped the disease. This is probably by virtue of their association with pockets of remnant vegetation and the effect that elevated root masses and consolidated leaf litter at the base of trees has had on local drainage patterns.

Due to the degraded nature of the understorey and the subsequent lack of indicator species onsite to enable interpretation of the current status of dieback in the survey area, the rest of the site was difficult to interpret without soil samples. For soil moving activities proximate to remnant vegetation onsite, basic hygiene precautions are recommended. These may include clean down of vehicles and equipment prior to operating in these areas and, operating under dry soil conditions.

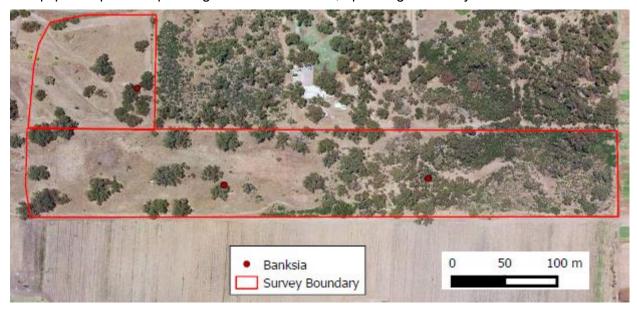


Figure 11: Location of isolated mature Banksias within the survey area





Figure 12: Mature Banksia sessilis var. cygnorum within Lots 26 Kerosene Lane and 815 Mandurah Road, Baldivis.



#### 7 CONSERVATION SIGNIFICANCE OF THE SURVEY AREA

The conservation significance of the study area has been determined by applying site specific criteria such as:

- Habitat within the survey area supporting species of conservation or other significance;
- Vegetation types or habitat present that is poorly represented on the swan coastal plain;
- Vegetation types or habitat in better condition than other similar locations nearby.

Overall the remnant vegetation on the site has a low level of regional and local significance given its existing degraded state and likely ongoing decline as a result of low species diversity, lack of native understorey and high weed cover. The site does have some value in supporting common species, providing feeding habitat for the priority listed quenda, and providing potential breeding hollows for endangered and vulnerable listed cockatoo species.

While this site may provide some feeding opportunities for quenda, it is unlikely to be critical at a species level and in fact probably increases the exposure of this population to predators, given the lack of understorey and the large cleared areas separating the remnant vegetation on 815 Mandurah Road from the high-quality vegetation in the nature reserve.

Feeding and roosting activity of the endangered and vulnerable listed cockatoos was not evident onsite and it is unlikely that this site is of value to the birds for these purposes given the marginal nature of the habitat. Many of the remnant Tuart trees however are likely to provide potential breeding hollows (Figure 6) and should be retained where this does not pose a safety or fire management risk.



#### 8 SUMMARY AND RECOMMENDATIONS

Overall the remnant vegetation within the survey area has a low level of regional and local significance, given its degraded state and likely ongoing decline as a result of low species diversity, lack of native understorey and high weed cover. 66 % of vegetation species recorded onsite were weeds and these comprised between 90 and 100 % of understorey and ground cover throughout the site.

Targeted surveys for threatened flora did not locate any populations within the survey area and there was no suitable habitat present for threatened flora species that were not identifiable within the survey period.

The survey area supports a limited diversity of common fauna and flora species, provides feeding habitat for the priority listed *Isoodon obesulus fusciventer* (Quenda), and provides potential breeding hollows for endangered and vulnerable listed cockatoo species. While the survey area provides some feeding opportunities for quenda, it is unlikely to be critical at a species level and in fact probably increases the exposure of this population to predators, given the lack of understorey onsite and the large cleared areas separating remnant vegetation on 815 Mandurah Road from higher quality vegetation in the nature reserve to the north.

Feeding and roosting activity of the endangered and vulnerable listed cockatoos was not evident onsite and it is unlikely that this site is of value to the birds for these purposes given the marginal nature of the habitat. Many of the remnant Tuart trees however are likely to provide potential (future) breeding hollows (Figure 6).

It is not considered that the amount of remaining vegetation would trigger the *EPBC Act* if habitat trees can be retained across the site where possible and relocation of any *Isoodon obesulus fusciventer* (Quenda) is considered prior to any vegetation clearing (Fauna Management and Relocation Plan).

It is noted that during the original survey and in the follow up survey in 2018 no signs of feeding or roosting activity was identified or observed. This further indicates that the area is not presently utilised by either of the three threatened Cockatoo species. The Black Cockatoo Referral Guidelines (DSEWPaC, 2012) state that clearing of more than 1ha of quality foraging habitat and clearing of a known night roost site or any clearing which may impact foraging or roosting habitat has a high likelihood of resulting in significant impacts. In such instances referral under the *EPBC Act* is recommended. Although more than 1 ha of habitat will be cleared the client has indicated that 49 significant trees (of 102 significant trees >500mm DBH) will be retained across the site. Furthermore, the two surveys have found no indications / evidence the site is utilised for feeding, roosting or breeding and thus is unlikely to be an area of <u>quality</u> or <u>significant</u> foraging. Although the clearing may trigger an EPBC Act referral the degraded state and the lack of evidence of utilisation it is likely a decision of Not a Controlled Action would occur.

The survey area does not significantly contribute to ecological linkages in the surrounding matrix of nature reserves and regional parks. The size of the survey area is relatively small, understorey vegetation is completely degraded throughout most of the site and there is limited scope for regeneration due to the lack of vegetation structure, low diversity of native species and the invasion of weeds to a point where they dominate 90-100 % of the site. Large areas of clearing and roads also separate areas of remnant vegetation within the survey area (e.g. those in the SE corner of the survey area) from adjoining high-quality vegetation in the nature reserve and regional parks.

There is no evidence of soil contamination or existing soils impacts within the survey area, other than that associated with firebreak maintenance and surface disturbance associated with loss of vegetation and water movement. While there was no observed evidence of disturbed active acid sulphate soils onsite, the site is not recorded as being within an acid sulphate soil risk area.

Recommendations arising from this study:

 The remnant mature Tuart trees onsite could provide potential (future) breeding hollows for Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black-Cockatoo), Calyptorhynchus



- baudinii (Baudin's Cockatoo), and Calyptorhynchus latirostris (Carnaby's Cockatoo) (Figure 6). These trees are being retained where this does not pose a safety, are not subject to services or cut and fill or present bushfire risk. Three of these Tuart trees are also associated with mature Banksias that should also be retained as habitat trees if possible (Figure 11). A Tree Protection plan is recommended as a condition of subdivision.
- The population of *Isoodon obesulus fusciventer* (Quenda) moving between the survey area and the nature reserve to the north needs to be actively considered and managed during site works to ensure that individuals are not injured or displaced without being given adequate opportunity to relocate. The implementation of a Fauna Management and Relocation Plan prior to commencement of site clearing works is recommended.
- Three small pockets of vegetation apparently free of the disease *Phytophthora cinnamomi* have been identified in Figure 11. These are areas associated with mature Tuarts that have been identified for retention as cockatoo breeding habitat and also contain mature Banksias that provide potential feeding opportunities for these cockatoos. Care should be taken to protect these areas from activities that may spread the disease. For soil moving activities proximate to remnant vegetation onsite, basic hygiene precautions are recommended. These may include clean down of vehicles and equipment prior to operating in these areas and, operating under dry soil conditions.
- Due to the high proportion of weeds onsite, including one declared species, it is important
  that onsite works do not contribute to the spread of these weeds. Vehicles and equipment
  accessing the area should be free of soil and vegetative material prior to leaving the site and
  care should be taken not to use any soil material as fill in a manner which could encourage
  the spread and establishment of these weeds in areas outside of the survey area.



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## 10 APPENDICES

# APPENDIX A: Condition Rating Scale (Keighery 1994)

Vegetation Condition Rating	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very good	Vegetation structure altered, obvious signs of disturbance.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate to it.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management.
Completely Degraded	Vegetation structure not intact; the area completely or almost completely without native species.



# APPENDIX B: Potential flora species occurring within 10 km of Survey Area.

Generated from Nature Map (DPaW 2015), Protected Matters search tool (DoE 2015) and WA Herbarium records 7 July 2015

ID	Family	Species
Weed	Aizoaceae	Tetragonia decumbens Sea Spinach
Flora	Amaranthaceae	Alternanthera nodiflora Common Joyweed
Flora	Amaranthaceae	Ptilotus drummondii Narrowleaf Mulla
Flora	Amaranthaceae	Ptilotus drummondii var. drummondii Pussytail
Flora	Amaranthaceae	Ptilotus polystachyus Prince of Wales Feather
Weed	Amaryllidaceae	Narcissus tazetta subsp. italicus
Weed	Anacardiaceae	Schinus terebinthifolius
Flora	Anarthriaceae	Lyginia barbata
Flora	Apiaceae	Actinotus glomeratus
Flora	Apiaceae	Apium annuum
Flora	Apiaceae	Apium prostratum Sea Celery
Flora	Apiaceae	Apium prostratum var. prostratum Sea Celery
Flora	Apiaceae	Centella asiatica
Weed	Apiaceae	Conium maculatum Hemlock
Flora	Apiaceae	Eryngium pinnatifidum subsp. pinnatifidum
Weed	Apiaceae	Foeniculum vulgare Fennel
Flora	Apiaceae	Homalosciadium homalocarpum
Flora	Apiaceae	Schoenolaena juncea
Flora	Apiaceae	Xanthosia huegelii
Flora	Apocynaceae	Alyxia buxifolia Dysentery Bush
Weed	Apocynaceae	Gomphocarpus fruticosus Narrowleaf Cottonbush
Weed	Apocynaceae	Nerium oleander
Flora	Aponogetonaceae	Aponogeton hexatepalus Stalked Water Ribbons P4
Flora	Araceae	Landoltia punctata Thin Duckweed
Weed	Araceae	Zantedeschia aethiopica Arum Lily
Flora	Araliaceae	Hydrocotyle alata
Flora	Araliaceae	Hydrocotyle blepharocarpa
Flora	Araliaceae	Hydrocotyle diantha
Flora	Araliaceae	Hydrocotyle hispidula
Flora	Araliaceae	Hydrocotyle scutellifera
Flora	Araliaceae	Trachymene coerulea Blue Lace Flower
Flora	Araliaceae	Trachymene coerulea subsp. coerulea
Flora	Araliaceae	Trachymene pilosa Native Parsnip
Flora	Asparagaceae	Acanthocarpus preissii
Weed	Asparagaceae	Agave americana Century Plant
Flora	Asparagaceae	Chamaescilla corymbosa Blue Squill
Flora	Asparagaceae	Dichopogon capillipes
Weed	Asparagaceae	Lachenalia aloides



ID	Family	Species
Weed	Asparagaceae	Lachenalia reflexa
Flora	Asparagaceae	Laxmannia ramosa Branching Lily
Flora	Asparagaceae	Laxmannia squarrosa
Flora	Asparagaceae	Lomandra caespitosa Tufted Mat Rush
Flora	Asparagaceae	Lomandra hermaphrodita
Flora	Asparagaceae	Lomandra maritima
Flora	Asparagaceae	Lomandra micrantha Small-flower Mat-rush
Flora	Asparagaceae	Lomandra nigricans
Flora	Asparagaceae	Lomandra preissii
Flora	Asparagaceae	Lomandra sericea Silky Mat Rush
Flora	Asparagaceae	Lomandra suaveolens
Weed	Asparagaceae	Ornithogalum arabicum Lesser Cape Lily
Weed	Asparagaceae	Sansevieria trifasciata
Flora	Asparagaceae	Sowerbaea laxiflora Purple Tassels
Flora	Asparagaceae	Thysanotus arenarius
Flora	Asparagaceae	Thysanotus manglesianus Fringed Lily
Flora	Asparagaceae	Thysanotus multiflorus Many-flowered Fringe Lily
Flora	Asparagaceae	Thysanotus patersonii
Flora	Asparagaceae	Thysanotus sparteus
Flora	Asparagaceae	Thysanotus thyrsoideus
Weed	Asphodelaceae	Asphodelus fistulosus Onion Weed
Flora	Asphodelaceae	Bulbine semibarbata Leek Lily
Weed	Asphodelaceae	Trachyandra divaricata
Weed	Asteraceae	Ambrosia psilostachya Perennial Ragweed
Flora	Asteraceae	Asteridea pulverulenta Common Bristle Daisy
Flora	Asteraceae	Brachyscome iberidifolia
Weed	Asteraceae	Carduus pycnocephalus Slender Thistle
Weed	Asteraceae	Cirsium vulgare Spear Thistle
Weed	Asteraceae	Conyza bonariensis Flaxleaf Fleabane
Weed	Asteraceae	Conyza sumatrensis
Weed	Asteraceae	Cotula coronopifolia Waterbuttons
Weed	Asteraceae	Dimorphotheca ecklonis
Weed	Asteraceae	Gamochaeta coarctata
Weed	Asteraceae	Gazania linearis
Flora	Asteraceae	Helichrysum luteoalbum Jersey Cudweed
Weed	Asteraceae	Hypochaeris glabra Smooth Catsear
Weed	Asteraceae	Hypochaeris radicata Flat Weed
Flora	Asteraceae	Ixiolaena viscosa Sticky Ixiolaena
Flora	Asteraceae	Lagenophora huegelii
Weed	Asteraceae	Leontodon rhagadioloides
Flora	Asteraceae	Olearia axillaris Coastal Daisybush
Flora	Asteraceae	Olearia rudis Rough Daisybush
Flora	Asteraceae	Pithocarpa cordata



ID	Family	Species
Flora	Asteraceae	Podolepis gracilis Slender Podolepis
Flora	Asteraceae	Podotheca angustifolia Sticky Longheads
Flora	Asteraceae	Podotheca chrysantha Yellow Podotheca
Flora	Asteraceae	Podotheca gnaphalioides Golden Long-heads
Flora	Asteraceae	Quinetia urvillei
Weed	Asteraceae	Reichardia tingitana False Sowthistle
Flora	Asteraceae	Senecio condylus
Flora	Asteraceae	Senecio pinnatifolius
Weed	Asteraceae	Senecio vulgaris Common Groundsel
Flora	Asteraceae	Siloxerus filifolius
Flora	Asteraceae	Siloxerus humifusus Procumbent Siloxerus
Weed	Asteraceae	Solidago canadensis Goldenrod
Flora	Asteraceae	Sonchus hydrophilus Native Sowthistle
Weed	Asteraceae	Sonchus oleraceus Common Sowthistle
Flora	Asteraceae	Trichocline spathulata Native Gerbera
Weed	Asteraceae	Ursinia anthemoides Ursinia
Weed	Asteraceae	Ursinia anthemoides subsp. anthemoides
Weed	Asteraceae	Vellereophyton dealbatum White Cudweed
Flora	Asteraceae	Waitzia suaveolens Fragrant Waitzia
Flora	Boodleaceae	Cladophoropsis herpestica
Weed	Boraginaceae	Heliotropium europaeum Common Heliotrope
Flora	Boryaceae	Borya scirpoidea
Weed	Brassicaceae	Brassica rapa
Weed	Brassicaceae	Brassica tournefortii Mediterranean Turnip
Weed	Brassicaceae	Brassica x napus
Weed	Brassicaceae	Cakile maritima Sea Rocket
Weed	Brassicaceae	Cardamine hirsuta Common Bittercress
Weed	Brassicaceae	Diplotaxis muralis Wall Rocket
Weed	Brassicaceae	Heliophila pusilla
Weed	Brassicaceae	Rorippa nasturtium-aquaticum Watercress
Weed	Brassicaceae	Sisymbrium orientale Indian Hedge Mustard
Flora	Brassicaceae	Stenopetalum gracile
Weed	Cactaceae	Opuntia monacantha Barbary Fig
Weed	Campanulaceae	Grammatotheca bergiana var. bergiana
Flora	Campanulaceae	Isotoma hypocrateriformis Woodbridge Poison
Flora	Campanulaceae	Lobelia anceps Angled Lobelia
Flora	Campanulaceae	Lobelia rhytidosperma Wrinkled-seeded Lobelia
Flora	Campanulaceae	Lobelia tenuior Slender Lobelia
Weed	Campanulaceae	Monopsis debilis
Weed	Campanulaceae	Monopsis debilis var. depressa
Weed	Caprifoliaceae	Scabiosa atropurpurea Purple Pincushion
Weed	Caryophyllaceae	Cerastium glomeratum Mouse Ear Chickweed
Weed	Caryophyllaceae	Corrigiola litoralis Strapwort



ID	Family	Species
Weed	Caryophyllaceae	Minuartia mediterranea
Weed	Caryophyllaceae	Silene gallica French Catchfly
Weed	Caryophyllaceae	Spergula arvensis Corn Spurry
Weed	Caryophyllaceae	Stellaria media Chickweed
Weed	Caryophyllaceae	Stellaria pallida
Flora	Casuarinaceae	Allocasuarina fraseriana Sheoak, Kondil
Weed	Casuarinaceae	Casuarina glauca
Flora	Casuarinaceae	Casuarina obesa Swamp Sheoak, Kuli
Flora	Centrolepidaceae	Aphelia cyperoides
Flora	Centrolepidaceae	Centrolepis aristata Pointed Centrolepis
Flora	Centrolepidaceae	Centrolepis drummondiana
Flora	Centrolepidaceae	Centrolepis glabra Smooth Centrolepis
Flora	Centrolepidaceae	Centrolepis inconspicua
Flora	Centrolepidaceae	Centrolepis mutica
Flora	Chenopodiaceae	Atriplex hypoleuca
Weed	Chenopodiaceae	Atriplex prostrata Hastate Orache
Flora	Chenopodiaceae	Atriplex suberecta
Weed	Chenopodiaceae	Chenopodium album Fat Hen
Weed	Chenopodiaceae	Chenopodium glaucum Glaucous Goosefoot
Weed	Chenopodiaceae	Chenopodium murale Nettle-leaf Goosefoot
Flora	Chenopodiaceae	Rhagodia baccata subsp. baccata
Flora	Chenopodiaceae	Rhagodia baccata subsp. dioica Sea Berry Saltbush
Flora	Chenopodiaceae	Salsola australis
Flora	Chenopodiaceae	Sarcocornia quinqueflora Beaded Samphire
Flora	Chordariaceae	Cladosiphon filum
Flora	Chordariaceae	Papenfussiella extensa
Flora	Colchicaceae	Burchardia bairdiae
Flora	Colchicaceae	Burchardia congesta
Flora	Colchicaceae	Burchardia multiflora Dwarf Burchardia
Flora	Colchicaceae	Wurmbea dioica Early Nancy
Flora	Colchicaceae	Wurmbea dioica subsp. alba
Flora	Colchicaceae	Wurmbea monantha
Weed	Convolvulaceae	Cuscuta epithymum Lesser Dodder, Greater Dodder
Flora	Convolvulaceae	Wilsonia backhousei Narrow-leaf Wilsonia
Weed	Crassulaceae	Aeonium arboreum
Weed	Crassulaceae	Cotyledon orbiculata
Flora	Crassulaceae	Crassula colorata Dense Stonecrop
Flora	Crassulaceae	Crassula colorata var. colorata
Weed	Crassulaceae	Crassula glomerata
Weed	Crassulaceae	Crassula natans
Weed	Crassulaceae	Crassula thunbergiana subsp. thunbergiana
Flora	Cupressaceae	Callitris preissii Rottnest Island Pine, Maro
Flora	Cyperaceae	Baumea acuta Pale Twig-rush



ID	Family	Species
Flora	Cyperaceae	Baumea arthrophylla
Flora	Cyperaceae	Baumea juncea Bare Twigrush
Flora	Cyperaceae	Baumea laxa
Flora	Cyperaceae	Baumea vaginalis Sheath Twigrush
Flora	Cyperaceae	Bolboschoenus caldwellii Marsh Club-rush
Flora	Cyperaceae	Chorizandra enodis Black Bristlerush
Flora	Cyperaceae	Cyathochaeta avenacea
Flora	Cyperaceae	Cyathochaeta teretifolia P3
Weed	Cyperaceae	Cyperus tenellus Tiny Flatsedge
Weed	Cyperaceae	Cyperus tenuiflorus Scaly Sedge
Flora	Cyperaceae	Ficinia nodosa Knotted Club Rush
Flora	Cyperaceae	Fimbristylis velata
Flora	Cyperaceae	Gahnia trifida Coast Saw-sedge
Flora	Cyperaceae	Isolepis cernua Nodding Club-rush
Flora	Cyperaceae	Isolepis cernua var. cernua
Flora	Cyperaceae	Isolepis cernua var. setiformis
Flora	Cyperaceae	Isolepis cyperoides
Flora	Cyperaceae	Isolepis marginata Coarse Club-rush
Flora	Cyperaceae	Isolepis oldfieldiana
Flora	Cyperaceae	Lepidosperma angustatum
Flora	Cyperaceae	Lepidosperma calcicola
Flora	Cyperaceae	Lepidosperma gladiatum Coast Sword-sedge, Kerbin
Flora	Cyperaceae	Lepidosperma longitudinale Pithy Sword-sedge
Flora	Cyperaceae	Lepidosperma pubisquameum
Flora	Cyperaceae	Lepidosperma scabrum
Flora	Cyperaceae	Lepidosperma squamatum
Flora	Cyperaceae	Mesomelaena pseudostygia
Flora	Cyperaceae	Mesomelaena tetragona Semaphore Sedge
Flora	Cyperaceae	Schoenoplectus validus Lake Club-rush
Flora	Cyperaceae	Schoenus asperocarpus Poison Sedge
Flora	Cyperaceae	Schoenus brevisetis
Flora	Cyperaceae	Schoenus clandestinus
Flora	Cyperaceae	Schoenus curvifolius
Flora	Cyperaceae	Schoenus efoliatus
Flora	Cyperaceae	Schoenus humilis
Flora	Cyperaceae	Schoenus nitens Shiny Bog-rush
Flora	Cyperaceae	Schoenus pedicellatus
Flora	Cyperaceae	Schoenus subbulbosus
Flora	Cyperaceae	Schoenus tenellus
Flora	Cyperaceae	Tetraria octandra
Flora	Dasypogonaceae	Dasypogon bromeliifolius Pineapple Bush
Flora	Dennstaedtiaceae	Histiopteris incisa
Flora	Dilleniaceae	Hibbertia acerosa Needle Leaved Guinea Flower



ID	Family	Species
Flora	Dilleniaceae	Hibbertia commutata
Flora	Dilleniaceae	Hibbertia cuneiformis Cutleaf Hibbertia
Flora	Dilleniaceae	Hibbertia huegelii
Flora	Dilleniaceae	Hibbertia hypericoides Yellow Buttercups
Flora	Dilleniaceae	Hibbertia perfoliata
Flora	Dilleniaceae	Hibbertia racemosa Stalked Guinea Flower
Flora	Dilleniaceae	Hibbertia stellaris Orange Stars
Flora	Dilleniaceae	Hibbertia subvaginata
Flora	Dilleniaceae	Hibbertia vaginata
Flora	Droseraceae	Drosera bulbosa Red-leaved Sundew
Flora	Droseraceae	Drosera erythrorhiza Red Ink Sundew
Flora	Droseraceae	Drosera gigantea Giant Sundew
Flora	Droseraceae	Drosera gigantea subsp. geniculata
Flora	Droseraceae	Drosera glanduligera Pimpernel Sundew
Flora	Droseraceae	Drosera heterophylla Swamp Rainbow
Flora	Droseraceae	Drosera macrantha Bridal Rainbow
Flora	Droseraceae	Drosera macrantha subsp. macrantha
Flora	Droseraceae	Drosera menziesii Pink Rainbow
Flora	Droseraceae	Drosera menziesii subsp. menziesii
Flora	Droseraceae	Drosera menziesii subsp. penicillaris
Flora	Droseraceae	Drosera paleacea subsp. paleacea
Flora	Droseraceae	Drosera pallida Pale Rainbow
Flora	Droseraceae	Drosera pulchella Pretty Sundew
Flora	Droseraceae	Drosera stolonifera Leafy Sundew
Flora	Ericaceae	Astroloma ciliatum Candle Cranberry
Flora	Ericaceae	Brachyloma preissii Globe Heath
Flora	Ericaceae	Brachyloma preissii subsp. preissii
Flora	Ericaceae	Conostephium pendulum Pearl Flower
Flora	Ericaceae	Conostephium preissii
Flora	Ericaceae	Leucopogon conostephioides
Flora	Ericaceae	Leucopogon parviflorus Coast Beard-heath
Flora	Ericaceae	Leucopogon propinquus
Flora	Euphorbiaceae	Adriana quadripartita Bitter Bush
Flora	Euphorbiaceae	Amperea ericoides
Flora	Euphorbiaceae	Beyeria cinerea
Weed	Euphorbiaceae	Euphorbia cyathophora
Weed	Euphorbiaceae	Euphorbia helioscopia Sun Spurge
Weed	Euphorbiaceae	Euphorbia maculata
Weed	Euphorbiaceae	Euphorbia terracina Geraldton Carnation Weed
Flora	Euphorbiaceae	Monotaxis grandiflora Diamond of the Desert
Flora	Euphorbiaceae	Monotaxis occidentalis
Flora	Fabaceae	Acacia applanata
Flora	Fabaceae	Acacia benthamii P2



ID	Family	Species
Flora	Fabaceae	Acacia cyclops Coastal Wattle
Flora	Fabaceae	Acacia huegelii
Flora	Fabaceae	Acacia lasiocarpa Panjang
Flora	Fabaceae	Acacia lasiocarpa var. bracteolata long peduncle variant (G.J. Keighery 5026) P1
Flora	Fabaceae	Acacia lasiocarpa var. lasiocarpa
Flora	Fabaceae	Acacia pulchella var. goadbyi
Flora	Fabaceae	Acacia rostellifera Summer-scented Wattle
Flora	Fabaceae	Acacia saligna Orange Wattle, Kudjong
Flora	Fabaceae	Acacia saligna subsp. saligna
Flora	Fabaceae	Acacia stenoptera Narrow Winged Wattle
Flora	Fabaceae	Acacia willdenowiana Grass Wattle
Flora	Fabaceae	Aotus cordifolia
Flora	Fabaceae	Aotus gracillima
Flora	Fabaceae	Aotus procumbens
Flora	Fabaceae	Bossiaea eriocarpa Common Brown Pea
Flora	Fabaceae	Daviesia angulata
Flora	Fabaceae	Daviesia divaricata subsp. divaricata
Flora	Fabaceae	Daviesia physodes
Flora	Fabaceae	Daviesia triflora
Flora	Fabaceae	Dillwynia dillwynioides P3
Flora	Fabaceae	Euchilopsis linearis Swamp Pea
Flora	Fabaceae	Eutaxia virgata
Flora	Fabaceae	Gastrolobium ebracteolatum
Flora	Fabaceae	Gastrolobium nervosum
Flora	Fabaceae	Gompholobium marginatum
Flora	Fabaceae	Gompholobium tomentosum Hairy Yellow Pea
Flora	Fabaceae	Hardenbergia comptoniana Native Wisteria
Flora	Fabaceae	Hovea trisperma Common Hovea
Flora	Fabaceae	Hovea trisperma var. trisperma
Flora	Fabaceae	Isotropis cuneifolia Granny Bonnets
Flora	Fabaceae	Isotropis cuneifolia subsp. cuneifolia
Flora	Fabaceae	Jacksonia furcellata Grey Stinkwood
Flora	Fabaceae	Jacksonia sericea Waldjumi P4
Flora	Fabaceae	Jacksonia sternbergiana Stinkwood, Kapur
Flora	Fabaceae	Kennedia coccinea Coral Vine
Flora	Fabaceae	Kennedia prostrata Scarlet Runner
Flora	Fabaceae	Kennedia stirlingii Bushy Kennedia
Weed	Fabaceae	Medicago sativa Alfalfa
Weed	Fabaceae	Melilotus albus
Weed	Fabaceae	Melilotus indicus
Flora	Fabaceae	Pultenaea reticulata
Flora	Fabaceae	Sphaerolobium calcicola P3



ID	Family	Species
Flora	Fabaceae	Templetonia retusa Cockies Tongues
Weed	Fabaceae	Trifolium angustifolium var. angustifolium
Weed	Fabaceae	Trifolium campestre Hop Clover
Weed	Fabaceae	Trifolium dubium Suckling Clover
Weed	Fabaceae	Trifolium glomeratum Cluster Clover
Weed	Fabaceae	Trifolium scabrum Rough Clover
Weed	Fabaceae	Trifolium subterraneum Subterranean Clover
Weed	Gentianaceae	Centaurium erythraea Common Centaury
Weed	Gentianaceae	Centaurium tenuiflorum
Weed	Gentianaceae	Cicendia filiformis Slender Cicendia
Weed	Geraniaceae	Erodium cicutarium Common Storksbill
Weed	Geraniaceae	Geranium molle Dove's Foot Cranesbill
Flora	Geraniaceae	Geranium retrorsum
Weed	Geraniaceae	Pelargonium capitatum Rose Pelargonium
Flora	Geraniaceae	Pelargonium littorale
Flora	Goodeniaceae	Dampiera alata Winged-stem Dampiera
Flora	Goodeniaceae	Dampiera linearis Common Dampiera
Flora	Goodeniaceae	Goodenia pulchella
Flora	Goodeniaceae	Lechenaultia biloba Blue Leschenaultia
Flora	Goodeniaceae	Lechenaultia expansa
Flora	Goodeniaceae	Lechenaultia floribunda Free-flowering Leschenaultia
Flora	Goodeniaceae	Scaevola anchusifolia
Flora	Goodeniaceae	Scaevola canescens Grey Scaevola
Flora	Goodeniaceae	Scaevola crassifolia Thick-leaved Fan-flower
Flora	Goodeniaceae	Scaevola nitida Shining Fanflower
Flora	Goodeniaceae	Scaevola phlebopetala Velvet Fanflower
Flora	Goodeniaceae	Scaevola repens var. repens
Flora	Gyrostemonaceae	Gyrostemon subnudus
Flora	Gyrostemonaceae	Tersonia cyathiflora Button Creeper
Flora	Haemodoraceae	Anigozanthos humilis subsp. humilis
Flora	Haemodoraceae	Anigozanthos manglesii subsp. manglesii
Flora	Haemodoraceae	Anigozanthos viridis Green Kangaroo Paw, Kurulbardang
Flora	Haemodoraceae	Conostylis aculeata Prickly Conostylis
Flora	Haemodoraceae	Conostylis aculeata subsp. aculeata
Flora	Haemodoraceae	Conostylis aculeata subsp. preissii
Flora	Haemodoraceae	Conostylis candicans Grey Cottonhead
Flora	Haemodoraceae	Conostylis candicans subsp. candicans
Flora	Haemodoraceae	Conostylis juncea
Flora	Haemodoraceae	Conostylis setosa White Cottonhead
Flora	Haemodoraceae	Haemodorum laxum
Flora	Haemodoraceae	Haemodorum sparsiflorum
Flora	Haemodoraceae	Haemodorum spicatum Mardja
Flora	Haemodoraceae	Phlebocarya ciliata



ID	Family	Species
Flora	Haemodoraceae	Tribonanthes australis
Flora	Haloragaceae	Gonocarpus pithyoides
Flora	Haloragaceae	Meionectes brownii Swamp Raspwort
Flora	Haloragaceae	Myriophyllum drummondii
Flora	Hemerocallidaceae	Agrostocrinum scabrum Blue Grass Lily
Flora	Hemerocallidaceae	Arnocrinum preissii
Flora	Hemerocallidaceae	Caesia micrantha Pale Grass Lily
Flora	Hemerocallidaceae	Caesia occidentalis
Flora	Hemerocallidaceae	Corynotheca micrantha Sand Lily
Flora	Hemerocallidaceae	Corynotheca micrantha var. micrantha
Flora	Hemerocallidaceae	Dianella revoluta Blueberry Lily
Flora	Hemerocallidaceae	Dianella revoluta var. divaricata
Flora	Hemerocallidaceae	Stypandra glauca Blind Grass
Flora	Hemerocallidaceae	Tricoryne elatior Yellow Autumn Lily
Flora	Hemerocallidaceae	Tricoryne tenella
Weed	Iridaceae	Gladiolus angustus Long Tubed Painted Lady
Weed	Iridaceae	Gladiolus caryophyllaceus Wild Gladiolus
Flora	Iridaceae	Patersonia occidentalis Purple Flag, Koma
Flora	Iridaceae	Patersonia occidentalis var. angustifolia
Weed	Iridaceae	Romulea rosea Guildford Grass
Weed	Juncaceae	Juncus acutus subsp. acutus
Weed	Juncaceae	Juncus bufonius Toad Rush
Weed	Juncaceae	Juncus capitatus Capitate Rush
Flora	Juncaceae	Juncus kraussii Sea Rush
Flora	Juncaceae	Juncus kraussii subsp. australiensis
Flora	Juncaceae	Juncus pallidus Pale Rush
Flora	Juncaceae	Juncus pauciflorus Loose Flower Rush
Flora	Juncaceae	Luzula meridionalis Field Woodrush
Flora	Juncaginaceae	Triglochin mucronata
Flora	Juncaginaceae	Triglochin striata
Flora	Lamiaceae	Hemiandra pungens Snakebush
Weed	Lamiaceae	Mentha pulegium Pennyroyal
Flora	Lauraceae	Cassytha racemosa Dodder Laurel
Flora	Lauraceae	Cassytha racemosa forma pilosa
Flora	Lauraceae	Cassytha racemosa forma racemosa
Flora	Linaceae	Linum marginale Wild Flax
Flora	Loganiaceae	Logania vaginalis White Spray
Flora	Loganiaceae	Phyllangium paradoxum
Flora	Loranthaceae	Nuytsia floribunda Christmas Tree, Mudja
Weed	Malvaceae	Malva arborea Tree Mallow
Weed	Malvaceae	Malva parviflora Marshmallow
Flora	Malvaceae	Malva preissiana
Flora	Malvaceae	Thomasia cognata



ID	Family	Species
Flora	Malvaceae	Thomasia glutinosa var. latifolia
Flora	Meliaceae	Melia azedarach White Cedar
Flora	Menyanthaceae	Liparophyllum capitatum
Flora	Menyanthaceae	Ornduffia albiflora
Flora	Myrtaceae	Astartea affinis
Flora	Myrtaceae	Astartea scoparia
Flora	Myrtaceae	Beaufortia elegans
Flora	Myrtaceae	Calothamnus lateralis
Flora	Myrtaceae	Calothamnus quadrifidus subsp. quadrifidus
Flora	Myrtaceae	Calytrix flavescens Summer Starflower
Flora	Myrtaceae	Calytrix fraseri Pink Summer Calytrix
Flora	Myrtaceae	Eremaea asterocarpa subsp. asterocarpa
Flora	Myrtaceae	Eucalyptus decipiens Limestone Marlock, Moit
Flora	Myrtaceae	Eucalyptus foecunda Narrow-leaved Red Mallee
Flora	Myrtaceae	Eucalyptus gomphocephala Tuart, Duart
Flora	Myrtaceae	Eucalyptus marginata Jarrah, Djara
Weed	Myrtaceae	Eucalyptus petiolaris
Flora	Myrtaceae	Eucalyptus rudis Flooded Gum, Kulurda
Flora	Myrtaceae	Hypocalymma angustifolium White Myrtle, Kudjid
Flora	Myrtaceae	Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777)
Flora	Myrtaceae	Hypocalymma robustum Swan River Myrtle
Flora	Myrtaceae	Kunzea ericifolia Spearwood, Pondil
Flora	Myrtaceae	Kunzea glabrescens Spearwood
Weed	Myrtaceae	Leptospermum laevigatum Coast Teatree
Flora	Myrtaceae	Melaleuca acutifolia
Flora	Myrtaceae	Melaleuca cuticularis Saltwater Paperbark
Flora	Myrtaceae	Melaleuca huegelii subsp. huegelii
Flora	Myrtaceae	Melaleuca incana subsp. incana
Flora	Myrtaceae	Melaleuca lateritia Robin Redbreast Bush
Flora	Myrtaceae	Melaleuca preissiana Moonah
Flora	Myrtaceae	Melaleuca rhaphiophylla Swamp Paperbark
Flora	Myrtaceae	Melaleuca teretifolia Banbar
Flora	Myrtaceae	Melaleuca thymoides
Flora	Myrtaceae	Melaleuca viminea Mohan
Flora	Myrtaceae	Melaleuca viminea subsp. viminea
Flora	Myrtaceae	Pericalymma ellipticum Swamp Teatree
Flora	Myrtaceae	Pericalymma ellipticum var. ellipticum
Flora	Myrtaceae	Scholtzia involucrata Spiked Scholtzia
Flora	Myrtaceae	Taxandria linearifolia
Flora	Onagraceae	Epilobium billardiereanum Glabrous Willow Herb
Flora	Onagraceae	Epilobium billardiereanum subsp. billardiereanum Smooth Willow Herb



ID	Family	Species
Flora	Onagraceae	Epilobium billardiereanum subsp. intermedium
Flora	Onagraceae	Epilobium hirtigerum Hairy Willow Herb
Weed	Onagraceae	Oenothera drummondii Beach Evening Primrose
Weed	Onagraceae	Oenothera mollissima
Weed	Onagraceae	Oenothera stricta subsp. stricta
Flora	Orchidaceae	Caladenia denticulata
Flora	Orchidaceae	Caladenia discoidea Dancing Orchid
Flora	Orchidaceae	Caladenia flava Cowslip Orchid
Flora	Orchidaceae	Caladenia flava subsp. flava
Flora	Orchidaceae	Caladenia huegelii Grand Spider Orchid T
Flora	Orchidaceae	Caladenia latifolia Pink Fairy Orchid
Flora	Orchidaceae	Caladenia longicauda subsp. calcigena
Flora	Orchidaceae	Caladenia nobilis
Flora	Orchidaceae	Cryptostylis ovata Slipper Orchid
Flora	Orchidaceae	Diuris brumalis
Flora	Orchidaceae	Diuris corymbosa
Flora	Orchidaceae	Diuris laxiflora Bee Orchid
Flora	Orchidaceae	Diuris magnifica
Flora	Orchidaceae	Diuris micrantha T
Flora	Orchidaceae	Drakaea elastica Glossy-leaved Hammer Orchid T
Flora	Orchidaceae	Elythranthera brunonis Purple Enamel Orchid
Flora	Orchidaceae	Leporella fimbriata Hare Orchid
Flora	Orchidaceae	Leptoceras menziesii
Flora	Orchidaceae	Microtis media subsp. media
Flora	Orchidaceae	Paracaleana nigrita Flying Duck Orchid
Flora	Orchidaceae	Prasophyllum drummondii Swamp Leek Orchid
Flora	Orchidaceae	Prasophyllum hians Yawning Leek Orchid
Flora	Orchidaceae	Prasophyllum plumiforme
Flora	Orchidaceae	Pterostylis aspera
Flora	Orchidaceae	Pterostylis vittata Banded Greenhood
Flora	Orchidaceae	Thelymitra fuscolutea Chestnut Sun Orchid
Flora	Orchidaceae	Thelymitra macrophylla
Flora	Orchidaceae	Thelymitra mucida Plum Orchid
Flora	Orchidaceae	Thelymitra vulgaris
Flora	Orchidaceae	Thelymitra xanthotricha
Weed	Orobanchaceae	Bartsia trixago
Weed	Orobanchaceae	Orobanche minor Lesser Broomrape
Weed	Orobanchaceae	Parentucellia viscosa Sticky Bartsia
Weed	Oxalidaceae	Oxalis purpurea Largeflower Wood Sorrel
Weed	Papaveraceae	Fumaria bastardii
Weed	Papaveraceae	Fumaria capreolata Whiteflower Fumitory
Weed	Papaveraceae	Papaver rhoeas Field Poppy
Flora	Philydraceae	Philydrella pygmaea Butterfly Flowers



ID	Family	Species
Flora	Phyllanthaceae	Phyllanthus calycinus False Boronia
Flora	Phyllanthaceae	Poranthera microphylla Small Poranthera
Weed	Phytolaccaceae	Phytolacca octandra Red Ink Plant
Flora	Plantaginaceae	Gratiola pubescens
Weed	Plantaginaceae	Misopates orontium Lesser Snapdragon
Weed	Plantaginaceae	Plantago lanceolata Ribwort Plantain
Weed	Plantaginaceae	Veronica persica Creeping Speedwell
Weed	Poaceae	Aira caryophyllea Silvery Hairgrass
Weed	Poaceae	Aira cupaniana Silvery Hairgrass
Flora	Poaceae	Amphipogon turbinatus
Weed	Poaceae	Anthoxanthum odoratum Sweet Vernal Grass
Weed	Poaceae	Arundo donax Giant Reed
Flora	Poaceae	Austrostipa compressa
Flora	Poaceae	Austrostipa flavescens
Flora	Poaceae	Austrostipa sp. Marchagee (B.R. Maslin 1407)
Weed	Poaceae	Avellinia michelii
Weed	Poaceae	Avena barbata Bearded Oat
Weed	Poaceae	Avena fatua Wild Oat
Weed	Poaceae	Avena sativa Common Oat
Weed	Poaceae	Briza maxima Blowfly Grass
Weed	Poaceae	Briza minor Shivery Grass
Weed	Poaceae	Bromus diandrus Great Brome
Weed	Poaceae	Bromus hordeaceus Soft Brome
Weed	Poaceae	Cenchrus setaceus Fountain Grass
Weed	Poaceae	Cortaderia selloana Pampas Grass
Weed	Poaceae	Cynodon dactylon Couch
Weed	Poaceae	Cynosurus echinatus Rough Dogstail
Flora	Poaceae	Deyeuxia quadriseta Reed Bentgrass
Flora	Poaceae	Dichelachne crinita Longhair Plumegrass
Weed	Poaceae	Digitaria didactyla Queensland Blue Couch
Weed	Poaceae	Ehrharta brevifolia var. cuspidata
Weed	Poaceae	Ehrharta calycina Perennial Veldt Grass
Weed	Poaceae	Ehrharta longiflora Annual Veldt Grass
Weed	Poaceae	Eragrostis cilianensis Stinkgrass
Weed	Poaceae	Eragrostis curvula African Lovegrass
Flora	Poaceae	Eragrostis elongata Clustered Lovegrass
Flora	Poaceae	Hemarthria uncinata var. uncinata
Weed	Poaceae	Holcus setiger Annual Fog
Weed	Poaceae	Hordeum glaucum Northern Barley Grass
Weed	Poaceae	Hyparrhenia hirta Tambookie Grass
Flora	Poaceae	Lachnagrostis filiformis
Flora	Poaceae	Lachnagrostis plebeia
Flora	Poaceae	Lachnagrostis preissii



ID	Family	Species
Weed	Poaceae	Lagurus ovatus Hare's Tail Grass
Weed	Poaceae	Lolium perenne Perennial Ryegrass
Weed	Poaceae	Lolium perenne x rigidum
Weed	Poaceae	Lolium rigidum Wimmera Ryegrass
Weed	Poaceae	Lolium x hybridum
Flora	Poaceae	Microlaena stipoides Weeping Grass
Flora	Poaceae	Neurachne alopecuroidea Foxtail Mulga Grass
Weed	Poaceae	Parapholis incurva Coast Barbgrass
Weed	Poaceae	Paspalum dilatatum
Weed	Poaceae	Paspalum distichum Water Couch
Weed	Poaceae	Paspalum vaginatum Salt Water Couch
Weed	Poaceae	Phalaris minor Lesser Canary Grass
Weed	Poaceae	Phalaris paradoxa Paradoxa Grass
Flora	Poaceae	Poa drummondiana Knotted Poa
Flora	Poaceae	Poa poiformis Coastal Poa
Flora	Poaceae	Poa porphyroclados
Weed	Poaceae	Polypogon monspeliensis Annual Beardgrass
Flora	Poaceae	Polypogon tenellus
Weed	Poaceae	Rostraria cristata
Flora	Poaceae	Rytidosperma acerosum
Weed	Poaceae	Secale cereale Rye
Flora	Poaceae	Sporobolus virginicus Marine Couch
Weed	Poaceae	Stenotaphrum secundatum Buffalo Grass
Weed	Poaceae	Triticum aestivum Wheat
Weed	Poaceae	Vulpia bromoides Squirrel Tail Fescue
Weed	Poaceae	Vulpia myuros Rat's Tail Fescue
Weed	Poaceae	Vulpia myuros forma megalura
Weed	Poaceae	Vulpia myuros forma myuros
Flora	Polygalaceae	Comesperma calymega Blue-spike Milkwort
Flora	Polygalaceae	Comesperma confertum
Flora	Polygalaceae	Comesperma integerrimum
Flora	Polygalaceae	Comesperma virgatum Milkwort
Flora	Polygonaceae	Muehlenbeckia adpressa Climbing Lignum
Weed	Polygonaceae	Persicaria lapathifolia
Weed	Polygonaceae	Rumex crispus Curled Dock
Flora	Portulacaceae	Calandrinia calyptrata Pink Purslane
Flora	Portulacaceae	Calandrinia granulifera Pygmy Purslane
Flora	Portulacaceae	Calandrinia liniflora Parakeelya
Flora	Potamogetonaceae	Potamogeton ochreatus Blunt Pondweed
Flora	Potamogetonaceae	Stuckenia pectinata
Flora	Pottiaceae	Tortula muralis
Flora	Primulaceae	Samolus junceus
Flora	Primulaceae	Samolus repens Creeping Brookweed



ID	Family	Species
Flora	Primulaceae	Samolus repens var. paucifolius
Flora	Proteaceae	Adenanthos cygnorum Common Woollybush
Flora	Proteaceae	Adenanthos cygnorum subsp. cygnorum Common Woollybush
Flora	Proteaceae	Adenanthos obovatus Basket Flower
Flora	Proteaceae	Banksia attenuata Slender Banksia, Piara
Flora	Proteaceae	Banksia grandis Bull Banksia, Pulgarla
Flora	Proteaceae	Banksia ilicifolia Holly-leaved Banksia
Flora	Proteaceae	Banksia littoralis Swamp Banksia, Pungura
Flora	Proteaceae	Banksia menziesii Firewood Banksia
Flora	Proteaceae	Banksia sessilis var. cygnorum
Flora	Proteaceae	Banksia sessilis var. sessilis
Flora	Proteaceae	Conospermum triplinervium Tree Smokebush
Flora	Proteaceae	Grevillea crithmifolia
Flora	Proteaceae	Grevillea pilulifera Woolly-flowered Grevillea
Flora	Proteaceae	Grevillea preissii subsp. preissii
Flora	Proteaceae	Grevillea vestita
Flora	Proteaceae	Grevillea vestita subsp. vestita
Flora	Proteaceae	Hakea lissocarpha Honey Bush
Flora	Proteaceae	Hakea marginata
Flora	Proteaceae	Hakea prostrata Harsh Hakea
Flora	Proteaceae	Hakea trifurcata Two-leaf Hakea
Flora	Proteaceae	Hakea varia Variable-leaved Hakea
Flora	Proteaceae	Persoonia saccata Snottygobble
Flora	Proteaceae	Petrophile linearis Pixie Mops
Flora	Proteaceae	Stirlingia latifolia Blueboy
Flora	Proteaceae	Synaphea polymorpha Albany Synaphea, Pinda
Flora	Proteaceae	Synaphea sp. Serpentine (G.R. Brand 103) T
Flora	Proteaceae	Synaphea spinulosa
Flora	Proteaceae	Synaphea spinulosa subsp. spinulosa
Flora	Proteaceae	Xylomelum occidentale Woody Pear, Djandin
Flora	Ranunculaceae	Clematis linearifolia
Flora	Ranunculaceae	Clematis pubescens Common Clematis
Flora	Restionaceae	Chaetanthus aristatus
Flora	Restionaceae	Desmocladus asper
Flora	Restionaceae	Desmocladus flexuosus
Flora	Restionaceae	Dielsia stenostachya
Flora	Restionaceae	Hypolaena exsulca
Flora	Restionaceae	Hypolaena pubescens
Flora	Restionaceae	Leptocarpus laxus
Flora	Restionaceae	Lepyrodia muirii
Flora	Restionaceae	Meeboldina cana
Flora	Restionaceae	Meeboldina decipiens



ID	Family	Species
Flora	Restionaceae	Meeboldina roycei
Flora	Restionaceae	Meeboldina scariosa
Flora	Rhamnaceae	Cryptandra mutila
Weed	Rhamnaceae	Rhamnus alaternus Buckthorn
Flora	Rhamnaceae	Spyridium globulosum Basket Bush
Flora	Rhamnaceae	Trymalium ledifolium var. ledifolium
Weed	Rubiaceae	Galium murale Small Goosegrass
Flora	Rubiaceae	Opercularia hispidula Hispid Stinkweed
Flora	Rubiaceae	Opercularia vaginata Dog Weed
Flora	Rutaceae	Boronia crenulata Aniseed Boronia
Flora	Rutaceae	Boronia crenulata subsp. viminea
Flora	Rutaceae	Boronia dichotoma
Flora	Rutaceae	Boronia juncea subsp. juncea P1
Flora	Rutaceae	Boronia ramosa subsp. anethifolia
Flora	Rutaceae	Diplolaena dampieri Southern Diplolaena
Flora	Rutaceae	Philotheca spicata Pepper and Salt
Flora	Sapindaceae	Diplopeltis huegelii subsp. huegelii
Flora	Sapindaceae	Dodonaea hackettiana Hackett's Hopbush P4
Flora	Sargassaceae	Sargassum fallax
Flora	Sargassaceae	Sargassum peronii
Flora	Sargassaceae	Sirophysalis trinodis
Flora	Sargassaceae	Turbinaria gracilis
Weed	Scrophulariaceae	Dischisma arenarium
Flora	Scrophulariaceae	Eremophila glabra subsp. albicans
Flora	Scrophulariaceae	Myoporum caprarioides Slender Myoporum
Flora	Scrophulariaceae	Myoporum insulare Blueberry Tree, boobialla
Weed	Scrophulariaceae	Verbascum virgatum Twiggy Mullein
Flora	Selaginellaceae	Selaginella gracillima Tiny Clubmoss
Flora	Solanaceae	Anthocercis littorea Yellow Tailflower
Weed	Solanaceae	Physalis angulata
Weed	Solanaceae	Physalis peruviana Cape Gooseberry
Weed	Solanaceae	Solanum linnaeanum Apple of Sodom
Weed	Solanaceae	Solanum nigrum Black Berry Nightshade
Flora	Solanaceae	Solanum symonii
Flora	Stylidiaceae	Levenhookia pusilla Midget Stylewort
Flora	Stylidiaceae	Levenhookia stipitata Common Stylewort
Flora	Stylidiaceae	Stylidium brunonianum Pink Fountain Triggerplant
Flora	Stylidiaceae	Stylidium calcaratum Book Triggerplant
Flora	Stylidiaceae	Stylidium carnosum Fleshy-leaved Triggerplant
Flora	Stylidiaceae	Stylidium divaricatum Daddy-long-legs
Flora	Stylidiaceae	Stylidium ireneae P4
Flora	Stylidiaceae	Stylidium longitubum Jumping Jacks P3
Flora	Stylidiaceae	Stylidium piliferum Common Butterfly Triggerplant



ID	Family	Species
Flora	Stylidiaceae	Stylidium repens Matted Triggerplant
Flora	Stylidiaceae	Stylidium roseoalatum Pink-wing Triggerplant
Flora	Stylidiaceae	Stylidium schoenoides Cow Kicks
Flora	Stylidiaceae	Stylidium sp. Darling Range (H. Bowler 371)
Flora	Stylidiaceae	Stylidium utricularioides Pink Fan Triggerplant
Weed	Tamaricaceae	Tamarix aphylla Athel Tree
Flora	Thymelaeaceae	Pimelea imbricata var. major
Flora	Thymelaeaceae	Pimelea lanata
Flora	Thymelaeaceae	Pimelea leucantha
Flora	Thymelaeaceae	Pimelea rosea Rose Banjine
Flora	Thymelaeaceae	Pimelea rosea subsp. rosea
Weed	Typhaceae	Typha orientalis Bulrush, Cumbungi
Flora	Urticaceae	Parietaria debilis Pellitory
Flora	Violaceae	Hybanthus calycinus Wild Violet
Flora	Violaceae	Hybanthus debilissimus
Flora	Xanthorrhoeaceae	Xanthorrhoea preissii Grass tree, Balga
Flora	Zamiaceae	Macrozamia riedlei Zamia, Djiridji



#### **Bianca Theyer**

From: Communities Data <communities.data@dbca.wa.gov.au>

**Sent:** 2 March 2018 4:11 PM

To: Bianca Theyer (bianca@biodiversesolutions.com.au)

Subject: Results of TEC/PEC Search - BDS (Mandurah) (Our Ref:07-0318EC) (Your Ref:)

Attachments: Conditions of supplying TECPEC data\_DBCA\_2017.pdf; TEC-PEC\_metadata\_DBCA\_

2017.pdf; BDS\_Mandurah\_TecPecSearchResults\_02032018.dbf;

BDS\_Mandurah\_TecPecSearchResults\_02032018.prj; BDS\_Mandurah\_TecPecSearchResults\_02032018.sbn; BDS\_Mandurah\_TecPecSearchResults\_02032018.sbx; BDS\_Mandurah\_TecPecSearchResults\_02032018.shp; BDS\_Mandurah\_TecPecSearchResults\_02032018.shp.xml; BDS\_Mandurah\_TecPecSearchResults\_02032018.shx

I refer to your request for the information on threatened and priority ecological communities occurring within the search area provided (including a 5km buffer).

A search was undertaken on the Department's Threatened Ecological Communities database. Please find attached a buffer shapefile from the database where records were found. If you do not use shapefiles please use the (.dbf file). This can be opened in excel as a spreadsheet. Please note that this information is not to be given to any external third parties as it may contain information regarding private property. Attached are the conditions under which this information has been supplied. The information supplied should be regarded as an indication only of the threatened and priority ecological communities that may be present.

If you would like to view the threatened ecological community list please use the link: <a href="https://www.dpaw.wa.gov.au/images/plants-animals/threatened-species/threatened-ecological communities endorsed by the minister october 2016.pdf">https://www.dpaw.wa.gov.au/images/plants-animals/threatened-species/threatened-ecological communities endorsed by the minister october 2016.pdf</a>

Also please note not all priority ecological communities are currently recorded on our database. You may like to view the current list in related documents at: <a href="https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/priority">https://www.dpaw.wa.gov.au/images/documents/plants-animals/threatened-species/Listings/priority</a> ecological communities list.pdf

Please note that some of this State's priority listed community types are listed under the *Environment Protection* and *Biodiversity Conservation Act 1999* (EPBC Act), below are the references to the mapping of these communities. If you would like to view this list please use this link: <a href="http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl">http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl</a>.

It would be appreciated if any occurrences of threatened and priority ecological communities encountered by you in the area could be reported to this Department to ensure their ongoing management. An occurrence report form and associated manual can be found at <a href="https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/wa-s-threatened-ecological-communities">https://www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/wa-s-threatened-ecological-communities</a>

Search area response information is only accurate at the time of provision. Over time, new occurrences or modifications to existing occurrences may occur as information becomes available. It is recommended that searches be re-submitted every six months where projects occur over a long period of time.

An invoice for \$330 (including GST) for the supply of this information will be forwarded.

#### Your request for information reference number for this search is: 07-0318EC

Please quote this unique reference number when acknowledging the Department of Parks and Wildlife as a source of the data in any published material.

#### **Banksia woodlands of the Swan Coastal Plain**

The Banksia woodlands of the Swan Coastal Plain were listed as a TEC under the EPBC Act on 16 September 2016.

The mapping for the Banksia woodlands ecological community is based on the Commonwealth's 'likely to occur' areas and represents the broad-scale vegetation map units areas most likely to contain the described ecological community. The ecological community may, however, occur outside of the 'likely to occur' areas, within the broader 'may occur' boundary (guidance on these map units is found in Tables C1 and C2 of the Commonwealth's Conservation Advice).

Therefore, the mapping represents the indicative present distribution of the Banksia Woodlands ecological community. Ground-truthing is required to verify if a particular site meets the required diagnostic characteristics and minimum condition thresholds and size to be the described TEC.

The listed TECs also encompasses a suite of WA TECs and PECs.

# <u>Proteaceae Dominated Kwongkan Shrublands of the southeast coastal floristic province of Western Australia, 'Kwongkan'</u>

The Proteaceae Dominated Kwongkan Shrublands of the southeast coastal floristic province of Western Australia ('Kwongkan') was listed as a TEC under the EPBC Act in 2014.

The mapping for the Kwongkan ecological community is based on the Commonwealth's 'likely to occur' areas and represents the broad-scale mapping units areas most likely to contain the described ecological community. The ecological community may, however, occur outside of the 'likely to occur' areas, within the broader 'may occur' boundary (refer Commonwealth's Conservation Advice).

Therefore, the mapping represents the indicative present distribution of the Kwongkan ecological community. Ground-truthing is required to verify if a particular site meets the required diagnostic characteristics and minimum condition thresholds and size to be the described TEC.

The listed TECs also encompasses a suite of WA TECs and PECs.

#### Eucalypt Woodlands of the Western Australian Wheatbelt, 'Wheatbelt Woodlands'

The Eucalypt Woodlands of the Western Australian Wheatbelt ('Wheatbelt Woodlands') were listed as a TEC under the EPBC Act in 2015.

The mapping for the Wheatbelt Woodlands ecological community is based on the Commonwealth's 'likely to occur' areas and represents the broad-scale vegetation map units areas most likely to contain the described ecological community. The ecological community may, however, occur outside of the 'likely to occur' areas, within the broader 'may occur' boundary (refer Commonwealth's Conservation Advice).

Therefore, the mapping represents the indicative present distribution of the Wheatbelt Woodlands ecological community. Ground-truthing is required to verify if a particular site meets the required diagnostic characteristics and minimum condition thresholds and size to be the described TEC.

The listed TECs also encompasses a suite of WA TECs and PECs.

Kind Regards

Wendy Hudleston | TEC Ecologist | Species & Communities Branch
Department of Biodiversity, Conservation and Attractions | Kensington | Ph. 9219 9157 |
wendy.hudleston@dbca.wa.gov.au

#### **APPENDIX C: Criteria used to rate weeds**

Criteria used in the environmental weed strategy for Western Australia:

- Invasiveness ability to invade bushland in good to excellent condition or ability to invade waterways. (Score as yes or no).
- Distribution wide current or potential distribution including consideration of known history of wide-spread distribution elsewhere in the world. (Score as yes or no).
- Environmental Impacts ability to change the structure, composition and function of ecosystems. In particular, an ability to form a monoculture in a vegetation community. (Score as yes or no).

The rating of each weed was then determined by the following scoring system:

- High a weed species would have to score yes for all three criteria. Rating a weed species as high would indicate prioritising this weed for control and/or research i.e. prioritising funding to it.
- Moderate a weed species would have to score yes for two of the above criteria. Rating
  a weed species as moderate would indicate that control or research effort should be
  directed to it if funds are available, however it should be monitored (possibly a
  reasonably high level of monitoring).
- Mild a weed species scoring one of the criteria. A mild rating would indicate monitoring of the week and control where appropriate.
- Low a weed species would score none of the criteria. A low ranking would mean that this species would require a low level of management



#### APPENDIX D: Potential fauna species occurring within 10 km of survey area.

Generated from Nature Map (DPaW 2015) and Protected Matters search tool (DoE 2015) 7 July 2015

ID	Family	Species			
Fauna	Acanthizidae	Acanthiza apicalis Broad-tailed Thornbill, Inland Thornbill			
Fauna	Acanthizidae	Acanthiza chrysorrhoa Yellow-rumped Thornbill			
Fauna	Acanthizidae	Acanthiza inornata Western Thornbill			
Fauna	Acanthizidae	Gerygone fusca Western Gerygone			
Fauna	Acanthizidae	Sericornis frontalis White-browed Scrubwren			
Fauna	Acanthizidae	Smicrornis brevirostris Weebill			
Fauna	Accipitridae	Accipiter cirrocephalus Collared Sparrowhawk			
Fauna	Accipitridae	Accipiter cirrocephalus subsp. cirrocephalus Collared Sparrowhawk			
Fauna	Accipitridae	Accipiter fasciatus Brown Goshawk			
Fauna	Accipitridae	Accipiter fasciatus subsp. fasciatus Brown Goshawk			
Fauna	Accipitridae	Aquila audax Wedge-tailed Eagle			
Fauna	Accipitridae	Aquila morphnoides Little Eagle			
Fauna	Accipitridae	Aquila morphnoides subsp. morphnoides Little Eagle			
Fauna	Accipitridae	Circus approximans Swamp Harrier			
Fauna	Accipitridae	Elanus caeruleus Black-shouldered Kite			
Fauna	Accipitridae	Haliaeetus leucogaster White-bellied Sea-Eagle IA			
Fauna	Accipitridae	Haliastur indus Brahminy Kite			
Fauna	Accipitridae	Haliastur sphenurus Whistling Kite			
Fauna	Accipitridae	Hamirostra isura Square-tailed Kite			
Fauna	Actinopodidae	Missulena hoggi			
Fauna	Actinopodidae	Missulena occatoria			
Fauna	Agamidae	Ctenophorus adelaidensis Southern Heath Dragon, Western Heath Dragon			
Fauna	Agamidae	Pogona minor Dwarf Bearded Dragon			
Fauna	Agamidae	Pogona minor subsp. minima Dwarf Bearded Dragon (Houtman Abrolhos Is.), Dwarf Bearded Dragon T			
Fauna	Agamidae	Pogona minor subsp. minor Dwarf Bearded Dragon			
Fauna	Agamidae	Pogona minor subsp. mitchelli Dwarf Bearded Dragon			
Fauna	Agamidae	Pogona nullarbor Nullabor Bearded Dragon			
Fauna	Anatidae	Anas gracilis Grey Teal			
Fauna	Anatidae	Anas platyrhynchos Mallard			
Fauna	Anatidae	Anas rhynchotis Australasian Shoveler			
Fauna	Anatidae	Anas superciliosa Pacific Black Duck			
Fauna	Anatidae	Aythya australis Hardhead			
Fauna	Anatidae	Biziura lobata Musk Duck			
Fauna	Anatidae	Chenonetta jubata Australian Wood Duck, Wood Duck			
Fauna	Anatidae	Cygnus atratus Black Swan			
Fauna	Anatidae	Malacorhynchus membranaceus Pink-eared Duck			
Fauna	Anatidae	Oxyura australis Blue-billed Duck P4			



ID	Family	Species		
Fauna	Anatidae	Stictonetta naevosa Freckled Duck		
Fauna	Anatidae	Tadorna tadornoides Australian Shelduck, Mountain Duck		
Fauna	Anhingidae	Anhinga melanogaster Darter		
Fauna	Apodidae	Apus pacificus Fork-tailed Swift IA		
Fauna	Araneidae	Araneus cyphoxis		
Fauna	Araneidae	Araneus senicaudatus		
Fauna	Araneidae	Argiope protensa		
Fauna	Araneidae	Argiope trifasciata		
Fauna	Araneidae	Austracantha minax		
Fauna	Araneidae	Backobourkia brounii		
Fauna	Araneidae	Cyclosa trilobata		
Fauna	Araneidae	Eriophora biapicata		
Fauna	Ardeidae	Ardea alba Great Egret		
Fauna	Ardeidae	Ardea garzetta subsp. nigripes Little Egret		
Fauna	Ardeidae	Ardea ibis Cattle Egret IA		
Fauna	Ardeidae	Ardea modesta Eastern Great Egret IA		
Fauna	Ardeidae	Ardea novaehollandiae White-faced Heron		
Fauna	Ardeidae	Ardea pacifica White-necked Heron		
Fauna	Ardeidae	Ixobrychus minutus Little Bittern P4		
Fauna	Ardeidae	Ixobrychus minutus subsp. dubius Australian Little Bittern P4		
Fauna	Ardeidae	Nycticorax caledonicus Rufous Night Heron		
Fauna	Ardeidae	Nycticorax caledonicus subsp. hilli Rufous Night Heron		
Fauna	Artamidae	Artamus cinereus Black-faced Woodswallow		
Fauna	Artamidae	Artamus cyanopterus Dusky Woodswallow		
Fauna	Balaenidae	Eubalaena australis Southern Right Whale T		
Fauna	Balaenopteridae	Balaenoptera acutorostrata Dwarf Minke Whale		
Fauna	Barychelidae	Idiommata blackwalli		
Fauna	Blenniidae	Parablennius postoculomaculatus		
Fauna	Boidae	Morelia spilota subsp. imbricata Carpet Python S		
Fauna	Bothriuridae	Cercophonius sulcatus		
Fauna	Burhinidae	Burhinus grallarius Bush Stone-curlew		
Fauna	Callionymidae	Dactylopus dactylopus		
Fauna	Campephagidae	Coracina novaehollandiae Black-faced Cuckoo-shrike		
Feral	Canidae	Vulpes vulpes Red Fox		
Fauna	Caprimulgidae	Eurostopodus argus Spotted Nightjar		
Fauna	Castniidae	Synemon gratiosa Graceful Sunmoth P4		
Fauna	Charadriidae	Charadrius melanops Black-fronted Dotterel		
Fauna	Charadriidae	Charadrius rubricollis Hooded Plover P4		
Fauna	Charadriidae	Charadrius ruficapillus Red-capped Plover		
Fauna	Charadriidae	Erythrogonys cinctus Red-kneed Dotterel		
Fauna	Charadriidae	Vanellus tricolor Banded Lapwing		
Fauna	Cheilodactylidae	Cheilodactylus rubrolabiatus		



ID	Family	Species			
Fauna	Cheilodactylidae	Dactylophora nigricans			
Fauna	Cheloniidae	Caretta caretta Loggerhead Turtle T			
Fauna	Cheloniidae	Chelonia mydas Green Turtle T			
Fauna	Cheloniidae	Natator depressus Flatback Turtle T			
Fauna	Cheluidae	Chelodina colliei Oblong Turtle			
Feral	Columbidae	Columba livia Domestic Pigeon			
Fauna	Columbidae	Ocyphaps lophotes Crested Pigeon			
Fauna	Columbidae	Phaps chalcoptera Common Bronzewing			
Feral	Columbidae	Streptopelia chinensis Spotted Turtle-Dove			
Feral	Columbidae	Streptopelia chinensis subsp. tigrina Spotted Turtle-Dove			
Feral	Columbidae	Streptopelia senegalensis Laughing Turtle-Dove			
Fauna	Corvidae	Corvus coronoides Australian Raven			
Fauna	Corvidae	Corvus splendens House Crow			
Fauna	Cracticidae	Cracticus nigrogularis Pied Butcherbird			
Fauna	Cracticidae	Cracticus tibicen Australian Magpie			
Fauna	Cracticidae	Cracticus tibicen subsp. dorsalis White-backed Magpie			
Fauna	Cracticidae	Cracticus torquatus Grey Butcherbird			
Fauna	Cracticidae	Strepera versicolor Grey Currawong			
Fauna	Cuculidae	Cacomantis flabelliformis Fan-tailed Cuckoo			
Fauna	Cuculidae	Cacomantis pallidus Pallid Cuckoo			
Fauna	Cuculidae	Chrysococcyx basalis Horsfield's Bronze Cuckoo			
Fauna	Cuculidae	Chrysococcyx lucidus subsp. plagosus Shining Bronze Cuckoo			
Fauna	Delphinidae	Tursiops aduncus Indo-Pacific Bottlenose Dolphin			
Fauna	Delphinidae	Tursiops truncatus Bottlenose Dolphin			
Fauna	Dermochelyidae	Dermochelys coriacea Leatherback Turtle T			
Fauna	Dicaeidae	Dicaeum hirundinaceum Mistletoebird			
Fauna	Dicruridae	Grallina cyanoleuca Magpie-lark			
Fauna	Dicruridae	Rhipidura fuliginosa Grey Fantail			
Fauna	Dicruridae	Rhipidura leucophrys Willie Wagtail			
Fauna	Diomedeidae	Diomedea chrysostoma Grey-headed Albatross T			
Fauna	Diomedeidae	Diomedia sp.			
Fauna	Diomedeidae	Thalassarche chlororhynchos Atlantic Yellow-nosed Albatross T			
Fauna	Elapidae	Brachyurophis semifasciatus Southern Shovel-nosed Snake			
Fauna	Elapidae	Elapognathus coronatus Crowned Snake			
Fauna	Elapidae	Hydrophis elegans Elegant Seasnake, Bar-bellied Seasnake			
Fauna	Elapidae	Hydrophis platurus Yellow-bellied Seasnake			
Fauna	Elapidae	Neelaps calonotos Black-striped Snake P3			
Fauna	Elapidae	Notechis scutatus Tiger Snake			
Fauna	Elapidae	Parasuta gouldii			
Fauna	Elapidae	Pseudonaja affinis Dugite			
Fauna	Elapidae	Pseudonaja affinis subsp. affinis Dugite			
Fauna	Elapidae	Pseudonaja mengdeni Western Brown Snake			



ID	Family	Species			
Fauna	Elapidae	Simoselaps bertholdi Jan's Banded Snake			
Fauna	Elapidae	Simoselaps littoralis West Coast Banded Snake			
Fauna	Falconidae	Falco berigora Brown Falcon			
Fauna	Falconidae	Falco cenchroides Australian Kestrel			
Fauna	Falconidae	Falco cenchroides subsp. cenchroides Australian Kestrel			
Fauna	Falconidae	Falco longipennis Australian Hobby			
Fauna	Falconidae	Falco peregrinus Peregrine Falcon S			
Feral	Felidae	Felis catus Cat			
Fauna	Galaxiidae	Galaxias occidentalis Western Minnow			
Fauna	Gekkonidae	Christinus marmoratus Marbled Gecko			
Feral	Gekkonidae	Hemidactylus frenatus Asian House Gecko			
Fauna	Haematopodidae	Haematopus longirostris Pied Oystercatcher			
Feral	Halcyonidae	Dacelo novaeguineae Laughing Kookaburra			
Feral	Halcyonidae	Dacelo novaeguineae subsp. novaeguineae Laughing Kookaburra			
Fauna	Halcyonidae	Todiramphus sanctus Sacred Kingfisher			
Fauna	Heterodontidae	Heterodontus portusjacksoni			
Fauna	Hirundinidae	Hirundo neoxena Welcome Swallow			
Fauna	Hirundinidae	Hirundo nigricans Tree Martin			
Fauna	Hylidae	Litoria adelaidensis Slender Tree Frog			
Fauna	Hylidae	Litoria moorei Motorbike Frog			
Fauna	Hyriidae	Westralunio carteri Carter's Freshwater Mussel T			
Fauna	Idiopidae	Idiosoma sigillatum			
Fauna	Kogiidae	Kogia breviceps Pygmy Sperm Whale			
Fauna	Lamnidae	Carcharodon carcharias Great White Shark T			
Fauna	Lamponidae	Lampona cylindrata			
Fauna	Lamponidae	Prionosternum nitidiceps			
Fauna	Lamponidae	Prionosternum scutatum			
Fauna	Laridae	Anous tenuirostris subsp. melanops Australian Lesser Noddy T			
Fauna	Laridae	Catharacta maccormicki South Polar Skua IA			
Fauna	Laridae	Larus novaehollandiae subsp. novaehollandiae Silver Gull			
Fauna	Laridae	Larus pacificus Pacific Gull			
Fauna	Laridae	Sterna anaethetus Bridled Tern IA			
Fauna	Laridae	Sterna anaethetus subsp. anaethetus Bridled Tern			
Fauna	Laridae	Sterna caspia Caspian Tern IA			
Fauna	Laridae	Sterna fuscata subsp. nubilosa Sooty Tern			
Fauna	Laridae	Sterna hybrida Whiskered Tern			
Fauna	Laridae	Sterna nereis subsp. nereis Fairy Tern T			
Feral	Leporidae	Oryctolagus cuniculus Rabbit			
Fauna	Limnodynastidae	Heleioporus eyrei Moaning Frog			
Fauna	Limnodynastidae	Limnodynastes dorsalis Western Banjo Frog			
Fauna	Lycosidae	Allotrochosina karri			
Fauna	Lycosidae	Artoria flavimana			



ID	Family	Species			
Fauna	Lycosidae	Artoria linnaei			
Fauna	Lycosidae	Artoriopsis expolita			
Fauna	Lycosidae	Dingosa serrata			
Fauna	Lycosidae	Hogna crispipes			
Fauna	Lycosidae	Lycosa godeffroyi			
Fauna	Lycosidae	Tasmanicosa leuckartii			
Fauna	Lycosidae	Tetralycosa oraria			
Fauna	Lycosidae	Venator immansueta			
Fauna	Macropodidae	Macropus fuliginosus Western Grey Kangaroo			
Fauna	Macropodidae	Macropus irma Western Brush Wallaby P4			
Fauna	Maluridae	Malurus splendens Splendid Fairy-wren			
Fauna	Maluridae	Stipiturus malachurus subsp. westernensis Southern Emuwren			
Fauna	Meliphagidae	Acanthorhynchus superciliosus Western Spinebill			
Fauna	Meliphagidae	Anthochaera carunculata Red Wattlebird			
Fauna	Meliphagidae	Anthochaera lunulata Western Little Wattlebird			
Fauna	Meliphagidae	Epthianura albifrons White-fronted Chat			
Fauna	Meliphagidae	Lichmera indistincta Brown Honeyeater			
Fauna	Meliphagidae	Lichmera indistincta subsp. indistincta Brown Honeyeater			
Fauna	Meliphagidae	Manorina flavigula Yellow-throated Miner			
Fauna	Meliphagidae	Phylidonyris nigra White-cheeked Honeyeater			
Fauna	Meliphagidae	Phylidonyris novaehollandiae New Holland Honeyeater			
Fauna	Meliphagidae	Ptilotula ornatus Yellow-plumed Honeyeater			
Fauna	Meropidae	Merops ornatus Rainbow Bee-eater IA			
Fauna	Micropholcommatidae	Raveniella peckorum			
Fauna	Molossidae	Mormopterus planiceps Southern Freetail-bat			
Fauna	Molossidae	Tadarida australis White-striped Freetail-bat			
Fauna	Motacillidae	Anthus australis Australian Pipit			
Fauna	Muridae	Hydromys chrysogaster Water-rat P4			
Feral	Muridae	Mus musculus House Mouse			
Feral	Muridae	Rattus rattus Black Rat			
Fauna	Myobatrachidae	Crinia glauerti Clicking Frog			
Fauna	Myobatrachidae	Crinia insignifera Squelching Froglet			
Fauna	Nemesiidae	Aname mainae			
Fauna	Nemesiidae	Aname tepperi			
Fauna	Neosittidae	Daphoenositta chrysoptera Varied Sittella			
Fauna	Nicodamidae	Nicodamus mainae			
Fauna	Odacidae	Haletta semifasciata			
Fauna	Odacidae	Neoodax balteatus			
Fauna	Odacidae	Siphonognathus argyrophanes			
Fauna	Odacidae	Siphonognathus radiatus			
Fauna	Otariidae	Neophoca cinerea Australian Sea Lion S			
Fauna	Pachycephalidae	Colluricincla harmonica Grey Shrike-thrush			



ID	Family	Species			
Fauna	Pachycephalidae	Pachycephala pectoralis Golden Whistler			
Fauna	Pachycephalidae	Pachycephala rufiventris Rufous Whistler			
Fauna	Pardalotidae	Pardalotus punctatus Spotted Pardalote			
Fauna	Pardalotidae	Pardalotus punctatus subsp. punctatus Spotted Pardalote			
Fauna	Pardalotidae	Pardalotus striatus Striated Pardalote			
Fauna	Pardalotidae	Pardalotus striatus subsp. westraliensis Striated Pardalote			
Fauna	Passeridae	Amandava subflava			
Feral	Passeridae	Passer montanus Eurasian Tree Sparrow			
Fauna	Pelecanidae	Pelecanus conspicillatus Australian Pelican			
Fauna	Peramelidae	Isoodon obesulus Southern Brown Bandicoot P5			
Fauna	Peramelidae	Isoodon obesulus subsp. fusciventer Quenda, Southern Brown Bandicoot P5			
Fauna	Petroicidae	Microeca fascinans Jacky Winter			
Fauna	Petroicidae	Petroica goodenovii Red-capped Robin			
Fauna	Petroicidae	Petroica multicolor Scarlet Robin			
Fauna	Petroicidae	Petroica multicolor subsp. campbelli Scarlet Robin			
Fauna	Phalacrocoracidae	Phalacrocorax carbo Great Cormorant			
Fauna	Phalacrocoracidae	Phalacrocorax melanoleucos Little Pied Cormorant			
Fauna	Phalacrocoracidae	Phalacrocorax sulcirostris Little Black Cormorant			
Fauna	Phalacrocoracidae	Phalacrocorax varius Pied Cormorant			
Fauna	Phalacrocoracidae	Phalacrocorax varius subsp. hypoleucos Pied Cormorant			
Fauna	Phalangeridae	Trichosurus vulpecula Common Brushtail Possum			
Fauna	Phalangeridae	Trichosurus vulpecula subsp. vulpecula Common Brushtail Possum			
Fauna	Phasianidae	Coturnix pectoralis Stubble Quail			
Feral	Phasianidae	Pavo cristatus Common Peafowl, Indian Peafowl			
Fauna	Podargidae	Podargus strigoides Tawny Frogmouth			
Fauna	Podargidae	Podargus strigoides subsp. brachypterus Tawny Frogmouth			
Fauna	Podicipedidae	Podiceps cristatus Great Crested Grebe			
Fauna	Podicipedidae	Poliocephalus Hoary-headed Grebe			
Fauna	Podicipedidae	Tachybaptus novaehollandiae Australasian Grebe, Black- throated Grebe			
Fauna	Podicipedidae	Tachybaptus novaehollandiae subsp. novaehollandiae Australasian Grebe, Black-throated Grebe			
Fauna	Procellariidae	Daption capense Cape Petrel			
Fauna	Procellariidae	Halobaena caerulea Blue Petrel			
Fauna	Procellariidae	Macronectes giganteus Southern Giant Petrel			
Fauna	Procellariidae	Macronectes halli Northern Giant Petrel			
Fauna	Procellariidae	Pachyptila belcheri Slender-billed Prion			
Fauna	Procellariidae	Pachyptila desolata Antarctic Prion			
Fauna	Procellariidae	Pachyptila salvini Salvin's Prion			
Fauna	Procellariidae	Pachyptila vittata Broad-billed Prion			



ID	Family	Species		
Fauna	Procellariidae	Pterodroma brevirostris Kerguelen Petrel		
Fauna	Procellariidae	Pterodroma lessonii White-headed Petrel		
Fauna	Psittacidae	Cacatua pastinator Western Long-billed Corella		
Fauna	Psittacidae	Cacatua roseicapilla Galah		
Fauna	Psittacidae	Cacatua sanguinea Little Corella		
Feral	Psittacidae	Cacatua tenuirostris Eastern Long-billed Corella		
Fauna	Psittacidae	Calyptorhynchus banksii Red-tailed Black-Cockatoo		
Fauna	Psittacidae	Calyptorhynchus banksii subsp. naso Forest Red-tailed Black- Cockatoo T		
Fauna	Psittacidae	Calyptorhynchus baudinii Baudin's Cockatoo (long-billed black-cockatoo), Baudin's Cockatoo T		
Fauna	Psittacidae	Calyptorhynchus latirostris Carnaby's Cockatoo (short-billed black-cockatoo), Carnaby's Cockatoo T		
Fauna	Psittacidae	Neophema elegans Elegant Parrot		
Fauna	Psittacidae	Platycercus icterotis Western Rosella		
Fauna	Psittacidae	Platycercus spurius Red-capped Parrot		
Fauna	Psittacidae	Platycercus zonarius Australian Ringneck, Ring-necked Parrot		
Fauna	Psittacidae	Platycercus zonarius subsp. semitorquatus Twenty-eight Parrot		
Fauna	Psittacidae	Polytelis anthopeplus Regent Parrot		
Fauna	Psittacidae	Trichoglossus haematodus Rainbow Lorikeet		
Fauna	Pygopodidae	Aprasia repens Sand-plain Worm-lizard		
Fauna	Pygopodidae	Delma fraseri Fraser's Legless Lizard		
Fauna	Pygopodidae	Delma grayii		
Fauna	Pygopodidae	Lialis burtonis		
Fauna	Pygopodidae	Pletholax gracilis subsp. edelensis Keeled Legless Lizard (Edel Land Pen. Shark Bay) P3		
Fauna	Pygopodidae	Pletholax gracilis subsp. gracilis Keeled Legless Lizard		
Fauna	Pygopodidae	Pygopus lepidopodus Common Scaly Foot		
Fauna	Pygopodidae	Pygopus nigriceps		
Fauna	Rallidae	Fulica atra Eurasian Coot		
Fauna	Rallidae	Fulica atra subsp. australis Eurasian Coot		
Fauna	Rallidae	Gallinula tenebrosa Dusky Moorhen		
Fauna	Rallidae	Gallinula tenebrosa subsp. tenebrosa Dusky Moorhen		
Fauna	Rallidae	Gallinula ventralis Black-tailed Native-hen		
Fauna	Rallidae	Gallirallus philippensis Buff-banded Rail		
Fauna	Rallidae	Gallirallus philippensis subsp. mellori Buff-banded Rail		
Fauna	Rallidae	Porphyrio Purple Swamphen		
Fauna	Rallidae	Porphyrio subsp. bellus Purple Swamphen		
Fauna	Rallidae	Porzana fluminea Australian Spotted Crake		
Fauna	Rallidae	Porzana pusilla Baillon's Crake		
Fauna	Rallidae	Porzana pusilla subsp. palustris Baillon's Crake		
Fauna	Rallidae	Porzana tabuensis Spotless Crake		



ID	Family	Species	
Fauna	Recurvirostridae	Cladorhynchus leucocephalus Banded Stilt	
Fauna	Recurvirostridae	Himantopus Black-winged Stilt	
Fauna	Recurvirostridae	Recurvirostra novaehollandiae Red-necked Avocet	
Fauna	Salticidae	Afraflacilla huntorum	
Fauna	Salticidae	Clynotis albobarbatus	
Fauna	Salticidae	Clynotis severus	
Fauna	Salticidae	Holoplatys dejongi	
Fauna	Salticidae	Ocrisiona parmeliae	
Fauna	Salticidae	Servaea melaina	
Fauna	Salticidae	Servaea spinibarbis	
Fauna	Salticidae	Simaetha tenuior	
Fauna	Salticidae	Zebraplatys fractivittata	
Fauna	Scincidae	Acritoscincus trilineatus Western Three-lined Skink	
Fauna	Scincidae	Cryptoblepharus buchananii	
Fauna	Scincidae	Cryptoblepharus plagiocephalus	
Fauna	Scincidae	Ctenotus australis	
Fauna	Scincidae	Ctenotus fallens	
Fauna	Scincidae	Ctenotus gemmula Jewelled South-west Ctenotus (Swan Coastal Plain pop P3), skink	
Fauna	Scincidae	Hemiergis quadrilineata	
Fauna	Scincidae	Lerista distinguenda	
Fauna	Scincidae	Lerista elegans	
Fauna	Scincidae	Lerista lineata Perth Slider, Lined Skink P3	
Fauna	Scincidae	Lerista praepedita	
Fauna	Scincidae	Menetia greyii	
Fauna	Scincidae	Menetia maini	
Fauna	Scincidae	Menetia surda subsp. cresswelli	
Fauna	Scincidae	Menetia surda subsp. surda	
Fauna	Scincidae	Morethia adelaidensis	
Fauna	Scincidae	Morethia boulengeri	
Fauna	Scincidae	Morethia butleri	
Fauna	Scincidae	Morethia lineoocellata	
Fauna	Scincidae	Morethia obscura	
Fauna	Scincidae	Morethia ruficauda subsp. exquisita	
Fauna	Scincidae	Morethia ruficauda subsp. ruficauda	
Fauna	Scincidae	Morethia storri	
Fauna	Scincidae	Notoscincus butleri Lined Soil-crevice Skink P4	
Fauna	Scincidae	Notoscincus ornatus subsp. ornatus	
Fauna	Scincidae	Notoscincus ornatus subsp. wotjulum	
Fauna	Scincidae	Proablepharus reginae	
Fauna	Scincidae	Proablepharus tenuis	
Fauna	Scincidae	Pseudemoia baudini	



ID	Family	Species			
Fauna	Scincidae	Tiliqua multifasciata Central Blue-tongue			
Fauna	Scincidae	Tiliqua occipitalis Western Bluetongue			
Fauna	Scincidae	Tiliqua rugosa			
Fauna	Scincidae	Tiliqua rugosa subsp. aspera			
Fauna	Scincidae	Tiliqua rugosa subsp. konowi Bobtail Lizard (Rottnest Is.), Shingleback T			
Fauna	Scincidae	Tiliqua rugosa subsp. palarra			
Fauna	Scincidae	Tiliqua rugosa subsp. rugosa			
Fauna	Scolopacidae	Actitis hypoleucos Common Sandpiper IA			
Fauna	Scolopacidae	Arenaria interpres Ruddy Turnstone IA			
Fauna	Scolopacidae	Calidris acuminata Sharp-tailed Sandpiper IA			
Fauna	Scolopacidae	Calidris alba Sanderling IA			
Fauna	Scolopacidae	Calidris ferruginea Curlew Sandpiper T			
Fauna	Scolopacidae	Calidris ruficollis Red-necked Stint IA			
Fauna	Scolopacidae	Calidris subminuta Long-toed Stint IA			
Fauna	Scolopacidae	Calidris tenuirostris Great Knot T			
Fauna	Scolopacidae	Limosa lapponica Bar-tailed Godwit IA			
Fauna	Scolopacidae	Limosa Black-tailed Godwit IA			
Fauna	Scolopacidae	Numenius madagascariensis Eastern Curlew T			
Fauna	Scolopacidae	Tringa glareola Wood Sandpiper IA			
Fauna	Scolopacidae	Tringa nebularia Common Greenshank IA			
Fauna	Scolopendridae	Cormocephalus aurantiipes			
Fauna	Scolopendridae	Cormocephalus novaehollandiae			
Fauna	Sparassidae	Holconia westralia			
Fauna	Sparassidae	Isopeda leishmanni			
Fauna	Spheniscidae	Eudyptula minor Little Penguin			
Fauna	Spheniscidae	Eudyptula minor subsp. novaehollandiae Little Penguin			
Fauna	Strigidae	Ninox novaeseelandiae Boobook Owl			
Fauna	Sylviidae	Acrocephalus australis Australian Reed Warbler			
Fauna	Sylviidae	Cincloramphus cruralis Brown Songlark			
Fauna	Sylviidae	Megalurus gramineus Little Grassbird			
Fauna	Tetragnathidae	Tetragnatha demissa			
Fauna	Tetragnathidae	Tetragnatha nitens			
Fauna	Tetragnathidae	Tetragnatha valida			
Fauna	Theridiidae	Latrodectus hasseltii			
Fauna	Theridiidae	Steatoda grossa			
Fauna	Threskiornithidae	Platalea flavipes Yellow-billed Spoonbill			
Fauna	Threskiornithidae	Platalea regia Royal Spoonbill			
Fauna	Threskiornithidae	Plegadis falcinellus Glossy Ibis IA			
Fauna	Threskiornithidae	Threskiornis molucca Australian White Ibis			
Fauna	Threskiornithidae	Threskiornis spinicollis Straw-necked Ibis			
Fauna	Tytonidae	Tyto alba Barn Owl			



ID	Family Species					
Fauna	Tytonidae	Tyto alba subsp. delicatula Barn Owl				
Fauna	Varanidae	Varanus gouldii Bungarra or Sand Monitor				
Fauna	Varanidae	aranidae Varanus tristis subsp. tristis Racehorse Monitor				
Fauna	Vespertilionidae Chalinolobus gouldii Gould's Wattled Bat					
Fauna	Vespertilionidae Nyctophilus geoffroyi Lesser Long-eared Bat					
Fauna	Vespertilionidae Vespadelus regulus Southern Forest Bat					
Fauna	Zosteropidae Zosterops lateralis Grey-breasted White-eye, Silvereye					
Fauna	Zosteropidae Zosterops lateralis subsp. gouldi Grey-breasted White-eye					



#### **APPENDIX E: Additional Database Search Information**

Nature Map (DPaW 2015); Protected Matters search tool (DoE 2015) 30 January 2017; Contaminated sites database search





## **NatureMap Species Report**

#### Created By Guest user on 05/07/2015

Current Names Only Yes
Core Datasets Only Yes

Method 'By Circle'

Centre 115°47' 56" E,32°17' 57" S

Buffer 10km Group By Kingdom

Kingdom	Species	Records
Animalia Chromista Fungi Plantae Protozoa	486 19 2 726 8	9259 36 2 1722 8
TOTAL	1241	11027

Name ID Species Name

Naturalised Conservation Code <sup>1</sup>Endemic To Query Area

Animalia				
1.		??		
2.		Ablennes hians		
3.		Acanthaluteres brownii		
4.		Acanthaluteres spilomelanurus		
5.	24260	Acanthiza apicalis (Broad-tailed Thornbill, Inland Thornbill)		
6.	24261	Acanthiza chrysorrhoa (Yellow-rumped Thornbill)		
7.	24262	Acanthiza inornata (Western Thornbill)		
8.	24560	Acanthorhynchus superciliosus (Western Spinebill)		
9.	25535	Accipiter cirrocephalus (Collared Sparrowhawk)		
10.	24281	Accipiter cirrocephalus subsp. cirrocephalus (Collared Sparrowhawk)		
11.	25536	Accipiter fasciatus (Brown Goshawk)		
12.	24282	Accipiter fasciatus subsp. fasciatus (Brown Goshawk)		
13.	42368	Acritoscincus trilineatus (Western Three-lined Skink)		
14.	25755	Acrocephalus australis (Australian Reed Warbler)		
15.	41323	Actitis hypoleucos (Common Sandpiper)	IA	
16.		Aetapcus maculatus		
17.		Afraflacilla huntorum		Υ
18.		Afurcagobius suppositus		
19.		Alabes gibbosa		
20.		Allenichthys glauerti		
21.		Allotrochosina karri		
22.		Amandava subflava		Υ
23.		Aname mainae		
24.		Aname tepperi		
25.	24312	Anas gracilis (Grey Teal)		
26.	24313	Anas platyrhynchos (Mallard)		
27.	24315	Anas rhynchotis (Australasian Shoveler)		
28.	24316	Anas superciliosa (Pacific Black Duck)		
29.	25553	Anhinga melanogaster (Darter)		
30.		Anoplocapros amygdaloides?		
31.		Anoplocapros robustus		
32.		Anoplocapros sp.		
33.	24506	Anous tenuirostris subsp. melanops (Australian Lesser Noddy)	T	
34.	24561	Anthochaera carunculata (Red Wattlebird)		
35.	24562	Anthochaera lunulata (Western Little Wattlebird)		
36.	25670	Anthus australis (Australian Pipit)		
37.		Antichiropus variabilis		
38.		Aploactisoma milesii subsp. milesii		Υ
39.		Aplodactylus westralis		
40.		Apogon rueppellii		
41.		Apogon victoriae		
42.	24991	Aprasia repens (Sand-plain Worm-lizard)		

NatureMap is a collaborative project of the Department of Environment and Conservation, Western Australia, and the Western Australian Museum.







	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
43.		Aptychotrema sp.			
44.		Aptychotrema vincentiana			
45.		Apuls pacificus (Fork-tailed Swift)		IA	
46. 47.		Aquila audax (Wedge-tailed Eagle) Aquila morphnoides (Little Eagle)			
48.		Aquila morphnoides (Little Lagle)  Aquila morphnoides subsp. morphnoides (Little Eagle)			
49.	2.200	Aracana aurita			
50.		Araneus cyphoxis			
51.		Araneus senicaudatus			
52.	25556	Ardea alba (Great Egret)			
53.	24337	Ardea garzetta subsp. nigripes (Little Egret)			
54.		Ardea ibis (Cattle Egret)		IA	
55.		Ardea modesta (Eastern Great Egret)		IA	
56.		Ardea position (White posted Heren)			
57. 58.		Ardea pacifica (White-necked Heron) Arenaria interpres (Ruddy Turnstone)		IA	
59.	23730	Argiope protensa		IA.	
60.		Argiope trifasciata			
61.	25566	Artamus cinereus (Black-faced Woodswallow)			
62.		Artamus cyanopterus (Dusky Woodswallow)			
63.		Artoria flavimana			
64.		Artoria linnaei			
65.		Artoriopsis expolita			
66.		Asymbolus sp.			Υ
67. 68.		Atherina sp.			
69.		Atherinosoma presbyteroides Atherinosoma wallacei			
70.		Austracantha minax			
71.	24318	Aythya australis (Hardhead)			
72.		Backobourkia brounii			
73.	24044	Balaenoptera acutorostrata (Dwarf Minke Whale)			
74.		Batrachomoeus rubricephalus			
75.	24319	Biziura lobata (Musk Duck)			
76.		Brachaluteres jacksonianus			
77.		Brachyurophis semifasciatus (Southern Shovel-nosed Snake)			
78.		Burhinus grallarius (Bush Stone-curlew)			
79. 80.		Cacatua pastinator (Western Long-billed Corella)  Cacatua roseicapilla (Galah)			
81.		Cacatua sanguinea (Little Corella)			
82.		Cacatua tenuirostris (Eastern Long-billed Corella)	Υ		
83.		Cacomantis flabelliformis (Fan-tailed Cuckoo)			
84.	42307	Cacomantis pallidus (Pallid Cuckoo)			
85.	24779	Calidris acuminata (Sharp-tailed Sandpiper)		IA	
86.		Calidris alba (Sanderling)		IA	
87.		Calidris ferruginea (Curlew Sandpiper)		T	
88.		Calidris ruficollis (Red-necked Stint)		IA	
89. 90.		Calidris subminuta (Long-toed Stint)  Calidris tenuirostris (Great Knot)		IA T	
90.		Caliptorhynchus banksii (Red-tailed Black-Cockatoo)		ı	
92.		Calyptorhynchus banksii subsp. naso (Forest Red-tailed Black-Cockatoo)		Т	
93.		Calyptorhynchus baudinii (Baudin's Cockatoo (long-billed black-cockatoo), Baudin's			
		Cockatoo)		Т	
94.	24734	Calyptorhynchus latirostris (Carnaby's Cockatoo (short-billed black-cockatoo),		Т	
		Carnaby's Cockatoo)		ı	
95.		Carassius auratus			
96.		Carcharodon carcharias (Great White Shark)		T	
97.		Caretta caretta (Loggerhead Turtle)		T	
98. 99.	∠4508	Catharacta maccormicki (South Polar Skua) Cercophonius sulcatus		IA	
100.		Chaetodermis penicilligera			
101.	24186	Chalinolobus gouldii (Gould's Wattled Bat)			
102.		Charadrius melanops (Black-fronted Dotterel)			
103.		Charadrius rubricollis (Hooded Plover)		P4	
104.	24377	Charadrius ruficapillus (Red-capped Plover)			
105.		Cheilodactylus rubrolabiatus			
106.		Chelidonichthys kumu			
107.		Chelonia mudeo (Crean Turtle)		-	
108. 109.		Chelonia mydas (Green Turtle) Chenonetta jubata (Australian Wood Duck, Wood Duck)		Т	
110.		Christinus marmoratus (Marbled Gecko)			
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	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
111.	24431	Chrysococcyx basalis (Horsfield's Bronze Cuckoo)			
112.	24432	Chrysococcyx lucidus subsp. plagosus (Shining Bronze Cuckoo)			
113.	24833	Cincloramphus cruralis (Brown Songlark)			
114.	24288	Circus approximans (Swamp Harrier)			
115.		Cirrhimuraena calamus			
116.	24774	Cladorhynchus leucocephalus (Banded Stilt)			
117.		Cleidopus gloriamaris			
118.		Clynotis albobarbatus			
119. 120.	25675	Clynotis severus Colluricincla harmonica (Grey Shrike-thrush)			
120.		Columba livia (Domestic Pigeon)	Υ		
122.		Coracina novaehollandiae (Black-faced Cuckoo-shrike)	,		
123.	20000	Cormocephalus aurantiipes			
124.		Cormocephalus novaehollandiae			
125.	25592	Corvus coronoides (Australian Raven)			
126.	24419	Corvus splendens (House Crow)			
127.		Coryphaena hippurus			
128.	24671	Coturnix pectoralis (Stubble Quail)			
129.	24420	Cracticus nigrogularis (Pied Butcherbird)			
130.	25595	Cracticus tibicen (Australian Magpie)			
131.		Cracticus tibicen subsp. dorsalis (White-backed Magpie)			
132.		Cracticus torquatus (Grey Butcherbird)			
133.		Crinia glauerti (Clicking Frog)			
134.	25400	Crinia insignifera (Squelching Froglet)			
135. 136.		Cristiceps aurantiacus Cristiceps australis			
137.	30893	Cryptoblepharus buchananii			
137.		Cryptoblepharus plagiocephalus			
139.		Ctenophorus adelaidensis (Southern Heath Dragon, Western Heath Dragon)			
140.		Ctenotus australis			
141.	25039	Ctenotus fallens			
142.	25040	Ctenotus gemmula (Jewelled South-west Ctenotus (Swan Coastal Plain pop P3),			
		skink)			
143.		Cyclosa trilobata			
144.		Cygnus atratus (Black Swan)			
145.		Dacelo novaeguineae (Laughing Kookaburra)	Υ		
146.	30902	Dacelo novaeguineae subsp. novaeguineae (Laughing Kookaburra)	Y		
147. 148.		Dactylophora nigricans Dactylopus dactylopus			
149.	25673	Daphoenositta chrysoptera (Varied Sittella)			
150.		Daption capense (Cape Petrel)			
151.		Decapterus muroadsi			
152.	25766	Delma fraseri (Fraser's Legless Lizard)			
153.	24999	Delma grayii			
154.	25346	Dermochelys coriacea (Leatherback Turtle)		Т	
155.	25607	Dicaeum hirundinaceum (Mistletoebird)			
156.		Dingosa serrata			
157.		Diodon nicthemerus			
158.	24468	Diomedea chrysostoma (Grey-headed Albatross)		Т	
159.		Diomedia sp.			Υ
160.	255.40	Echeneis naucrates  Florus consulaus (Plack shouldgrad Kita)			
161. 162.		Elanus caeruleus (Black-shouldered Kite) Elapognathus coronatus (Crowned Snake)			
163.	23230	Enoplosus armatus			
164.	24567	Epthianura albifrons (White-fronted Chat)			
165.		Eriophora biapicata			
166.	24379	Erythrogonys cinctus (Red-kneed Dotterel)			
167.	24043	Eubalaena australis (Southern Right Whale)		T	
168.		Eubalichthys caeruleoguttatus			
169.		Eubalichthys cyanoura			
170.		Eubalichthys mosaicus			
171.		Eudyptula minor (Little Penguin)			
172.	24818	Eudyptula minor subsp. novaehollandiae (Little Penguin)			
173.	0.4000	Euleptorhamphus viridis			
174. 175.		Eurostopodus argus (Spotted Nightjar) Falco berigora (Brown Falcon)			
176.		Falco cenchroides (Australian Kestrel)			
177.		Falco cenchroides (visatidian research)  Falco cenchroides subsp. cenchroides (Australian Kestrel)			
178.		Falco longipennis (Australian Hobby)			
179.	25624	Falco peregrinus (Peregrine Falcon)		S	
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	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
180.		Favonigobius lateralis			
181.	24041	Felis catus (Cat)	Υ		
182. 183.	25727	Filicampus tigris Fulica atra (Eurasian Coot)			
184.		Fulica atra subsp. australis (Eurasian Coot)			
185.		Furgaleus macki			
186.	34028	Galaxias occidentalis (Western Minnow)			
187.	25729	Gallinula tenebrosa (Dusky Moorhen)			
188.	24763	Gallinula tenebrosa subsp. tenebrosa (Dusky Moorhen)			
189.		Gallinula ventralis (Black-tailed Native-hen)			
190.		Gallirallus philippensis (Buff-banded Rail)			
191. 192.		Gallirallus philippensis subsp. mellori (Buff-banded Rail)			
193.	23330	Gerygone fusca (Western Gerygone) Girella zebra			
194.		Gnathanacanthus goetzeei			
195.		Gnathophis longicaudatus			
196.		Gonorynchus greyi			
197.	24443	Grallina cyanoleuca (Magpie-lark)			
198.		Gymnapistes marmoratus			
199.		Gymnothorax sp.			
200.		Gymnothorax woodwardi			
201.	24487	Haematopus longirostris (Pied Oystercatcher)			
202. 203.	24203	Halietta semifasciata Haliacotus laucegastar (White halling Son Engle)		IA	
203.		Haliaeetus leucogaster (White-bellied Sea-Eagle) Haliastur indus (Brahminy Kite)		IA	
205.		Haliastur sphenurus (Whistling Kite)			
206.		Halichoeres brownfieldi			
207.	24689	Halobaena caerulea (Blue Petrel)			
208.	24296	Hamirostra isura (Square-tailed Kite)			
209.	25410	Heleioporus eyrei (Moaning Frog)			
210.		Hemidactylus frenatus (Asian House Gecko)	Υ		
211.	25119	Hemiergis quadrilineata			
212.		Heteroclinus sp.			
213. 214.		Heterodontus portusjacksoni Hexanchus nakamurai			Υ
215.	25734	Himantopus himantopus (Black-winged Stilt)			,
216.		Hippocampus elongatus			
217.		Hippocampus tuberculatus			
218.	24491	Hirundo neoxena (Welcome Swallow)			
219.	25629	Hirundo nigricans (Tree Martin)			
220.		Histrio histrio			
221.		Hogna crispipes			
222. 223.		Holconia westralia Holoplatys dejongi			
224.	24215	Hydromys chrysogaster (Water-rat)		P4	
225.		Hydrophis elegans (Elegant Seasnake, Bar-bellied Seasnake)		1.7	
226.		Hydrophis platurus (Yellow-bellied Seasnake)			
227.		Hypnos monopterygium			
228.		Idiommata blackwalli			
229.		Idiosoma sigillatum			
230.	05.470	Isometroides vescus			
231. 232.		Isoodon obesulus (Southern Brown Bandicoot) Isoodon obesulus subsp. fusciventer (Quenda, Southern Brown Bandicoot)		P5 P5	
232.	24103	Isopeda leishmanni		P0	
234.	25563	Ixobrychus minutus (Little Bittern)		P4	
235.		Ixobrychus minutus subsp. dubius (Australian Little Bittern)		P4	
236.	24070	Kogia breviceps (Pygmy Sperm Whale)			
237.		Lagocephalus sceleratus			
238.		Lampona cylindrata			
239.		Larus novaehollandiae subsp. novaehollandiae (Silver Gull)			
240.	25638	Larus pacificus (Pacific Gull)			
241. 242.	25121	Latrodectus hasseltii Lerista distinguenda			
242.		Lerista disunguerida Lerista elegans			
244.		Lerista lineata (Perth Slider, Lined Skink)		P3	
245.		Lerista praepedita			
246.		Leviprora inops			
247.		Lialis burtonis			
248.		Lichmera indistincta (Brown Honeyeater)			
249.	24582	Lichmera indistincta subsp. indistincta (Brown Honeyeater)			
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Name ID Species Name	Naturalis	sed Conservation Code <sup>1</sup> Endemic To Query Area
250. 25415 Limnodynastes dorsalis (	tern Banjo Frog)	7.000
251. 30932 Limosa lapponica (Bar-ta	Godwit)	IA
252. 25741 Limosa limosa (Black-tail	Godwit)	IA
253. 25378 Litoria adelaidensis (Slen		
254. 25388 Litoria moorei (Motorbike	g)	
255. Lotella rhacinus		
256. Lycosa godeffroyi	have Ciant Detroll	
257. 24690 Macronectes giganteus ( 258. 24691 Macronectes halli (Northe		
<ul><li>258. 24691 Macronectes halli (Northe</li><li>259. 24132 Macropus fuliginosus (W</li></ul>		
260. 24133 Macropus irma (Western		P4
261. 24326 Malacorhynchus membra		1-4
262. 25654 Malurus splendens (Sple		
263. 24583 Manorina flavigula (Yello		
264. Maxillicosta scabriceps		
265. 25758 Megalurus gramineus (Li	Grassbird)	
266. 25184 Menetia greyii		
267. 25185 Menetia maini		
268. 25186 Menetia surda subsp. cre	elli	
269. 25187 Menetia surda subsp. sur		
270. 24598 Merops ornatus (Rainbov	e-eater)	IA
271. 24079 Mesoplodon hectori (Hec	Beaked Whale)	
272. Meuschenia freycineti		
273. 25693 Microeca fascinans (Jack	inter)	
274. Missulena hoggi		
275. Missulena occatoria		
276. Monacanthus chinensis		
277. 25240 Morelia spilota subsp. im.	ta (Carpet Python)	S
278. 25188 Morethia adelaidensis		
279. 25189 Morethia boulengeri		
280. 25190 Morethia butleri 281. 25191 Morethia lineoocellata		
282. 25191 Morethia ilineoocellata 282. 25192 Morethia obscura		
283. 25193 Morethia ruficauda subsp	quicita	
284. 25194 Morethia ruficauda subsp		
285. 25195 Morethia storri	odddd	
286. 24184 Mormopterus planiceps (	hern Freetail-bat)	
287. 24223 Mus musculus (House M		
288. Mustelus antarcticus	,	
289. Myandra bicincta		
290. Myliobatis sp.		
291. 25344 Natator depressus (Flatb	Turtle)	Т
292. 25249 Neelaps calonotos (Black	ped Snake)	P3
293. Neoodax balteatus		
294. 24738 Neophema elegans (Eleg	Parrot)	
295. Neosebastes pandus		
296. Nicodamus mainae		
297. 25748 Ninox novaeseelandiae (	book Owl)	
298. 25252 Notechis scutatus (Tiger	ke)	
299. Notolabrus parilus		
300. 25196 Notoscincus butleri (Line		P4
301. 25197 Notoscincus ornatus subs		
302. 25198 Notoscincus ornatus sub-		-
303. 24798 Numenius madagascarie	,	Т
304. 25564 Nycticorax caledonicus (I		
305. 24350 Nycticorax caledonicus s		
306. 24194 Nyctophilus geoffroyi (Le. 307. Ocrisiona parmeliae	Lung-eareu Dalj	
	Rimon)	
308. 24407 Ocyphaps lophotes (Cres 309. Omegophora armilla	i igoon)	
310. Ommatoiulus moreletii		
311. Ophichthus melanochir		
312. Ophisurus serpens		
313. 24085 Oryctolagus cuniculus (R	t) Y	
314. 24328 Oxyura australis (Blue-bii		P4
315. 25679 Pachycephala pectoralis		
316. 25680 Pachycephala rufiventris		
317. 24692 Pachyptila belcheri (Slen-		
318. 24693 Pachyptila desolata (Anta		
319. 25707 Pachyptila salvini (Salvin	ion)	
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	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
320.	24697	Pachyptila vittata (Broad-billed Prion)			
321.		Parablennius postoculomaculatus			
322.	25252	Parapitosus albilabris			
323. 324.		Parasuta gouldii Pardalotus punctatus (Spotted Pardalote)			
325.		Pardalotus punctatus (Spotted Pardalote)  Pardalotus punctatus (Spotted Pardalote)			
326.		Pardalotus striatus (Striated Pardalote)			
327.		Pardalotus striatus subsp. westraliensis (Striated Pardalote)			
328.		Paristiopterus gallipavo			
329.	24642	Passer montanus (Eurasian Tree Sparrow)	Υ		
330.	24674	Pavo cristatus (Common Peafowl, Indian Peafowl)	Υ		
331.		Pegasus sp.			Υ
332.		Pegasus volitans			
333. 334.	2/6/8	Pelates sexlineatus Pelecanus conspicillatus (Australian Pelican)			
335.	24040	Pentaceropsis recurvirostris			
336.	24659	Petroica goodenovii (Red-capped Robin)			
337.		Petroica multicolor (Scarlet Robin)			
338.	24660	Petroica multicolor subsp. campbelli (Scarlet Robin)			
339.	25697	Phalacrocorax carbo (Great Cormorant)			
340.	25698	Phalacrocorax melanoleucos (Little Pied Cormorant)			
341.		Phalacrocorax sulcirostris (Little Black Cormorant)			
342.		Phalacrocorax varius (Pied Cormorant)			
343. 344.		Phalacrocorax varius subsp. hypoleucos (Pied Cormorant)  Phaps chalcoptera (Common Bronzewing)			
345.	24409	Phryganoporus candidus			
346.	25669	Phylidonyris nigra (White-cheeked Honeyeater)			
347.		Phylidonyris novaehollandiae (New Holland Honeyeater)			
348.		Phyllophryne scortea			
349.		Phyllopteryx taeniolatus			
350.		Platalea flavipes (Yellow-billed Spoonbill)			
351.		Platalea regia (Royal Spoonbill)			
352.		Platycercus interotis (Western Rosella)			
353. 354.		Platycercus spurius (Red-capped Parrot)  Platycercus zonarius (Australian Ringneck, Ring-necked Parrot)			
355.		Platycercus zonarius subsp. semitorquatus (Twenty-eight Parrot)			
356.		Plegadis falcinellus (Glossy Ibis)		IA	
357.	25006	Pletholax gracilis subsp. edelensis (Keeled Legless Lizard (Edel Land Pen. Shark Bay))		P3	
358.	25007	Pletholax gracilis subsp. gracilis (Keeled Legless Lizard)			
359.	25703	Podargus strigoides (Tawny Frogmouth)			
360.		Podargus strigoides subsp. brachypterus (Tawny Frogmouth)			
361.		Podiceps cristatus (Great Crested Grebe)			
362. 363.		Pogona minor (Dwarf Bearded Dragon)  Pogona minor subsp. minima (Dwarf Bearded Dragon (Houtman Abrolhos Is.), Dwarf			
303.	24905	Bearded Dragon)		Т	
364.	24907	Pogona minor subsp. minor (Dwarf Bearded Dragon)			
365.		Pogona minor subsp. mitchelli (Dwarf Bearded Dragon)			
366.	24909	Pogona nullarbor (Nullabor Bearded Dragon)			
367.	24681	Poliocephalus poliocephalus (Hoary-headed Grebe)			
368.	25722	Polytelis anthopeplus (Regent Parrot)			
369. 370	25724	Pomatomus saltatrix  Porphyrio porphyrio (Pyrolo Swamphon)			
370. 371.		Porphyrio porphyrio (Purple Swamphen) Porphyrio porphyrio subsp. bellus (Purple Swamphen)			
371.		Porzana fluminea (Australian Spotted Crake)			
373.		Porzana pusilla (Baillon's Crake)			
374.	24770	Porzana pusilla subsp. palustris (Baillon's Crake)			
375.	24771	Porzana tabuensis (Spotless Crake)			
376.		Prionosternum nitidiceps			
377.		Prionosternum scutatum			
378.		Proablepharus reginae			
379. 380		Proablepharus tenuis Pseudemoja haudini			
380. 381.		Pseudemoia baudini Pseudonaja affinis (Dugite)			
382.		Pseudonaja affinis subsp. affinis (Dugite)			
383.		Pseudonaja mengdeni (Western Brown Snake)			
384.	24702	Pterodroma brevirostris (Kerguelen Petrel)			
385.	24703	Pterodroma lessonii (White-headed Petrel)			
386.		Pterygotrigla polyommata			
387.	42340	Ptilotula ornatus (Yellow-plumed Honeyeater)		_	
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388.	30867	Pycnonotus jocosus subsp. jocosus (Red-whiskered Bulbul)	Υ		Y
389.		Pygopus lepidopodus (Common Scaly Foot)			
390.	25009	Pygopus nigriceps			
391.		Rachycentron canadum			
392.	24245	Rattus rattus (Black Rat)	Υ		
393.	24770	Raveniella peckorum			
394. 395.		Recurvirostra novaehollandiae (Red-necked Avocet)  Rhipidura fuliginosa (Grey Fantail)			
396.		Rhipidura leucophrys (Willie Wagtail)			
397.	200.1	Rhycherus gloveri			
398.		Rhynchobatus djiddensis			
399.		Saurida tumbil			
400.		Saurida undosquamis			
401.		Scobinichthys granulatus			
402.		Scorpaena sumptuosa			
403. 404.	25534	Scorpis georgianus Sericornis frontalis (White-browed Scrubwren)			
405.	20001	Seriola hippos			
406.		Servaea melaina			
407.		Servaea spinibarbis			
408.		Sillago sp.			
409.		Simaetha tenuior			
410.		Simoselaps bertholdi (Jan's Banded Snake)			
411. 412.	25267	Simoselaps littoralis (West Coast Banded Snake)			
412.		Siphonognathus argyrophanes Siphonognathus radiatus			
414.	30948	Smicrornis brevirostris (Weebill)			
415.		Squatina australis			
416.		Steatoda grossa			
417.	25639	Sterna anaethetus (Bridled Tern)		IA	
418.		Sterna anaethetus subsp. anaethetus (Bridled Tern)			
419.		Sterna caspia (Caspian Tern)		IA	
420. 421.		Sterna fuscata subsp. nubilosa (Sooty Tern)			
421.		Sterna hybrida (Whiskered Tern) Sterna nereis subsp. nereis (Fairy Tern)		Т	
423.		Stictonetta naevosa (Freckled Duck)		·	
424.		Stigmatopora argus			
425.		Stigmatopora nigra			
426.		Stipiturus malachurus subsp. westernensis (Southern Emu-wren)			
427.		Strepera versicolor (Grey Currawong)	.,		
428. 429.		Streptopelia chinensis (Spotted Turtle-Dove) Streptopelia chinensis subsp. tigrina (Spotted Turtle-Dove)	Y Y		
430.		Streptopelia crimersis subsp. ligrina (Spotled Turtle-Dove)  Streptopelia senegalensis (Laughing Turtle-Dove)	Y		
431.		Strongylura leiura			
432.	24942	Strophurus spinigerus subsp. spinigerus			
433.	30841	Sula serrator (Australasian Gannet)			
434.		Sutorectus tentaculatus			
435.		Synemon gratiosa (Graceful Sunmoth)		P4	
436. 437.		Tachybaptus novaehollandiae (Australasian Grebe, Black-throated Grebe)  Tachybaptus novaehollandiae subsp. novaehollandiae (Australasian Grebe, Black-			
437.	24002	throated Grebe)			
438.	24185	Tadarida australis (White-striped Freetail-bat)			
439.		Tadorna tadornoides (Australian Shelduck, Mountain Duck)			
440.		Tamopsis distinguenda			
441.		Tamopsis perthensis			
442.		Tasmanicosa leuckartii			
443. 444.		Tetragnatha demissa Tetragnatha nitens			
444.		Tetragnatha valida			
446.		Tetralycosa oraria			
447.		Tetrapturus angustirostris			
448.	34007	Thalassarche chlororhynchos (Atlantic Yellow-nosed Albatross)		Т	
449.		Threskiornis molucca (Australian White Ibis)			
450.	24845	Threskiornis spinicollis (Straw-necked Ibis)			
451. 452.		Thyrsites atun Thysanophys cirronasus			
452. 453.	25202	Thysanophrys cirronasus Tiliqua multifasciata (Central Blue-tongue)			
454.		Tiliqua occipitalis (Western Bluetongue)			
455.		Tiliqua rugosa			
456.	25204	Tiliqua rugosa subsp. aspera			
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	Name ID	Species Name Naturalised C	onservation Code	Area
457.		Tiliqua rugosa subsp. konowi (Bobtail Lizard (Rottnest Is.), Shingleback)	T	
458.	25206	Tiliqua rugosa subsp. palarra		
459.	25207	Tiliqua rugosa subsp. rugosa		
460.	25549	Todiramphus sanctus (Sacred Kingfisher)		
461.		Torquigener pleurogramma		
462.		Trachinocephalus myops		
463.	25723	Trichoglossus haematodus (Rainbow Lorikeet)		
464.	25521	Trichosurus vulpecula (Common Brushtail Possum)		
465.	24158	Trichosurus vulpecula subsp. vulpecula (Common Brushtail Possum)		
466.		Tringa glareola (Wood Sandpiper)	IA	
467.		Tringa nebularia (Common Greenshank)	IA	
468.		Trygonorrhina fasciata		
469.		Tuoba pallida		
470.	24849	Turnix varia subsp. varia (Painted Button-quail)		
471.		Tursiops aduncus (Indo-Pacific Bottlenose Dolphin)		
472.		Tursiops truncatus (Bottlenose Dolphin)		
473.		Tyto alba (Barn Owl)		
474.	24652	Tyto alba subsp. delicatula (Barn Owl)		
475.		Urodacus novaehollandiae		
476.		Vanellus tricolor (Banded Lapwing)		
477.		Varanus gouldii (Bungarra or Sand Monitor)		
478.	25227	Varanus tristis subsp. tristis (Racehorse Monitor)		
479.		Venator immansueta		
480.	24206	Vespadelus regulus (Southern Forest Bat)		
481.	24040	Vulpes vulpes (Red Fox)		
482.	34113	Westralunio carteri (Carter's Freshwater Mussel)	Т	
483.		Zanclistius elevatus		
484.		Zebraplatys fractivittata		
485.	25765	Zosterops lateralis (Grey-breasted White-eye, Silvereye)		
486.		Zosterops lateralis subsp. gouldi (Grey-breasted White-eye)		
		,		
hromista				
487.	26586	Caulocystis uvifera		
488.	26661	Cladosiphon filum		
489.	26662	Cladostephus spongiosus		
490.	26714	Cutleria multifida		
491.	26766	Dictyopteris muelleri		
492.	26776	Dictyota dichotoma		
493.	29537	Dictyota fastigiata		
494.	35223	Dictyota polyclada		
495.		Hydroclathrus clathratus		
496.		Lobospira bicuspidata		
497.		Myriodesma peronii		
498.		Papenfussiella extensa		
		Petalonia fascia		
499.	21120			
500.	07000	Phytophthora cinnamomi		
501.		Sargassum fallax		
502.		Sargassum peronii		
503.		Scytosiphon lomentaria		
504.		Sirophysalis trinodis		
505.	27345	Turbinaria gracilis		
ıngi				
506.	A1264	Chrysothrix xanthina		
507.	38832	Resupinatus cinerascens		
antae				
508.	15466	Acacia applanata		
509.		Acacia benthamii	P2	
510.		Acacia cyclops (Coastal Wattle)	12	
511.		Acacia huegelii		
011.		Acacia lasiocarpa (Panjang)		
512			D4	
512.		Acacia lasiocarpa var. bracteolata long peduncle variant (G.J. Keighery 5026)	P1	
513.	11611	Acacia lasiocarpa var. lasiocarpa		
513. 514.		Acacia pulchella var. goadbyi		
513. 514. 515.		Acacia rostellifera (Summer-scented Wattle)		
513. 514. 515. 516.	3525			
513. 514. 515.	3525 3527	Acacia saligna (Orange Wattle, Kudjong)		
513. 514. 515. 516.	3525 3527			
513. 514. 515. 516. 517.	3525 3527 30032	Acacia saligna (Orange Wattle, Kudjong)		
513. 514. 515. 516. 517. 518.	3525 3527 30032 3557	Acacia saligna (Orange Wattle, Kudjong) Acacia saligna subsp. saligna		
513. 514. 515. 516. 517. 518. 519.	3525 3527 30032 3557 3602	Acacia saligna (Orange Wattle, Kudjong) Acacia saligna subsp. saligna Acacia stenoptera (Narrow Winged Wattle)		







	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
523		Actinotus glomeratus			
524		Adenanthos cygnorum (Common Woollybush)			
525		Adenanthos cygnorum subsp. cygnorum (Common Woollybush)			
526		Adenanthos obovatus (Basket Flower)			
527 528		Adriana quadripartita (Bitter Bush) Aeonium arboreum	Υ		
529		Agave americana (Century Plant)	Y		
530		Agrostocrinum scabrum (Blue Grass Lily)			
531		Aira caryophyllea (Silvery Hairgrass)	Υ		
532	185	Aira cupaniana (Silvery Hairgrass)	Υ		
533	. 1728	Allocasuarina fraseriana (Sheoak, Kondil)			
534		Alternanthera nodiflora (Common Joyweed)			
535		Alyxia buxifolia (Dysentery Bush)			
536		Ambrosia psilostachya (Perennial Ragweed)	Υ		
537 538		Amperea ericoides Amphibolis antarctica (Sea Nymph)			
539		Amphipogon turbinatus			
540		Anigozanthos humilis subsp. humilis			
541	. 11261	Anigozanthos manglesii subsp. manglesii			
542	1416	Anigozanthos viridis (Green Kangaroo Paw, Kurulbardang)			
543		Anotrichium elongatum			
544		Anthocercis littorea (Yellow Tailflower)			
545		Anthoxanthum odoratum (Sweet Vernal Grass)	Υ		
546 547		Antithamnion hanovioides Aotus cordifolia			
548		Aotus gracillima			
549		Aotus procumbens			
550		Aphelia cyperoides			
551	. 6210	Apium annuum			
552	. 6211	Apium prostratum (Sea Celery)			
553		Apium prostratum var. prostratum (Sea Celery)			
554		Aponogeton hexatepalus (Stalked Water Ribbons)		P4	
555		Arreschougia ligulata			
556 557		Arnocrinum preissii Arundo donax (Giant Reed)	Υ		
558		Asphodelus fistulosus (Onion Weed)	Y		
559		Astartea affinis			
560	. 20283	Astartea scoparia			
561	. 7851	Asteridea pulverulenta (Common Bristle Daisy)			
562		Astroloma ciliatum (Candle Cranberry)			
563		Atriplex hypoleuca			
564 565		Atriplex prostrata (Hastate Orache)	Υ		
566		Atriplex suberecta Austrostipa compressa			
567		Austrostipa flavescens			
568		Austrostipa sp. Marchagee (B.R. Maslin 1407)			
569		Avellinia michelii	Υ		
570	. 233	Avena barbata (Bearded Oat)	Υ		
571		Avena fatua (Wild Oat)	Υ		
572		Avena sativa (Common Oat)	Υ		
573 574		Banksia attenuata (Slender Banksia, Piara) Banksia grandis (Bull Banksia, Pulgarla)			
574		Banksia grandis (Buli Banksia, Pulgana) Banksia ilicifolia (Holly-leaved Banksia)			
576		Banksia littoralis (Swamp Banksia, Pungura)			
577		Banksia menziesii (Firewood Banksia)			
578	32077	Banksia sessilis var. cygnorum			
579		Banksia sessilis var. sessilis			
580		Bartsia trixago	Υ		
581 582		Baumea acuta (Pale Twig-rush)			
582 583		Baumea arthrophylla Baumea juncea (Bare Twigrush)			
584		Baumea laxa			
585		Baumea vaginalis (Sheath Twigrush)			
586		Beaufortia elegans			
587	4594	Beyeria cinerea			
588		Bolboschoenus caldwellii (Marsh Club-rush)			
589		Bornetia binderiana			
590 501		Boronia crenulata (Aniseed Boronia)			
591 592		Boronia crenulata subsp. viminea Boronia dichotoma			
332	++1/				***************************************
				/8/ MM (Va)	







	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Quei Area
593.		Boronia juncea subsp. juncea		P1	
594.		Boronia ramosa subsp. anethifolia			
595.		Borya scirpoidea			
596. 597.		Bossiaea eriocarpa (Common Brown Pea)			
597.		Brachyloma preissii (Globe Heath) Brachyloma preissii subsp. preissii			
599.		Brachyscome iberidifolia			
600.		Brassica rapa	Υ		
601.		Brassica tournefortii (Mediterranean Turnip)	Y		
602.		Brassica x napus	Y		
603.	244	Briza maxima (Blowfly Grass)	Υ		
604.	245	Briza minor (Shivery Grass)	Υ		
605.	249	Bromus diandrus (Great Brome)	Υ		
606.	250	Bromus hordeaceus (Soft Brome)	Υ		
607.	26520	Brongniartella australis			
608.	26521	Bryopsis australis			
609.	26522	Bryopsis foliosa			
610.	1366	Bulbine semibarbata (Leek Lily)			
611.		Burchardia bairdiae			
612.		Burchardia congesta			
613.		Burchardia multiflora (Dwarf Burchardia)			
614.		Caesia micrantha (Pale Grass Lily)			
615.		Caesia occidentalis			
616.		Cakile maritima (Sea Rocket)	Y		
617.		Caladenia denticulata			
618.		Caladenia discoidea (Dancing Orchid)			
619.		Caladenia flava (Cowslip Orchid)			
620. 621.		Caladenia flava subsp. flava Caladenia huggalii (Crand Spider Orabid)		<b>-</b>	
622.		Caladenia huegelii (Grand Spider Orchid)		Т	
623.		Caladenia latifolia (Pink Fairy Orchid)			
624.		Caladenia longicauda subsp. calcigena Caladenia nobilis			
625.		Calandrinia calyptrata (Pink Purslane)			
626.		Calandrinia granulifera (Pygmy Purslane)			
627.		Calandrinia liniflora (Parakeelya)			
628.		Calliblepharis planicaulis			Υ
629.		Callitris preissii (Rottnest Island Pine, Maro)			
630.		Callophycus costatus			
631.		Callophycus harveyanus			
632.	26536	Callophycus oppositifolius			
633.	5415	Calothamnus lateralis			
634.	35816	Calothamnus quadrifidus subsp. quadrifidus			
635.	5458	Calytrix flavescens (Summer Starflower)			
636.	5460	Calytrix fraseri (Pink Summer Calytrix)			
637.	3005	Cardamine hirsuta (Common Bittercress)	Y		
638.	7909	Carduus pycnocephalus (Slender Thistle)	Υ		
639.	26546	Carpopeltis elata			
640.	1162	Cartonema philydroides			
641.		Cassytha racemosa (Dodder Laurel)			
642.		Cassytha racemosa forma pilosa			
643.		Cassytha racemosa forma racemosa			
644.		Casuarina glauca	Υ		
645.		Casuarina obesa (Swamp Sheoak, Kuli)			
646.		Caulerpa cylindracea			
647.		Caulerpa trifaria			
648.		Centrus setaceus (Fountain Grass)	Y		
649.		Centaurium erythraea (Common Centaury)	Y		
650.		Centaurium tenuiflorum	Y		
651. 652.		Centrella asiatica Centrelepis aristata (Pointed Centrelepis)			
653.		Centrolepis aristata (Pointed Centrolepis)  Centrolepis drummondiana			
654.		Centrolepis glabra (Smooth Centrolepis)			
655.		Centrolepis giabra (Smooth Centrolepis) Centrolepis inconspicua			
656.		Centrolepis mutica			
657.		Cerastium glomeratum (Mouse Ear Chickweed)	Y		
658.		Chaetanthus aristatus	Ť		
659.		Chamaescilla corymbosa (Blue Squill)			
660.		Champia affinis			
661.		Champia zostericola			
			Υ		
662.	2483	Chenopodium album (Fat Hen)			







	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
663.		Chenopodium glaucum (Glaucous Goosefoot)	Υ		
664.		Chenopodium murale (Nettle-leaf Goosefoot)	Y		
665. 666.		Chondria lanceolata Chorizandra enodis (Black Bristlerush)			
667.		Cicendia filiformis (Slender Cicendia)	Υ		
668.	7937	Cirsium vulgare (Spear Thistle)	Υ		
669.	26660	Cladophoropsis herpestica			
670.	26665	Claviclonium ovatum			
671.		Clematis linearifolia			
672. 673.		Clematis pubescens (Common Clematis) Cliftonaea pectinata			
674.		Contonaea pecunata  Codium duthieae			
675.		Codium galeatum			
676.	26686	Coelarthrum opuntia			
677.	26690	Coeloclonium verticillatum			
678.		Comesperma calymega (Blue-spike Milkwort)			
679.		Comesperma confertum			
680. 681.		Comesperma integerrimum  Comesperma virgatum (Milkwort)			
682.		Conium maculatum (Hemlock)	Υ		
683.		Conospermum triplinervium (Tree Smokebush)			
684.	6348	Conostephium pendulum (Pearl Flower)			
685.	6349	Conostephium preissii			
686.		Conostylis aculeata (Prickly Conostylis)			
687.		Conostylis aculeata subsp. aculeata			
688. 689.		Conostylis aculeata subsp. preissii Conostylis candicans (Grey Cottonhead)			
690.		Conostylis candicans (Crey Collomeda)  Conostylis candicans subsp. candicans			
691.		Conostylis juncea			
692.	1455	Conostylis setosa (White Cottonhead)			
693.	7939	Conyza bonariensis (Flaxleaf Fleabane)	Υ		
694.		Conyza sumatrensis	Υ		
695.		Corrigiola litoralis (Strapwort)	Y		
696. 697.		Cortaderia selloana (Pampas Grass)  Corynotheca micrantha (Sand Lily)	Υ		
698.		Corynotheca micrantha var. micrantha			
699.		Cotula coronopifolia (Waterbuttons)	Υ		
700.	17015	Cotyledon orbiculata	Υ		
701.	26702	Craspedocarpus ramentaceus			
702.		Craspedocarpus venosus			
703. 704.		Crassula colorata (Dense Stonecrop)  Crassula colorata var. colorata			
704.		Crassula glomerata	Υ		
706.		Crassula natans	Y		
707.	11345	Crassula thunbergiana subsp. thunbergiana	Υ		
708.	4802	Cryptandra mutila			
709.		Cryptostylis ovata (Slipper Orchid)			
710.		Curdiea obesa	.,		
711. 712.		Cuscuta epithymum (Lesser Dodder, Greater Dodder)  Cyathochaeta avenacea	Υ		
712.		Cyathochaeta avenacea  Cyathochaeta teretifolia		P3	
714.		Cynodon dactylon (Couch)	Υ	-	
715.		Cynosurus echinatus (Rough Dogstail)	Υ		
716.		Cyperus tenellus (Tiny Flatsedge)	Υ		
717.		Cyperus tenuiflorus (Scaly Sedge)	Υ		
718.		Dampiera alata (Winged-stem Dampiera)			
719. 720.		Dampiera linearis (Common Dampiera) Dasya extensa			
721.		Dasyclonium flaccidum			
722.		Dasyclonium incisum			
723.		Dasypogon bromeliifolius (Pineapple Bush)			
724.		Daviesia angulata			
725.		Daviesia divaricata subsp. divaricata			
726. 727.		Daviesia physodes Daviesia triflora			
727.		Delisea pulchra			
729.		Desmocladus asper			
730.	16595	Desmocladus flexuosus			
731.		Deyeuxia quadriseta (Reed Bentgrass)			
732.	1259	Dianella revoluta (Blueberry Lily)		_	
				Daniel Brandwick	******







1000   Demokratic provides for effections		Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
Title	733.	11636	Dianella revoluta var. divaricata			
736		306	Dichelachne crinita (Longhair Plumegrass)			
1736.   1785			1 2 1 1			
738. 314 Option discharge (Controlleration for Country) 738. 314 Option discharge (Controlleration Service) 741. 41807 Demographene actions 741. 41817 Demographene Southern Duksberrely 742. 11841 Deployable housepit Southern Duksberrely 743. 31841 Deployable housepit Southern Duksberrely 744. 778. 41841 Deployable housepit Southern Duksberrely 745. 778. 31841 Deployable housepit Southern Duksberrely 746. 778. 31841 Deployable housepit Southern Duksberrely 747. 31841 Deployable housepit Southern Duksberrely 747. 31841 Deployable housepit Southern Duksberrely 748. 778. 41841 Deployable housepit Southern Duksberrely 749. 17892 Deployable housepit Southern Duksberrely 749. 17893 Deployable housepit Southern Duksberrely 740. 17893 Deployable housepit Southern Duksberrely 740. 17894 Deployable housepit Southern Duksberrely 741. 17894 Deployable housepit Southern Duksberrely 741. 17894 Deployable housepit Southern Duksberrely 742. 2018 Deployable housepit Southern Southern Duksberrely 743. 3055 Deployable employable Robertely 744. 2019 Deployable housepit Southern Duksberrely 745. 3056 Deployable employable Robertely 746. 3056 Deployable employable Robertely 747. 3066 Deployable employable Robertely 748. 3067 Deployable programms discharge projections 748. 3068 Deployable employable Robertely 748. 3068 Deployable employable Robertely 748. 3076 Deployable employable Robertely 749. 3076 Deployable employable Robertely 749. 3076 Deployable Robertely 749. 3076 Deployable employable Robertely 749. 3076 Deployable employable Robertely 3077 Deployable employable Robertely 3078 Deployable employable Robertely 3079 Deployable employable Robertely 3079 Deployable employable Robertely 3079 Deployabl						
740.   1931   2007   Demographic and establish   V   V   V   V   V   V   V   V   V				Υ		
741.   445.   Dijustere duringer (Southern Optobleren)     742.   301.   Dijustere muraler (Frei Foscier)   Y     743.   301.   Dijustere muraler (Frei Foscier)   Y     744.   745.   3015.   Dijustere muraler (Frei Foscier)   Y     746.   1045.   Divis Survivo (Bas Grichy)					P3	
746. 1981   Dispussion in supplied solution. Newpole 746. 1925   Disputsions amenishem 7476. 1925   Disputsions amenishem 7476. 1935   Disputsions amenishem 7476. 1935   Disputsions amenishem 7477. 1945   Disputsion glisse Octobil 7478. 1929   Disputs magnificat 7479. 1929   Disputs magnificat 7480. 1929   Disputs magnificat 7490. 1929   Disputs buddons (Principati's Happburd)   Pit 7490. 1920   Disputs buddons (Principati's Happburd)   Pit 7491. 1920   Disputs buddons (Principati's Happburd)   Pit 7492   Disputs buddons (Principati's Happburd)   Pit 7493   Disputs buddons (Principati's Happburd)   Pit 7494   Disputs buddons (Principati's Happburd)   Pit 7495   Disputs buddons (Principati's Happburd)   Pit 7496   Disputs buddons (Principati's Happburd)   Pit 7497   Disputs buddons (Principati's Happburd)   Pit 7498   Disputs buddons (Principati's Happburd)   Pit 7498   Disputs buddons (Principati's Happburd)   Pit 7499   Disputs buddons (Principati's Happburd)   Pit 7499   Disputs buddons (Principati's Happburd)   Pit 7490   Disputs buddons (Principati's Happburd)   Pit 7490	740.	18307	Dimorphotheca ecklonis	Υ		
744.   3011   Diplemate municity (Val) Roberton   746.   12545   Discharge normation   747.   1954   Discharge harmonics   747.   1954   Discharge harmonics   748.   12505   Discharge municity (Res Octob)   748.   12505   Discharge moderation of Res Octob)   748.   12505   Discharge moderation of Res Octob)   749.   12505   Discharge moderation of Res Octob)   750.   4775   Discharge moderation of Res Octob)   751.   1959   Discharge designed (Discharge Manchen)   Ti   752.   3015   Discense epitomicities (Res Surviver)   753.   3015   Discense epitomicities (Res Surviver)   754.   3016   Discense epitomicities (Res Surviver)   755.   3017   Discense epitomicities (Res Surviver)   756.   3018   Discense epitomicities (Res Surviver)   757.   3010   Discense epitomicities (Res Surviver)   758.   3010   Discense reproductifies (Res Surviver)   759.   3010   Discense reproductifies (Res Surviver)   750.   3010   Discense reproduction (Res Res Surviver)   750.   3010   Discense repro	741.	4454	Diplolaena dampieri (Southern Diplolaena)			
144.   1704						
746.   12645   Direct bearmains			, ,			
746.   11496   Dirts corprotocos   747.   12390   Dirts mognitica (Rev Debital)   748.   12390   Dirts mognitica (Rev Debital)   749.   12390   Dirts mognitica   740.   4703.   Directores heckelturas (Resteefa Haphach)   P4   751.   1305   Directores described (Solasy-Newtod Hammer Crichto)   T   752.   3002   Directore (Resteefa Haphach)   T   753.   3002   Directore (Resteefa Haphach)   T   754.   3007   Directore (Resteefa Haphach)   T   755.   3007   Directore (Resteefa Haphach)   T   756.   3007   Directore (Resteefa Haphach)   T   757.   3010   Directore (Resteefa Haphach)   T   758.   3010   Directore (Resteefa Haphach)   T   759.   3010   Directore (Resteefa Haphach)   T   759.   3010   Directore (Resteefa Haphach)   T   759.   3010   Directore (Resteefa Haphach)   T   751.   3011   Directore (Resteefa Haphach)   T   752.   3011   Directore (Resteefa Haphach)   T   753.   3013   Directore (Resteefa Haphach)   T   754.   3011   Directore (Resteefa Haphach)   T   755.   3013   Directore (Resteefa Haphach)   T   756.   3013   Directore (Resteefa Haphach)   T   757.   3014   Directore (Resteefa Haphach)   T   758.   3015   Directore (Resteefa Haphach)   T   759.   3016   Editore (Resteefa Haphach)   T   769.				Y		
14.1   16.1   Direct scarling (files Octobril)     74.8   12.000   Direct increasing     74.9   12.000   Direct increasing     75.0   16.001   Direct increasing     75.1   16.001   Direct increasing     75.1   16.001   Direct increasing     75.2   0.0002   Direct increasing     75.3   0.000   Direct increasing     75.4   0.0007   Direct increasing     75.5   0.0007   Direct increasing     75.6   16.24   Direct   Direct     75.6   16.24   Direct   Direct     75.7   0.000   Direct increasing     75.8   16.24   Direct   Direct     75.8   16.25   Direct   Direct   Direct     75.8   16.25   Direct   Direct   Direct     75.8   16.25   Direct   Direct   Direct     75.0   16.25   Direct   Direct   Direct     76.1   16.25   Direct   Direct   Direct   Direct     76.1   16.25   Direct   Direct   Direct     76.2   16.25   Direct   Direct   Direct     76.3   16.35   Direct   Direct   Direct     76.5   31.25   Direct   Direct     76.5   31.25   Direct   Direct     76.5   31.25   Direct   Direct     76.6   31.25   Direct   Direct     76.7   20.000   Direct   Direct     76.8   31.25   Direct   Direct     76.9   34.7   Direct   Direct     76.0   34.7   Direct   Direct     76.0   34.7   Direct   Direct     76.0   34.7   Direct   Direct     76.0   34.7   Direct   Direct     77.0   34.0   Direct   Direct     78.0   Direct   Direct   Direct     78.0   Direct   Direct   Direct     78.0   Direct   Direct   Direct     78.0						
1488   Darka micrantra   P	747.					
750.   4703. Obchrance Include   Pales   Pal	748.	12939	Diuris magnifica			
1511   1512   Decisional elisticia (Discoprisonal American Chicology	749.	12938	Diuris micrantha			
TSL						
753.   309.5.   Dicease epithoritise (Red in Stundery)   755.   1924   Dicease gipantes adates, porticulary   756.   1924   Dicease gipantes adates, porticulary   757.   301.0.   Dicease plean(year)   Repeated (Jensing Particles)   757.   301.0.   Dicease heterophysis (Jensing Particles)   758.   301.0.   Dicease necessital (Bokat Raticles)   758.   301.0.   Dicease necessital (Bokat Raticles)   759.   1426   Dicease necessital (Polis Raticles)   759.   1426   Dicease necessital (Polis Raticles)   759.   1426   Dicease necessital (Polis Raticles)   759.   1416   Dicease necessital (Polis Raticles)   759.   1416   Dicease necessital (Polis Raticles)   759.   301.0.   Dicease adolis (Polis Raticles)   759.   301.0.   201.0.					Т	
754.   1902   Tracease gigenties (Stand Sturkew)						
755.         162.44 Dicease genetics status, geniculates           767.         310 Dicease heterophylis (Swamp Rainbow)           767.         310 Dicease macroantha (Swamp Rainbow)           768.         310 Dicease macroantha (Swamp Rainbow)           769.         1429 Dicease macroantha (Swamp Rainbow)           760.         3103 Dicease macroantha (Swamp Rainbow)           761.         1865 Dicease macroantha (Swamp Rainbow)           762.         13216 Dicease macroantha (Swamp Rainbow)           763.         3131 Dicease pallida (Pala Rainbow)           764.         3118 Dicease pallida (Pala Rainbow)           765.         3131 Dicease solution, pallida (Pala Rainbow)           766.         3131 Dicease solution (Rainbow)           767.         2803 Schindaminon hydrix           768.         1468 Enthrain threviolito var. cuspitate           770.         349 Enthrain Supplica (Pala Rainbow)           771.         1461 Spitchum billardinoranum (Rainbow)           772.         349 Enthrain billardinoranum (Rainbow)           773.         349 Enthrain billardinoranum (Rainbow)           774.         4131 Spitchum billardinoranum (Rainbow)           775.         4132 Spitchum billardinoranum (Rainbow)           774.         41992 Epicholum billardinoranum subep, intermedium						
757. 3101 Drosen tentrophylis (Swamp Rainbow) 758. 13105 Drosen macranthe sublp, macrantha 759. 1428 Drosen macranthe sublp, macrantha 760. 3109 Drosen macranthe sublp, macrantha 761. 1318 Drosen macrantha (Sintal Swamps 762. 13216 Drosen marbiesi usbup, macrantha 763. 1318 Drosen politica (Fibra Rainbow) 764. 3118 Drosen politica (Fibra Rainbow) 765. 3131 Drosen solution, frait Rainbow) 766. 3131 Drosen solution (Fibra Rainbow) 767. 2630 Seinheimannon hysrix 768. 14455 Ehrharts brevilinin van cuspidate 769. 347 Ehrharts colopian (Fibrarian Void Gross) 770. 349 Ehrharts Angifica (Annual Void Gross) 771. 340 Ehrharts Angifica (Annual Void Gross) 772. 4134 Epidobum billuridinanum suble Ensami Orchi) 773. 4154 Epidobum billuridinanum suble,						
758.         3100. Drosom macrantha soba, macrantha           759.         14280. Brossen meracrantha soba, macrantha           760.         3100. Drosom meracrantha soba, meracrantha           762.         15210. Drosom meracrantha soba, promotivati           763.         15188. Drosom palaecea subep, palaecea           764.         3118. Drosom publich Pleir Forth Sundow)           765.         3124. Drosom publich Pleir Forth Sundow)           766.         3131. Drosom publich Pleir Forth Sundow)           767.         2800. Echinothamicin hystatik           768.         341. Ethinatra calykina (Peramial Volett Grass)           770.         342. Ethinatra calykina (Peramial Volett Grass)         Y           771.         1435. Ethinatra calykina (Peramial Volett Grass)         Y           771.         1443. Ethinatra calykina (Peramial Volett Grass)         Y           771.         1443. Ethinatra incopilion (Annual Volett Grass)         Y           771.         1443. Ethinatra incopilion (Annual Volett Grass)         Y           771.         1433. Ethiobum bilantriceranum suspa, micromodum         Y           772.         6731. Epibobum bilantriceranum suspa, micromodum         Y           774.         1792. Epibobum bilantriceranum suspa, micromodum         Y           776.         374.	756.	3098	Drosera glanduligera (Pimpernel Sundew)			
799.         14/280 Orosan mercanial (Prick Rainbow)           780.         3109 Drosans mercanial subsp. prantikali           782.         13211b Orosans mercanial subsp. prantikali           783.         13318 Drosans pallida (Pale Rainbow)           784.         3118 Drosans pallida (Pale Rainbow)           786.         3312 Drosans pallida (Pale Rainbow)           786.         3313 Drosans atolonifiera (Leafy Sundew)           787.         26003 Echinothammon hystrix           788.         11485 Enharia brayfilos (Arusulus Vetti Gross)         Y           771.         1843 Ephranta brayfilosa (Arusulus Vetti Gross)         Y           771.         1843 Ephrantar brayfilosa (Arusulus Vetti Gross)         Y           773.         1870 Epirobium bilatelereanum subsp. bilatelereanum subsp. bilatelereanum subsp. bilatelereanum subsp. bilatelereanum subsp. bilatelereanum vetti.           775.         6133 Epilobium bilatelere	757.	3101	Drosera heterophylla (Swamp Rainbow)			
760.   1183   Drosere menziesii subsp. menziesii   762.   13316   Drosere menziesii subsp. menziesii   763.   13188   Drosere menziesii subsp. menziesii   763.   13188   Drosere publichelis (Portity Sundew)   765.   3124   Drosere publichelis (Portity Sundew)   765.   3131   Drosere publichelis (Portity Sundew)   765.   3131   Drosere publichelis (Portity Sundew)   767.   26833   Enhioritaminini hystatik   768.   1185   Enhioritaminini hystatik   769.   3415   Enhioritaminini hystatik   769.   3416   Enhioritaminini hystatik   769.   3417   Enhiarita calpicina (Peranenia Vedit Grass)   770.   349   Enhiarita calpicina (Peranenia Vedit Grass)   771.   343   Enhiarita Englicina (Peranenia Vedit Grass)   771.   340   Enhiarita (Englicitamini Belliscina enatura (Englicitamini Engliscitamini Engl	758.	3106	Drosera macrantha (Bridal Rainbow)			
761. 11853 Drosens martinesis subsp. pencilaris 762. 13216 Drosens pellitar (Pale Rainbow) 763. 3118 Drosens pellitar (Pale Rainbow) 764. 3118 Drosens pellitar (Pale Rainbow) 765. 3124 Drosens publicalis (Parel Sundew) 766. 3131 Drosens stolonifiers (Leafy Sundew) 767. 26803 Echnotraminon hystrix 768. 11495 Erhinata brovifolis var. cuspidata Y 769. 348 Erhinata brovifolis var. cuspidata Y 770. 348 Erhinata brovifolis var. cuspidata Y 771. 1643 Erhinata konfilios Ahmush Vektif Grass) Y 771. 1643 Erhinatia konfilios Ahmush Vektif Grass) Y 771. 1643 Erhinatia konfilios Ahmush Vektif Grass) 773. 11570 Epibolium billuridioreanum (Subrous Willow Herb) 774. 1190 Epibolium billuridioreanum Subsp. hinterdeum 775. 6131 Epibolium billuridioreanum subsp. hinterdeum 776. 376 Engrossis ciurvina (Subrous Willow Herb) 777. 376 Engrossis ciurvina (Subrous Willow Herb) 778. 378 Engrossis ciurvina (Subrous Willow Herb) 779. 378 Engrossis ciurvina (Subrous Willow Herb) 779. 379 Engrossis ciurvina (Subrous Willow Herb) 779. 370 Eucolopius pencinal (Herbita Court Lower) 779. 370 Eucolopius pencina						
762.         1318 Drasen menzlesii subsp. peniallaris           763.         3118 Drasen palitalis (Pale Rankow)           764.         3112 Drasen palitalis (Pale Rankow)           765.         3124 Drasen publishig (Pale Rankow)           766.         3131 Drasen publishig (Pale Rankow)           767.         28803 Echinothaminon Inyetic           768.         11495 Ehranta colycina (Paernial Velet Grass)         Y           768.         347 Ehranta colycina (Paernial Velet Grass)         Y           770.         349 Ehrhanta colycina (Paernial Velet Grass)         Y           771.         1645 Elyihaminima brincina (Paernia Willow Herb)         Y           772.         6131 Epibbium bilarideneanum subsp. bilarideneanum (Sopoth Willow Herb)           773.         11570 Epibbium bilarideneanum subsp. bilarideneanum (Sopoth Willow Herb)           774.         11992 Epibbium bilarideneanum subsp. bilarideneanum (Sopoth Willow Herb)           775.         6133 Epibbium bilarideneanum subsp. sinemedium           776.         374 Eragrasis curval (Alrican Lovegrass)           777.         375 Eragrasis curval (Alrican Lovegrass)           778.         1360 Eramasi asterocarpas subsp. asterocarpa           779.         1360 Eramasi asterocarpas subsp. asterocarpa           781.         4333 Erudium cularium (Common Storkschil)						
763.         1318B Drosenp palelose subsp. polescee           764.         3112 Drosens publichella (Peter Rainbow)           765.         3124 Drosens publichella (Peter Sundew)           767.         26803 Echinotemion hystrix           768.         11495 Erhanta brevilolia var. cuspidata         Y           769.         347 Erhanta brevilolia var. cuspidata         Y           770.         348 Erhanta Sorgiliza (Annual Velat Grass)         Y           771.         1443 Erybranthera brunonis (Prupie Eranel Orchid)         Y           772.         1457 Erybranthera brunonis (Prupie Eranel Orchid)         Y           773.         1470 Epibbium bilindrideranum subsp. bilindrideranum (Shorobi Willow Herb)         Y           774.         1492 Epibbium bilindrideranum subsp. intermedium         Y           775.         6133 Epibbium bilindrideranum subsp. intermedium         Y           776.         374 Eragrosis cillurantia (Natural Velat Grass)         Y           777.         375 Eragrosis cillurantia subsp. intermedium         Y           778.         1492 Epibbium bilindrideranum subsp. intermedium         Y           777.         376 Ergorosis cillurantia (Natural Velat Grass)         Y           777.         377 Ergorosis cillurantia subsp. pirmantidum         Y           781.						
764.   3118   Drosera pallitide (Pale Painhow)						
766.         3131 Drosera stolonifera (Lasly Sundew)           767.         26803 Echinchamino Injatrix           768.         1445 Erharta berylolia var. cuspidata         Y           769.         347 Erharta calycina (Perennial Visit Grass)         Y           770.         348 Erharta bonylibra (Annual Visit Grass)         Y           771.         1643 Elythranthera brunonis (Purple Enamel Orchid)         Y           772.         6131 Epidoburn billardioenanum (Claibroux Villow Herb)         Y           773.         11570 Epidoburn billardioenanum subsp. Dillardioenanum (Smooth Willow Herb)         Y           774.         11992 Epidoburn billardioenanum subsp. Dillardioenanum (Smooth Willow Herb)         Y           775.         6133 Epidoburn billardioenanum subsp. Intermedium         Y           776.         374 Eragrests clainenasis (Stirkgrass)         Y           777.         376 Engrests curvula (African Lovegrass)         Y           778.         379 Engrosts curvula (African Lovegrass)         Y           779.         13950 Eremaea asterocarpa subsp. asticians         Y           780.         17175 Eremophila glabra subsp. asticians         Y           781.         4333 Erodulm dicutatium (Common Storkshill)         Y           782.         15446 Eryrejum pinnelitudum subsp. pinnelitudum subsp. p						
767.         26803         Echinothamino Inystrix         Y           768.         11485         Erhinarta brevirolla var. cuspidata         Y           769.         347         Erhinarta calycine (Perennial Veldt Grass)         Y           770.         349         Erhänata calycine (Perennial Veldt Grass)         Y           771.         1613         Eylidobium billardireranum (Gabcrus Willow Harb)           772.         6131         Epilobium billardireranum subsp. billardireranum (Grooth Willow Herb)           773.         11570         Epilobium billardireranum subsp. billardireranum           775.         6133         Epilobium billardireranum subsp. billardireranum           776.         374         Eragrostis clinaria (Silining Silining	765.	3124	Drosera pulchella (Pretty Sundew)			
768.         11485         Ehrharta brevifola var. cuspidata         Y           769.         347         Ehrharta cing/fiora (Prennial Veld Grass)         Y           770.         349         Ehrharta long/fiora (Annual Veld Grass)         Y           771.         1643         Elpilobium billardirereanum (Sebrous Willow Herb)           772.         6131         Epilobium billardirereanum subap, billardiereanum (Smooth Willow Herb)           773.         11570         Epilobium billardirereanum subap, billardiereanum (Smooth Willow Herb)           774.         11992         Epilobium billardirereanum subap, billardiereanum (Smooth Willow Herb)           775.         6133         Epilobium billardirereanum subap, billardiereanum (Smooth Willow Herb)           776.         314         Eragrostis clinarensis (Slinkquass)         Y           777.         376         Eragrostis clinarensis (Slinkquass)         Y           779.         13950         Erenneae asterocarpa subap, asterocarpa         Y           781.         4333         Erodum cicutarium (Common Storksbill)         Y           782.         15446         Erynjum pinnetifidum subap, pinnetifidum         Y           783.         26821         Erythrotolinium mueller           784.         5619         Eucalyptus gomphocephala (Linarto, Linar						
769.         347 Ehrharta colycina (Perennial Veldt Grass)         Y           770.         349 Ehrharta colycina (Annual Veldt Grass)         Y           771.         1463 Eyrikarnahrea brunonis (Purple Ehranel Orchid)         Y           772.         6131 Epidobium billardiereanum (albarous Willow Harb)         11570 Epidobium billardiereanum subsp. billardiereanum (Smooth Willow Herb)           773.         11992 Epidobium billardiereanum subsp. billardiereanum (Smooth Willow Herb)           774.         11992 Epidobium billardiereanum subsp. billardiereanum (Smooth Willow Herb)           775.         6133 Epidobium billardiereanum subsp. billardiereanum (Smooth Willow Herb)           776.         374 Eragrostic dilennesis (Sinkrjanss)         Y           777.         376 Eragrostic dilennesis (Sinkrjanss)         Y           778.         379 Eragrostic dilennesis (Sinkrjanss)         Y           779.         13950 Eremaea asterocarpas subsp. asterocarpa         Y           780.         11715 Eremophila globra subsp. abicans         Y           781.         4333 Erodium cicutarium (Common Storksbill)         Y           782.         15446 Eryalptus ofecinalicum subsp. pinnatifum         Y           783.         26821 Erythrockoium muelleri         Y           784.         15645 Erealptus surgenid (Invarou-leaved Red Mallee)         Y <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
770. 349 Ehrharta kongillora (Annual Vekit Grass) Y 771. 1643 Elythranthera brunonis (Purple Ename) Orchid) 772. 6131 Epiloblum billardiceranum (Glabrous Willow Herb) 773. 11570 Epiloblum billardiceranum subsp. billardiceranum (Smooth Willow Herb) 774. 11992 Epiloblum billardiceranum subsp. billardiceranum (Smooth Willow Herb) 775. 6133 Epiloblum hirigarum (Hairy Willow Herb) 776. 374 Eragrostis cliunenais (Sirikgrass) 777. 376 Eragrostis cliunenais (Sirikgrass) 778. 379 Eragrostis elongala (Clustered Lovegrass) 779. 13950 Eremaea asterocarpa subsp. asterocarpa 780. 17175 Eremophila glabra subsp. abbicans 781. 4333 Erodium cicutarium (Common Storksbill) 782. 15446 Erynglum pinnatificum subsp. pinnatificum 783. 26801 Ergrinotochnium muelleri 784. 5615 Eucalyptus decipians (Limestone Marlock, Moit) 785. 5649 Eucalyptus decipians (Limestone Marlock, Moit) 786. 5659 Eucalyptus genophala (Taut Lourt) 787. 5708 Eucalyptus marginata (Jarrah, Djara) 788. 2000s Eucalyptus marginata (Jarrah, Djara) 789. 3872 Euchilopsis linearis (Swamp Pea) 791. 17342 Euphorbia beritscopia (Sun Spurge) 793. 29940 Euphorbia terracina (Geraldton Carnation Weed) 795. 26830 Euplota articulata 796. 3880 Euphorbia terracina (Geraldton Carnation Weed) 797. 10765 Evocarpos spartous (Broom Ballart, Djuk) 798. 20216 Fichia nodosa (Konted Club Rush) 799. 894 Fimbristylis velate 800. 6221 Foeniculum vulgare (Fennel) 801. 8365 Furnaria bastardii 975. 1086 Furnaria bastardii 976. 1086 Furnaria bastardii 977. 1086 Furnaria bastardii 978. 2080 Eurania bastardii 979. 884 Fimbristylis velate			·			
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775.         6133 Epidobium hirtigerum (Hairy Willow Herb)           776.         374 Eragrostis cilianensis (Stinkgrass)         Y           777.         376 Eragrostis cilianensis (Stinkgrass)         Y           778.         379 Eragrostis cilongata (Oustered Lovegrass)         Y           779.         13950 Eremaea asterocarpa subsp. asterocarpa         ****           780.         17175 Eremophila glabra subsp. ablicans         ****           781.         4333 Erodium cicutarium (Common Storksbill)         Y           782.         15446 Eyrojum pinnatifidum subsp. pinnatifidum         ***           783.         26821 Erythroclonium muelleri         ***           784.         5615 Eucalyptus decipiens (Limestone Marlock, Molit)         ***           785.         5649 Eucalyptus gomphocephala (Tuart, Duart)         ***           786.         5659 Eucalyptus gomphocephala (Tuart, Duart)         ***           787.         5708 Eucalyptus rudis (Flooded Gum, Kulurda)         ***           789.         5763 Eucalyptus rudis (Flooded Gum, Kulurda)         ***           790.         3872 Euchilopsis linearis (Swamp Pea)         ***           791.         1734 Euphorbia arriculata         ***           792.         4627 Euphorbia heliosocoja (Sun Spurge)         ***	773.	11570	Epilobium billardiereanum subsp. billardiereanum (Smooth Willow Herb)			
776.         374 Eragrostis cilianensis (Stinkgrass)         Y           777.         376 Eragrostis curvula (African Lovegrass)         Y           778.         379 Eragrostis elongata (Clustered Lovegrass)         Y           779.         1350 Eremsea asterocarpa subsp. asterocarpa         ***           780.         17175 Eremophila glabra subsp. albicans         ***           781.         4333 Erodium cicutarium (Common Storksbill)         Y           782.         15446 Eryngium pinnatifidum subsp. pinnatifidum           783.         26821 Erythroclonium muelleri           784.         5615 Eucalpytus decipiens (Limestone Marlock, Moit)           785.         5649 Eucalyptus decipiens (Limestone Marlock, Moit)           786.         5659 Eucalyptus usic foecunda (Narrow-leaved Red Mallee)           786.         5659 Eucalyptus usic (Fooded Rum, Lulurda)           787.         5708 Eucalyptus usic (Fooded Cum, Kulurda)           789.         3872 Euchilopsis linearis (Swamp Pea)           790.         3872 Euchilopsis linearis (Swamp Pea)           791.         17342 Euphorbia meculata         Y           792.         4627 Euphorbia meculata         Y           793.         29940 Euphorbia meculata         Y           795.         26830 Eupitiota articulata         Y	774.		·			
777.         376         Eragrostis curvula (African Lovegrass)         Y           778.         379         Eragrostis elongata (Clustered Lovegrass)         379.           779.         13950         Eremaea asterocarpa subsp. alticans           780.         17175         Eremophila glabra subsp. alticans           781.         4333         Erodinum cicutarium (Common Storksbill)         Y           782.         15446         Eryngium pinnatifidum subsp. pinnatifidum           783.         26821         Erythroclonium muelleri           784.         5615         Eucalyptus decipiens (Limestone Marlock, Moit)           785.         5649         Eucalyptus gomphocephala (Tuart, Duart)           786.         5659         Eucalyptus periolaris         Y           787.         5708         Eucalyptus petiolaris         Y           788.         20808         Eucalyptus petiolaris         Y           789.         3672         Euchilopsis linearis (Swamp Pea)         Y           791.         17342         Euphorbia cyathophora         Y           792.         4627         Euphorbia incusulata         Y           794.         4648         Euphorbia ariculata         Y           795.         26830			, , ,			
778.         379         Eragrostis elongata (Clustered Lovegrass)           779.         13950         Eremaea asterocarpa subsp. asterocarpa           780.         17175         Eremophila glabra subsp. albicans           781.         4333         Erodium cicutarium (Common Storksbill)         Y           782.         15446         Eryngium pinnatifidum subsp. pinnatifidum           783.         26821         Erythroclonium muelleri           784.         5615         Eucalyptus decipiens (Limestone Marlock, Moit)           785.         5649         Eucalyptus foecunda (Narrow-leaved Red Mallee)           786.         5659         Eucalyptus gomphocephala (Tuart, Duart)           787.         5708         Eucalyptus petiolaris         Y           789.         5763         Eucalyptus rudis (Flooded Gum, Kulurda)         Y           789.         5763         Eucalyptus inearis (Swamp Pea)         Y           791.         17342         Euphorbia eyathophora         Y           793.         29940         Euphorbia maculata         Y           794.         4648         Euphorbia terracina (Geraldton Carnation Weed)         Y           795.         28830         Euptidiota articulata           797.         10765         Ex						
779.         13950         Eremaea asteriocarpa subsp. albicans           780.         17175         Eremophila glabra subsp. albicans           781.         4333         Erodium cicutarium (Common Storksbill)         Y           782.         15446         Eyngium pinnatificum subsp. pinnatificum           783.         26821         Erythroclonium muelleri           784.         6615         Eucalyptus decipiens (Limestone Marlock, Moit)           785.         5649         Eucalyptus Gomphocephala (Tuart, Duart)           786.         5659         Eucalyptus gomphocephala (Tuart, Duart)           787.         5708         Eucalyptus petiolaris           788.         20808         Eucalyptus rusis (Flooded Gum, Kulurda)           789.         5763         Euchilopsis linearis (Swamp Pea)           790.         3872         Euchilopsis linearis (Swamp Pea)           791.         17342         Euphorbia petioscopia (Sun Spurge)         Y           792.         4627         Euphorbia helioscopia (Sun Spurge)         Y           793.         29940         Euphorbia terracina (Geraldton Camation Weed)         Y           795.         26830         Euplatica articulata         Y           797.         10765         Exocarpos sparteus (Broom Ba				ī		
781.       4333       Erodium cicutarium (Common Storksbill)       Y         782.       15446       Eryngium pinnatifidum subsp. pinnatifidum         783.       26821       Erythroclonium muelleri         784.       5615       Eucalyptus decipiens (Limestone Marlock, Moit)         785.       5649       Eucalyptus foecunda (Narrow-leaved Red Mallee)         786.       5659       Eucalyptus gomphocephala (Tuart, Duart)         787.       5708       Eucalyptus marginata (Jarrah, Djara)         788.       20808       Eucalyptus rudis (Flooded Gum, Kulurda)         789.       5763       Eucalyptus rudis (Flooded Gum, Kulurda)         790.       3872       Euchilopsis linearis (Swamp Pea)         791.       17342       Euphorbia cyathophora       Y         792.       4627       Euphorbia helioscopia (Sun Spurge)       Y         793.       29940       Euphorbia heracina (Geraldton Carnation Weed)       Y         795.       26830       Euptilota articulata       Y         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216       Ficinia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulga						
782.       15446       Eryngium pinnatifidum subsp. pinnatifidum         783.       28821       Erythroclonium muelleri         784.       5615       Eucalyptus decipiens (Limestone Marlock, Moit)         785.       5649       Eucalyptus foecunda (Narrow-leaved Red Mallee)         786.       5659       Eucalyptus gmphocephala (Tuart, Duart)         787.       570       Eucalyptus marginata (Jarrah, Djara)         788.       2080       Eucalyptus petiolaris       Y         789.       5763       Eucalyptus vuids (Flooded Gum, Kullurda)         790.       3872       Euchliopsis linearis (Swamp Pea)         791.       17342       Euphorbia cyathophora       Y         792.       4627       Euphorbia helioscopia (Sun Spurge)       Y         793.       29940       Euphorbia maculata       Y         794.       4648       Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830       Euptilota articulata       Y         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216       Fichia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulgare (Fennel)	780.	17175	Eremophila glabra subsp. albicans			
783.       26821       Erythroclonium muelleri         784.       5615       Eucalyptus decipiens (Limestone Marlock, Moit)         785.       5649       Eucalyptus foecunda (Narrow-leaved Red Mallee)         786.       5659       Eucalyptus gomphocephala (Tuart, Duart)         787.       5708       Eucalyptus marginata (Jarrah, Djara)         788.       20808       Eucalyptus petiolaris       Y         789.       5763       Eucalyptus rudis (Flooded Gum, Kulurda)       Y         790.       3872       Euchilopsis linearis (Swamp Pea)       Y         791.       17342       Euphorbia pelloscopia (Sun Spurge)       Y         792.       4627       Euphorbia maculata       Y         793.       29940       Euphorbia maculata       Y         794.       4648       Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830       Euptida articulata         796.       3880       Euaxia virgata         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         799.       894       Finbristylis velata         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria capreolata (Whiteflower Fumitory) </td <td>781.</td> <td>4333</td> <td>Erodium cicutarium (Common Storksbill)</td> <td>Υ</td> <td></td> <td></td>	781.	4333	Erodium cicutarium (Common Storksbill)	Υ		
784.       5615       Eucalyptus decipiens (Limestone Marlock, Moit)         785.       5649       Eucalyptus foecunda (Narrow-leaved Red Mallee)         786.       5659       Eucalyptus gomphocephala (Tuart, Duart)         787.       5708       Eucalyptus marginata (Jarrah, Djara)         788.       20808       Eucalyptus petiolaris       Y         789.       5763       Eucalyptus rudis (Flooded Gum, Kulurda)         790.       3872       Euchilopsis linearis (Swamp Pea)         791.       17342       Euphorbia cyathophora       Y         792.       4627       Euphorbia helioscopia (Sun Spurge)       Y         793.       29940       Euphorbia hericaina (Geraldton Carnation Weed)       Y         794.       4648       Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830       Eutlitiota articulata         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216       Ficinia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capr						
785.       5649       Eucalyptus foecunda (Narrow-leaved Red Mallee)         786.       5659       Eucalyptus gomphocephala (Tuart, Duart)         787.       5708       Eucalyptus periolaris       Y         788.       20808       Eucalyptus periolaris       Y         789.       5763       Eucalyptus rudis (Flooded Gum, Kulurda)       Y         790.       3872       Euchilopsis linearis (Swamp Pea)       Y         791.       17342       Euphorbia cyathophora       Y         792.       4627       Euphorbia helioscopia (Sun Spurge)       Y         793.       29940       Euphorbia maculata       Y         794.       4648       Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830       Euptilota articulata       Y         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216       Ficinia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capreolata (Whiteflower Fumitory)       Y						
786. 5659 Eucalyptus gomphocephala (Tuart, Duart) 787. 5708 Eucalyptus marginata (Jarrah, Djara) 788. 20808 Eucalyptus petiolaris Y 789. 5763 Eucalyptus rudis (Flooded Gum, Kulurda) 790. 3872 Euchilopsis linearis (Swamp Pea) 791. 17342 Euphorbia cyathophora Y 792. 4627 Euphorbia helioscopia (Sun Spurge) 793. 29940 Euphorbia maculata Y 794. 4648 Euphorbia terracina (Geraldton Carnation Weed) 795. 26830 Euptilota articulata 796. 3880 Eutaxia virgata 797. 10765 Exocarpos sparteus (Broom Ballart, Djuk) 798. 20216 Ficinia nodosa (Knotted Club Rush) 799. 894 Fimbristylis velata 800. 6221 Foeniculum vulgare (Fennel) 801. 8365 Fumaria bastardii Y 802. 2969 Fumaria capreolata (Whiteflower Fumitory)						
787.         5708         Eucalyptus marginata (Jarrah, Djara)           788.         20808         Eucalyptus petiolaris         Y           789.         5763         Eucalyptus rudis (Flooded Gum, Kulurda)           790.         3872         Euchilopsis linearis (Swamp Pea)           791.         17342         Euphorbia cyathophora         Y           792.         4627         Euphorbia helioscopia (Sun Spurge)         Y           793.         29940         Euphorbia maculata         Y           794.         4648         Euphorbia terracina (Geraldton Carnation Weed)         Y           795.         26830         Euptilota articulata         Y           796.         3880         Eutaxia virgata         Y           797.         10765         Exocarpos sparteus (Broom Ballart, Djuk)         Y           798.         20216         Ficinia nodosa (Knotted Club Rush)         Y           890.         6221         Foeniculum vulgare (Fennel)         Y           801.         8365         Furnaria bastardii         Y           802.         2969         Fumaria capreolata (Whiteflower Fumitory)         Y						
788.       20808 Eucalyptus petiolaris       Y         789.       5763 Eucalyptus rudis (Flooded Gum, Kulurda)         790.       3872 Euchilopsis linearis (Swamp Pea)         791.       17342 Euphorbia cyathophora       Y         792.       4627 Euphorbia helioscopia (Sun Spurge)       Y         793.       29940 Euphorbia maculata       Y         794.       4648 Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830 Eutaxia virgata         796.       3880 Eutaxia virgata         797.       10765 Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216 Ficinia nodosa (Knotted Club Rush)         799.       894 Fimbristylis velata         800.       6221 Foeniculum vulgare (Fennel)       Y         801.       8365 Fumaria bastardii       Y         802.       2969 Fumaria capreolata (Whiteflower Fumitory)       Y						
790.       3872 Euchilopsis linearis (Swamp Pea)         791.       17342 Euphorbia cyathophora       Y         792.       4627 Euphorbia helioscopia (Sun Spurge)       Y         793.       29940 Euphorbia maculata       Y         794.       4648 Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830 Euptilota articulata       Y         796.       3880 Eutaxia virgata       Y         797.       10765 Exocarpos sparteus (Broom Ballart, Djuk)       Y         798.       20216 Ficinia nodosa (Knotted Club Rush)       Y         800.       6221 Foeniculum vulgare (Fennel)       Y         801.       8365 Fumaria bastardii       Y         802.       2969 Fumaria capreolata (Whiteflower Fumitory)       Y	788.			Υ		
791.       17342       Euphorbia cyathophora       Y         792.       4627       Euphorbia helioscopia (Sun Spurge)       Y         793.       29940       Euphorbia maculata       Y         794.       4648       Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830       Euptilota articulata       Y         796.       3880       Eutaxia virgata       Y         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)       Y         798.       20216       Ficinia nodosa (Knotted Club Rush)       Y         799.       894       Fimbristylis velata       Y         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capreolata (Whiteflower Fumitory)       Y	789.	5763	Eucalyptus rudis (Flooded Gum, Kulurda)			
792.       4627       Euphorbia helioscopia (Sun Spurge)       Y         793.       29940       Euphorbia maculata       Y         794.       4648       Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830       Euptilota articulata       Y         796.       3880       Eutaxia virgata       Formania nodosa (Formania Lojuk)         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)       Formania nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata       Formiculum vulgare (Fennel)       Y         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capreolata (Whiteflower Fumitory)       Y						
793.       29940 Euphorbia maculata       Y         794.       4648 Euphorbia terracina (Geraldton Carnation Weed)       Y         795.       26830 Euptilota articulata       Y         796.       3880 Eutaxia virgata       Y         797.       10765 Exocarpos sparteus (Broom Ballart, Djuk)       Y         798.       20216 Ficinia nodosa (Knotted Club Rush)       Y         799.       894 Fimbristylis velata       Y         800.       6221 Foeniculum vulgare (Fennel)       Y         801.       8365 Fumaria bastardii       Y         802.       2969 Fumaria capreolata (Whiteflower Fumitory)       Y						
794.       4648       Euphrobia terracina (Geraldton Carnation Weed)       Y         795.       26830       Euptilota articulata         796.       3880       Eutaxia virgata         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216       Ficinia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capreolata (Whiteflower Fumitory)       Y						
795.       26830       Euptilota articulata         796.       3880       Eutaxia virgata         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216       Ficinia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capreolata (Whiteflower Fumitory)       Y						
796.       3880       Eutaxia virgata         797.       10765       Exocarpos sparteus (Broom Ballart, Djuk)         798.       20216       Ficinia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capreolata (Whiteflower Fumitory)       Y						
798.       20216       Ficinia nodosa (Knotted Club Rush)         799.       894       Fimbristylis velata         800.       6221       Foeniculum vulgare (Fennel)       Y         801.       8365       Fumaria bastardii       Y         802.       2969       Fumaria capreolata (Whiteflower Fumitory)       Y						
799.         894         Fimbristylis velata           800.         6221         Foeniculum vulgare (Fennel)         Y           801.         8365         Fumaria bastardii         Y           802.         2969         Fumaria capreolata (Whiteflower Fumitory)         Y	797.	10765	Exocarpos sparteus (Broom Ballart, Djuk)			
800.       6221 Foeniculum vulgare (Fennel)       Y         801.       8365 Fumaria bastardii       Y         802.       2969 Fumaria capreolata (Whiteflower Fumitory)       Y						
801. 8365 Fumaria bastardii Y 802. 2969 Fumaria capreolata (Whiteflower Fumitory) Y				V		
802. 2969 Fumaria capreolata (Whiteflower Fumitory) Y						
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Department of Parks and Wildlife





	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
803.	907	Gahnia trifida (Coast Saw-sedge)			
804.		Galium murale (Small Goosegrass)	Y		
805.		Gamochaeta coarctata	Υ		
806. 807.		Gastrolobium ebracteolatum Gastrolobium nervosum			
808.		Gazania linearis	Υ		
809.		Gelinaria ulvoidea			
810.	4339	Geranium molle (Dove's Foot Cranesbill)	Υ		
811.	4340	Geranium retrorsum			
812.	26854	Gigartina disticha			
813.		Gladiolus angustus (Long Tubed Painted Lady)	Y		
814.		Gladiolus caryophyllaceus (Wild Gladiolus)	Υ		
815. 816.		Gloiocladia halymenioides Gloiosaccion brownii			
817.		Gomphocarpus fruticosus (Narrowleaf Cottonbush)	Υ		
818.		Gompholobium marginatum			
819.		Gompholobium tomentosum (Hairy Yellow Pea)			
820.	6161	Gonocarpus pithyoides			
821.	7538	Goodenia pulchella			
822.	26868	Gracilaria cliftonii			
823.		Grammatotheca bergiana var. bergiana	Υ		
824.		Gratiola pubescens			
825. 826.		Grevillea crithmifolia Grevillea pilulifera (Woolly-flowered Grevillea)			
827.		Grevillea preissii subsp. preissii			
828.		Grevillea vestita			
829.	12824	Grevillea vestita subsp. vestita			
830.	2788	Gyrostemon subnudus			
831.	1468	Haemodorum laxum			
832.	1474	Haemodorum sparsiflorum			
833.		Haemodorum spicatum (Mardja)			
834.		Hakea lissocarpha (Honey Bush)			
835. 836.		Hakea marginata Hakea prostrata (Harsh Hakea)			
837.		Hakea trifurcata (Two-leaf Hakea)			
838.		Hakea varia (Variable-leaved Hakea)			
839.	26890	Halimeda cuneata			
840.	13141	Haliptilon roseum			
841.	26900	Haloplegma preissii			
842.		Hardenbergia comptoniana (Native Wisteria)			
843.		Helichrysum luteoalbum (Jersey Cudweed)	V		
844. 845.		Heliotphila pusilla Heliotropium europaeum (Common Heliotrope)	Y		
846.		Hemarthria uncinata var. uncinata	'		
847.		Hemiandra pungens (Snakebush)			
848.	26915	Hennedya crispa			
849.	26919	Herposiphonia rostrata			
850.		Heterosiphonia wrangelioides			
851.		Hibbertia acerosa (Needle Leaved Guinea Flower)			
852. 853		Hibbertia commutata  Hibbertia cureiformis (Cutleaf Hibbertia)			
853. 854.		Hibbertia cuneiformis (Cutleaf Hibbertia)  Hibbertia huegelii			
855.		Hibbertia hypericoides (Yellow Buttercups)			
856.		Hibbertia perfoliata			
857.		Hibbertia racemosa (Stalked Guinea Flower)			
858.	5172	Hibbertia stellaris (Orange Stars)			
859.		Hibbertia subvaginata			
860.		Hibbertia vaginata			
861. 862		Hirsutithallia laricina Histophyric incipa			
862. 863.		Histiopteris incisa Holcus setiger (Annual Fog)	Υ		
864.		Homalosciadium homalocarpum	ı		
865.		Hordeum glaucum (Northern Barley Grass)	Υ		
866.		Hovea trisperma (Common Hovea)			
867.	12859	Hovea trisperma var. trisperma			
868.		Hybanthus calycinus (Wild Violet)			
869.		Hybanthus debilissimus			
870. 871		Hydrocotyle alata			
871. 872.		Hydrocotyle blepharocarpa Hydrocotyle diantha			
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	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
873.	6232	Hydrocotyle hispidula			
874.		Hydrocotyle scutellifera			
875.		Hyparrhenia hirta (Tambookie Grass)	Y		
876. 877.		Hypnea ramentacea Hypocalymma angustifolium (White Myrtle, Kudjid)			
878.		Hypocalymma angustifolium subsp. Swan Coastal Plain (G.J. Keighery 16777)			
879.		Hypocalymma robustum (Swan River Myrtle)			
880.		Hypochaeris glabra (Smooth Catsear)	Υ		
881.		Hypochaeris radicata (Flat Weed)	Υ		
882.	26981	Hypoglossum revolutum			
883.	1070	Hypolaena exsulca			
884.		Hypolaena pubescens			
885.		Isolepis cernua (Nodding Club-rush)			
886.		Isolepis cernua var. cernua			
887.		Isolepis cernua var. setiformis			
888. 889.		Isolepis cyperoides Isolepis marginata (Coarse Club-rush)			
890.		Isolepis Indiginata (Coarse Citto-Tustr)			
891.		Isotoma hypocrateriformis (Woodbridge Poison)			
892.		Isotropis cuneifolia (Granny Bonnets)			
893.		Isotropis cuneifolia subsp. cuneifolia			
894.		Ixiolaena viscosa (Sticky Ixiolaena)			
895.	4012	Jacksonia furcellata (Grey Stinkwood)			
896.		Jacksonia sericea (Waldjumi)		P4	
897.		Jacksonia sternbergiana (Stinkwood, Kapur)			
898.		Jania micrarthrodia			
899.		Juncus acutus subsp. acutus	Y		
900. 901.		Juncus bufonius (Toad Rush)  Juncus capitatus (Capitate Rush)	Y		
902.		Juncus kraussii (Sea Rush)	T		
903.		Juncus kraussii subsp. australiensis			
904.		Juncus pallidus (Pale Rush)			
905.	1189	Juncus pauciflorus (Loose Flower Rush)			
906.	4037	Kennedia coccinea (Coral Vine)			
907.	4044	Kennedia prostrata (Scarlet Runner)			
908.		Kennedia stirlingii (Bushy Kennedia)			
909.		Kuetzingia canaliculata			
910.		Kunzea ericifolia (Spearwood, Pondil)			
911. 912.		Kunzea glabrescens (Spearwood) Lachenalia aloides	Υ		
913.		Lachenalia reflexa	Ϋ́		
914.		Lachnagrostis filiformis			
915.		Lachnagrostis plebeia			
916.	19956	Lachnagrostis preissii			
917.	18585	Lagenophora huegelii			
918.	467	Lagurus ovatus (Hare's Tail Grass)	Υ		
919.		Landoltia punctata (Thin Duckweed)			
920.		Laurencia elata			
921.		Laurencia filiformis			
922. 923.		Laurencia forsteri			
923. 924.		Laurencia majuscula Laurencia shepherdii			
925.		Laxmannia ramosa (Branching Lily)			
926.		Laxmannia squarrosa			
927.		Lechenaultia biloba (Blue Leschenaultia)			
928.	7572	Lechenaultia expansa			
929.	7574	Lechenaultia floribunda (Free-flowering Leschenaultia)			
930.		Lenormandia latifolia			
931.		Leontodon rhagadioloides	Υ		
932.		Lepidosperma angustatum			
933.		Lepidosperma calcicola			
934. 935.		Lepidosperma gladiatum (Coast Sword-sedge, Kerbin) Lepidosperma longitudinale (Pithy Sword-sedge)			
935.		Lepidosperma longitudinale (Pithy Sword-sedge) Lepidosperma pubisquameum			
937.		Lepidosperma scabrum			
938.		Lepidosperma squamatum			
939.		Leporella fimbriata (Hare Orchid)			
940.	19833	Leptocarpus laxus			
941.		Leptoceras menziesii			
942.	2352	Leptomeria preissiana			
				Design Processor	*******







	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
943.	27015	Leptosomia rosea			
944.	5850	Leptospermum laevigatum (Coast Teatree)	Υ		
945.	1090	Lepyrodia muirii			
946.		Leucopogon conostephioides			
947.		Leucopogon parviflorus (Coast Beard-heath)			
948.		Leucopogon propinquus			
949.		Levenhookia pusilla (Midget Stylewort)			
950.		Levenhookia stipitata (Common Stylewort)			
951. 952.		Linum marginale (Wild Flax) Liparophyllum capitatum			
952.		Lobelia anceps (Angled Lobelia)			
954.		Lobelia tritytidosperma (Wrinkled-seeded Lobelia)			
955.		Lobelia tenuior (Slender Lobelia)			
956.		Logania vaginalis (White Spray)			
957.		Lolium perenne (Perennial Ryegrass)	Υ		
958.		Lolium perenne x rigidum	Y		
959.		Lolium rigidum (Wimmera Ryegrass)	Y		
960.		Lolium x hybridum	Y		
961.		Lomandra caespitosa (Tufted Mat Rush)			
962.		Lomandra hermaphrodita			
963.		Lomandra maritima			
964.		Lomandra micrantha (Small-flower Mat-rush)			
965.		Lomandra nigricans			
966.	1239	Lomandra preissii			
967.	1243	Lomandra sericea (Silky Mat Rush)			
968.	1246	Lomandra suaveolens			
969.	1198	Luzula meridionalis (Field Woodrush)			
970.	1097	Lyginia barbata			
971.	2839	Macarthuria australis			
972.	85	Macrozamia riedlei (Zamia, Djiridji)			
973.	36480	Malva arborea (Tree Mallow)	Υ		
974.	4961	Malva parviflora (Marshmallow)	Υ		
975.	31351	Malva preissiana			
976.		Medicago sativa (Alfalfa)	Υ		
977.		Meeboldina cana			
978.		Meeboldina decipiens			
979.		Meeboldina roycei			
980.		Meeboldina scariosa			
981.		Meionectes brownii (Swamp Raspwort)			
982.		Melaleuca acutifolia			
983.		Melaleuca cuticularis (Saltwater Paperbark)			
984. 985.		Melaleuca huegelii subsp. huegelii Melaleuca incana subsp. incana			
986.		Melaleuca Internita (Robin Redbreast Bush)			
987.		Melaleuca preissiana (Moonah)			
988.		Melaleuca rhaphiophylla (Swamp Paperbark)			
989.		Melaleuca teretifolia (Banbar)			
990.		Melaleuca thymoides			
991.		Melaleuca viminea (Mohan)			
992.		Melaleuca viminea subsp. viminea			
993.		Melia azedarach (White Cedar)			
994.		Melilotus albus	Υ		
995.		Melilotus indicus	Y		
996.	6883	Mentha pulegium (Pennyroyal)	Υ		
997.		Mesomelaena pseudostygia			
998.	957	Mesomelaena tetragona (Semaphore Sedge)			
999.	485	Microlaena stipoides (Weeping Grass)			
1000.	15419	Microtis media subsp. media			
1001.	16693	Minuartia mediterranea	Υ		
1002.	7085	Misopates orontium (Lesser Snapdragon)	Υ		
1003.	7410	Monopsis debilis	Υ		
1004.		Monopsis debilis var. depressa	Υ		
1005.		Monotaxis grandiflora (Diamond of the Desert)			
1006.		Monotaxis occidentalis			
1007.		Muehlenbeckia adpressa (Climbing Lignum)			
1008.		Myoporum caprarioides (Slender Myoporum)			
1009.		Myoporum insulare (Blueberry Tree, boobialla)			
1010.	6192	Myriophyllum drummondii			
			Υ		
1010. 1011. 1012.		Narcissus tazetta subsp. italicus Nerium oleander	Y		







	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
1013.		Neurachne alopecuroidea (Foxtail Mulga Grass)			
1014.		Nizymenia conferta			
1015.		Nuytsia floribunda (Christmas Tree, Mudja)	V		
1016. 1017.		Oenothera drummondii (Beach Evening Primrose) Oenothera mollissima	Y		
1018.		Oenothera stricta subsp. stricta	Y		
1019.		Olearia axillaris (Coastal Daisybush)	'		
1020.		Olearia rudis (Rough Daisybush)			
1021.		Opercularia hispidula (Hispid Stinkweed)			
1022.	18255	Opercularia vaginata (Dog Weed)			
1023.	12782	Ophioglossum gramineum			
1024.	29276	Opuntia monacantha (Barbary Fig)	Υ		
1025.		Ornduffia albiflora			
1026.		Ornithogalum arabicum (Lesser Cape Lily)	Y		
1027.		Orobanche minor (Lesser Broomrape)	Y		
1028. 1029.		Oxalis purpurea (Largeflower Wood Sorrel)	Y		
1029.		Papaver rhoeas (Field Poppy) Paracaleana nigrita (Flying Duck Orchid)	Υ		
1031.		Parapholis incurva (Coast Barbgrass)	Υ		
1032.		Parentucellia viscosa (Sticky Bartsia)	Y		
1033.		Parietaria debilis (Pellitory)			
1034.		Paspalum dilatatum	Υ		
1035.		Paspalum distichum (Water Couch)	Y		
1036.	533	Paspalum vaginatum (Salt Water Couch)	Υ		
1037.	1550	Patersonia occidentalis (Purple Flag, Koma)			
1038.	30471	Patersonia occidentalis var. angustifolia			
1039.	4343	Pelargonium capitatum (Rose Pelargonium)	Υ		
1040.		Pelargonium littorale			
1041.		Penicillus nodulosus			
1042.		Pericalymma ellipticum (Swamp Teatree)			
1043.		Percialymma ellipticum var. ellipticum  Percialymma ellipticum var. ellipticum	V		
1044. 1045.		Persicaria lapathifolia Persoonia saccata (Snottygobble)	Y		
1045.		Petrophile linearis (Pixie Mops)			
1047.		Phalaris minor (Lesser Canary Grass)	Υ		
1048.		Phalaris paradoxa (Paradoxa Grass)	Y		
1049.		Philotheca spicata (Pepper and Salt)			
1050.	1173	Philydrella pygmaea (Butterfly Flowers)			
1051.	1478	Phlebocarya ciliata			
1052.	6734	Phyla nodiflora var. nodiflora	Υ		
1053.		Phyllangium paradoxum			
1054.		Phyllanthus calycinus (False Boronia)			
1055.		Physalis angulata	Υ		
1056.		Physalis peruviana (Cape Gooseberry)	Y		
1057.		Phytolacca octandra (Red Ink Plant)	Υ		
1058. 1059.		Pimelea imbricata var. major Pimelea lanata			
1060.		Pimelea leucantha			
1061.		Pimelea rosea (Rose Banjine)			
1062.		Pimelea rosea subsp. rosea			
1063.		Pithocarpa cordata			
1064.		Plantago lanceolata (Ribwort Plantain)	Υ		
1065.		Platysiphonia mutabilis			
1066.	573	Poa drummondiana (Knotted Poa)			
1067.	577	Poa poiformis (Coastal Poa)			
1068.		Poa porphyroclados			
1069.		Podolepis gracilis (Slender Podolepis)			
1070.		Podotheca angustifolia (Sticky Longheads)			
1071.		Podotheca chrysantha (Yellow Podotheca)			
1072.		Podotheca gnaphalioides (Golden Long-heads)			
1073.		Pollexfenia pedicellata  Polygogap manapolioneis (Appual Roardgrass)	V		
1074. 1075.		Polypogon monspeliensis (Annual Beardgrass) Polypogon tenellus	Y		
1075.		Poranthera microphylla (Small Poranthera)			
1077.		Potamogeton ochreatus (Blunt Pondweed)			
1078.		Prasophyllum drummondii (Swamp Leek Orchid)			
1079.		Prasophyllum hians (Yawning Leek Orchid)			
1080.		Prasophyllum plumiforme			
1081.	27195	Pterocladia lucida			
1082.	27196	Pterocladia rectangularis			
					********







	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
1083.	15426	Pterostylis aspera			
1084.		Pterostylis vittata (Banded Greenhood)			
1085.		Ptilotus drummondii (Narrowleaf Mulla Mulla)			
1086.		Ptilotus drummondii var. drummondii (Pussytail)			
1087.		Ptilotus polystachyus (Prince of Wales Feather)			
1088. 1089.		Pultenaea reticulata  Quinetia urvillei			
1000.		Reichardia tingitana (False Sowthistle)	Y		
1091.		Rhagodia baccata subsp. baccata	·		
1092.		Rhagodia baccata subsp. dioica (Sea Berry Saltbush)			
1093.		Rhamnus alaternus (Buckthorn)	Υ		
1094.	1556	Romulea rosea (Guildford Grass)	Υ		
1095.	3066	Rorippa nasturtium-aquaticum (Watercress)	Υ		
1096.	10970	Rostraria cristata	Υ		
1097.	2433	Rumex crispus (Curled Dock)	Υ		
1098.	116	Ruppia polycarpa			
1099.	40431	Rytidosperma acerosum			
1100.	30434	Salsola australis			
1101.		Samolus junceus			
1102.		Samolus repens (Creeping Brookweed)			
1103.		Samolus repens var. paucifolius			
1104.		Sansevieria trifasciata	Y		Y
1105.		Sarcocornia quinqueflora (Beaded Samphire)			
1106.		Sarconema filiforme	.,		
1107.		Scabiosa atropurpurea (Purple Pincushion)	Y		
1108.		Scaevola anchusifolia			
1109. 1110.		Scaevola canescens (Grey Scaevola)			
1110.		Scaevola crassifolia (Thick-leaved Fan-flower) Scaevola nitida (Shining Fanflower)			
1112.		Scaevola phlebopetala (Velvet Fanflower)			
1113.		Scaevola repens var. repens			
1114.		Schinus terebinthifolius	Υ		
1115.		Schoenolaena juncea	,		
1116.		Schoenoplectus validus (Lake Club-rush)			
1117.		Schoenus asperocarpus (Poison Sedge)			
1118.		Schoenus brevisetis			
1119.	982	Schoenus clandestinus			
1120.	984	Schoenus curvifolius			
1121.	986	Schoenus efoliatus			
1122.	994	Schoenus humilis			
1123.	1004	Schoenus nitens (Shiny Bog-rush)			
1124.	1007	Schoenus pedicellatus			
1125.		Schoenus subbulbosus			
1126.		Schoenus tenellus			
1127.		Scholtzia involucrata (Spiked Scholtzia)			
1128.		Secale cereale (Rye)	Y		
1129.		Selaginella gracillima (Tiny Clubmoss)			
1130.		Sematophyllum homomallum			
1131. 1132.		Senecio condylus Senecio pinnatifolius			
1132.		Senecio prinationals Senecio vulgaris (Common Groundsel)	Υ		
1133.		Shepleya claviformis	1		Υ
1135.		Silene gallica (French Catchfly)	Υ		
1136.		Siloxerus filifolius	1		
1137.		Siloxerus humifusus (Procumbent Siloxerus)			
1138.		Sisymbrium orientale (Indian Hedge Mustard)	Υ		
1139.	7020	Solanum linnaeanum (Apple of Sodom)	Υ		
1140.	7022	Solanum nigrum (Black Berry Nightshade)	Υ		
1141.	7037	Solanum symonii			
1142.	8228	Solidago canadensis (Goldenrod)	Υ		
1143.	9367	Sonchus hydrophilus (Native Sowthistle)			
1144.	8231	Sonchus oleraceus (Common Sowthistle)	Υ		
1145.		Sowerbaea laxiflora (Purple Tassels)			
1146.		Spergula arvensis (Corn Spurry)	Υ		
1147.		Sphaerolobium calcicola		P3	
1148.		Sporobolus virginicus (Marine Couch)			
	4828	Spyridium globulosum (Basket Bush)			
1149.		Otallaria madia (Ohialamad)	**		
1150.	2918	Stellaria media (Chickweed)	Y		
	2918 20397	Stellaria media (Chickweed) Stellaria pallida Stenopetalum gracile	Y Y		

Department of Parks and Wildlife





	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
1153.	636	Stenotaphrum secundatum (Buffalo Grass)	Υ		
1154.	2316	Stirlingia latifolia (Blueboy)			
1155.		Stuckenia pectinata			
1156.		Stylidium brunonianum (Pink Fountain Triggerplant)			
1157.		Stylidium carcarum (Book Triggerplant)			
1158. 1159.		Stylidium carnosum (Fleshy-leaved Triggerplant) Stylidium divaricatum (Daddy-long-legs)			
1160.		Stylidium ireneae		P4	
1161.		Stylidium longitubum (Jumping Jacks)		P3	
1162.		Stylidium piliferum (Common Butterfly Triggerplant)			
1163.	7785	Stylidium repens (Matted Triggerplant)			
1164.	7790	Stylidium roseoalatum (Pink-wing Triggerplant)			
1165.	7798	Stylidium schoenoides (Cow Kicks)			
1166.		Stylidium sp. Darling Range (H. Bowler 371)			
1167.		Stylidium utricularioides (Pink Fan Triggerplant)			
1168.		Stypandra glauca (Blind Grass)			
1169. 1170.		Synaphea polymorpha (Albany Synaphea, Pinda) Synaphea sp. Serpentine (G.R. Brand 103)		Т	
1170.		Synaphea spinulosa		'	
1172.		Synaphea spinulosa subsp. spinulosa			
1173.		Tamarix aphylla (Athel Tree)	Υ		
1174.		Taxandria linearifolia			
1175.	4256	Templetonia retusa (Cockies Tongues)			
1176.	2791	Tersonia cyathiflora (Button Creeper)			
1177.		Tetragonia decumbens (Sea Spinach)	Υ		
1178.		Tetraria octandra			
1179.		Thelymitra fuscolutea (Chestnut Sun Orchid)			
1180. 1181.		Thelymitra macrophylla Thelymitra musida (Plum Orabid)			
1182.		Thelymitra mucida (Plum Orchid) Thelymitra vulgaris			
1183.		Thelymitra xanthotricha			
1184.		Thomasia cognata			
1185.		Thomasia glutinosa var. latifolia			
1186.	1319	Thysanotus arenarius			
1187.	1338	Thysanotus manglesianus (Fringed Lily)			
1188.		Thysanotus multiflorus (Many-flowered Fringe Lily)			
1189.		Thysanotus patersonii			
1190.		Thysanotus sparteus			
1191. 1192.		Thysanotus thyrsoideus Tortula muralis			
1193.		Trachyandra divaricata	Υ		
1194.		Trachymene coerulea (Blue Lace Flower)	,		
1195.		Trachymene coerulea subsp. coerulea			
1196.	6280	Trachymene pilosa (Native Parsnip)			
1197.	1481	Tribonanthes australis			
1198.	4383	Tribulus terrestris (Caltrop)	Υ		
1199.		Trichocline spathulata (Native Gerbera)			
1200.		Tricoryne elatior (Yellow Autumn Lily)			
1201.		Tricoryne tenella  Trifalium apquetifalium var apquetifalium	V		
1202. 1203.		Trifolium angustifolium var. angustifolium  Trifolium campestre (Hop Clover)	Y Y		
1203.		Trifolium dubium (Suckling Clover)  Trifolium dubium (Suckling Clover)	Y		
1205.		Trifolium glomeratum (Cluster Clover)	Y		
1206.		Trifolium scabrum (Rough Clover)	Y		
1207.	4313	Trifolium subterraneum (Subterranean Clover)	Υ		
1208.	147	Triglochin mucronata			
1209.		Triglochin striata			
1210.		Triticum aestivum (Wheat)	Υ		
1211.		Trymalium ledifolium var. ledifolium			
1212.		Typha orientalis (Pulrush Cumhunai)	V		
1213. 1214.		Typha orientalis (Bulrush, Cumbungi)  Ursinia anthemoides (Ursinia)	Y Y		
1214.		Ursinia anthemoides (Ursinia) Ursinia anthemoides subsp. anthemoides	Y		
1215.		Vellereophyton dealbatum (White Cudweed)	Y		
1217.		Verbascum virgatum (Twiggy Mullein)	Y		
1218.		Veronica persica (Creeping Speedwell)	Y		
1219.		Vulpia bromoides (Squirrel Tail Fescue)	Υ		
1220.	724	Vulpia myuros (Rat's Tail Fescue)	Υ		
1221.		Vulpia myuros forma megalura	Υ		
1222.	33101	Vulpia myuros forma myuros	Y		





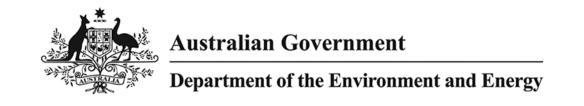


	Name ID	Species Name	Naturalised	Conservation Code	<sup>1</sup> Endemic To Query Area
1223.	8282	Waitzia suaveolens (Fragrant Waitzia)			
1224.	6658	Wilsonia backhousei (Narrow-leaf Wilsonia)			
1225.	27369	Wrangelia velutina			
1226.	1394	Wurmbea dioica (Early Nancy)			
1227.	12072	Wurmbea dioica subsp. alba			
1228.	1398	Wurmbea monantha			
1229.	1256	Xanthorrhoea preissii (Grass tree, Palga)			
1230.	6289	Xanthosia huegelii			
1231.	2331	Xylomelum occidentale (Woody Pear, Djandin)			
1232.	1049	Zantedeschia aethiopica (Arum Lily)	Υ		
1233.	36218	Zygodon menziesii			
Protozoa					
1234.	38964	Arcyria cinerea			
1235.	38967	Arcyria incarnata			
1236.	39048	Lycogala epidendrum			
1237.	39071	Physarum luteolum			Υ
1238.	39079	Physarum viride			
1239.	39085	Stemonitis lignicola			
1240.	39087	Stemonitis splendens			
1241.	39097	Trichia decipiens			

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 2
4 - Priority 4
5 - Priority 5



<sup>&</sup>lt;sup>1</sup> For NatureMap's purposes, species flagged as endemic are those whose records are wholely 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.



# **EPBC Act Protected Matters Report**

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

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

Information is available about <u>Environment Assessments</u> and the EPBC Act including significance guidelines, forms and application process details.

Report created: 30/01/17 16:15:32

**Summary** 

**Details** 

**Matters of NES** 

Other Matters Protected by the EPBC Act

**Extra Information** 

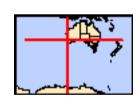
Caveat

**Acknowledgements** 



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Coordinates
Buffer: 10.0Km



## **Summary**

## Matters of National Environmental Significance

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

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	3
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	52
Listed Migratory Species:	50

## Other Matters Protected by the EPBC Act

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

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

A <u>permit</u> may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	2
Commonwealth Heritage Places:	None
Listed Marine Species:	81
Whales and Other Cetaceans:	13
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

### **Extra Information**

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

State and Territory Reserves:	6
Regional Forest Agreements:	None
Invasive Species:	38
Nationally Important Wetlands:	2
Key Ecological Features (Marine)	None

## **Details**

Calyptorhynchus latirostris

Carnaby's Cockatoo, Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo [59523]

## Matters of National Environmental Significance

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

Listed Threatened Ecological Communities		[ Resource Information ]
For threatened ecological communities where the distributions, State vegetation maps, remote sensing imagery community distributions are less well known, existing vegetation maps.	and other sources. Where	threatened ecological
Name	Status	Type of Presence
Banksia Woodlands of the Swan Coastal Plain	Endangered	Community likely to occur within area
Claypans of the Swan Coastal Plain	Critically Endangered	Community likely to occur within area
Corymbia calophylla - Kingia australis woodlands on heavy soils of the Swan Coastal Plain	Endangered	Community known to occur within area
Corymbia calophylla - Xanthorrhoea preissii woodlands and shrublands of the Swan Coastal Plain	Endangered	Community known to occur within area
Sedgelands in Holocene dune swales of the southern Swan Coastal Plain	Endangered	Community known to occur within area
Thrombolite (microbial) community of coastal freshwater lakes of the Swan Coastal Plain (Lake Richmond)	Endangered	Community known to occur within area
Listed Threatened Species		[ Resource Information ]
Name	Status	Type of Presence
Birds		
Anous tenuirostris melanops		
Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Botaurus poiciloptilus		
Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris canutus		
Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calyptorhynchus banksii naso		
Forest Red-tailed Black-Cockatoo, Karrak [67034]	Vulnerable	Species or species habitat known to occur within area
Calyptorhynchus baudinii		
Baudin's Cockatoo, Baudin's Black-Cockatoo, Long-billed Black-Cockatoo [769]	Vulnerable	Roosting known to occur within area

Endangered

Species or species habitat known to occur within area

Name	Status	Type of Presence
Diomedea amsterdamensis		<b>7</b> 1
Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
<u>Diomedea dabbenena</u>		
Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto)		
Southern Royal Albatross [1072]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<u>Diomedea exulans (sensu lato)</u> Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related
Diomedea sanfordi	Vulliciable	behaviour likely to occur within area
Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related
Halobaena caerulea	<b>C</b>	behaviour likely to occur within area
Blue Petrel [1059]	Vulnerable	Species or species habitat
Leipoa ocellata		may occur within area
Malleefowl [934]	Vulnerable	Species or species habitat
		likely to occur within area
Limosa lapponica baueri		
Bar-tailed Godwit (baueri), Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri		
Northern Siberian Bar-tailed Godwit, Bar-tailed Godwit (menzbieri) [86432]	Critically Endangered	Species or species habitat may occur within area
Macronectes giganteus		
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pachyptila turtur subantarctica		
Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat likely to occur within area
Pterodroma mollis Soft plumaged Detrol [1026]	\/ulpanabla	Opening or appelled by the
Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Dainted Spine [77037]	Endonesis	Opening on an arise to the first
Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Forgaina fooding or related
Australian Fairy Tern [82950]	vuirierable	Foraging, feeding or related behaviour known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related
Thalassarche cauta cauta		behaviour may occur within area
	Vulnerable	Foraging, feeding or related
		behaviour likely to occur within area

Name	Status	Type of Presence
Thalassarche cauta steadi		71
White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Bettongia penicillata Brush-tailed Bettong, Woylie [213]	Endangered	Species or species habitat likely to occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Neophoca cinerea  Australian Sea-lion, Australian Sea Lion [22]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Pseudocheirus occidentalis Western Ringtail Possum, Ngwayir, Womp, Woder, Ngoor, Ngoolangit [25911]	Vulnerable	Species or species habitat likely to occur within area
Plants		
Andersonia gracilis		
Slender Andersonia [14470]	Endangered	Species or species habitat may occur within area
Caladenia huegelii King Spider-orchid, Grand Spider-orchid, Rusty Spider-orchid [7309]	Endangered	Species or species habitat known to occur within area
<u>Diuris micrantha</u> Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat known to occur within area
Diuris purdiei Purdie's Donkey-orchid [12950]	Endangered	Species or species habitat likely to occur within area
Drakaea elastica Glossy-leafed Hammer Orchid, Glossy-leaved Hammer Orchid, Warty Hammer Orchid [16753]	Endangered	Species or species habitat likely to occur within area
<u>Drakaea micrantha</u> Dwarf Hammer-orchid [56755]	Vulnerable	Species or species habitat likely to occur within area
Eleocharis keigheryi Keighery's Eleocharis [64893]	Vulnerable	Species or species habitat may occur within area
Eucalyptus x balanites Cadda Road Mallee, Cadda Mallee [87816]	Endangered	Species or species habitat likely to occur within area

Name	Status	Type of Presence	
Lepidosperma rostratum  Beaked Lepidosperma [14152]	Endangered	Species or species habitat likely to occur within area	
Synaphea stenoloba  Dwellingup Synaphea [66311]	Endangered	Species or species habitat may occur within area	
Reptiles			
Caretta caretta  Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour known to occur within area	
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	
Dermochelys coriacea  Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area	
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	
Sharks			
Carcharias taurus (west coast population) Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat known to occur within area	
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area	
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area	
Listed Migratory Species  [ Resource Information ]  * Species is listed under a different scientific name on the EPBC Act - Threatened Species list.			
Name	Threatened	Type of Presence	
Migratory Marine Birds Anous stolidus			
Common Noddy [825]		Species or species habitat may occur within area	
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	
<u>Diomedea amsterdamensis</u> Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area	
<u>Diomedea dabbenena</u> Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area	
Diomedea epomophora (sensu stricto) Southern Royal Albatross [1072]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	
Diomedea exulans (sensu lato) Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	

Name	Threatened	Type of Presence
Macronectes giganteus		
Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Sterna anaethetus Bridled Tern [814]		Foraging, feeding or related behaviour likely to occur within area
Sterna caspia Caspian Tern [59467]		Foraging, feeding or related behaviour known to occur within area
Sterna dougallii Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area
The less arche cauta (sensu stricto)  Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat known to occur within area
Caretta caretta Loggerhead Turtle [1763]  Chelonia mydas	Endangered	Foraging, feeding or related behaviour known to occur within area
Green Turtle [1765]  Dermochelys coriacea	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area

Name	Threatened	Type of Presence
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
<u>Lagenorhynchus obscurus</u> Dusky Dolphin [43]		Species or species habitat may occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Manta alfredi Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray [84994]		Species or species habitat may occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Migratory Terrestrial Species  Motacilla cinerea  Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]  Migratory Wetlands Species		•
Motacilla cinerea Grey Wagtail [642]		•
Motacilla cinerea Grey Wagtail [642]  Migratory Wetlands Species Calidris acuminata	Endangered	may occur within area  Species or species habitat
Motacilla cinerea Grey Wagtail [642]  Migratory Wetlands Species Calidris acuminata Sharp-tailed Sandpiper [874]  Calidris canutus	Endangered  Critically Endangered	Species or species habitat known to occur within area  Species or species habitat
Motacilla cinerea Grey Wagtail [642]  Migratory Wetlands Species Calidris acuminata Sharp-tailed Sandpiper [874]  Calidris canutus Red Knot, Knot [855]  Calidris ferruginea		Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]  Migratory Wetlands Species Calidris acuminata Sharp-tailed Sandpiper [874]  Calidris canutus Red Knot, Knot [855]  Calidris ferruginea Curlew Sandpiper [856]		Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]  Migratory Wetlands Species Calidris acuminata Sharp-tailed Sandpiper [874]  Calidris canutus Red Knot, Knot [855]  Calidris ferruginea Curlew Sandpiper [856]  Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area
Motacilla cinerea Grey Wagtail [642]  Migratory Wetlands Species Calidris acuminata Sharp-tailed Sandpiper [874]  Calidris canutus Red Knot, Knot [855]  Calidris ferruginea Curlew Sandpiper [856]  Calidris melanotos Pectoral Sandpiper [858]  Calidris ruficollis Red-necked Stint [860]		Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area  Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Limosa limosa	Tilloatorioa	Type of Trescribe
Black-tailed Godwit [845]		Species or species habitat known to occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pandion haliaetus		
Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax		
Ruff (Reeve) [850]		Species or species habitat known to occur within area
Tringa glareola		
Wood Sandpiper [829]		Species or species habitat known to occur within area
Tringa nebularia		
Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis		
Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area

## Other Matters Protected by the EPBC Act

## Commonwealth Land [Resource Information]

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

### Name

Calidris acuminata

Sharp-tailed Sandpiper [874]

Commonwealth Land - Defence - ROCKINGHAM - NAVY CPSO		
Listed Marine Species  * Species is listed under a different scientific name		·
Name Birds	Threatened	Type of Presence
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area

Species or species habitat known to occur within area

Name	Threatened	Type of Presence
<u>Calidris canutus</u>		
Red Knot, Knot [855]	Endangered	Species or species habitat known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
<u>Calidris melanotos</u>		
Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis		
Red-necked Stint [860]		Species or species habitat known to occur within area
<u>Calidris subminuta</u>		
Long-toed Stint [861]		Species or species habitat known to occur within area
Catharacta skua		
Great Skua [59472]		Species or species habitat may occur within area
Charadrius dubius		
Little Ringed Plover [896]		Species or species habitat known to occur within area
Charadrius ruficapillus		
Red-capped Plover [881]		Species or species habitat known to occur within area
Diomedea amsterdamensis		
Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
<u>Diomedea dabbenena</u>		
Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto)		
Southern Royal Albatross [1072]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
<u>Diomedea exulans (sensu lato)</u> Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related
	vuirierable	behaviour likely to occur within area
<u>Diomedea sanfordi</u>	Endangered	Earaging fooding or related
Northern Royal Albatross [64456]	Lituarigered	Foraging, feeding or related behaviour likely to occur within area
Haliaeetus leucogaster		On a standard and the bit of
White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea		
Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Himantopus himantopus		
Black-winged Stilt [870]		Species or species habitat known to occur within area
Larus pacificus		
Pacific Gull [811]		Foraging, feeding or related behaviour may occur within area
Limosa lapponica		Opening on an action Later to
Bar-tailed Godwit [844]		Species or species habitat known to occur within area

Name	Threatened	Type of Presence
Limosa limosa		<b>31</b>
Black-tailed Godwit [845]		Species or species habitat known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat likely to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Philomachus pugnax Ruff (Reeve) [850]		Species or species habitat known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Species or species habitat may occur within area
Puffinus assimilis Little Shearwater [59363]		Foraging, feeding or related behaviour known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Red-necked Avocet [871]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area
Sterna anaethetus Bridled Tern [814]		Foraging, feeding or related behaviour likely to occur within area
Sterna caspia Caspian Tern [59467]		Foraging, feeding or related behaviour known to occur within area
Sterna dougallii Roseate Tern [817]		Foraging, feeding or related behaviour likely to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Foraging, feeding or related behaviour may occur within area

Name	Threatened	Type of Presence
Thalassarche cauta (sensu stricto) Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
<u>Thalassarche impavida</u> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thinornis rubricollis Hooded Plover [59510]		Species or species habitat known to occur within area
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat known to occur within area
Tringa stagnatilis  Marsh Sandpiper, Little Greenshank [833]		Species or species habitat known to occur within area
Fish		
Acentronura australe Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
Campichthys galei Gale's Pipefish [66191]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Hippocampus subelongatus West Australian Seahorse [66722]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
<u>Lissocampus caudalis</u> Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area
<u>Lissocampus fatiloquus</u> Prophet's Pipefish [66250]		Species or species habitat may occur within area
<u>Lissocampus runa</u> Javelin Pipefish [66251]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Maroubra perserrata		
Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Mitotichthys meraculus		
Western Crested Pipefish [66259]		Species or species habitat may occur within area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris		
Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Stigmatopora olivacea		
a pipefish [74966]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer		
Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus possilolasmus		
Vanacampus poecilolaemus  Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri		
Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Neophoca cinerea Australian Sea Lion [22]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Reptiles		
Chalania mydas	Endangered	Foraging, feeding or related behaviour known to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known

Name	Threatened	Type of Presence
		to occur within area
Dermochelys coriacea  Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
<u>Disteira kingii</u>		
Spectacled Seasnake [1123]		Species or species habitat may occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Whales and other Cetaceans		[ Resource Information ]
Name	Status	Type of Presence
Mammals  Palagneters souterestrate		
Balaenoptera acutorostrata  Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
<u>Lagenorhynchus obscurus</u> Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Congregation or aggregation known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str.  Bottlenose Dolphin [68417]		Species or species habitat may occur within area

## **Extra Information**

State and Territory Reserves	[ Resource Information ]
Name	State
Leda	WA
Port Kennedy Scientific Park	WA
Unnamed WA43903	WA
Unnamed WA44004	WA
Unnamed WA48968	WA
Unnamed WA51658	WA
Invasive Species	[ Resource Information ]

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

Name	Status	Type of Presence
Birds		
Acridotheres tristis		
Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Anas platyrhynchos		
Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis		
European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia		
Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus		
House Sparrow [405]		Species or species habitat likely to occur within area
Passer montanus		
Eurasian Tree Sparrow [406]		Species or species habitat likely to occur within area
Streptopelia chinensis		
Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Streptopelia senegalensis		
Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
Sturnus vulgaris		
Common Starling [389]		Species or species

Name	Status	Type of Presence habitat likely to occur within
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus		
Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Funambulus pennantii Northern Palm Squirrel, Five-striped Palm Squirrel [129]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus norvegicus Brown Rat, Norway Rat [83]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Asparagus asparagoides Bridal Creeper, Bridal Veil Creeper, Smilax, Florist's Smilax, Smilax Asparagus [22473]		Species or species habitat likely to occur within area
Brachiaria mutica Para Grass [5879]		Species or species habitat may occur within area
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat may occur within area
Chrysanthemoides monilifera Bitou Bush, Boneseed [18983]		Species or species habitat may occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Genista linifolia Flax-leaved Broom, Mediterranean Broom, Flax Bro [2800]	om	Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126	6]	Species or species habitat likely to occur within area

Name	Status Type	of Presence
Genista sp. X Genista monspessulana	•	
Broom [67538]	•	ies or species habitat
	may	occur within area
Lantana camara		
Lantana, Common Lantana, Kamara Lantana, Large	s- Spec	eies or species habitat
leaf Lantana, Pink Flowered Lantana, Red Flowered	likely	to occur within area
Lantana, Red-Flowered Sage, White Sage, Wild Sag	ge	
[10892] Lycium ferocissimum		
African Boxthorn, Boxthorn [19235]	Spec	ies or species habitat
	•	to occur within area
Olog gurango		
Olea europaea Olive, Common Olive [9160]	Sneo	ies or species habitat
Onve, Common Onve [9100]	•	occur within area
Opuntia spp.		
Prickly Pears [82753]	•	ies or species habitat to occur within area
	likely	to occur within area
Pinus radiata		
Radiata Pine Monterey Pine, Insignis Pine, Wilding	•	ies or species habitat
Pine [20780]	may	occur within area
Rubus fruticosus aggregate		
Blackberry, European Blackberry [68406]	Spec	ies or species habitat
	likely	to occur within area
Salix spp. except S.babylonica, S.x calodendron & S	S.x reichardtii	
Willows except Weeping Willow, Pussy Willow and		ies or species habitat
Sterile Pussy Willow [68497]	•	to occur within area
Salvinia molesta		
Salvinia, Giant Salvinia, Aquarium Watermoss, Karik	na Sneo	ies or species habitat
Weed [13665]	•	to occur within area
	•	
Solanum elaeagnifolium	0	San an ann a San Ibali Stat
Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed,	•	ties or species habitat to occur within area
White Nightshade, Bull-nettle, Prairie-berry,	incry	to occar within area
Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle,		
Trompillo [12323]		
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk,	Sneo	ies or species habitat
Athel Tamarix, Desert Tamarisk, Flowering Cypress	•	to occur within area
Salt Cedar [16018]	· •	
Reptiles		
Hemidactylus frenatus	Cn an	ios or angaios habitat
Asian House Gecko [1708]	•	ties or species habitat to occur within area
	intory	is oosa. Willing alou
Nationally Important Wetlands	[D	esource Information ]
Name	State	
Becher Point Wetlands	WA	
Spectacles Swamp	\V\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	

WA

Spectacles Swamp

## Caveat

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

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

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

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

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

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

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

- migratory and
- marine

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

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

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

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

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

## Coordinates

-32.297192 115.797556,-32.297156 115.797513,-32.297119 115.797727,-32.29799 115.798242,-32.298389 115.800174,-32.299477 115.800131,-32.299513 115.804851,-32.300529 115.804808,-32.300457 115.797384,-32.297192 115.797556

## 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:

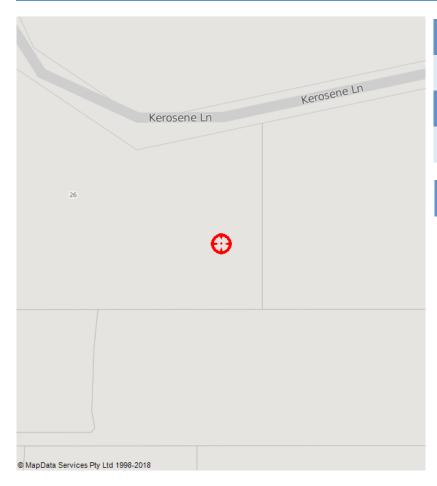
- -Office of Environment and Heritage, New South Wales
- -Department of Environment and Primary Industries, Victoria
- -Department of Primary Industries, Parks, Water and Environment, Tasmania
- -Department of Environment, Water and Natural Resources, South Australia
- -Department of Land and Resource 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.



LOT 309 ON PLAN 403825



**Depth to Groundwater** 15.0 metres **Depth of Water** 21.0 metres

#### **Depths**

#### Depth from ground level to:

Water table: 15.0 m

36.0 m Base of Aquifer:

#### Levels relative to AHD (~sea level):

Natural Surface: 16.0 m

Water table: 1.0 m

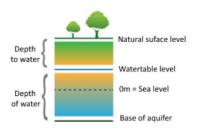
-20.0 m Base of Aquifer:

Water Quality	
Groundwater Salinity:	1000-1500
Surface Geology Type:	Tamala Limestone: predominantly calcarenite Qpck
Iron Staining Risk:	Low risk
Garden Bore Suitability:	Suitable
Acid Sulfate Class:	No known risk
Public Drinking Water Source Areas (PDWSA):	N/A

**User Comments:**The following comments were entered by the user

Estimates may fluctuate between 0.5 and 3m due to seasonal variation. Under normal circumstances, a garden bore will be drilled to a depth 10m below the water table. Add 10m to the depth-to-groundwater to estimate the drilling depth. Groundwater level contours are estimated based on recorded groundwater levels measured in May of 2003 (end of summer). Changes in groundwater and natural surface levels can occur over time, and it should be clearly understood that the Department of Water is not in a position to guarantee the accuracy of the data.

The data is not suitable for calculating the depth of water bodies such as rivers or lakes.



For further information, contact the Department of Water Information Line on (08) 6364 6505 or email: wir@water.wa.gov.au

#### **Groundwater Salinity**

The salinity of the groundwater below the Perth metropolitan area varies considerably. In general, areas underlain by sand or limestone will have access to groundwater with a quality that is suitable for watering household gardens.

 Fresh
 0-500 mg/L

 Marginal
 501-1000 mg/L

 Brackish
 1001-3000 mg/L

 Saline
 over 3000 mg/L

#### **Surface Geology Type**

Derived from 250k Geology dataset re-classified based on groundwater significance, it is comprised of Tertiary to Quaternary sediments of the Safety Bay Sand, Becher Sand, Tamala Limestone, Bassendean Sand, Gnangara Sand, Guildford Clay, Yoganup Formation and Ascot Formation. It consists of up to 90m sequences of sand, limestone, silt and clay. Similar to the Superficial formations of the Northern Perth Basin, the sand and limestone occurs at the coast, the Bassendean Sand and Gnangara Sands in the central Swan Coastal Plain, and clayey deposits of the Guildford Formation further east at the foot of the Darling and Gingin Scarps. The Gnangara Mound north of the Swan River and the Jandakot Mound south of the Canning River are the main flow systems. There are smaller flow systems such as the Safety Bay, Stake Hill, Swan Helena, Cloverdale, Armadale, Byford and Serpentine mounds in the centre and south.

#### Iron Staining Risk

Many areas across the Perth metropolitan area are affected by surface staining from groundwater. The map does not include all locations that may have iron staining potential, and as soil strata are highly variable, bores should be checked to confirm the status of local iron staining risk.

The Iron Staining Risk theme is divided into two categories:

- High risk: Areas having an elevated iron / manganese staining risk.
- Low risk: Areas low in iron concentration, away from past or present wetlands with neutral to alkaline pH.

#### Garden Bore Suitability

The Garden Bore Suitability risk has been assessed as one of two classes:

- Suitable: Use of groundwater for domestic irrigation supported in preference to scheme water.
- Unsuitable: Additional domestic garden bores not supported as water quantity or quality may not be appropriate

To view the Departments policy on Garden Bores, see https://www.water.wa.gov.au/ data/assets/pdf file/0014/1706/99735.pdf

#### **Acid Sulfate Class**

The disturbance risk has been assessed as one of three classes:

- Class 1: High risk of Acid Sulfate Soils occurring within 3m of natural soil surface.
- Class 2: Moderate risk of Acid Sulfate Soils occurring within 3m of natural soil surface
- Class 3: Low risk of Acid Sulfate Soils occurring within 3m of natural surface.

#### **Public Drinking Water**

Perth relies heavily upon groundwater resources to provide drinking water to consumers. Accordingly, specific areas are identified for protection in legislation to ensure that Perth can continue to receive safe, good quality drinking water to protect public health for now and into the future at a reasonable cost to consumers.

- Priority 1 (P1) areas are defined and managed to ensure there is no degradation of the quality of the drinking water source with the objective of risk avoidance.
- Priority 2 (P2) areas are defined and managed to maintain or improve the quality of the drinking water source with the objective of risk minimisation.
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- Not assigned. Priority areas have not yet been assigned to this source.
- N/A. Not in a public drinking water source area.

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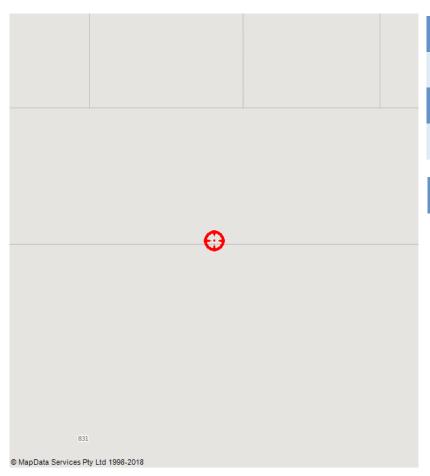
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The material in this report may include views of third parties which do not necessarily reflect the views of the Department of Water



LOT 302 ON PLAN 74994



**Depth to Groundwater** 6.5 metres **Depth of Water** 21.0 metres

#### **Depths**

#### Depth from ground level to:

Water table: 6.5 m

27.5 m Base of Aquifer:

#### Levels relative to AHD (~sea level):

7.5 m Natural Surface:

Water table: 1.0 m

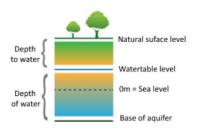
-20.0 m Base of Aquifer:

Water Quality	
Groundwater Salinity:	1000-1500
Surface Geology Type:	Tamala Limestone: predominantly calcarenite Qpck
Iron Staining Risk:	Low risk
Garden Bore Suitability:	Suitable
Acid Sulfate Class:	No known risk
Public Drinking Water Source Areas (PDWSA):	N/A

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 Fresh
 0-500 mg/L

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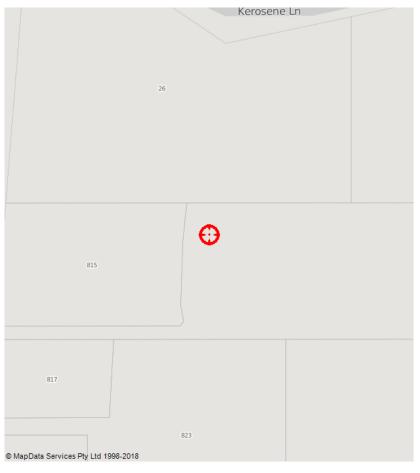
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LOT 302 ON PLAN 74994



Depth to Groundwater

19.2 metres

Depth of Water

21.0 metres

#### **Depths**

#### Depth from ground level to:

Water table: 19.2 m

Base of Aquifer: 40.2 m

#### Levels relative to AHD (~sea level):

Natural Surface: 20.2 m

Water table: 1.0 m

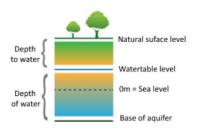
Base of Aquifer: -20.0 m

Water Quality	
Groundwater Salinity:	1000-1500
Surface Geology Type:	Tamala Limestone: predominantly calcarenite Qpck
Iron Staining Risk:	Low risk
Garden Bore Suitability:	Suitable
Acid Sulfate Class:	No known risk
Public Drinking Water Source Areas (PDWSA):	N/A

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- Not assigned. Priority areas have not yet been assigned to this source.
- N/A. Not in a public drinking water source area.

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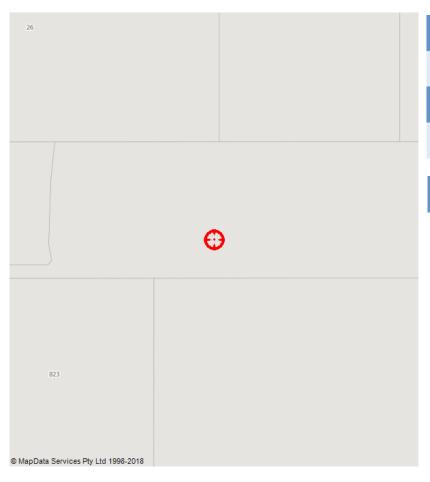
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#### LOT 302 ON PLAN 74994



**Depth to Groundwater** 16.5 metres **Depth of Water** 21.0 metres

#### **Depths**

#### Depth from ground level to:

Water table: 16.5 m

37.5 m Base of Aquifer:

#### Levels relative to AHD (~sea level):

Natural Surface: 17.5 m

Water table: 1.0 m

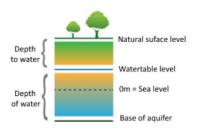
-20.0 m Base of Aquifer:

Water Quality	
Groundwater Salinity:	1000-1500
Surface Geology Type:	Tamala Limestone: predominantly calcarenite Qpck
Iron Staining Risk:	Low risk
Garden Bore Suitability:	Suitable
Acid Sulfate Class:	No known risk
Public Drinking Water Source Areas (PDWSA):	N/A

**User Comments:**The following comments were entered by the user

Estimates may fluctuate between 0.5 and 3m due to seasonal variation. Under normal circumstances, a garden bore will be drilled to a depth 10m below the water table. Add 10m to the depth-to-groundwater to estimate the drilling depth. Groundwater level contours are estimated based on recorded groundwater levels measured in May of 2003 (end of summer). Changes in groundwater and natural surface levels can occur over time, and it should be clearly understood that the Department of Water is not in a position to guarantee the accuracy of the data.

The data is not suitable for calculating the depth of water bodies such as rivers or lakes.



For further information, contact the Department of Water Information Line on (08) 6364 6505 or email: wir@water.wa.gov.au

#### **Groundwater Salinity**

The salinity of the groundwater below the Perth metropolitan area varies considerably. In general, areas underlain by sand or limestone will have access to groundwater with a quality that is suitable for watering household gardens.

 Fresh
 0-500 mg/L

 Marginal
 501-1000 mg/L

 Brackish
 1001-3000 mg/L

 Saline
 over 3000 mg/L

#### **Surface Geology Type**

Derived from 250k Geology dataset re-classified based on groundwater significance, it is comprised of Tertiary to Quaternary sediments of the Safety Bay Sand, Becher Sand, Tamala Limestone, Bassendean Sand, Gnangara Sand, Guildford Clay, Yoganup Formation and Ascot Formation. It consists of up to 90m sequences of sand, limestone, silt and clay. Similar to the Superficial formations of the Northern Perth Basin, the sand and limestone occurs at the coast, the Bassendean Sand and Gnangara Sands in the central Swan Coastal Plain, and clayey deposits of the Guildford Formation further east at the foot of the Darling and Gingin Scarps. The Gnangara Mound north of the Swan River and the Jandakot Mound south of the Canning River are the main flow systems. There are smaller flow systems such as the Safety Bay, Stake Hill, Swan Helena, Cloverdale, Armadale, Byford and Serpentine mounds in the centre and south.

#### Iron Staining Risk

Many areas across the Perth metropolitan area are affected by surface staining from groundwater. The map does not include all locations that may have iron staining potential, and as soil strata are highly variable, bores should be checked to confirm the status of local iron staining risk.

The Iron Staining Risk theme is divided into two categories:

- High risk: Areas having an elevated iron / manganese staining risk.
- Low risk: Areas low in iron concentration, away from past or present wetlands with neutral to alkaline pH.

#### **Garden Bore Suitability**

The Garden Bore Suitability risk has been assessed as one of two classes:

- Suitable: Use of groundwater for domestic irrigation supported in preference to scheme water.
- Unsuitable: Additional domestic garden bores not supported as water quantity or quality may not be appropriate

To view the Departments policy on Garden Bores, see https://www.water.wa.gov.au/ data/assets/pdf file/0014/1706/99735.pdf

#### **Acid Sulfate Class**

The disturbance risk has been assessed as one of three classes:

- Class 1: High risk of Acid Sulfate Soils occurring within 3m of natural soil surface.
- Class 2: Moderate risk of Acid Sulfate Soils occurring within 3m of natural soil surface
- Class 3: Low risk of Acid Sulfate Soils occurring within 3m of natural surface.

#### **Public Drinking Water**

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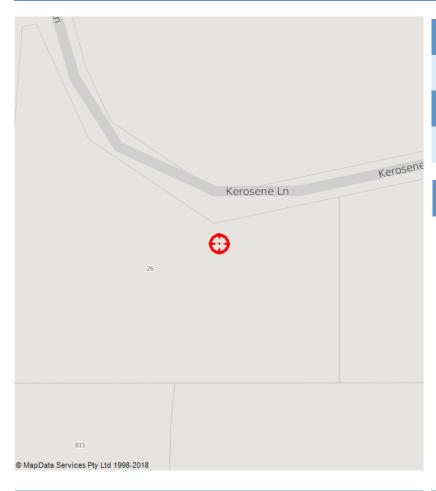
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LOT 309 ON PLAN 403825



**Depth to Groundwater** 19.3 metres **Depth of Water** 21.0 metres

#### **Depths**

#### Depth from ground level to:

Water table: 19.3 m

40.3 m Base of Aquifer:

#### Levels relative to AHD (~sea level):

Natural Surface: 20.3 m

Water table: 1.0 m

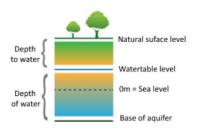
-20.0 m Base of Aquifer:

Water Quality	
Groundwater Salinity:	1000-1500
Surface Geology Type:	Tamala Limestone: predominantly calcarenite Qpck
Iron Staining Risk:	Low risk
Garden Bore Suitability:	Suitable
Acid Sulfate Class:	No known risk
Public Drinking Water Source Areas (PDWSA):	N/A

**User Comments:**The following comments were entered by the user

Estimates may fluctuate between 0.5 and 3m due to seasonal variation. Under normal circumstances, a garden bore will be drilled to a depth 10m below the water table. Add 10m to the depth-to-groundwater to estimate the drilling depth. Groundwater level contours are estimated based on recorded groundwater levels measured in May of 2003 (end of summer). Changes in groundwater and natural surface levels can occur over time, and it should be clearly understood that the Department of Water is not in a position to guarantee the accuracy of the data.

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 Fresh
 0-500 mg/L

 Marginal
 501-1000 mg/L

 Brackish
 1001-3000 mg/L

 Saline
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#### **Surface Geology Type**

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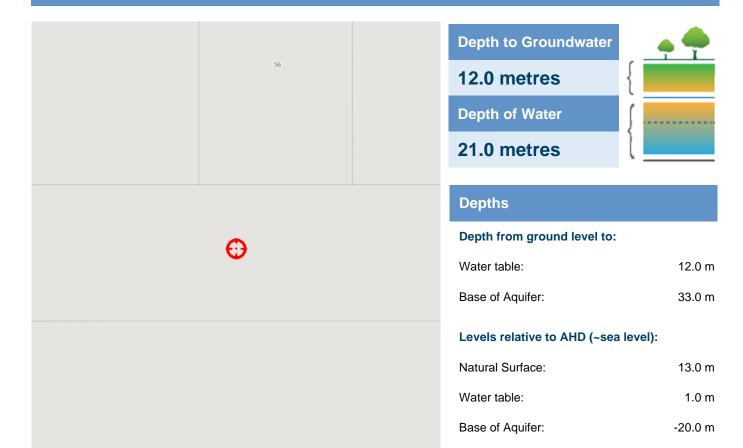
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LOT 302 ON PLAN 74994



Water Quality	
Groundwater Salinity:	1000-1500
Surface Geology Type:	Tamala Limestone: predominantly calcarenite Qpck
Iron Staining Risk:	Low risk
Garden Bore Suitability:	Suitable
Acid Sulfate Class:	No known risk
Public Drinking Water Source Areas (PDWSA):	N/A

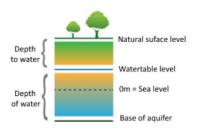
# Generated from Groundwater Map

**User Comments:**The following comments were entered by the user

@ MapData Services Pty Ltd 1998-2018

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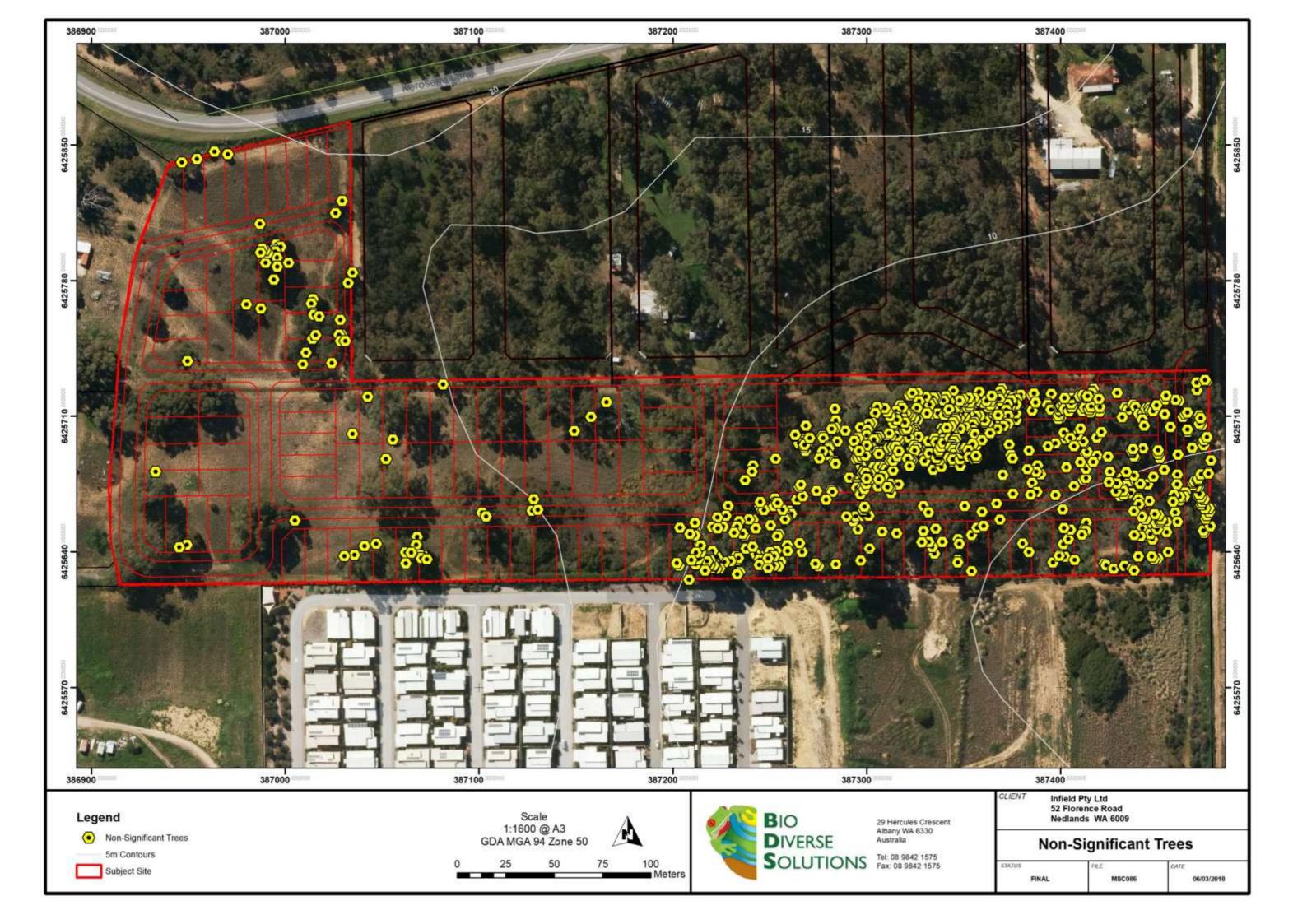
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## **APPENDIX F: Non-significant trees Mapping**

Trees that where >10cm but <50cm DBH where recorded within the subject site.

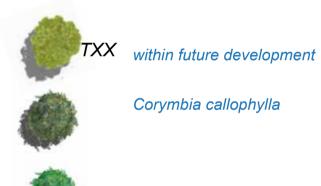


## APPENDIX G: Kerosene Lane POS Concept Landscaping Plan

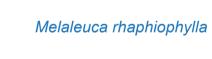
# Key

- Existing trees and vegetation retained where possible and further supplemented with local
- Drainage basin planted with native reeds and sedges. (By others)
- 3 Paved picnic area and seating
- Decorative concrete paving
- Stairs down to POS from pathway above
- 6 Grassed drainage swale with max batters of 1:6
- Drainage outlet from underground storage tanks Limestone retaining walls, with planted garden
- 9 Parallel parking car bays (7)
- 10 Disabled access parking bay
- 11 Underground storage tanks









# Plant list

## Trees

Atriplex cinerea Banksia blechnifolia Bossiaea ornata Callitris preisii Calothamnus villosus Carbobrotus virescens Conostylis candicans Correa alba Correa pulchella

Corymbia maculata Damperia linearis Dianella revoluta Dichondra repens Eremophila glabra

Gastrolobium capitatum Gompholobium scabrum Grevillea crithmifolia Hardenbergia comptoniana Hardenbergia comptoniana Hemiandra pungens Hypocalymma robustum Kennedia prostrata Kennedia prostrata Kennedia prostrata Leucophyta brownii Melaleuca lanceolata Melaleuca lateritia Melaleuca seriata Melaleuca trichophylla Myoporum parvifolium Olearia axillaris Pericalymma ellipticum

Philotheca spicata Pimelea ferruginea Scaevola albida Scaevola crassifolia Templetonia retusa Verticordia acerosa Verticordia plumosa Zygophyllium billardieri Philotheca spicata Pimelea ferruginea Scaevola albida Scaevola crassifolia Templetonia retusa Verticordia acerosa Verticordia plumosa Zygophyllium billardieri

## Allocasuarina fraseriana Banksia menziesii Brachychiton populensis

Brachychiton X rosea Corymbia calophylla Eucalyptus decipiens Eucalyptus marginata Eucalyptus rudis Eucalyptus spathulata Eucalyptus todtiana Melaleuca rhaphiophylla

> Festuca glauca Ficinia nodosa

Shrubs and groundcovers

Anigozanthos manglesii

## Notes

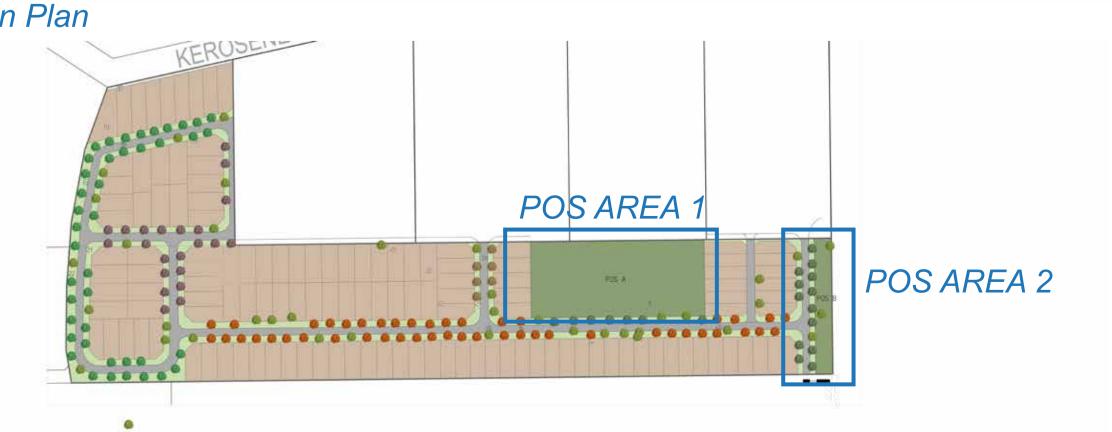
- Final plant selections for POS areas and street trees to be done in accordance with the City of Rockingham's preferred species list.
- Garden beds and turf areas prepared to the City of Rockingham'
- Park furniture and concrete paving installed to the City of Rockingham'
- All garden and turf areas to be irrigated by bore.

# **FOLIUM** LANDSCAPE ARCHITECTURE Mark Jumeaux Registered Landscape Architect AILA 1990

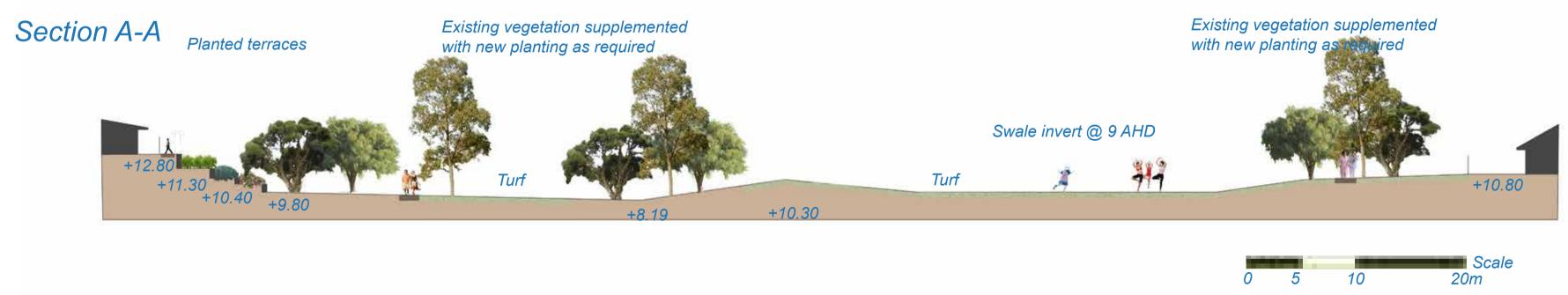
Prepared 23 March 2018

mark@foliumlandscape.com

0413 305 591







Location Plan

