

LOT 9005 ROCK CLIFF  
CIRCLE, DENMARK

## Vegetation Communities Survey



Kathryn Kinnear

Bio Diverse Solutions

19/04/2016



**BIO  
DIVERSE  
SOLUTIONS**



### **Contact details**

Bio Diverse Solutions  
55 Peppermint Drive  
Albany WA 6330  
08 9841 3936/ 0447555516  
[www.biodiversesolutions.com.au](http://www.biodiversesolutions.com.au)  
ABN 48 138 824 272

### REVISION RECORD

Revision	Summary	Revised By	Date
DRAFT ID	INTERNAL REVIEW	QA K.BAIN	18/4/2016
FINAL ID	ISSUED TO CLIENT	K.KINNEAR	19/4/2016

**Copyright © Bio Diverse Solutions, April 2016**

### ***Disclaimer***

*This document may only be used for the purposes for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised copy or use of this document in for whatsoever is prohibited. Any representation, statement, opinion and advice expressed or implied in this document is made in good faith, and on the basis that Bio Diverse Solutions is not liable for any damage or losses whatsoever which may occur as a result of action taken or not taken (as the case may be) in respect of any representation, statement, opinion of advice referred herein.*

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>4</b>
1.1	SITE LOCATION.....	4
1.2	SCOPE OF WORK .....	4
1.3	GEOLOGY, GEOMORPHOLOGY AND SOILS .....	5
1.4	REGIONAL CONTEXT .....	5
<b>2</b>	<b>VEGETATION AND FLORA .....</b>	<b>6</b>
2.1	SURVEY METHODS .....	6
2.2	FLORA SURVEY OUTCOMES.....	7
2.3	VEGETATION UNITS .....	10
2.3.1	<i>Agonis Woodland</i> .....	10
2.3.2	<i>Banksia Woodland</i> .....	11
2.3.3	<i>Bullich-Yate Woodland</i> .....	12
2.3.4	<i>Coastal Scrub</i> .....	13
2.3.5	<i>Karri Forest</i> .....	14
2.3.6	<i>Open Heath</i> .....	15
2.3.7	<i>Sedgeland</i> .....	16
2.3.8	<i>Sessilis Thicket</i> .....	17
2.3.9	<i>Taxandria Woodland</i> .....	18
2.3.10	<i>Tree Mallee</i> .....	19
2.3.11	<i>Vegetation Mapping</i> .....	20
2.4	VEGETATION CONDITION .....	22
2.5	WEEDS .....	23
2.5	DISEASE .....	24
<b>3</b>	<b>SUMMARY .....</b>	<b>25</b>
<b>4</b>	<b>REFERENCES .....</b>	<b>26</b>
<b>5</b>	<b>APPENDICES .....</b>	<b>27</b>
APPENDIX A:	FLORA AND FAUNA SPECIES IDENTIFIED WITHIN 5 KM OF SURVEY AREA THROUGH NATURE MAP .....	27
APPENDIX B:	DEFINITIONS OF CONSERVATION CODES.....	48
APPENDIX C:	STRUCTURAL CLASSIFICATION USED FOR VEGETATION MAPPING (KEIGHERY 1994) .....	49
APPENDIX D:	CRITERIA USED IN THE ENVIRONMENTAL WEED STRATEGY FOR WESTERN AUSTRALIA.....	50

# 1 INTRODUCTION

## 1.1 Site location

The survey area is located approximately 10 km south east of Denmark on the Nullaki Peninsula, within the City of Albany municipality. This survey and report relate to 770 ha of area that is proposed for a conservation covenant. The area is located within a predator proof fence that has been constructed at the cost of the proponent. To the south of the survey area are sheer cliffs adjacent to the Southern Ocean. To the east is reserve 17464 vested in the City of Albany and associated with the Nullaki campsite and Lake Sadie. To the north and west are vegetated blocks that form part of the rockcliffe circle subdivision. These lots abut Eden Road and the Wilson Inlet further north.



Figure 1: Location of the survey area

## 1.2 Scope of work

Bio Diverse Solutions was commissioned by Graeme Robertson to undertake broad vegetation mapping, assessment of vegetation condition, weed mapping and disease mapping across the survey area. A broad survey consistent with level 1 vegetation survey methodology (EPA Guidance Statement 51: *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004) was undertaken of the subject site.

### 1.3 Geology, geomorphology and soils

The topography of most of the survey area is dominated by a gently undulating plain sloping to the coast with numerous small drainage lines. The coastal fringe is dominated by coastal dune systems, limestone headlands and cliffs (Churchward *et al.* 1988).

Geologically the area is underlain by Proterozoic rocks including granites and metamorphic gneiss of the Albany Fraser Province which are exposed as hills to 360 meters high along the coastal and near coastal fringe (Muhling and Brakel 1985). Along the coastal fringe the Quaternary sediments of the Tamala Limestone may be present and are overlain by dunes systems.

### 1.4 Regional context

The survey area lies within the Southwest Botanical Province and forms part of the Southwest Australian Biodiversity Hotspot, one of 34 internationally recognised biodiversity hotspots (Myers *et al.* 2000). It occurs in the eastern portion of the Warren Interim Bio-geographic Regional Area (IBRA), which runs along the coast from just south of Yallingup to south of the Princess Royal Harbour near Albany (IBRA 2012).

The Warren bioregion is described as a combination of hills, plateaux and plains and features four main soil types including loamy soils supporting karri forest; red laterites supporting jarrah-marri forests; leached sandy soils in depressions and as plains supporting low jarrah woodlands and paperbark/sedge swamps, and; holocene marine dunes supporting *Agonis flexuosa* thickets, *Banksia* woodlands and heaths (McKenzie *et al.* 2002).

Notable values of this bioregion include tall forests (karri, jarrah and tingle), which provide a refuge for relictual invertebrates; barren limestone areas with underground drainage systems (karst regions) that support an endemic invertebrate fauna; peat or organic wetland systems that support relictual populations of aquatic invertebrates; mound-forming microbial associations in the west of the region; and a highly endemic flora and fauna, especially in plant groups such as Myrtaceae, Rutaceae, Proteaceae, Papilionaceae, Restionaceae, Stylidiaceae and Sterculiaceae (McKenzie *et al.* 2002).

Gondwanan invertebrate fauna include: the Tingle *Bertmainius* trapdoor spider and Torndirrup's *Austrarchaea mainae* spider, *Dardarus sp.* millipede, *Cynotelopus notabilis* pill millipede and velvet worms. A number of notable critical weight range mammals also persist in the region, including the quokka, southern brown bandicoot, chuditch and brush-tailed phascogale.

The eastern limit of the bio region marks the transition zone from the more mesic forested south west of Western Australia to the drier interior and eastern coastal areas that are vegetated by mallee, woodland and shrubland associations.

## 2 VEGETATION AND FLORA

The vegetation of the area has been mapped on a broad landscape scale by Beard (1979). This mapping forms part of a state wide mapping and vegetation classification system based on geographic, geological, soil, climate, structure, life form and vegetation characteristics. Vegetation units were regarded as associations and were grouped into Vegetation Systems representing a particular pattern of association distribution within a given area. Beard (1979) recognised one vegetation system within the survey area, the Torndirrup system, and two vegetation associations including: shrubland/ mixed heath in the southern portion of the survey area and shrublands/ *Acacia* scrub-heath in the northern part of the survey area.

### 2.1 Survey methods

Desktop inventory of flora species likely to occur within 5km of the survey area was undertaken using the following databases:

- Nature Map Database Search (combined data from DPaW, WA Museum and WA Herbarium) (DPaW 2016 Appendix A);
- 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 includes very old records and in some cases the species in question may have become locally or regionally extinct.

The conservation significance of flora species was 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.

Karlen Bain (BSc MSc PhD), a botanist from Bio Diverse Solutions undertook vegetation type and condition mapping on 6 April 2016. The survey area was traversed by vehicle and on foot. The vegetation was assessed in detail using longitudinal transects that strategically targeted the range of diverse ecotypes present onsite, as identified using aerial photographs and visual observation. Flora species were systematically recorded and collections of plant specimens were made where further identification was required. Threatened species were not specifically targeted during survey work, but were included in species lists where they were encountered. Vegetation communities were mapped in the field using GPS and aerial photographs. Aerial photography was used to extrapolate vegetation communities and condition ratings across portions of the survey area that could not be physically accessed. Vegetation types were categorised based on dominant species' and structure, using structural classification according to Keighery (1994) (Appendix C).

## 2.2 Flora survey outcomes

During the field survey 112 species, consisting of 39 families and 70 genera were found. The most common families were Fabaceae, Cyperaceae, Proteaceae, Myrtaceae and Ericaceae. This list includes 103 native species (Table 1) and nine introduced species (Table 3). Two species of priority flora were found within the survey area including: *Banksia sessilis var cordata* (Priority 2) and *Billardiera drummondii* (Priority 4).

See Appendix B for definitions of the conservation codes.

**Table 1: Native flora species recorded within survey area**

Family	Species	Common Name
Aizoaceae	<i>Carpobrotus sp.</i>	Pigface
Anarthriaceae	<i>Anarthria prolifera</i>	
Anarthriaceae	<i>Lyginia barbata</i>	
Anarthriaceae	<i>Lyginia imberbis</i>	
Apiaceae	<i>Platysace compressa</i>	Tapeworm Plant
Araliaceae	<i>Trachymene pilosa</i>	
Asparagaceae	<i>Chamaescilla corymbosa</i>	Blue Squill
Asparagaceae	<i>Lomandra pauciflora</i>	
Asteraceae	<i>Olearia axillaris</i>	Coastal Daisybush
Asteraceae	<i>Sonchus oleraceus</i>	Common Sowthistle
Casuarinaceae	<i>Allocasuarina humilis</i>	Dwarf Sheoak
Chenopodiaceae	<i>Rhagodia baccata subsp. baccata</i>	Coastal Salt Bush
Colchicaceae	<i>Burchardia multiflora</i>	Dwarf Burchardia
Cyperaceae	<i>Baumea juncea</i>	Bare Twigrush
Cyperaceae	<i>Cyathochaeta avenacea</i>	
Cyperaceae	<i>Cyathochaeta equitans</i>	
Cyperaceae	<i>Ficinia nodosa</i>	Knotted Club Rush
Cyperaceae	<i>Gahnia decomposita</i>	
Cyperaceae	<i>Gahnia trifida</i>	Coast Saw-sedge
Cyperaceae	<i>Lepidosperma effusum</i>	Spreading Sword-sedge)
Cyperaceae	<i>Lepidosperma gladiatum</i>	Coast Sword-sedge
Cyperaceae	<i>Lepidosperma gracile</i>	Slender Sword Sedge
Cyperaceae	<i>Lepidosperma squamatum</i>	
Cyperaceae	<i>Mesomelaena graciliceps</i>	
Cyperaceae	<i>Mesomelaena tetragona</i>	Semaphore Sedge
Cyperaceae	<i>Tetraria octandra</i>	
Dennstaedtiaceae	<i>Pteridium esculentum</i>	Bracken
Dilleniaceae	<i>Hibbertia cuneiformis</i>	Cutleaf Hibbertia
Dilleniaceae	<i>Hibbertia furfuracea</i>	
Dilleniaceae	<i>Hibbertia racemosa</i>	Stalked Guinea Flower
Droseraceae	<i>Drosera erythroyne</i>	

**Table 1 continued: Native flora species recorded within survey area**

Family	Species	Common Name
Droseraceae	<i>Drosera erythrogynae</i>	
Elaeocarpaceae	<i>Tremandra stelligera</i>	
Ericaceae	<i>Andersonia caerulea</i>	Foxtails
Ericaceae	<i>Leucopogon obovatus</i>	
Ericaceae	<i>Leucopogon parviflorus</i>	Coast Beard-heath
Ericaceae	<i>Leucopogon propinquus</i>	
Ericaceae	<i>Lysinema ciliatum</i>	Curry Flower
Fabaceae	<i>Acacia alata</i> var. <i>alata</i>	Winged Wattle
Fabaceae	<i>Acacia cyclops</i>	Coastal Wattle
Fabaceae	<i>Acacia littoralis</i>	Shark's Tooth
Fabaceae	<i>Acacia pentadenia</i>	
Fabaceae	<i>Acacia pulchella</i>	Prickly Moses
Fabaceae	<i>Bossiaea linophylla</i>	
Fabaceae	<i>Callistachys lanceolata</i>	
Fabaceae	<i>Chorizema ilicifolium</i>	Holly Flame Pea
Fabaceae	<i>Gompholobium confertum</i>	
Fabaceae	<i>Hovea elliptica</i>	Tree Hovea
Fabaceae	<i>Jacksonia horrida</i>	
Fabaceae	<i>Pultenaea reticulata</i>	
Goodeniaceae	<i>Dampiera hederacea</i>	Karri Dampiera
Goodeniaceae	<i>Scaevola microphylla</i>	Small-leaved Scaevola
Goodeniaceae	<i>Scaevola nitida</i>	Shining Fanflower
Goodeniaceae	<i>Velleia trinervis</i>	
Gyrostemonaceae	<i>Gyrostemon sheathii</i>	
Haemodoraceae	<i>Anigozanthos flavidus</i>	Tall Kangaroo Paw
Haemodoraceae	<i>Conostylis aculeata</i> subsp. <i>aculeata</i>	
Hemerocallidaceae	<i>Johnsonia lupulina</i>	Hooded Lily
Lauraceae	<i>Cassytha racemosa</i>	Dodder Laurel
Menyanthaceae	<i>Ornduffia parnassifolia</i>	
Myrtaceae	<i>Agonis flexuosa</i>	Peppermint
Myrtaceae	<i>Agonis theiformis</i>	
Myrtaceae	<i>Eucalyptus angulosa</i>	Ridge-fruited Mallee
Myrtaceae	<i>Eucalyptus cornuta</i>	Yate
Myrtaceae	<i>Eucalyptus diversicolor</i>	Karri
Myrtaceae	<i>Eucalyptus marginata</i> subsp. <i>marginata</i>	Jarrah
Myrtaceae	<i>Eucalyptus megacarpa</i>	Bullich
Myrtaceae	<i>Taxandria juniperina</i>	
Myrtaceae	<i>Taxandria parviceps</i>	
Olacaceae	<i>Olax phyllanthi</i>	
Pittosporaceae	<i>Billardiera drummondii</i> (P4)	
Pittosporaceae	<i>Billardiera variifolia</i>	



**Table 1 continued: Native flora species recorded within survey area**

Family	Species	Common Name
Poaceae	<i>Microlaena stipoides</i>	Weeping Grass
Poaceae	<i>Tetrarrhena laevis</i>	Forrest Ricegrass
Polygalaceae	<i>Comesperma confertum</i>	
Polygonaceae	<i>Muehlenbeckia adpressa</i>	Climbing Lignum
Polygonaceae	<i>Persicaria capitata</i>	
Proteaceae	<i>Adenanthos cuneatus</i>	Coastal Jugflower
Proteaceae	<i>Banksia attenuata</i>	Slender Banksia
Proteaceae	<i>Banksia grandis</i>	Bull Banksia
Proteaceae	<i>Banksia littoralis</i>	Swamp Banksia
Proteaceae	<i>Banksia sessilis var cordata (P2)</i>	Parrot Bush
Proteaceae	<i>Hakea prostrata</i>	Harsh Hakea
Proteaceae	<i>Hakea ruscifolia</i>	Candle-spike Hakea
Proteaceae	<i>Hakea varia</i>	Variable Leaved Hakea
Proteaceae	<i>Synaphea sp</i>	
Ranunculaceae	<i>Clematis pubescens</i>	Common Clematis
Restionaceae	<i>Desmocladus flexuosus</i>	
Restionaceae	<i>Hypolaena exsulca</i>	
Restionaceae	<i>Leptocarpus tenax</i>	Slender Twine Rush
Restionaceae	<i>Loxocarya cinerea</i>	
Rhamnaceae	<i>Spyridium globulosum</i>	Basket Bush
Rhamnaceae	<i>Trymalium odoratissimum</i>	
Rubiaceae	<i>Opercularia hispidula</i>	Hispid Stinkweed
Rubiaceae	<i>Opercularia vaginata</i>	Dog Weed
Rutaceae	<i>Boronia crenulata</i>	Aniseed Boronia
Rutaceae	<i>Crowea angustifolia var. angustifolia</i>	
Santalaceae	<i>Exocarpos sparteus</i>	Broom Ballart
Solanaceae	<i>Anthocercis littorea</i>	Yellow Tailflower
Thymelaeaceae	<i>Pimelea clavata</i>	
Thymelaeaceae	<i>Pimelea rosea subsp. rosea</i>	Coastal Banjine
Xanthorrhoeaceae	<i>Xanthorrhoea gracilis</i>	
Xanthorrhoeaceae	<i>Xanthorrhoea preissii</i>	Grass Tree
Zamiaceae	<i>Macrozamia reidlei</i>	Zamia

## 2.3 Vegetation units

Ten vegetation types were identified within the survey area. These are described in the following pages and mapped in Figure 2.

### 2.3.1 *Agonis* Woodland

Description: Occurs in protected swales and adjacent to drainage lines. Dominated by tall *Agonis flexuosa* with the occasional *Eucalyptus cornuta* and tending towards *Agonis* thickets or *Banksia* woodland on the fringes. Midstorey is often dominated by large *Banksia attenuata* or *Banksia grandis*. Understorey is a diverse mix of species, many of which are in common with the open heath vegetation unit, however in the woodland, these species are taller. In addition, species such as *Taxandria parviceps* and *Pultenaea reticulata* are more dominant here.

Floristic Summary:

Lifeform	Species
Trees	<i>Agonis flexuosa</i> and <i>Eucalyptus cornuta</i>
Trees <10m	<i>Banksia attenuata</i> and <i>Banksia grandis</i>
Shrubs >2m	<i>Acacia cyclops</i> and <i>Pultenaea reticulata</i>
Shrubs 1-2m	<i>Adenanthos cuneatus</i> , <i>Allocasuarina humilis</i> , <i>Jacksonia horrida</i> , <i>Taxandria parviceps</i> , <i>Hakea prostrata</i> , <i>Spyridium globulosum</i> , <i>Crocea angustifolia</i> var. <i>angustifolia</i> , <i>Xanthorrhoea preissii</i> and <i>Macrozamia reidleyi</i>
Shrubs 0.5-1m	<i>Hibbertia cuneiformis</i> , <i>Hibbertia racemose</i> , <i>Leucopogon parviflorus</i> , <i>Leucopogon propinquus</i> and <i>Anigozanthos flavidus</i>
Shrubs <0.5m	<i>Lysinema ciliatum</i> , <i>Comesperma confertum</i> , <i>Synaphea</i> sp, <i>Boronia crenulata</i> and <i>Xanthorrhoea gracilis</i>
Sedges and rushes	<i>Anarthria prolifera</i> , <i>Cyathochaeta avenacea</i> and <i>Lepidosperma squamatum</i>
Herbs and grasses	<i>Platysace compressa</i> , <i>Lomandra pauciflora</i> , <i>Drosera erythrogynae</i> <i>Muehlenbeckia adpressa</i> and <i>Opercularia hispidula</i>



### 2.3.2 *Banksia* Woodland

Description: Occurs on lower slopes. The overstorey consists of a canopy of large, mature *Banksia littoralis*, with *Banksia attenuata* co-dominant in some areas and occasional *Eucalyptus marginata* subsp. *marginata*. The understorey consists of an open heath over a low shrubland and sedgeland. Common understorey species include *Jacksonia horrida*, *Pultenaea reticulata*, *Adenanthos cuneatus*, *Leucopogon obovatus*, *Acacia pulchella*, *Hibbertia racemosa*, *Anarthria scabra*, *Anarthria prolifera*, *Lyginia barbata*, *Cyathochaeta equitans*, *Lepidosperma squamatum*, *Mesomelaena graciliceps* and *Desmocladius flexuosus*.

Floristic Summary:

Lifeform	Species
Trees <10m	<i>Banksia littoralis</i> , <i>Banksia attenuata</i> and <i>Eucalyptus marginata</i> subsp. <i>marginata</i>
Shrubs 1-2m	<i>Jacksonia horrida</i> , <i>Pultenaea reticulata</i> , <i>Adenanthos cuneatus</i> , <i>Leucopogon obovatus</i> , <i>Leucopogon parviflorus</i> , <i>Acacia pulchella</i> , <i>Hovea elliptica</i> and <i>Spyridium globulosum</i>
Shrubs 0.5-1m	<i>Hibbertia racemosa</i> and <i>Leucopogon propinquus</i>
Sedges and rushes	<i>Anarthria scabra</i> , <i>Anarthria prolifera</i> , <i>Lyginia barbata</i> , <i>Cyathochaeta equitans</i> , <i>Lepidosperma squamatum</i> , <i>Mesomelaena graciliceps</i> , <i>Mesomelaena tetragona</i> , <i>Desmocladius flexuosus</i> and <i>Loxocarya cinerea</i>
Herbs and grasses	<i>Opercularia hispidula</i>



### 2.3.3 Bullich-Yate Woodland

Description: Occurs in protected swales, slopes, crests and flats on grey sand in the eastern portion of the survey area. The overstorey is dominated by tall (15-25 m) *Eucalyptus megacarpa* and *Eucalyptus cornuta*. The midstorey consists of *Agonis flexuosa* and *Callistachys lanceolata*. The understorey is often dense and dominated by *Bossiaea linophylla*, *Spyridium globulosum*, *Olearia axillaris*. The ground cover is dominated by *Desmocladius flexuosus* and *Anarthria prolifera*. The structure varies from open woodland with minimal midstorey, to forest with complex vertical vegetation structure.

Floristic Summary:

Lifeform	Species
Trees	<i>Eucalyptus megacarpa</i> and <i>Eucalyptus cornuta</i>
Trees <10m	<i>Agonis flexuosa</i> and <i>Callistachys lanceolata</i>
Shrubs >2m	<i>Agonis flexuosa</i> and <i>Spyridium globulosum</i>
Shrubs 1-2m	<i>Olearia axillaris</i> , <i>Bossiaea linophylla</i> , <i>Agonis flexuosa</i> and <i>Spyridium globulosum</i>
Shrubs 0.5-1m	<i>Acacia pulchella</i> , <i>Hovea elliptica</i> , <i>Pimelea clavata</i> <i>Xanthorrhoea gracilis</i> <i>Xanthorrhoea preissii</i>
Shrubs <0.5m	<i>Hibbertia cuneiformis</i> , <i>Hibbertia furfuraceae</i> , <i>Leucopogon parviflorus</i> , <i>Leucopogon propinquus</i> and <i>Lysinema ciliatum</i>
Sedges and rushes	<i>Anarthria prolifera</i> , <i>Cyathochaeta avenacea</i> , <i>Lepidosperma gracile</i> <i>Lepidosperma squamatum</i> and <i>Desmocladius flexuosus</i>
Herbs and grasses	<i>Cassytha racemosa</i> , <i>Opercularia hispidula</i> , <i>Tetrarrhena laevis</i> , <i>Muehlenbeckia adpressa</i> and <i>Billardiera drummondii</i> (P4)



### 2.3.4 Coastal Scrub

Description: Occurs in the western portion of the survey area and is characterised by dense shrubs and mallees that form a tall (1.5-3m), closed canopy. On the crests the overstorey is dominated by *Eucalyptus angulosa*, and in the more protected swales the overstorey is dominated by *Scaevola nitida* with some *Banksia sessilis* var. *cordata* (P2) in the southern areas. Other common shrubs include *Acacia littoralis*, *Leucopogon parviflorus*, *Spyridium globulosum* and *Agonis flexuosa*. Common sedges and rushes include: *Anarthria prolifera*, *Lepidosperma gladiatum*, *Desmocladius flexuosus* and *Loxocarya cinerea*.

Floristic Summary:

Lifeform	Species
Trees <10m	<i>Eucalyptus angulosa</i>
Shrubs >2m	<i>Scaevola nitida</i> , <i>Banksia sessilis</i> var. <i>cordata</i> (P2), <i>Acacia littoralis</i> , <i>Leucopogon parviflorus</i> , <i>Spyridium globulosum</i> and <i>Agonis flexuosa</i>
Shrubs 1-2m	<i>Exocarpos sparteus</i>
Shrubs 0.5-1m	<i>Olax phyllanthi</i>
Shrubs <0.5m	<i>Lysinema ciliatum</i> and <i>Conostylis aculeata</i> subsp. <i>aculeata</i>
Sedges and rushes	<i>Anarthria prolifera</i> , <i>Lepidosperma gladiatum</i> , <i>Desmocladius flexuosus</i> and <i>Loxocarya cinerea</i>
Herbs and grasses	<i>Clematis pubescens</i> and <i>Opercularia vaginata</i>



### 2.3.5 Karri Forest

Description: Occurs as an isolated pocket along the northern boundary. The overstorey is dominated by *Eucalyptus diversicolor* with *Eucalyptus cornuta* as a sub-dominant canopy species. *Agonis flexuosa*, *Acacia pentadenia*, *Callistachys lanceolata*, *Banksia attenuata* and *Trymalium odoratissimum* form an open midstorey. The understorey is dominated by *Spyridium globulosum*, *Taxandria parviceps*, *Olearia axillaris*, *Acacia alata* var. *alata*, *Bossiaea linophylla*, *Leucopogon propinquus*, *Gahnia decomposita*, *Lepidosperma effusum* and *Dampiera hederacea*.

Floristic Summary:

Lifeform	Species
Trees	<i>Eucalyptus diversicolor</i> and <i>Eucalyptus cornuta</i>
Trees <10m	<i>Agonis flexuosa</i> , <i>Acacia pentadenia</i> , <i>Callistachys lanceolata</i> , <i>Banksia attenuata</i> and <i>Trymalium odoratissimum</i>
Shrubs >2m	<i>Spyridium globulosum</i> and <i>Taxandria parviceps</i>
Shrubs 1-2m	<i>Olearia axillaris</i> , <i>Acacia alata</i> var. <i>alata</i> , <i>Acacia littorea</i> , <i>Acacia pulchella</i> , <i>Bossiaea linophylla</i> , <i>Hovea elliptica</i> and <i>Adenanthos cuneatus</i>
Shrubs 0.5-1m	<i>Leucopogon propinquus</i> , <i>Olax phyllanthi</i> , <i>Hibbertia cuneiformis</i> and <i>Tremandra stelligera</i>
Shrubs <0.5m	<i>Chorizema ilicifolium</i>
Sedges and rushes	<i>Ficinia nodosa</i> , <i>Gahnia decomposita</i> , <i>Lepidosperma effusum</i> , <i>Lepidosperma squamatum</i> and <i>Desmocladus flexuosus</i>
Herbs and grasses	<i>Johnsonia lupulina</i> , <i>Cassytha racemose</i> , <i>Dampiera hederacea</i> , <i>Opercularia hispidula</i> , <i>Billardiera variifolia</i> , <i>Microlaena stipoides</i> and <i>Clematis pubescens</i>



### 2.3.6 Open Heath

Description: Occurs in swales, flats and on crests of dunes. Where overstorey is present, it consists of low and scattered *Agonis flexuosa*, *Acacia cyclops* or *Banksia attenuata* in flats with low thickets of *Agonis flexuosa* on ridgelines and in swales. The southern areas closest to the coast have a complete absence of overstorey. The understorey consists of a diverse mix of species. Those most dominant include: *Hakea varia*, *Allocasuarina humilis*, *Jacksonia horrida*, *Pultenaea reticulata*, *Spyridium globulosum*, *Adenanthos cuneatus* and *Banksia attenuata*. A mix of sedges, herbs and grasses form the basis of the groundcover, some of which include: *Lyginia imberbis*, *Lyginia barbata*, *Lepidosperma squamatum*, *Desmocladius flexuosus*, *Hypolaena exsulca* and *Opercularia hispidula*.

Floristic Summary:

Lifeform	Species
Trees <10m	<i>Agonis flexuosa</i>
Shrubs >2m	<i>Agonis flexuosa</i> , <i>Agonis theiformis</i> , <i>Acacia cyclops</i> , <i>Spyridium globulosum</i> and <i>Hakea varia</i> .
Shrubs 1-2m	<i>Allocasuarina humilis</i> , <i>Pteridium esculentum</i> , <i>Jacksonia horrida</i> , <i>Pultenaea reticulata</i> and <i>Xanthorrhoea preissii</i>
Shrubs 0.5-1m	<i>Hibbertia cuneiformis</i> , <i>Hibbertia racemosa</i> , <i>Leucopogon obovatus</i> , <i>Leucopogon parviflorus</i> , <i>Leucopogon propinquus</i> , <i>Lysinema ciliatum</i> , <i>Pimelea clavata</i> , <i>Pimelea rosea</i> subsp. <i>rosea</i> , <i>Anigozanthos flavidus</i> , <i>Hakea prostrata</i> , <i>Adenanthos cuneatus</i> and <i>Xanthorrhoea gracilis</i>
Shrubs <0.5m	<i>Rhagodia baccata</i> subsp. <i>baccata</i> , <i>Andersonia caerulea</i> , <i>Gompholobium confertum</i> , <i>Boronia crenulata</i> and <i>Synaphea</i> sp.
Sedges and rushes	<i>Lyginia imberbis</i> , <i>Lyginia barbata</i> , <i>Lepidosperma squamatum</i> , <i>Tetraria octandra</i> , <i>Desmocladius flexuosus</i> and <i>Hypolaena exsulca</i>
Herbs and grasses	<i>Carpobrotus</i> sp., <i>Platysace compressa</i> , <i>Trachymene pilosa</i> , <i>Chamaescilla corymbosa</i> , <i>Drosera erythrogynae</i> , and <i>Opercularia hispidula</i>



### 2.3.7 Sedgeland

Description: Restricted to a single deep swale. Dominant species include: *Baumea juncea*, *Ficinia nodosa*, *Gahnia trifida*, *Lepidosperma squamatum*, *Hypolaena exsulca*, *Leptocarpus tenax* and *Typha orientalis*, *Velleia trinervis*, *Ornduffia parnassifolia*, *Muehlenbeckia adpressa*, *\*Persicaria capitata* and *Scaevola microphylla*. Some weed invasion as a result of modified drainage and roading to the east.

Floristic Summary:

Lifeform	Species
Shrubs <0.5m	<i>Scaevola microphylla</i>
Sedges and rushes	<i>Baumea juncea</i> , <i>Ficinia nodosa</i> , <i>Gahnia trifida</i> , <i>Lepidosperma squamatum</i> , <i>Hypolaena exsulca</i> , <i>Leptocarpus tenax</i> and <i>Typha orientalis</i>
Herbs and grasses	<i>*Conyza bonariensis</i> , <i>*Hypochaeris glabra</i> , <i>*Hypochaeris radicata</i> , <i>*Sonchus oleraceus</i> , <i>Burchardia multiflora</i> , <i>*Pelargonium capitatum</i> , <i>Velleia trinervis</i> , <i>Ornduffia parnassifolia</i> , <i>*Ehrharta longiflora</i> , <i>*Cynodon dactylon</i> , <i>Muehlenbeckia adpressa</i> , <i>*Anagallis arvensis var. arvensis</i> , <i>*Persicaria capitata</i> and <i>*Solanum nigrum</i>





### 2.3.8 *Sessilis Thicket*

Description: Occurs on coastal dunes with a southerly aspect in the southern portion of the survey area. Tall shrub layer (2-4m) dominated by *Banksia sessilis* var. *cordata* (P2) over a dense sedge layer dominated by *Lepidosperma gladiatum*.

Floristic Summary:

Lifeform	Species
Shrubs >2m	<i>Olearia axillaris</i> , <i>Scaevola nitida</i> , <i>Spyridium globulosum</i> and <i>Exocarpos sparteus</i>
Sedges and rushes	<i>Lepidosperma gladiatum</i> , <i>Desmocladius flexuosus</i> and <i>Loxocarya cinerea</i>

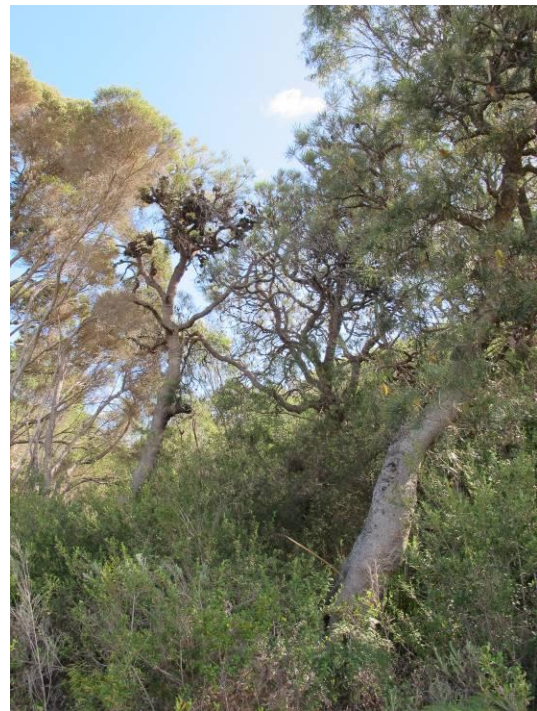


### 2.3.9 Taxandria Woodland

Description: A single occurrence on the eastern boundary associated with a minor drainage line. Open woodland with an overstorey dominated by *Taxandria juniperina* with sparse *Agonis flexuosa* and *Callistachys lanceolata* as sub-dominants. Understorey is dominated by *Olearia axillaris*, *Spyridium globulosum* and *Pteridium esculentum*.

Floristic Summary:

Lifeform	Species
Trees	<i>Taxandria juniperina</i>
Trees <10m	<i>Agonis flexuosa</i> , <i>Taxandria juniperina</i> and <i>Banksia littoralis</i>
Shrubs 1-2m	<i>Olearia axillaris</i> and <i>Spyridium globulosum</i>
Shrubs 0.5-1m	<i>Pteridium esculentum</i> and <i>Leucopogon propinquus</i>
Shrubs <0.5m	<i>Hibbertia furfuraceae</i>
Sedges and rushes	<i>Leptocarpus tenax</i>



### 2.3.10 Tree Mallee

Description: Occurs on slopes and in protected swales within the coastal scrub vegetation in the western portion of the survey area. The mallees form a tall (5-15 m) closed woodland dominated by *Eucalyptus angulosa*. *Banksia sessilis* var. *cordata* (P2) is a common co-dominant or sub-dominant canopy species. The understory is dominated by *Spyridium globulosum*, *Acacia littoralis*, *Lepidosperma gladiatum*, *Desmocladius flexuosus* and *Loxocarya cinerea*.

Floristic Summary:

Lifeform	Species
Trees <10m	<i>Eucalyptus angulosa</i>
Shrubs >2m	<i>Scaevola nitida</i> , <i>Banksia sessilis</i> var. <i>cordata</i> (P2), <i>Acacia littoralis</i> , <i>Leucopogon parviflorus</i> , <i>Spyridium globulosum</i> and <i>Agonis flexuosa</i>
Shrubs 1-2m	<i>Exocarpos sparteus</i>
Shrubs 0.5-1m	<i>Olax phyllanthi</i>
Shrubs <0.5m	<i>Lysinema ciliatum</i> and <i>Conostylis aculeata</i> subsp. <i>aculeata</i>
Sedges and rushes	<i>Anarthria prolifera</i> , <i>Lepidosperma gladiatum</i> , <i>Desmocladius flexuosus</i> and <i>Loxocarya cinerea</i>
Herbs and grasses	<i>Clematis pubescens</i> and <i>Opercularia vaginata</i>



2.3.11 Vegetation Mapping

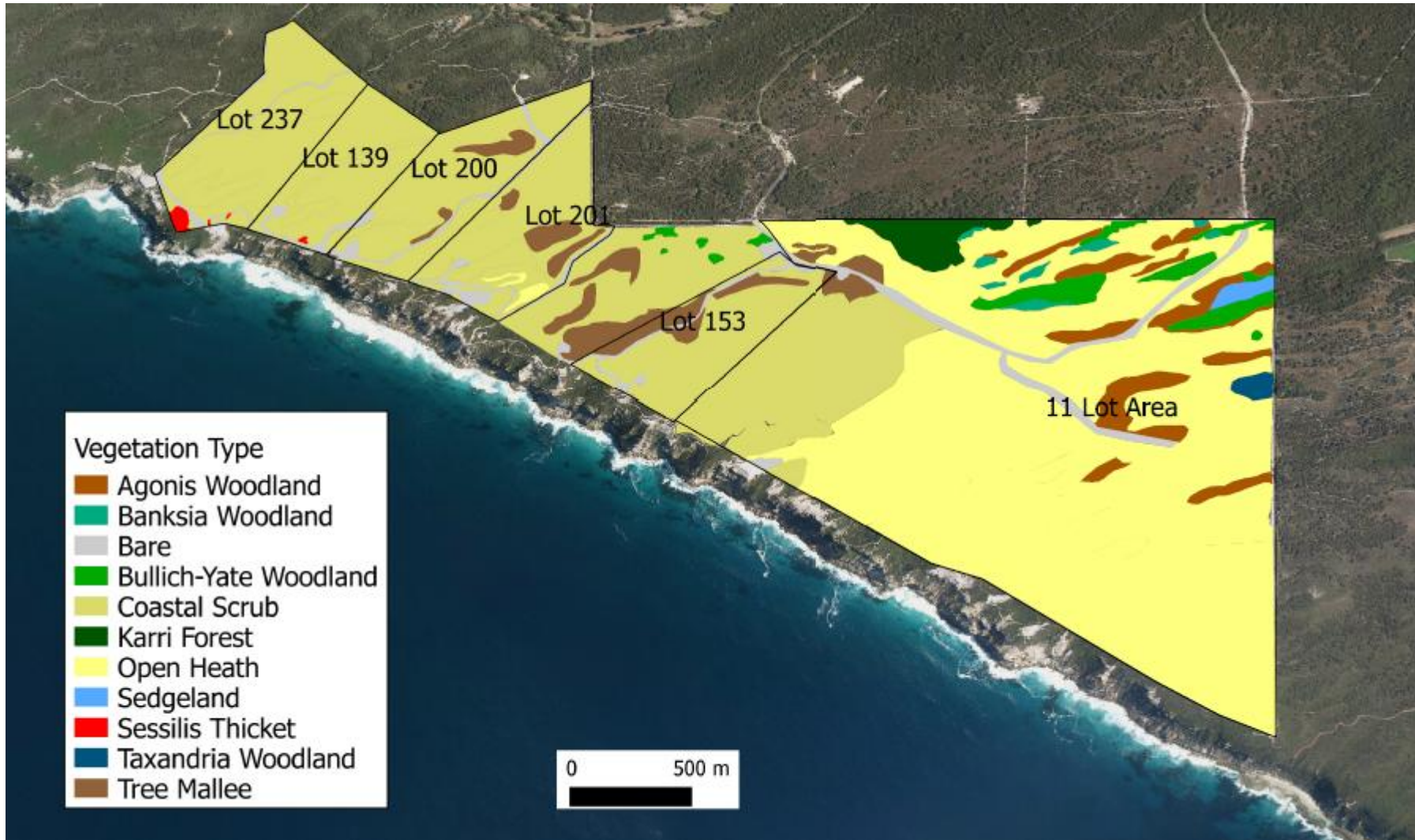


Figure 2: Vegetation units mapped within survey area

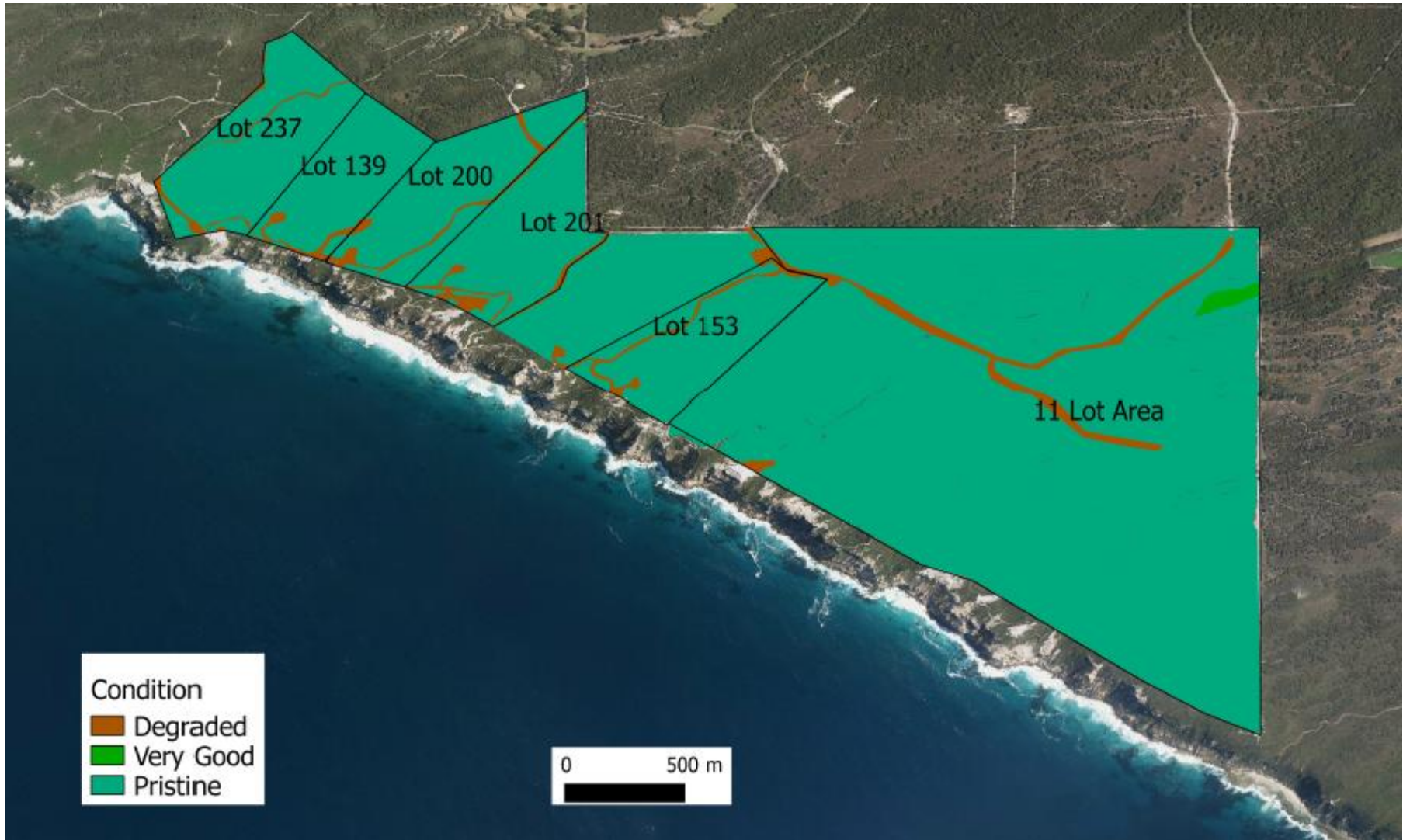


Figure 3: Vegetation condition mapped within survey area

## 2.4 Vegetation Condition

The vegetation condition for the survey area was mapped using the Keighery condition rating scale (Keighery 1994, Table 2). Vegetation throughout the survey area was mostly in pristine condition. The only exceptions were associated with roads, housepads and drainage lines, where minor disturbance to the vegetation was noted. On the eastern boundary weed invasion associated with a drainage line has contributed to a reduction in vegetation condition for a small area of sedgeland as a result of weed invasion (Figure 3). The weed index across the survey area as a whole was <1 %, while the weed index associated with the sedgeland was 32 %.

Some *Banksia* senescence was noted throughout the survey area, but senescing trees occurred in woodlands or thickets of other large, mature and healthy *Banksias* and there was evidence of seedling recruitment in most areas.

**Table 2: Condition Rating Scale (Keighery 1994)**

<b>Vegetation Condition Rating</b>	<b>Description</b>
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.

## 2.5 Weeds

Of the 112 species recorded within the survey area, nine (<1%) were introduced species (Table 3).

**Table 3: Weed species recorded from the survey area**

Family	Species	Common Name	BAM Rating	EWS Rating
Asteraceae	<i>Conyza bonariensis</i>	Fleabane	None	Low
Asteraceae	<i>Hypochaeris glabra</i>	Smooth Catsear	None	Moderate
Asteraceae	<i>Hypochaeris radicata</i>	Flatweed	None	None
Geraniaceae	<i>Pelargonium capitatum</i>	Rose Pelargonium	None	High
Poaceae	<i>Cynodon dactylon</i>	Couch	None	Moderate
Poaceae	<i>Ehrharta longiflora</i>	Annual Veldt Grass	None	Moderate
Primulaceae	<i>Anagallis arvensis var. arvensis</i>	Scarlett Pimpernel	None	Mild
Solanaceae	<i>Solanum nigrum</i>	Blackberry Nightshade	None	Moderate
Typhaceae	<i>Typha orientalis</i>	Bulrush	None	High

Overall the main weed invaded area was associated a drainage line on the eastern boundary, which has resulted in the movement of aggressively invasive weeds such as *Typha orientalis* into the sedgeland.

Of the weeds recorded, none are declared agricultural weeds under the *Biosecurity and Agriculture Management Act 2007* and two species have been assigned a high priority for control in the Environmental Weeds Strategy for Western Australia (CALM 1999). These species include: *Pelargonium capitatum* (Rose Pelargonium) and *Typha orientalis* (Bulrush). The strategy classifies weeds according to their relative level of threat to conservation (high medium or low) and this rating is based their distribution, relative level of invasiveness and environmental impact (Appendix D).

## 2.5 Disease

During the vegetation surveys, symptoms of plant diseases such as *Phytophthora cinnamomi* were sought. Vegetation communities infested by *Phytophthora* typically have <30 % of the cover of uninfested areas and a depauperate proteaceous and epacridaceous flora. The structural integrity, health and diversity of species known to be highly susceptible to *P. cinnamomi* (e.g. *Banksia attenuata*, *Banksia littoralis*, *Banksia grandis*, *Andersonia caerulea*) throughout the survey area, suggests that this disease has not had an effect here. The calcareous soils and limited access to the survey area are likely to have contributed to this disease-free state.

Another serious pathogenic fungus in WA is *Armillaria luteobubalina*. Karri forest and coastal shrubland communities are among those at risk from this parasite. There were no symptoms of this disease detected during the surveys and no fruiting bodies were found.

Aerial canker diseases such as those caused by *Botryosphaeria ribis* and *Diplodina sp.* have a broad host range, but once again proteaceous species are most severely affected. Typical symptoms of an infected host plant include crown dieback, flagging and cracking of bark that highlights the underlying canker. There were no symptoms of canker attack detected during the surveys.



### 3 SUMMARY

The survey area contains a high diversity of vegetation communities ranging from open heath, coastal scrub and sedgeland through to tree mallees, woodlands and forests with a range of dominant canopy species and a diverse range of shrub, sedge and herbs comprising the understorey. Most vegetation is in pristine condition, with no sign of *Phytophthora*, *Armillaria* or Cankers. The only area with any evidence of degradation is a small sedgeland on the eastern boundary where weeds have invaded as a result of roadwork and drainage from off-site. Targeted threatened flora surveys were not undertaken as a part of the scope of works, however two priority listed flora species were located during the vegetation mapping, including *Billardiera drummondii* (P4) and *Banksia sessilis var cordata* (P2).

#### 4 REFERENCES

- Beard, J. S. (1979). Vegetation of the Albany and Mt. Barker Areas, Western Australia. Map and Explanatory Memoir, 1:250,000 Series. Vegetation Survey of Western Australia.
- Churchward, H. M, McArthur, W. M., Sewell, P. L. and Bartle, G. A. (1988) Landforms and Soils of the South Coast and Hinterland, Western Australia, Northcliffe to Manypeaks. Divisional Report 88/1, CSIRO, institute of Natural Resources and Environment, Division of Water Resources.
- Department of Conservation and Land Management (1999). *Environmental Weed Strategy for Western Australia*, Department of Conservation and Land Management, Como.
- Department of Parks and Wildlife (2016) *Nature Map Mapping Western Australia's Biodiversity*, accessed online July and August 2014 at <http://naturemap.dec.wa.gov.au>
- Environmental Protection Authority (2004) Guidance for the Assessment of Environmental Factors (in accordance with the Environmental Protection Act 1986) *Guidance Statement No. 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia*.
- Interim Biogeographical Regionalisation for Australia (IBRA) (2012). 'IBRA Version 7. Sub-regions.' (Australian Government Department of the Environment and Heritage: Canberra.) Available at <http://www.environment.gov.au>.
- Keighery, B. (1994). *Bushland plant survey: a guide to plant community survey for the community*. Wildflower Society of WA (Inc.) Nedlands, WA.
- McKenzie, N. L., May, J. E. and McKenna, S. (2002). *Bio Regional Summary of the 2002 Biodiversity Audit for Western Australia*. Department of Conservation and Land Management, Como.
- Muhling, P. C. and Brakel, A. T. (1985). 1:250,000 Geological Series – Explanatory Notes, Mount Barker - Albany, Western Australia. Geological Survey of Western Australia, Perth Western Australia.
- Myers, N. Mittermeier R. A., Mittermeier, C. G., da Fonseca, G. A. B. and Kent, J. (2000). Biodiversity hot spots for conservation priorities. *Nature* 403, 803-8.

## 5 APPENDICES

### APPENDIX A: Flora and Fauna Species Identified within 5 km of Survey area Through Nature Map Generated from Nature Map (DPaW 2016) on 6 April 2016

- 865. 15429 *Acacia alata* var. *alata*
- 866. 3247 *Acacia browniana*
- 867. 11731 *Acacia browniana* var. *browniana*
- 868. 3262 *Acacia cochlearis* (Rigid Wattle)
- 869. 3282 *Acacia cyclops* (Coastal Wattle)
- 870. 3307 *Acacia divergens*
- 871. 3331 *Acacia extensa* (Wiry Wattle)
- 872. 3347 *Acacia gilbertii*
- 873. 3363 *Acacia hastulata*
- 874. 18217 *Acacia iteaphylla* Y
- 875. 3424 *Acacia littorea*
- 876. 3428 *Acacia luteola*
- 877. 3453 *Acacia myrtifolia*
- 878. 3484 *Acacia pentadenia* (Karri Wattle)
- 879. 35624 *Acacia pentadenia* subsp. *pentadenia*
- 880. *Acacia provincialis* Y
- 881. 3502 *Acacia pulchella* (Prickly Moses)
- 882. 15482 *Acacia pulchella* var. *goadbyi*
- 883. 15483 *Acacia pulchella* var. *pulchella*
- 884. 3523 *Acacia robiniae*
- 885. 30036 *Acacia saligna* subsp. *stolonifera*
- 886. 3530 *Acacia scalpelliformis*
- 887. 3576 *Acacia tetragonocarpa*
- 888. 3588 *Acacia uliginosa*
- 889. 3591 *Acacia urophylla*
- 890. 15487 *Acacia varia* var. *varia*
- 891. 3602 *Acacia willdenowiana* (Grass Wattle)
- 892. 3185 *Acaena novae-zelandiae* Y
- 893. 1208 *Acanthocarpus preissii*
- 894. 13146 *Acetabularia peniculus*
- 895. 17774 *Acetosella vulgaris* Y
- 896. 10824 *Acidonia microcarpa*
- 897. 6295 *Acrotriche cordata* (Coast Ground Berry)
- 898. 5315 *Actinodium cunninghamii* (Albany Daisy)
- 899. 6203 *Actinotus glomeratus*
- 900. 6206 *Actinotus omnifertilis*
- 901. 1773 *Adenanthos cuneatus* (Coastal Jugflower)
- 902. 1791 *Adenanthos obovatus* (Basket Flower)
- 903. 5316 *Agonis flexuosa* (Peppermint, Wonil)
- 904. 17202 *Agonis flexuosa* var. *flexuosa*
- 905. 17203 *Agonis flexuosa* var. *latifolia*
- 906. *Agonis* sp.
- 907. 19789 *Agonis theiformis*
- 908. 177 *Agrostis capillaris* Y
- 909. *Agrostis* sp.
- 910. 182 *Agrostis stolonifera* (Creeping Bent) Y
- 911. 23474 *Agrostocrinum hirsutum*

912. 185 *Aira cupaniana* (Silvery Hairgrass) Y  
 913. 187 *Aira praecox* (Early Hairgrass) Y  
 914. 1724 *Allocasuarina decussata* (Karri She-oak)  
 915. 1728 *Allocasuarina fraseriana* (Sheoak, Kondil)  
 916. 1732 *Allocasuarina humilis* (Dwarf Sheoak)  
 917. *Amaranthus* sp.  
 918. 35159 *Ammophila arenaria* subsp. *arenaria* Y  
 919. 4585 *Amperea ericoides*  
 920. 13101 *Amperea simulans*  
 921. 13380 *Amphibromus nervosus*  
 922. *Amphibromus* sp.  
 923. 194 *Amphipogon amphipogonoides*  
 924. 197 *Amphipogon debilis*  
 925. 20184 *Amphipogon laguroides* subsp. *laguroides*  
 926. 20196 *Amphipogon setaceus*  
 927. 2380 *Amyema miquelii* (Stalked Mistletoe)  
 928. 1058 *Anarthria gracilis*  
 929. 1060 *Anarthria laevis*  
 930. 1062 *Anarthria prolifera*  
 931. 1063 *Anarthria scabra*  
 932. 6306 *Andersonia caerulea* (Foxtails)  
 933. 25844 *Andersonia caerulea* subsp. *caerulea*  
 934. 6320 *Andersonia simplex* (Spiked Andersonia)  
 935. 41741 *Andersonia* sp. *Virolens* (G.J. Keighery 12000) P3  
 936. 6321 *Andersonia sprengelioides*  
 937. 7829 *Angianthus drummondii* P3  
 938. 8616 *Angianthus platycephalus*  
 939. 7833 *Angianthus preissianus*  
 940. 1406 *Anigozanthos bicolor* (Little Kangaroo Paw)  
 941. 1407 *Anigozanthos flavidus* (Tall Kangaroo Paw)  
 942. 1413 *Anigozanthos preissii* (Albany Catspaw)  
 943. 17455 *Anredera cordifolia* Y  
 944. 6949 *Anthocercis littorea* (Yellow Tailflower)  
 945. 16321 *Anthocercis sylvicola* P2  
 946. *Anthoceros punctatus*  
 947. 7411 *Anthotium humile* (Dwarf Anthotium)  
 948. 202 *Anthoxanthum odoratum* (Sweet Vernal Grass) Y  
 949. 3689 *Aotus intermedia*  
 950. 3690 *Aotus passerinoides*  
 951. 1117 *Aphelia cyperoides*  
 952. 6211 *Apium prostratum* (Sea Celery)  
 953. 11399 *Apium prostratum* var. *filiforme*  
 954. 12040 *Apium prostratum* var. *prostratum* (Sea Celery)  
 955. 11542 *Arrhenatherum elatius* var. *bulbosum* (Onion Twitch) Y  
 956. 8779 *Asparagus asparagoides* (Bridal Creeper) Y  
 957. 24020 *Asparagus scandens* Y  
 958. 61 *Asplenium aethiopicum* (Forked Spleenwort)  
 959. 20361 *Astartea arbuscula*  
 960. 20125 *Astartea corniculata*  
 961. 5330 *Astartea fascicularis*  
 962. 20127 *Astartea glomerulosa*

963. 20249 *Astartea leptophylla*  
 964. 45213 *Astartea pulchella*  
 965. 20283 *Astartea scoparia*  
 966. *Astartea* sp.  
 967. *Asterella drummondii*  
 968. 7851 *Asteridea pulverulenta* (Common Bristle Daisy)  
 969. 6325 *Astroloma drummondii*  
 970. *Astroloma* sp.  
 971. 2462 *Atriplex hypoleuca*  
 972. 2471 *Atriplex prostrata* (Hastate Orache) Y  
 973. 17240 *Austrostipa flavescens*  
 974. 17241 *Austrostipa hemipogon*  
 975. 17245 *Austrostipa mollis*  
 976. 17253 *Austrostipa semibarbata*  
 977. 231 *Avellinia michelii* Y  
 978. 233 *Avena barbata* (Bearded Oat) Y  
 979. 20013 *Axonopus fissifolius* Y  
 980. 5364 *Baeckea pygmaea*  
 981. 1800 *Banksia attenuata* (Slender Banksia, Piara)  
 982. 1819 *Banksia grandis* (Bull Banksia, Pulgarla)  
 983. 1822 *Banksia ilicifolia* (Holly-leaved Banksia)  
 984. 1830 *Banksia littoralis* (Swamp Banksia, Pungura)  
 985. 1837 *Banksia occidentalis* (Red Swamp Banksia)  
 986. 1844 *Banksia quercifolia* (Oak-leaved Banksia)  
 987. 1848 *Banksia seminuda* (River Banksia)  
 988. 32084 *Banksia serra* (Serrate-leaved Dryandra) P4  
 989. 32315 *Barbula calycina*  
 990. 739 *Baumea acuta* (Pale Twig-rush)  
 991. 741 *Baumea articulata* (Jointed Rush)  
 992. 743 *Baumea juncea* (Bare Twigrush)  
 993. 744 *Baumea laxa*  
 994. 745 *Baumea preissii*  
 995. 747 *Baumea rubiginosa*  
 996. 5381 *Beaufortia decussata* (Gravel Bottlebrush)  
 997. 5392 *Beaufortia sparsa* (Swamp Bottlebrush)  
 998. 3154 *Billardiera coriacea*  
 999. 25787 *Billardiera drummondii*  
 1000. 3157 *Billardiera floribunda* (White-flowered Billardiera)  
 1001. 25798 *Billardiera fusiformis* (Australian Bluebell)  
 1002. 25796 *Billardiera heterophylla* (Australian Bluebell)  
 1003. 3159 *Billardiera laxiflora*  
 1004. *Billardiera* sp.  
 1005. 3165 *Billardiera variifolia*  
 1006. 749 *Bolboschoenus caldwellii* (Marsh Club-rush)  
 1007. 4403 *Boronia alata* (Winged Boronia)  
 1008. 4413 *Boronia crenulata* (Aniseed Boronia)  
 1009. 11503 *Boronia crenulata* var. *crenulata*  
 1010. 4416 *Boronia denticulata*  
 1011. 4422 *Boronia gracilipes* (Karri Boronia)  
 1012. 4423 *Boronia heterophylla* (Kalgan Boronia)  
 1013. 16631 *Boronia juncea* subsp. *micrantha*

1014. 4429 *Boronia molloyae* (Tall Boronia)  
 1015. 4441 *Boronia spathulata* (Boronia)  
 1016. 4442 *Boronia stricta*  
 1017. 4447 *Boronia virgata* P4  
 1018. 1270 *Borya longiscapa* P3  
 1019. 1273 *Borya sphaerocephala* (Pincushions)  
 1020. 14397 *Bossiaea aquifolium* subsp. *laidlawiana*  
 1021. 3707 *Bossiaea dentata*  
 1022. 3713 *Bossiaea linophylla*  
 1023. 3714 *Bossiaea ornata* (Broad Leaved Brown Pea)  
 1024. 14291 *Bossiaea praetermissa*  
 1025. 3718 *Bossiaea rufa*  
 1026. 3723 *Bossiaea webbii* (Water Bush)  
 1027. 32327 *Breutelia affinis*  
 1028. 244 *Briza maxima* (Blowfly Grass) Y  
 1029. 245 *Briza minor* (Shivery Grass) Y  
 1030. 248 *Bromus catharticus* (Prairie Grass) Y  
 1031. 32330 *Bryum argenteum*  
 1032. *Bryum* sp.  
 1033. 1385 *Burchardia multiflora* (Dwarf Burchardia)  
 1034. 15328 *Caladenia applanata* subsp. *applanata*  
 1035. 15329 *Caladenia applanata* subsp. *erubescens*  
 1036. 15335 *Caladenia brownii*  
 1037. 1580 *Caladenia cairnsiana* (Zebra Orchid)  
 1038. 1581 *Caladenia corynephora*  
 1039. *Caladenia elongata*  
 1040. 10776 *Caladenia ensata*  
 1041. 15348 *Caladenia flava* subsp. *flava*  
 1042. 15350 *Caladenia flava* subsp. *sylvestris*  
 1043. *Caladenia formosa* Y  
 1044. 1596 *Caladenia huegelii* (Grand Spider Orchid) T  
 1045. 1599 *Caladenia latifolia* (Pink Fairy Orchid)  
 1046. 1602 *Caladenia longicauda* (Common White Spider Orchid)  
 1047. 1604 *Caladenia macrostylis* (Leaping Spider Orchid)  
 1048. 1605 *Caladenia marginata* (White Fairy Orchid)  
 1049. 1608 *Caladenia nana* (Pink Fan Orchid)  
 1050. 15372 *Caladenia nana* subsp. *unita*  
 1051. 1609 *Caladenia pectinata* (King Spider Orchid)  
 1052. 1612 *Caladenia radiata* (Ray Spider Orchid)  
 1053. 19868 *Caladenia x hypata*  
 1054. 2845 *Calandrinia brevipedata* (Short-stalked Purslane)  
 1055. 2856 *Calandrinia liniflora* (Parakeelya)  
 1056. 10861 *Callistachys lanceolata* (Wonnich)  
 1057. 5415 *Calothamnus lateralis*  
 1058. 5425 *Calothamnus preissii*  
 1059. 5430 *Calothamnus schaueri*  
 1060. 16493 *Calycopeplus oligandrus*  
 1061. 5440 *Calytrix asperula* (Brush Starflower)  
 1062. 5483 *Calytrix tetragona* (Common Fringe-myrtle)  
 1063. 32335 *Campylopus bicolor*  
 1064. 32461 *Campylopus bicolor* var. *bicolor*

1065. 32338 *Campylopus introflexus* Y  
 1066. 7909 *Carduus pycnocephalus* (Slender Thistle) Y  
 1067. 2956 *Cassytha pomiformis* (Dodder Laurel)  
 1068. 2957 *Cassytha racemosa* (Dodder Laurel)  
 1069. 11799 *Cassytha racemosa* forma *racemosa*  
 1070. 41564 *Cenchrus clandestinus* (Kikuyu Grass) Y  
 1071. 6539 *Centaureum erythraea* (Common Centaury) Y  
 1072. 6542 *Centaureum tenuiflorum* Y  
 1073. 6214 *Centella asiatica*  
 1074. 7367 *Centranthus ruber* (Red Valerian) Y  
 1075. 35322 *Centranthus ruber* subsp. *ruber* Y  
 1076. 1121 *Centrolepis aristata* (Pointed Centrolepis)  
 1077. 1125 *Centrolepis drummondiana*  
 1078. 1133 *Centrolepis pilosa*  
 1079. 1134 *Centrolepis polygyna* (Wiry Centrolepis)  
 1080. 3148 *Cephalotus follicularis* (Albany Pitcher Plant)  
 1081. *Cephaloziella varians*  
 1082. 13119 *Cerastium balearicum* Y  
 1083. 32462 *Ceratodon purpureus* subsp. *convolutus*  
 1084. 17685 *Chaetanthus aristatus*  
 1085. 1065 *Chaetanthus leptocarpoides*  
 1086. 17687 *Chaetanthus tenellus*  
 1087. *Chaetophyllopsis whiteleggei*  
 1088. 1280 *Chamaescilla corymbosa* (Blue Squill)  
 1089. 3169 *Cheiranthra preissiana*  
 1090. 2483 *Chenopodium album* (Fat Hen) Y  
 1091. 2494 *Chenopodium murale* (Nettle-leaf Goosefoot) Y  
 1092. *Chiloscyphus semiteres* var. *semiteres*  
 1093. 17689 *Chordifex laxus*  
 1094. 2335 *Choretrum lateriflorum* (Dwarf Sour Bush)  
 1095. 4448 *Chorilaena quercifolia* (Chorilaena)  
 1096. 763 *Chorizandra enodis* (Black Bristlerush)  
 1097. 13112 *Chorizema aciculare* subsp. *aciculare*  
 1098. 8971 *Chorizema cordatum*  
 1099. 3754 *Chorizema diversifolium*  
 1100. 3758 *Chorizema ilicifolium* (Holly Flame Pea)  
 1101. 3760 *Chorizema reticulatum* (Showy Flame Pea)  
 1102. 13107 *Chorizema retrorsum*  
 1103. 3761 *Chorizema rhombeum*  
 1104. 14586 *Chorizema spathulatum*  
 1105. 7937 *Cirsium vulgare* (Spear Thistle, Scotch Thistle) Y  
 1106. 2929 *Clematis pubescens* (Common Clematis)  
 1107. 4550 *Comesperma calymega* (Blue-spike Milkwort)  
 1108. 4551 *Comesperma ciliatum*  
 1109. 4552 *Comesperma confertum*  
 1110. 4554 *Comesperma flavum*  
 1111. 4557 *Comesperma nudiusculum*  
 1112. *Comesperma* sp.  
 1113. 4564 *Comesperma virgatum* (Milkwort)  
 1114. 40863 *Commersonia corylifolia* (Hazel-leaved Rulingia)  
 1115. 40864 *Commersonia cygnorum*

1116. 40920 *Commersonia grandiflora*  
 1117. 1862 *Conospermum caeruleum* (Blue Brother)  
 1118. 15610 *Conospermum caeruleum* subsp. *caeruleum*  
 1119. 1863 *Conospermum capitatum*  
 1120. 16854 *Conospermum capitatum* subsp. *capitatum*  
 1121. *Conospermum* sp.  
 1122. 1883 *Conospermum teretifolium* (Spider Smokebush)  
 1123. 11826 *Conostylis aculeata* subsp. *aculeata*  
 1124. 1454 *Conostylis setigera* (Bristly Cottonhead)  
 1125. 11597 *Conostylis setigera* subsp. *setigera*  
 1126. 20074 *Conyza sumatrensis* Y  
 1127. 44528 *Coreopsis lanceolata* (Common Tickseed) Y  
 1128. 2891 *Corrigiola litoralis* (Strapwort) Y  
 1129. 17104 *Corymbia calophylla* (Marri)  
 1130. 1285 *Corynotheca micrantha* (Sand Lily)  
 1131. 6352 *Cosmelia rubra* (Spindle Heath)  
 1132. 18319 *Cotoneaster glaucophyllus* Y  
 1133. 7943 *Cotula australis* (Common Cotula)  
 1134. 7945 *Cotula coronopifolia* (Waterbuttons) Y  
 1135. 7947 *Cotula turbinata* (Funnel Weed) Y  
 1136. 3137 *Crassula colorata* (Dense Stonecrop)  
 1137. 15706 *Crassula natans* var. *minus* Y  
 1138. 1514 *Crocasmia x crocosmiiflora* Y  
 1139. 4451 *Crowea angustifolia* (Crowea)  
 1140. 11306 *Crowea angustifolia* var. *angustifolia*  
 1141. 17729 *Crowea angustifolia* var. *platyphylla*  
 1142. 1627 *Cryptostylis ovata* (Slipper Orchid)  
 1143. 15114 *Cyanicula gemmata*  
 1144. 15404 *Cyanicula sericea*  
 1145. 768 *Cyathochaeta avenacea*  
 1146. 769 *Cyathochaeta clandestina*  
 1147. 17618 *Cyathochaeta equitans*  
 1148. 42080 *Cyathostemon blackettii*  
 1149. 283 *Cynodon dactylon* (Couch) Y  
 1150. 285 *Cynosurus echinatus* (Rough Dogstail) Y  
 1151. 783 *Cyperus congestus* (Dense Flat-sedge) Y  
 1152. *Cyperus* sp.  
 1153. 815 *Cyperus tenellus* (Tiny Flatsedge) Y  
 1154. 10916 *Cyrtostylis huegelii*  
 1155. 17692 *Cytogonidium leptocarpoides*  
 1156. 287 *Dactylis glomerata* (Cocksfoot) Y  
 1157. 7444 *Dampiera hederacea* (Karri Dampiera)  
 1158. 7452 *Dampiera leptoclada* (Slender-shooted Dampiera)  
 1159. 7454 *Dampiera linearis* (Common Dampiera)  
 1160. 7462 *Dampiera pedunculata*  
 1161. 7484 *Dampiera trigona* (Angled-stem Dampiera)  
 1162. *Danthonia* sp.  
 1163. 5508 *Darwinia citriodora* (Lemon-scented Darwinia)  
 1164. 5519 *Darwinia oederoides*  
 1165. 5533 *Darwinia vestita* (Pom-pom Darwinia)  
 1166. 1218 *Dasypogon bromeliifolius* (Pineapple Bush)



1167. 10871 *Daucus carota* (Wild Carrot) Y  
 1168. 6218 *Daucus glochidiatus* (Australian Carrot)  
 1169. 3791 *Daviesia alternifolia*  
 1170. 3811 *Daviesia flexuosa*  
 1171. 3817 *Daviesia inflata*  
 1172. 17691 *Desmocladus fasciculatus*  
 1173. 16595 *Desmocladus flexuosus*  
 1174. 299 *Deyeuxia quadriseta* (Reed Bentgrass)  
 1175. 16326 *Dianella brevicaulis*  
 1176. 7487 *Diaspasis filifolia* (Thread-leaved Diaspasis)  
 1177. 306 *Dichelachne crinita* (Longhair Plumegrass)  
 1178. 32344 *Dicranoloma diaphanoneuron*  
 1179. 32346 *Didymodon torquatus*  
 1180. 40865 *Dielsiodoxa lycopodioides*  
 1181. 38261 *Dielsiodoxa tamariscina* P2  
 1182. 320 *Digitaria sanguinalis* (Crab Grass) Y  
 1183. 3011 *Diplotaxis muralis* (Wall Rocket) Y  
 1184. 3867 *Dipogon lignosus* (Dolichos Pea) Y  
 1185. 19649 *Disa bracteata* Y  
 1186. 7962 *Dittrichia viscosa* Y  
 1187. 11049 *Diuris corymbosa*  
 1188. 1638 *Diuris setacea* (Bristly Donkey Orchid)  
 1189. *Diuris* sp.  
 1190. 4765 *Dodonaea humifusa*  
 1191. 1640 *Drakaea glyptodon* (King-in-his-carriage)  
 1192. 1642 *Drakaea thynniphila*  
 1193. 13218 *Drosera erythrogyne*  
 1194. 3110 *Drosera microphylla* (Golden Rainbow)  
 1195. 3112 *Drosera myriantha* (Star Rainbow)  
 1196. 3113 *Drosera neesii* (Jewel Rainbow)  
 1197. 11768 *Drosera neesii* subsp. *neesii*  
 1198. 3118 *Drosera pallida* (Pale Rainbow)  
 1199. 3122 *Drosera platypoda* (Fan-leaved Sundew)  
 1200. 3124 *Drosera pulchella* (Pretty Sundew)  
 1201. 13186 *Drosera roseana*  
 1202. 3131 *Drosera stolonifera* (Leafy Sundew)  
 1203. 8914 *Drosera sulphurea* (Sulphur-flowered Sundew)  
 1204. 33480 *Dysphania pumilio* (Clammy Goosefoot)  
 1205. 32351 *Eccremidium pulchellum*  
 1206. 11105 *Echinochloa crus-galli* Y  
 1207. 6681 *Echium plantagineum* (Paterson's Curse) Y  
 1208. 347 *Ehrharta calycina* (Perennial Veldt Grass) Y  
 1209. 349 *Ehrharta longiflora* (Annual Veldt Grass) Y  
 1210. 1643 *Elythranthera brunonis* (Purple Enamel Orchid)  
 1211. 1644 *Elythranthera emarginata* (Pink Enamel Orchid)  
 1212. 1067 *Empodisma gracillimum*  
 1213. 32353 *Entosthodon apophysatus*  
 1214. 32354 *Entosthodon productus*  
 1215. 1645 *Epiblema grandiflorum* (Babe-in-a-cradle)  
 1216. 11992 *Epilobium billardioreanum* subsp. *intermedium*  
 1217. 373 *Eragrostis brownii* (Brown's Lovegrass)

1218. 376 *Eragrostis curvula* (African Lovegrass) Y  
 1219. 15412 *Eriochilus dilatatus* subsp. *multiflorus*  
 1220. 15414 *Eriochilus helonomos*  
 1221. *Eriochilus* sp.  
 1222. 10802 *Eriochilus tenuis*  
 1223. 5605 *Eucalyptus cornuta* (Yate, Yeid)  
 1224. 5625 *Eucalyptus diversicolor* (Karri)  
 1225. 5667 *Eucalyptus guilfoylei* (Yellow Tingle, Dingul Dingul)  
 1226. 5678 *Eucalyptus jacksonii* (Red Tingle, Dingul Dingul)  
 1227. 13547 *Eucalyptus marginata* subsp. *marginata* (Jarrah)  
 1228. 5709 *Eucalyptus megacarpa* (Bullich, Pulidj)  
 1229. 5739 *Eucalyptus patens* (Swan River Blackbutt, Dwuda)  
 1230. 5763 *Eucalyptus rudis* (Flooded Gum, Kulurda)  
 1231. 5776 *Eucalyptus staeri* (Albany Blackbutt)  
 1232. 19629 *Eucalyptus virginea* P4  
 1233. 3872 *Euchilopsis linearis* (Swamp Pea)  
 1234. 20214 *Eutaxia myrtifolia*  
 1235. 3879 *Eutaxia parvifolia*  
 1236. 3880 *Eutaxia virgata*  
 1237. 834 *Evandra aristata*  
 1238. 10907 *Exocarpos odoratus* (Scented Ballart)  
 1239. *Exocarpos* sp.  
 1240. 10765 *Exocarpos sparteus* (Broom Ballart, Djuk)  
 1241. 430 *Festuca arundinacea* (Tall Fescue) Y  
 1242. 20216 *Ficinia nodosa* (Knotted Club Rush)  
 1243. 32363 *Fissidens curvatus*  
 1244. 32369 *Fissidens tenellus*  
 1245. 6221 *Foeniculum vulgare* (Fennel) Y  
 1246. *Fossombronia* sp.  
 1247. 1944 *Franklandia fucifolia* (Lanoline Bush)  
 1248. *Frullania falciloba*  
 1249. *Frullania probosciphora*  
 1250. 18300 *Fuchsia magellanica* Y Y  
 1251. 2969 *Fumaria capreolata* (Whiteflower Fumitory) Y  
 1252. 31532 *Fumaria muralis* subsp. *muralis* Y  
 1253. 32370 *Funaria hygrometrica*  
 1254. *Funaria* sp.  
 1255. 17744 *Gahnia sclerioides* P4  
 1256. 907 *Gahnia trifida* (Coast Saw-sedge)  
 1257. 7323 *Galium murale* (Small Goosegrass) Y  
 1258. 3891 *Gastrolobium bilobum* (Heart Leaf Poison)  
 1259. 3893 *Gastrolobium brownii*  
 1260. 20490 *Gastrolobium coriaceum*  
 1261. 19190 *Gastrolobium cuneatum*  
 1262. 20511 *Gastrolobium minus*  
 1263. 20500 *Gastrolobium sericeum*  
 1264. 32375 *Gemmabryum chrysoneuron*  
 1265. 32376 *Gemmabryum dichotomum*  
 1266. 32380 *Gemmabryum pachythecum*  
 1267. *Goebelobryum unguiculatum*  
 1268. 3948 *Gompholobium capitatum*

1269. 10909 *Gompholobium confertum*  
 1270. 3950 *Gompholobium knightianum*  
 1271. 3954 *Gompholobium polymorphum*  
 1272. 11083 *Gompholobium scabrum*  
 1273. 3957 *Gompholobium tomentosum* (Hairy Yellow Pea)  
 1274. 3958 *Gompholobium venustum* (Handsome Wedge-pea)  
 1275. 11115 *Gompholobium villosum*  
 1276. 16746 *Gonocarpus benthamii* subsp. *benthamii*  
 1277. 7505 *Goodenia eatoniana*  
 1278. 7523 *Goodenia leptoclada* (Thin-stemmed Goodenia)  
 1279. 13165 *Goodenia pusilla*  
 1280. 1977 *Grevillea cirsiifolia* (Varied-leaf Grevillea)  
 1281. 13084 *Grevillea fuscolutea* T  
 1282. 2052 *Grevillea occidentalis*  
 1283. 15991 *Grevillea pulchella* subsp. *pulchella*  
 1284. 2080 *Grevillea quercifolia* (Oak-leaf Grevillea)  
 1285. 2112 *Grevillea trifida*  
 1286. 908 *Gymnoschoenus anceps*  
 1287. 32390 *Gymnostomum calcareum*  
 1288. 2787 *Gyrostemon sheathii*  
 1289. 1474 *Haemodorum sparsiflorum*  
 1290. 2137 *Hakea ceratophylla* (Horned Leaf Hakea)  
 1291. 2150 *Hakea cucullata* (Hood Leaved Hakea)  
 1292. 2171 *Hakea laurina* (Pincushion Hakea, Kodjet)  
 1293. 2174 *Hakea linearis*  
 1294. 2191 *Hakea oleifolia* (Dungyn)  
 1295. 2197 *Hakea prostrata* (Harsh Hakea)  
 1296. 2203 *Hakea ruscifolia* (Candle Hakea)  
 1297. *Hakea* sp.  
 1298. 2212 *Hakea sulcata* (Furrowed Hakea)  
 1299. 6183 *Haloragodendron racemosum* (Shrubby Raspwort)  
 1300. 3961 *Hardenbergia comptoniana* (Native Wisteria)  
 1301. 32391 *Hedwigia ciliata*  
 1302. 32392 *Hedwigidium integrifolium*  
 1303. 29594 *Helichrysum luteoalbum* (Jersey Cudweed)  
 1304. 439 *Hemarthria uncinata* (Matgrass)  
 1305. 11451 *Hemarthria uncinata* var. *uncinata*  
 1306. 6839 *Hemiandra pungens* (Snakebush)  
 1307. 6855 *Hemigenia humilis*  
 1308. 6856 *Hemigenia incana* (Silky Hemigenia)  
 1309. 6865 *Hemigenia podalyrina*  
 1310. 5109 *Hibbertia amplexicaulis*  
 1311. 5114 *Hibbertia commutata*  
 1312. 5117 *Hibbertia cuneiformis* (Cutleaf Hibbertia)  
 1313. 5118 *Hibbertia cunninghamii*  
 1314. 5119 *Hibbertia depressa*  
 1315. 5126 *Hibbertia furfuracea*  
 1316. 5132 *Hibbertia grossulariifolia*  
 1317. 5135 *Hibbertia hypericoides* (Yellow Buttercups)  
 1318. 5144 *Hibbertia microphylla*  
 1319. 19687 *Hibbertia notibractea*

1320. 5154 *Hibbertia perfoliata*  
1321. 5155 *Hibbertia pilosa* (Hairy Guinea Flower)  
1322. 5162 *Hibbertia racemosa* (Stalked Guinea Flower)  
1323. 5169 *Hibbertia serrata* (Serrate Leaved Guinea Flower)  
1324. 13758 *Histiopteris incisa*  
1325. 444 *Holcus lanatus* (Yorkshire Fog) Y  
1326. 5816 *Homalospermum firmum*  
1327. 449 *Hordeum leporinum* (Barley Grass) Y  
1328. 3964 *Hovea chorizemifolia* (Holly-leaved Hovea)  
1329. 3965 *Hovea elliptica* (Tree Hovea)  
1330. 32394 *Hypnum cupressiforme*  
1331. 5817 *Hypocalymma angustifolium* (White Myrtle, Kudjid)  
1332. 5818 *Hypocalymma cordifolium*  
1333. 43120 *Hypocalymma minus*  
1334. 5825 *Hypocalymma robustum* (Swan River Myrtle)  
1335. 13106 *Hypocalymma scariosum*  
1336. 5827 *Hypocalymma strictum*  
1337. 8086 *Hypochaeris glabra* (Smooth Catsear) Y  
1338. 1070 *Hypolaena exsulca*  
1339. 19918 *Hypolaena grandiuscula*  
1340. 17841 *Hypolaena pubescens*  
1341. 6630 *Ipomoea indica* (Morning Glory) Y  
1342. 11 *Isoetes drummondii* (Quillwort)  
1343. 20199 *Isolepis cernua* var. *cernua*  
1344. 20200 *Isolepis cernua* var. *setiformis*  
1345. 911 *Isolepis congrua*  
1346. 912 *Isolepis cyperoides*  
1347. 916 *Isolepis inundata* (Swamp Club Rush)  
1348. 917 *Isolepis marginata* (Coarse Club-rush)  
1349. 10831 *Isolepis prolifera* (Budding Club-rush) Y  
1350. *Isolepis* sp.  
1351. 2222 *Isopogon attenuatus*  
1352. 2223 *Isopogon axillaris*  
1353. 12908 *Isopogon buxifolius* var. *buxifolius* P2  
1354. 2226 *Isopogon cuneatus* (Coneflower)  
1355. 2230 *Isopogon formosus* (Rose Coneflower)  
1356. *Isopogon* sp.  
1357. 1532 *Ixia maculata* (Yellow Ixia) Y  
1358. 8092 *Ixiolaena viscosa* (Sticky Ixiolaena)  
1359. 4017 *Jacksonia horrida*  
1360. 4028 *Jacksonia spinosa*  
1361. 1297 *Johnsonia lupulina* (Hooded Lily)  
1362. 1299 *Johnsonia teretifolia* (Hooded Lily)  
1363. 1177 *Juncus articulatus* (Jointed Rush) Y  
1364. 1178 *Juncus bufonius* (Toad Rush) Y  
1365. 1179 *Juncus caespiticius* (Grassy Rush)  
1366. 1180 *Juncus capitatus* (Capitate Rush) Y  
1367. 1184 *Juncus holoschoenus* (Jointleaf Rush)  
1368. 11922 *Juncus kraussii* subsp. *australiensis*  
1369. 1186 *Juncus microcephalus* Y  
1370. 1187 *Juncus oxycarpus* Y

1371. 1188 *Juncus pallidus* (Pale Rush)  
 1372. 1190 *Juncus planifolius* (Broadleaf Rush)  
 1373. *Juncus* sp.  
 1374. 1196 *Juncus usitatus* (Common Rush) Y  
 1375. 4036 *Kennedia carinata*  
 1376. 4037 *Kennedia coccinea* (Coral Vine)  
 1377. 1221 *Kingia australis* (Kingia, Pulonok)  
 1378. 5832 *Kunzea ericifolia* (Spearwood, Pondil)  
 1379. 17506 *Kunzea ericifolia* subsp. *ericifolia*  
 1380. 15498 *Kunzea glabrescens* (Spearwood)  
 1381. 5841 *Kunzea recurva*  
 1382. 5844 *Kunzea sulphurea*  
 1383. 20019 *Lachnagrostis filiformis*  
 1384. 2253 *Lambertia uniflora*  
 1385. 5033 *Lasiopetalum floribundum* (Free Flowering Lasiopetalum)  
 1386. 4047 *Lathyrus tingitanus* (Tangier Pea) Y  
 1387. 4048 *Latrobea brunonis*  
 1388. 4049 *Latrobea diosmifolia*  
 1389. 4050 *Latrobea genistoides*  
 1390. 1303 *Laxmannia grandiflora*  
 1391. 1302 *Laxmannia jamesii* (James' Paperlily) P4  
 1392. 7572 *Lechenaultia expansa*  
 1393. 7590 *Lechenaultia tubiflora* (Heath Leschenaultia)  
 1394. *Leonema lamprophyllum* subsp. *lamprophyllum*  
 1395. 8099 *Leontodon saxatilis* (Hairy Hawkbit) Y  
 1396. *Leontodon* sp. Y  
 1397. 3021 *Lepidium bonariense* (Peppercress) Y  
 1398. 19989 *Lepidium didymum* Y  
 1399. 3042 *Lepidium pseudotasmanicum* P4  
 1400. 925 *Lepidosperma angustatum*  
 1401. 932 *Lepidosperma effusum* (Spreading Sword-sedge)  
 1402. 933 *Lepidosperma gladiatum* (Coast Sword-sedge, Kerbin)  
 1403. 934 *Lepidosperma gracile* (Slender Sword Sedge)  
 1404. 937 *Lepidosperma longitudinale* (Pithy Sword-sedge)  
 1405. *Lepidosperma* sp.  
 1406. 945 *Lepidosperma squamatum*  
 1407. 946 *Lepidosperma striatum*  
 1408. 948 *Lepidosperma tetraquetrum*  
 1409. 19833 *Leptocarpus laxis*  
 1410. *Leptocarpus* sp.  
 1411. 1082 *Leptocarpus tenax* (Slender Twine Rush)  
 1412. 17703 *Leptomeria ellytes*  
 1413. 2350 *Leptomeria pauciflora* (Sparse-flowered Currant Bush)  
 1414. 2353 *Leptomeria scrobiculata*  
 1415. 2355 *Leptomeria squarrulosa*  
 1416. 17852 *Leptorhynchos scaber* (Lanky Buttons)  
 1417. 1084 *Lepyrodia drummondiana*  
 1418. 1087 *Lepyrodia hermaphrodita*  
 1419. 1089 *Lepyrodia monoica*  
 1420. 1090 *Lepyrodia muiirii*  
 1421. *Lethocolea pansa*

1422. 32400 *Leucobryum subchlorophyllosum*  
 1423. 6355 *Leucopogon alternifolius* P3  
 1424. 6360 *Leucopogon australis* (Spiked Beard-heath)  
 1425. 6367 *Leucopogon capitellatus*  
 1426. 6387 *Leucopogon distans*  
 1427. 6396 *Leucopogon glabellus*  
 1428. 33380 *Leucopogon interstans*  
 1429. 6417 *Leucopogon obovatus*  
 1430. 40940 *Leucopogon obovatus* subsp. *obovatus*  
 1431. 40941 *Leucopogon obovatus* subsp. *revolutus*  
 1432. 35499 *Leucopogon paradoxus*  
 1433. 6427 *Leucopogon parviflorus* (Coast Beard-heath)  
 1434. 6428 *Leucopogon pendulus*  
 1435. 29611 *Leucopogon penicillatus*  
 1436. 6436 *Leucopogon propinquus*  
 1437. 6439 *Leucopogon pulchellus* (Beard-heath)  
 1438. 6440 *Leucopogon racemulosus*  
 1439. 6441 *Leucopogon reflexus* (Heart-leaf Beard-heath)  
 1440. 10755 *Leucopogon rubricaulis*  
 1441. *Leucopogon* sp.  
 1442. 19202 *Leucopogon* sp. Walpole (R.J. Cranfield 10940)  
 1443. 6454 *Leucopogon verticillatus* (Tassel Flower)  
 1444. 7670 *Levenhookia dubia* (Hairy Stylewort)  
 1445. 7676 *Levenhookia pusilla* (Midget Stylewort)  
 1446. 7677 *Levenhookia stipitata* (Common Stylewort)  
 1447. 59 *Lindsaea linearis* (Screw Fern)  
 1448. 4363 *Linum trigynum* (French Flax) Y  
 1449. 36178 *Liparophyllum lasiospermum*  
 1450. 36180 *Liparophyllum latifolium*  
 1451. 9289 *Lobelia anceps* (Angled Lobelia)  
 1452. 7403 *Lobelia heterophylla* (Wing-seeded Lobelia)  
 1453. 7405 *Lobelia rarifolia*  
 1454. 7406 *Lobelia rhombifolia* (Tufted Lobelia)  
 1455. 7408 *Lobelia tenuior* (Slender Lobelia)  
 1456. 36840 *Lobelia tenuior* subsp. *tenuior*  
 1457. 3048 *Lobularia maritima* (Sweet Alyssum) Y  
 1458. 6506 *Logania campanulata* (Bell-flowered Logania)  
 1459. 13128 *Logania serpyllifolia* subsp. *angustifolia*  
 1460. 14551 *Logania serpyllifolia* subsp. *serpyllifolia*  
 1461. 6515 *Logania vaginalis* (White Spray)  
 1462. 475 *Lolium multiflorum* (Italian Ryegrass) Y  
 1463. 476 *Lolium perenne* (Perennial Ryegrass) Y  
 1464. 478 *Lolium rigidum* (Wimmera Ryegrass) Y  
 1465. 1222 *Lomandra brittanii*  
 1466. 1229 *Lomandra integra*  
 1467. 14542 *Lomandra micrantha* subsp. *micrantha*  
 1468. 1234 *Lomandra nigricans*  
 1469. 1236 *Lomandra odora* (Tiered Matrush)  
 1470. 1238 *Lomandra pauciflora*  
 1471. 1240 *Lomandra purpurea* (Purple Mat Rush)  
 1472. 1243 *Lomandra sericea* (Silky Mat Rush)

1473. 1244 *Lomandra sonderi*  
 1474. 1246 *Lomandra suaveolens*  
 1475. 4059 *Lotus angustissimus* (Narrowleaf Trefoil) Y  
 1476. 8564 *Lotus subbiflorus* Y  
 1477. 4063 *Lotus uliginosus* (Greater Lotus) Y  
 1478. 1092 *Loxocarya cinerea*  
 1479. 1097 *Lyginia barbata*  
 1480. 18049 *Lyginia imberbis*  
 1481. 1656 *Lyperanthus serratus* (Rattle Beak Orchid)  
 1482. 6456 *Lysinema ciliatum* (Curry Flower)  
 1483. 6457 *Lysinema conspicuum*  
 1484. 34736 *Lysinema pentapetalum*  
 1485. 5281 *Lythrum hyssopifolia* (Lesser Loosestrife) Y  
 1486. 18119 *Macrozamia fraseri*  
 1487. 85 *Macrozamia riedlei* (Zamia, Djiridji)  
 1488. 36522 *Malva pseudolavatera* Y  
 1489. 17637 *Marianthus candidus* (White Marianthus)  
 1490. 17636 *Marianthus coeruleopunctatus* (Blue-spotted Marianthus)  
 1491. 25822 *Marianthus sylvaticus*  
 1492. 4072 *Medicago arabica* (Spotted Medic) Y  
 1493. 4076 *Medicago lupulina* (Black Medic) Y  
 1494. 4079 *Medicago polymorpha* (Burr Medic) Y  
 1495. 17679 *Meeboldina coangustata*  
 1496. 1098 *Meeboldina denmarkica*  
 1497. 17694 *Meeboldina scariosa*  
 1498. *Meeboldina* sp.  
 1499. 17693 *Meeboldina thysanantha* P3  
 1500. *Meeboldina thysanantha* MS  
 1501. 34676 *Meionectes brownii* (Swamp Raspwort)  
 1502. 40780 *Melaleuca citrina* Y  
 1503. 5900 *Melaleuca cuticularis* (Saltwater Paperbark)  
 1504. 5902 *Melaleuca densa*  
 1505. 5921 *Melaleuca incana* (Grey Honeymyrtle)  
 1506. 5922 *Melaleuca lanceolata* (Rottnest Teatree, Moonah)  
 1507. 5926 *Melaleuca lateritia* (Robin Redbreast Bush)  
 1508. 5938 *Melaleuca microphylla*  
 1509. 13274 *Melaleuca ordinifolia* P2  
 1510. 5946 *Melaleuca pauciflora*  
 1511. 5952 *Melaleuca preissiana* (Moonah)  
 1512. 5959 *Melaleuca raphiophylla* (Swamp Paperbark)  
 1513. *Melaleuca* sp.  
 1514. 5968 *Melaleuca spathulata*  
 1515. 5980 *Melaleuca thymoides*  
 1516. 37683 *Melaleuca viminalis* P2  
 1517. 5987 *Melaleuca viminea* (Mohan)  
 1518. 4085 *Melilotus indicus* Y  
 1519. 6883 *Mentha pulegium* (Pennyroyal) Y  
 1520. 957 *Mesomelaena tetragona* (Semaphore Sedge)  
 1521. 485 *Microlaena stipoides* (Weeping Grass)  
 1522. 1657 *Microtis alba* (White Mignonette Orchid)  
 1523. 34158 *Microtis alboviridis*

1524. 1658 *Microtis atrata* (Swamp Mignonette Orchid)  
1525. 8814 *Microtis brownii*  
1526. 10954 *Microtis media* (Tall Mignonette Orchid)  
1527. 12761 *Microtis media* subsp. *densiflora*  
1528. 15419 *Microtis media* subsp. *media*  
1529. 1662 *Microtis pulchella* (Beautiful Mignonette Orchid) P4  
1530. *Microtis* sp.  
1531. 4090 *Mirbelia dilatata* (Holly-leaved Mirbelia)  
1532. 4096 *Mirbelia ovata*  
1533. 4963 *Modiola caroliniana* Y  
1534. 2412 *Muehlenbeckia adpressa* (Climbing Lignum)  
1535. 7295 *Myoporum tetrandrum* (Boobialla)  
1536. 6198 *Myriophyllum salsugineum*  
1537. 6139 *Oenothera glazioviana* (Evening Primrose) Y  
1538. 2366 *Oxalys phyllanthi*  
1539. 8127 *Olearia axillaris* (Coastal Daisybush)  
1540. 8133 *Olearia elaeophila*  
1541. 8143 *Olearia paucidentata* (Autumn Scrub Daisy)  
1542. 7348 *Opercularia hispidula* (Hispid Stinkweed)  
1543. 18255 *Opercularia vaginata* (Dog Weed)  
1544. 7354 *Opercularia volubilis* (Twining Stinkweed)  
1545. 36181 *Ornduffia parnassifolia*  
1546. 36200 *Ornduffia submersa* P4  
1547. 4113 *Ornithopus compressus* (Yellow Serradella) Y  
1548. 7122 *Orobanche minor* (Lesser Broomrape) Y  
1549. 32406 *Orthodontium lineare*  
1550. 4349 *Oxalis corniculata* (Yellow Wood Sorrel) Y  
1551. 18331 *Oxalis debilis* var. *corymbosa* (Pink Shamrock) Y  
1552. 30375 *Oxalis exilis*  
1553. 4354 *Oxalis incarnata* Y  
1554. 516 *Parapholis incurva* (Coast Barbgrass) Y  
1555. 17114 *Paraserianthes lophantha* subsp. *lophantha*  
1556. 7090 *Parentucellia viscosa* (Sticky Bartsia) Y  
1557. 1762 *Parietaria debilis* (Pellitory)  
1558. 527 *Paspalum dilatatum* Y  
1559. 528 *Paspalum distichum* (Water Couch) Y  
1560. 533 *Paspalum vaginatum* (Salt Water Couch) Y  
1561. 5225 *Passiflora filamentosa* Y  
1562. 1550 *Patersonia occidentalis* (Purple Flag, Koma)  
1563. 1551 *Patersonia pygmaea* (Pygmy Patersonia)  
1564. 14432 *Patersonia umbrosa* var. *umbrosa*  
1565. 4343 *Pelargonium capitatum* (Rose Pelargonium) Y  
1566. 4346 *Pelargonium littorale*  
1567. 6246 *Pentapeltis silvatica* (Southern Pentapeltis)  
1568. 6006 *Pericalymma ellipticum* (Swamp Teatree)  
1569. 15501 *Pericalymma spongiocaulum*  
1570. 11020 *Persicaria hydropiper*  
1571. 2262 *Persoonia elliptica* (Spreading Snottygobble)  
1572. 2267 *Persoonia longifolia* (Snottygobble)  
1573. 2282 *Petrophile acicularis*  
1574. 2293 *Petrophile diversifolia*



1575. 2306 *Petrophile rigida*  
1576. 17765 *Petrophile squamata* subsp. *squamata*  
1577. 548 *Phalaris aquatica* (*Phalaris*) Y  
1578. 20460 *Pheladenia deformis*  
1579. 18530 *Philothea nodiflora*  
1580. 1173 *Philydrella pygmaea* (*Butterfly Flowers*)  
1581. 16177 *Phyllangium paradoxum*  
1582. 4140 *Phyllota barbata*  
1583. 2793 *Phytolacca octandra* (*Red Ink Plant*) Y  
1584. 5231 *Pimelea angustifolia* (*Narrow-leaved Pimelea*)  
1585. 5239 *Pimelea clavata*  
1586. 5242 *Pimelea erecta*  
1587. 5243 *Pimelea ferruginea*  
1588. 5249 *Pimelea hispida* (*Bristly Pimelea*)  
1589. 11402 *Pimelea imbricata* var. *piligera*  
1590. 5252 *Pimelea lanata*  
1591. 5255 *Pimelea longiflora*  
1592. 11639 *Pimelea longiflora* subsp. *longiflora*  
1593. 5261 *Pimelea rosea* (*Rose Banjine*)  
1594. 18117 *Pimelea rosea* subsp. *rosea*  
1595. *Pimelea* sp.  
1596. 5264 *Pimelea spectabilis* (*Bunjong*)  
1597. 5266 *Pimelea suaveolens* (*Scented Banjine*)  
1598. 5269 *Pimelea sylvestris*  
1599. 5270 *Pimelea tinctoria*  
1600. 42281 *Pithocarpa cordata*  
1601. 18352 *Pithocarpa pulchella* var. *melanostigma*  
1602. 42260 *Pithocarpa ramosa*  
1603. 7303 *Plantago lanceolata* (*Ribwort Plantain*) Y  
1604. 6249 *Platysace compressa* (*Tapeworm Plant*)  
1605. 6253 *Platysace filiformis*  
1606. 6258 *Platysace pendula*  
1607. 4524 *Platytheca galioides*  
1608. 4525 *Platytheca juniperina*  
1609. 32478 *Pleuridium nervosum* var. *nervosum*  
1610. 19062 *Pleurophascum occidentale* P4  
1611. *Plumatichilos turfosa*  
1612. 573 *Poa drummondiana* (*Knotted Poa*)  
1613. 577 *Poa poiiformis* (*Coastal Poa*)  
1614. 16098 *Poa poiiformis* var. *poiiformis*  
1615. 578 *Poa porphyroclados*  
1616. *Poa* sp.  
1617. 86 *Podocarpus drouynianus* (*Wild Plum, Kula*)  
1618. 8175 *Podolepis gracilis* (*Slender Podolepis*)  
1619. 8182 *Podotrochea angustifolia* (*Sticky Longheads*)  
1620. 29919 *Polianthion wichurae*  
1621. 2905 *Polycarpon tetraphyllum* (*Fourleaf Allseed*) Y  
1622. 4578 *Polygala virgata* Y  
1623. 2419 *Polygonum aviculare* (*Wireweed*) Y  
1624. 582 *Polypogon monspeliensis* (*Annual Beardgrass*) Y  
1625. 4688 *Poranthera drummondii*

1626. 4690 *Poranthera huegelii*  
1627. 4691 *Poranthera microphylla* (Small Poranthera)  
1628. 15424 *Praecoxanthus aphyllus*  
1629. 1668 *Prasophyllum brownii*  
1630. 11066 *Prasophyllum cucullatum* (Hooded Leek Orchid)  
1631. 1670 *Prasophyllum drummondii* (Swamp Leek Orchid)  
1632. 1672 *Prasophyllum fimbria* (Fringed Leek Orchid)  
1633. 17650 *Prasophyllum odoratissimum*  
1634. 1679 *Prasophyllum ovale* (Little Leek Orchid)  
1635. 1680 *Prasophyllum parvifolium* (Autumn Leek Orchid)  
1636. *Prasophyllum paulinae*  
1637. 1681 *Prasophyllum regium* (King Leek Orchid)  
1638. 44084 *Prasophyllum* sp. early (G. Brockman GBB 1626)  
1639. 6927 *Prunella vulgaris* (Self Heal) Y  
1640. 36219 *Pseudocrossidium hornschurchianum*  
1641. 4155 *Psoralea pinnata* (African Scurfpea) Y  
1642. 57 *Pteridium esculentum* (Bracken)  
1643. 18658 *Pterostylis* sp. short sepals (W. Jackson BJ259)  
1644. 1698 *Pterostylis vittata* (Banded Greenhood)  
1645. 2720 *Ptilotus esquamatus*  
1646. 2727 *Ptilotus gaudichaudii*  
1647. 32417 *Ptychostomum angustifolium*  
1648. 4165 *Pultenaea barbata*  
1649. 4181 *Pultenaea reticulata*  
1650. 4186 *Pultenaea tenuifolia*  
1651. 16368 *Pyrorchis forrestii*  
1652. 8195 *Quinetia urvillei*  
1653. 32480 *Racopilum cuspidigerum* var. *convolutaceum*  
1654. *Radula buccinifera*  
1655. 32421 *Rhacocarpus purpurascens*  
1656. 18547 *Rhadinothamnus anceps*  
1657. 11341 *Rhagodia baccata* subsp. *baccata*  
1658. 13300 *Rhodanthe citrina*  
1659. *Riccardia aequicellularis*  
1660. *Riccardia bipinnatifida*  
1661. *Riccardia graeffei*  
1662. 4695 *Ricinocarpus glaucus*  
1663. 17020 *Robinia pseudoacacia* Y  
1664. 16243 *Rosa canina* Y  
1665. 32424 *Rosulabryum albolimbatum*  
1666. 44608 *Rosulabryum billardierii*  
1667. 32426 *Rosulabryum campylothecium*  
1668. *Rosulabryum* sp.  
1669. 32429 *Rosulabryum torquescens*  
1670. 20506 *Rubus anglocandicans* Y  
1671. 2432 *Rumex conglomeratus* (Clustered Dock) Y  
1672. 2433 *Rumex crispus* (Curled Dock) Y  
1673. 2437 *Rumex frutescens* Y  
1674. 12017 *Rumex pulcher* subsp. *pulcher* (Fiddle Dock) Y  
1675. 2447 *Rumex x pseudopulcher* Y  
1676. 40431 *Rytidosperma acerosum*

1677. 40425 *Rytidosperma caespitosum*  
1678. 40430 *Rytidosperma pilosum*  
1679. 40428 *Rytidosperma racemosum*  
1680. 40427 *Rytidosperma setaceum*  
1681. 2906 *Sagina apetala* (Annual Pearlwort) Y  
1682. 79 *Salvinia molesta* (*Salvinia*) Y  
1683. 6483 *Samolus junceus*  
1684. 6484 *Samolus repens* (Creeping Brookweed)  
1685. 3192 *Sanguisorba minor* (Sheep's Burnet) Y  
1686. 2593 *Sarcocornia quinqueflora* (Beaded Samphire)  
1687. 7598 *Scaevola auriculata*  
1688. 7613 *Scaevola glandulifera* (Viscid Hand-flower)  
1689. 7614 *Scaevola globulifera*  
1690. 7624 *Scaevola microphylla* (Small-leaved Scaevola)  
1691. 7626 *Scaevola nitida* (Shining Fanflower)  
1692. 7634 *Scaevola phlebopetala* (Velvet Fanflower)  
1693. 7646 *Scaevola striata* (Royal Robe)  
1694. 13175 *Scaevola striata* var. *striata*  
1695. 41660 *Schenkia australis*  
1696. 24 *Schizaea fistulosa* (Narrow Comb Fern)  
1697. 6263 *Schoenolaena juncea*  
1698. 970 *Schoenus acuminatus*  
1699. 983 *Schoenus cruentus*  
1700. 986 *Schoenus efoliatus*  
1701. 8312 *Schoenus maschalinus*  
1702. 1001 *Schoenus multiglumis*  
1703. 1004 *Schoenus nitens* (Shiny Bog-rush)  
1704. 1006 *Schoenus odontocarpus*  
1705. 1017 *Schoenus subbulbosus*  
1706. 1018 *Schoenus subfascicularis*  
1707. 1021 *Schoenus sublaxus*  
1708. 1023 *Schoenus tenellus*  
1709. 7651 *Selliera radicans* P1  
1710. 32433 *Sematophyllum homomallum*  
1711. 32483 *Sematophyllum subhumile* var. *contiguum*  
1712. 8208 *Senecio hispidulus* (Hispid Fireweed)  
1713. 20663 *Senecio multicaulis* subsp. *multicaulis*  
1714. 25884 *Senecio pinnatifolius* var. *latilobus*  
1715. 8218 *Senecio ramosissimus* (Auricled Groundsel)  
1716. *Senecio* sp.  
1717. 19453 *Setaria parviflora* Y  
1718. 11803 *Silene gallica* var. *quinquevulnera* Y  
1719. 8225 *Siloxerus humifusus* (Procumbent Siloxerus)  
1720. *Siloxerus* sp.  
1721. 7017 *Solanum laciniatum* (Kangaroo Apple) Y  
1722. 9259 *Solanum nodiflorum* (Glossy Nightshade)  
1723. 8231 *Sonchus oleraceus* (Common Sowthistle) Y  
1724. 1312 *Sowerbaea laxiflora* (Purple Tassels)  
1725. 4200 *Sphaerolobium alatum*  
1726. 20348 *Sphaerolobium calcicola* P3  
1727. 17551 *Sphaerolobium drummondii*

1728. 4204 *Sphaerolobium grandiflorum*  
1729. 20302 *Sphaerolobium hygrophilum*  
1730. 4205 *Sphaerolobium linophyllum*  
1731. 4207 *Sphaerolobium medium*  
1732. 4211 *Sphaerolobium vimineum* (Leafless Globe Pea)  
1733. 31931 *Sphenotoma capitata*  
1734. 31952 *Sphenotoma gracilis* (Swamp Paper-heath)  
1735. 31951 *Sphenotoma parviflora*  
1736. *Sphenotoma* sp.  
1737. 31932 *Sphenotoma squarrosa*  
1738. 14915 *Sporadanthus strictus*  
1739. 8710 *Sporobolus africanus* (Parramatta Grass) Y  
1740. 635 *Sporobolus virginicus* (Marine Couch)  
1741. 27310 *Spyridia filamentosa*  
1742. 4828 *Spyridium globulosum* (Basket Bush)  
1743. 6930 *Stachys arvensis* (Staggerweed) Y  
1744. 18381 *Stenotalis ramosissima*  
1745. 636 *Stenotaphrum secundatum* (Buffalo Grass) Y  
1746. 2318 *Stirlingia tenuifolia*  
1747. 2320 *Strangea stenocarpoides*  
1748. 44492 *Stuckenia pectinata*  
1749. 39881 *Stylidium acuminatum* subsp. *meridionale*  
1750. 7678 *Stylidium adnatum* (Common Beaked Triggerplant)  
1751. 7684 *Stylidium amoenum* (Lovely Triggerplant)  
1752. 17669 *Stylidium amoenum* var. *caulescens*  
1753. 39880 *Stylidium angustifolium* subsp. *glaucifolium*  
1754. 7687 *Stylidium assimile* (Bronze-leaved Triggerplant)  
1755. 7695 *Stylidium caespitosum* (Fly-away Triggerplant)  
1756. 7696 *Stylidium calcaratum* (Book Triggerplant)  
1757. 7708 *Stylidium crassifolium* (Thick-leaved Triggerplant)  
1758. 40944 *Stylidium decipiens*  
1759. 7712 *Stylidium despectum* (Dwarf Triggerplant)  
1760. 7717 *Stylidium divaricatum* (Daddy-long-legs)  
1761. 7733 *Stylidium glaucum* (Grey Triggerplant)  
1762. 7734 *Stylidium guttatum* (Dotted Triggerplant)  
1763. 7745 *Stylidium junceum* (Reed Triggerplant)  
1764. 7746 *Stylidium laciniatum* (Tattered Triggerplant)  
1765. 7757 *Stylidium luteum* (Yellow Triggerplant)  
1766. 25851 *Stylidium nymphaeum*  
1767. 7774 *Stylidium piliferum* (Common Butterfly Triggerplant)  
1768. 20694 *Stylidium planirosulum*  
1769. 7778 *Stylidium pritzelianum* (Royal Triggerplant)  
1770. 7782 *Stylidium pulchellum* (Thumbelina Triggerplant)  
1771. 7784 *Stylidium pygmaeum* (Pygmy Triggerplant)  
1772. 7785 *Stylidium repens* (Matted Triggerplant)  
1773. 7787 *Stylidium rhynchocarpum* (Black-beaked Triggerplant)  
1774. 7796 *Stylidium scandens* (Climbing Triggerplant)  
1775. 7798 *Stylidium schoenoides* (Cow Kicks)  
1776. *Stylidium* sp.  
1777. 7799 *Stylidium spathulatum* (Creamy Triggerplant)  
1778. 11223 *Stylidium spinulosum* subsp. *spinulosum*

1779. 7802 *Stylidium squamosotuberosum* (Fleshy-rhizomed Trigger Plant)
1780. 1260 *Stypandra glauca* (Blind Grass)
1781. 2322 *Synaphea favosa*
1782. 16859 *Synaphea incurva* P1
1783. 12911 *Synaphea obtusata*
1784. 16864 *Synaphea petiolaris* subsp. *petiolaris*
1785. 16863 *Synaphea petiolaris* subsp. *triloba*
1786. 2326 *Synaphea polymorpha* (Albany Synaphea, Pinda)
1787. 2328 *Synaphea reticulata*
1788. 32439 *Syntrichia papillosa*
1789. 15827 *Taraxis grossa*
1790. 20100 *Taxandria angustifolia*
1791. 20114 *Taxandria fragrans*
1792. 20115 *Taxandria juniperina*
1793. 20135 *Taxandria linearifolia*
1794. 20134 *Taxandria marginata*
1795. 20133 *Taxandria parviceps*
1796. 32440 *Tayloria octoblepharum*
1797. *Tecticornia* sp.
1798. 4256 *Templetonia retusa* (Cockies Tongues)
1799. 2823 *Tetragonia implexicoma* (Bower Spinach)
1800. 1034 *Tetragonia capillaris* (Hair Sedge)
1801. 1036 *Tetragonia octandra*
1802. *Tetragonia* sp.
1803. 35578 *Tetragonia* sp. Blackwood River (A.R. Annel 3043) P3
1804. 35579 *Tetragonia* sp. Jarrah Forest (R. Davis 7391)
1805. 667 *Tetragonia laevis* (Forrest Ricegrass)
1806. 4526 *Tetragonia affinis*
1807. 4536 *Tetragonia hispidissima*
1808. 1701 *Thelymitra antennifera* (Vanilla Orchid)
1809. 10856 *Thelymitra benthamiana* (Leopard Orchid)
1810. 1704 *Thelymitra cornicina* (Lilac Sun Orchid)
1811. 1706 *Thelymitra cucullata* (Swamp Sun Orchid)
1812. 1707 *Thelymitra flexuosa* (Twisted Sun Orchid)
1813. 11053 *Thelymitra macrophylla*
1814. 5091 *Thomasia paniculata*
1815. 5092 *Thomasia pauciflora* (Few Flowered Thomasia)
1816. 5094 *Thomasia purpurea*
1817. 5096 *Thomasia quercifolia* (Oak Leaved Thomasia) P4
1818. 5097 *Thomasia rhynchocarpa*
1819. 5100 *Thomasia solanacea* P4
1820. 33488 *Thomasia* sp. Vasse (C. Wilkins & K. Shepherd CW 581)
1821. 32442 *Thuidium sparsum*
1822. 1333 *Thysanotus glaucifolius*
1823. 1339 *Thysanotus multiflorus* (Many-flowered Fringe Lily)
1824. 1351 *Thysanotus sparteus*
1825. *Tortula* sp.
1826. *Tradescantia* sp.
1827. 4547 *Tremandra diffusa*
1828. 4548 *Tremandra stelligera*
1829. 17684 *Tremulina tremula*

1830. *Tribolium confusum*  
1831. 1481 *Tribonanthes australis*  
1832. *Tribonanthes* sp.  
1833. 32450 *Trichostomum eckelianum*  
1834. 1361 *Tricoryne elatior* (Yellow Autumn Lily)  
1835. 1362 *Tricoryne humilis*  
1836. 17145 *Trifolium angustifolium* var. *angustifolium* Y  
1837. 17542 *Trifolium arvense* var. *arvense* Y  
1838. 17763 *Trifolium campestre* var. *campestre* (Hop Clover) Y  
1839. 4293 *Trifolium cernuum* (Drooping Flower Clover) Y  
1840. 4295 *Trifolium dubium* (Suckling Clover) Y  
1841. 4302 *Trifolium ligusticum* (Ligurian Clover) Y  
1842. 4312 *Trifolium striatum* (Knotted Clover) Y  
1843. 4313 *Trifolium subterraneum* (Subterranean Clover) Y  
1844. 15509 *Trifolium tomentosum* var. *tomentosum* Y  
1845. 151 *Triglochin striata*  
1846. 34963 *Trihaloragis hexandra*  
1847. 4737 *Tripterococcus brunonis* (Winged Stackhousia)  
1848. 33019 *Trithuria australis* P4  
1849. 33418 *Trymalium odoratissimum* subsp. *odoratissimum*  
1850. 33438 *Trymalium odoratissimum* subsp. *trifidum*  
1851. 15145 *Trymalium venustum*  
1852. 7148 *Utricularia multifida*  
1853. 7150 *Utricularia simplex* (Bluecoats)  
1854. 7662 *Velleia macrophylla* (Large-leaved Velleia)  
1855. 7665 *Velleia trinervis*  
1856. 8257 *Vellereophyton dealbatum* (White Cudweed) Y  
1857. *Vellereophyton* sp.  
1858. 7107 *Verbascum virgatum* (Twiggy Mullein) Y  
1859. 36096 *Verbena incompta* (Purple-top Verbena) Y  
1860. 7108 *Veronica arvensis* (Wall Speedwell) Y  
1861. 12459 *Verticordia sieberi* var. *curta*  
1862. 4320 *Vicia hirsuta* (Hairy Vetch) Y  
1863. 11474 *Vicia sativa* subsp. *nigra* Y  
1864. 11137 *Vulpia fasciculata* Y  
1865. 724 *Vulpia myuros* (Rat's Tail Fescue) Y  
1866. 33101 *Vulpia myuros* forma *myuros* Y  
1867. *Vulpia* sp.  
1868. 32455 *Weissia controversa*  
1869. 6939 *Westringia dampieri*  
1870. 6659 *Wilsonia humilis* (Silky Wilsonia)  
1871. 12072 *Wurmbea dioica* subsp. *alba*  
1872. 1402 *Wurmbea sinora*  
1873. 1256 *Xanthorrhoea preissii* (Grass tree, Palga)  
1874. *Xanthorrhoea* sp.  
1875. 6284 *Xanthosia candida*  
1876. 18453 *Xanthosia eichleri* P4  
1877. 6289 *Xanthosia huegelii*  
1878. 6292 *Xanthosia rotundifolia* (Southern Cross)  
1879. *Xanthosia* sp.  
1880. 19938 *Xerochrysum bracteatum*

1881. 1149 *Xyris lacera*

1882. 1150 *Xyris lanata*

1883. 32457 *Zygodon intermedius*

## APPENDIX B: Definitions of Conservation Codes

*Under the Wildlife Conservation Act 1950, the Minister for the Environment may declare species of flora to be protected if they are considered to be in danger of extinction, rare or otherwise in need of special protection. Schedules 1 and 2 deal with those that are threatened and that are presumed extinct, respectively.*

- **T: Threatened Flora (Declared Rare Flora — Extant)**

*Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such (Schedule 1 under the Wildlife Conservation Act 1950).*

*Threatened Flora (Schedule 1) are further ranked by the Department according to their level of threat using International Union for Conservation of Nature (IUCN) Red List criteria:*

*CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild*

*EN: Endangered – considered to be facing a very high risk of extinction in the wild*

*VU: Vulnerable – considered to be facing a high risk of extinction in the wild.*

- **X: Presumed Extinct Flora (Declared Rare Flora — Extinct)**

*Taxa which have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such (Schedule 2 under the Wildlife Conservation Act 1950).*

*Taxa that have not yet been adequately surveyed to be listed under Schedule 1 or 2 are added to the Priority Flora List under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.*

*Taxa that are adequately known, are rare but not threatened, or meet criteria for Near Threatened, or that have been recently removed from the threatened list for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring. “Conservation Dependent” species are placed in Priority 5.*

- **Priority 1** - Poorly known Taxa. Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey;
- **Priority 2** - Poorly Known Taxa. Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey;
- **Priority 3** - Poorly Known Taxa. Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey;
- **Priority 4** - Rare Taxa. Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years; and
- **Priority 5** - Taxa that are not threatened but are subject to a specific conservation program, the cessation of which would result in the taxon becoming threatened within five years



**APPENDIX C: Structural Classification used for Vegetation Mapping (Keighery 1994)**

Life form/ height class	Canopy Cover			
	100-70%	70-30%	30-10%	<10%
Trees > 30	Tall Closed Forest	Open Forest	Tall Woodland	Tall Open Woodland
Trees 10-30	Closed Forest	Open Forest	Woodland	Open Woodland
Trees < 10m	Low Closed Forest	Low open Forest	Low Woodland	Low Open Woodland
Tree Mallee	Closed Tree Mallee	Tree Mallee	Open Tree Mallee	Very Open Tree Mallee
Shrub Mallee	Closed Shrub Mallee	Shrub Mallee	Open Shrub Mallee	Very Open Shrub Mallee
Shrubs >2m	Closed Tall Scrub	Tall Open Scrub	Tall Shrubland	Tall Open Shrubland
Shrubs 1-2m	Closed Heath	Open Heath	Shrubland	Open Shrubland
Shrubs <1m	Closed Low Heath	Open Low Heath	Low Shrubland	Low Open Shrubland
Grasses	Closed Grassland	Grassland	Open Grassland	Very Open Grassland
Herbs	Closed Herbland	Herbland	Open Herbland	Very Open Herbland
Sedges	Closed Sedgeland	Sedgeland	Open Sedgeland	Very Open Sedgeland

**Table 9.1 Structural Classification (Keighery 1994)**

Life form / height class	Canopy cover			
	100-70%	70-30%	30-10%	10-2%
Trees over 30 Trees 10-30m Trees under 10 m	Tall Closed Forest Closed Forest Low Closed Forest	Open Forest Open Forest Low Open forest	Tall woodland Woodland Low Woodland	Tall Open Woodland Open Woodland Low Open Woodland
Tree Mallee Shrub Mallee	Closed Tree Mallee Closed Shrub Mallee	Tree mallee Shrub Mallee	Open Tree Mallee Open Shrub Mallee	Very Open Tree Mallee Very Open Shrub Mallee
Shrubs over 2m Shrubs 1-2m Shrubs under 1m	Closed Tall Scrub Closed Heath Closed Low Heath	Tall Open Scrub Open Heath Open Low Heath	Tall Shrubland Shrubland Low Shrubland	Tall Open Shrubland Open Shrubland Low Open Shrubland
Grasses	Closed Grassland	Grassland	Open Grassland	Very Open Grassland
Herbs	Closed Herbland	Herbland	Open Herbland	Very Open Herbland
Sedges	Closed Sedgeland	Sedgeland	Open Sedgeland	Very Open Sedgeland

#### **APPENDIX D: 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 weed 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.