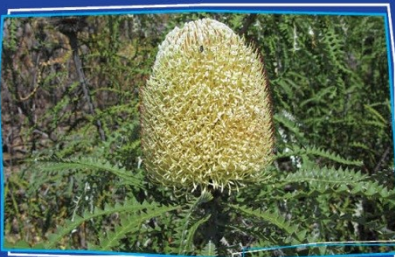


Rehabilitation Plan  
CPS 9524/1  
Site A – Cascade Road and Gravel Pits



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## 1 Executive Summary

This 'Rehabilitation Plan' has been undertaken in accordance with the 'DWERs Guide to Preparing Revegetation Plans for Clearing Permits' as part of the Shire of Esperance's CPS 9524/1 Strategic Purpose Permit application to the Department of Water and Environmental Regulation (DWER). 'Site A - Cascade Road and Gravel Pits' under CPS 9524/1, proposes 6.56 ha of native vegetation clearing, of which 5.64 ha is for the purpose of gravel extraction.

## 2 Location

The site is located ~110 km northwest of Esperance and ~22 km northwest of Cascade town-site, within the Shire of Esperance managed road reserve of Cascade Road. The project includes;

- Road widening at straight line kilometre (SLK) 73.59 to 75.89.
- Gravel pit 1, located at the intersection of Rollond Road and Cascade Road, at straight line kilometre (SLK) 83.45 to 83.21 on Rollond Road and SLK 75.56 to 75.37 on Cascade Road (Main Roads 2023).
- Gravel Pit 2, is located approximately 0.6 km west of Cascade Road on West Point Road, specifically at SLK 0.54 to 0.78 on West Point Road (Main Roads 2023).

A point within the proposed clearing permit area is -33.3470 S, 120.8750 E (GDA94).

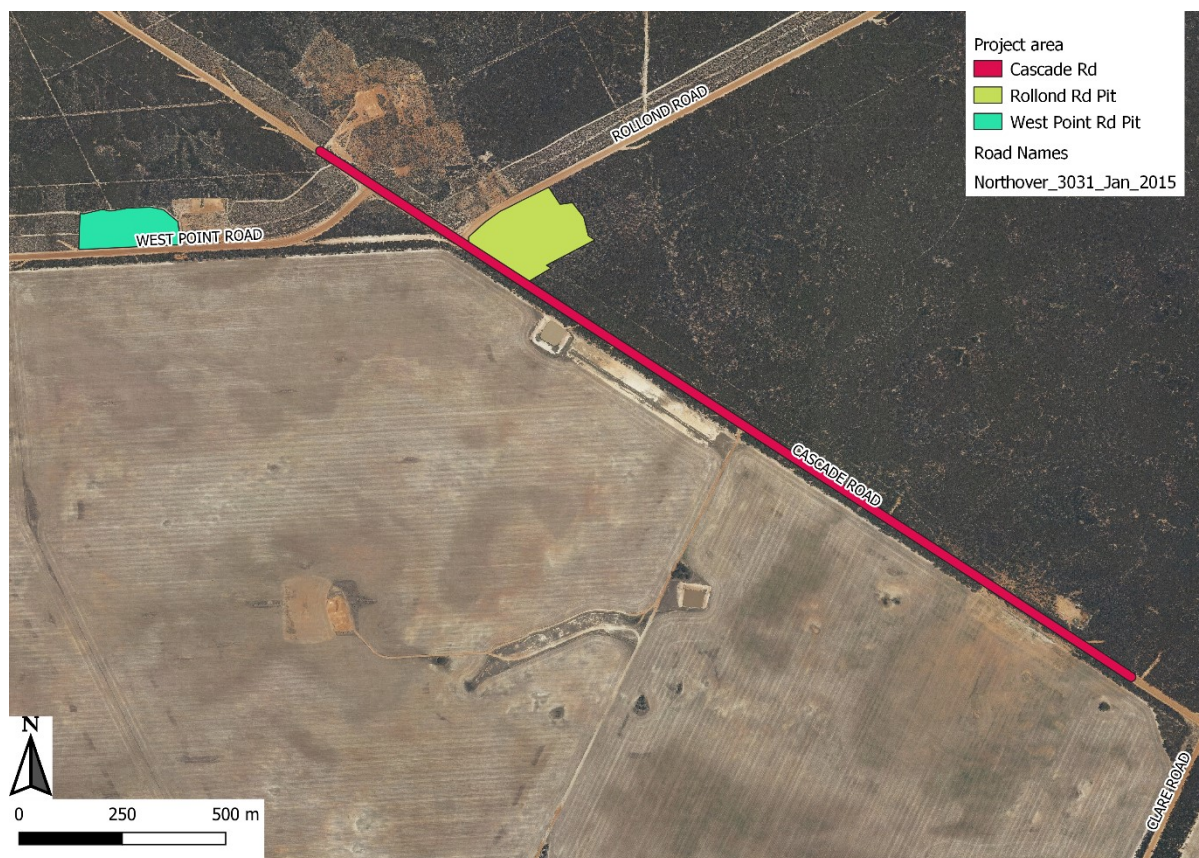


Figure 1. Location of 'Site A - Cascade Road and Gravel Pits', CPS 9524/1.

## 2.1 Revegetation area:

Only the two gravel pits will be revegetated constituting a total of 5.64ha. The Cascade road section will not be rehabilitated.

## 2.2 Revegetation objective:

The 100 m wide Cascade road reserve and 200 m wide West Point and Rollond road reserves are an important wildlife corridor for fauna. They also contain 1.32 ha of the Environmental Protection and Biodiversity Conservation (EPBC) Act 1999 listed 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia (Kwongkan) Threatened Ecological Community (Kwongkan TEC)'. The environmental values specific to this area include conserving the high diversity of Proteaceous species in the area and the critical role Kwongkan plays for Carnaby Black Cockatoo, *Calyptorhynchus latirostris*, foraging grounds.

The Shire of Esperance aims to restore the ecological values of the ecosystem present within the gravel pits, post gravel extraction by rehabilitating areas to become self-sustaining and representative of the original vegetation unit.

## 3 Background information of the Pre-Clearing Environment

### 3.1 Geology

Three geological units were identified within 'Site A – Cascade Road and Gravel Pits', by Schoknecht et al. (2004). They are described as:

- Sand or gravel plains.
- Quartz sand sheets commonly with pebbles or minor clay.
- Local calcrete, laterite, silcrete, silt, clay, alluvium, colluvium and Aeolian sand.

### 3.2 Soils

The soil of 'Site A – Cascade Road and Gravel Pits' is defined as red alkaline gradational soils of the Scaddan 4 Subsystem (Schoknecht et al. 2004).

### 3.3 Vegetation Community

The site is located within the Eastern Mallee (Mal01) Interim Biogeographic Regionalisation of Australia (Thackway & Cresswell 1995) region. The Mal01 is described as "the south-eastern of Yilgarn Craton is gently undulating, with partially occluded drainage. Mainly Mallee over Myrtaceous-Proteaceous heaths on duplex (sand over clay) soils. Melaleuca shrublands characterize alluvia, and Halosarcia low shrublands occur on saline alluvium. A mosaic of mixed Eucalypt woodlands and Mallee occur on calcareous earth plans, and sandplains overlying the Eocene Limestone strata in the East. Semi-arid (dry) and warm Mediterranean".

Beard (1973) described the area within the 'Site A – Cascade Road and Gravel Pits' area as Vegetation Association (VA) 512. VA 512 (Beard 1973) is described as 'shrublands; mallee scrub, *Eucalyptus eremophila* & Forrest's marlock (*E. forrestiana*)'.

**Table 1.** Vegetation associations mapped by Beard (1973) within the 'Site A – Cascade Road and Gravel Pits', and statistics on pre-European remaining areas.

Nt. Acronyms used include Interim Biogeographic Regionalisation of Australia (IBRA), Eastern Mallee (Mal01), local government area (LGA) and International Union of Conservation Nature (IUCN).

Vegetation Association	VA 512
Description	Shrublands; mallee scrub, <i>Eucalyptus eremophila</i> & Forrest's marlock ( <i>E. forrestiana</i> )
Pre-European extent in IBRA region Mal01 (%)	26.41%
Pre-European extent in LGA (%)	20.14%
Current extent conserved in IUCN area (%)	2.38

The entirety of the proposed impact area for the gravel pits was surveyed on foot in mid-spring, on 02/09/2020 and 15/09/2020 by Katie White, Rhaquelle Meiklejohn, Sophie Willsher and Danika Penson, Shire of Esperance's Environmental Officer and Environmental Field Assistants. Follow up surveys were conducted on 31/8/2021, 1/9/2021 and 28/9/2021 by Julie Waters and Katherine Walkerden to survey Cascade Road and perform population counts within the gravel pit areas.

Two vegetation communities were identified within the 'Site A – Cascade Road and Gravel Pits', as defined by structure and composition (Table 2; Figure 3). It is believed that the Beard (1973) vegetation associations identified in Section 3.7 are an appropriate match both vegetation types observed.

**Table 2.** Vegetation communities identified within proposed 'Site A – Cascade Road and Gravel Pits' project area.

Type	Description	Figure	Beard Vegetation Association	Area (ha)
A	Open <i>Eucalyptus pleurocarpa</i> and <i>Banksia media</i> dominated mallee woodland with <i>Acacia</i> , <i>Proteaceae</i> and <i>Goodeniaceae</i> understorey	4	512	4.27 ha
B	Mixed Mallee over Mixed <i>Melaleuca</i> shrubland with <i>Acacia</i> and <i>Goodeniaceae</i> understory	5	512	2.22 ha

The site has a high species richness, with a total of 210 native species identified within the clearing permit area (Appendix 1).



**Figure 2.** Vegetation type A identified in 'Site A – Cascade Road and Gravel Pits' project, described as 'Open *Eucalyptus pleurocarpa* and *Banksia media* dominated mallee woodland with *Acacia*, *Proteaceae* and *Goodeniaceae* understorey'



**Figure 3.** Vegetation type B identified in 'Site A – Cascade Road and Gravel Pits' project, described as 'Mixed Mallee over Mixed *Melaleuca* shrubland with *Acacia* and *Goodeniaceae* understorey'

### 3.4 Threatened Ecological Communities

The field survey narrowed the presence of Kwongkan TEC within a local level at the site. Parts of vegetation type A, described as 'Open *Eucalyptus pleurocarpa* and *Banksia media* dominated mallee woodland with *Acacia*, *Proteaceae* and *Goodeniaceae* understorey', met the criteria for the Kwongkan TEC. In total, 1.32 ha of vegetation was considered as Kwongkan TEC present within 'Site A – Cascade Road Gravel Pit' area, specifically located within Pit 1 and on Cascade Road adjacent to Pit 1. No vegetation type within Pit 2 was identified as being a PEC or TEC, however it was difficult to interpret as all vegetation types were regenerating from strategic firebreak chaining and fire.

### 3.2 Vegetation Condition

The majority of vegetation at 'Site A – Cascade Road and Gravel Pits' is in very good or excellent condition, however there are relatively small areas of poor and completely degraded vegetation. Previous gravel extraction, a rest area and maintenance tracks account for the relatively restricted areas of degraded vegetation. Some areas of the permit have been recently burnt, however the vegetation remains in very good condition, with virtually no weeds and good vegetation cover. Some scattered rubbish was noted around the rest area near Pit 1. Quantifying vegetation condition, there is:

- 6.46 ha of vegetation (98.51%) is in an excellent condition,
- 0.05 ha of vegetation (0.68%) is in poor condition, and
- 0.05 ha of vegetation (0.80%) is completely degraded.

### 3.5 *Phytophthora* Dieback

Very limited data collection on the presence of *Phytophthora cinnamomi* Dieback has been conducted on roadsides in Western Australia. No positive or negative sample points are collated on the Dieback Information Delivery and Management System (DIDMS; GAIA Resources, State NRM & SCNRM 2023). Vegetation is largely *P. cinnamomi* dieback susceptible, dominated by *Proteaceae* species. All susceptible species were extremely healthy, showing no signs of stress or key Dieback infection indicators. It is therefore probable the site remains un-infected by *P. cinnamomi*.

## 4 Implementation Plan

To meet the objectives of a successful scientific-based Revegetation Plan for CPS 8884/1 'Site A - Cascade Road and Gravel Pits', numerous factors need to be considered and will be implemented, including the reference site, weed control, pest and disease hygiene practices, site preparation, species selection, completion criteria, monitoring and adaptive management practices in the need of contingency measures. These are outlined in Sections 4.1 to 4.4, with key points highlighted below:

- Revegetation works will consist of spreading the stockpiled cleared vegetation and topsoil containing the natural stored soil seed bank directly from the site accumulated during gravel extraction works.
- Revegetation works will be carried out over April-June prior to the onset of the main winter rains in the year post clearing.
- The site will be monitored at 18, 30 and if required 42 months after the rehabilitation is completed, to be measured as successful against the completion criteria.

## 4.1 Pre-clearing vegetation assessment

The comprehensive vegetation community, ecological value and targeted flora surveys conducted in 2020, 2021 & 2022 and outlined in 'Vegetation, Flora, Fauna and Environmental Considerations Report, Site A – Cascade Road and Gravel Pits (2022)' will be used as the baseline data for the site to assess against the completion criteria. Drone aerials were conducted in April 2022 to establish baseline data to determine the success of the revegetation. No other reference site is required due to sufficient information on pre-clearing state.

## 4.2 Rehabilitation Methodology

Each pit will be cleared in within a single operation. A dozer will be used to remove vegetation, topsoil and the overburden (consisting of approximately 300 mm deep of soil before gravel layer). This valuable layer that contains large reservoirs of the soil seed bank and live clonal tissue will be stockpiled separately for re-spreading over the site at the completion of gravel extraction activities. The gravel layer within the soil profile will then be mined and stockpiled until used in the Cascade Road widening road project.

Rehabilitation works will commence at the site between April – June, following the removal of gravel from the site. This will involve spreading the stockpiled topsoil containing the soil seed bank from prior to clearing evenly across the site. The dozer will batter the edges of the extracted area to avoid erosion and attempt to blend the area into the natural contours of the surrounding road reserve. The site will be ripped to a depth of 200-350mm deep and topsoil spread over the area. No direct tube stock planting or direct seeding will occur immediately, and only be used as a contingency technique if this method fails.

## 4.3 Weed Control

Weed invasion across the site was extremely limited with no area containing high weed burdens. The only environmental weed of concern within the site was the Golden Wattle, *Acacia pycnantha*, which can quickly outcompete natives and can dominate the landscape. There was a single *Acacia pycnantha* tree within a previously disturbed section of the Rollond road pit. The following steps will be taken to minimise the risk of introduction and spread of weeds at the site:

- *Acacia pycnantha* trees have been removed. If *A. pycnantha* plants are present post-rehabilitation then they will continue to be removed, either manually or chemically.
- All machinery, plant and equipment shall be cleaned down and free of soil and vegetative matter prior to entering and leaving the site.

## 4.4 Disease Hygiene Management

There are a large number of plant pathogens that can be spread by moving infected soil and plant material. Specifically, of focus is *Phytophthora* dieback, such as *P. cinnamomi*. The project falls within the rainfall zone in which *Phytophthora* dieback may occur. Hygiene measures to minimise the risk of diseases are a standard part of Shire of Esperance's practices when clearing vegetation, including:

- All machinery, plant and equipment shall be free of soil and vegetative matter prior to entering and leaving the site.
- The movement of soil shall be avoided in wet conditions.

There were tentative signs of dieback presence within the West Point road reserve, the Shire of Esperance will ensure that proper hygiene measure take place to prevent cross contamination between the two gravel pits. The Shire of Esperance will use best practice clean down to ensure dieback is not introduced into the site due to our operations, however given that the site is on a public road, and accessible by the public, we cannot guarantee that dieback will not be introduced into the site by a member of the public and this may impact upon completion criteria.

## 5 Completion criteria

Prior to clearing, 57% of the Rollond road pit met the criteria for the 'Proteaceae Dominated Kwongkan Shrublands of the Southeast Coastal Floristic Province of Western Australia Threatened Ecological Community' (Kwongkan TEC) criteria, due to Criterion 2a: "Proteaceous species having a foliage cover of greater than 30%" (Commonwealth of Australia, 2014). Rehabilitation is considered to successfully return the site to pre-clearing ecological values when the rehabilitated vegetation once again meets the Kwongkan TEC criteria. However, Criterion 2b, described as: 'two or more diagnostic Proteaceae species are present that are likely to form a significant vegetative component when regenerated' will be used as a measure of whether the returning vegetation meets Kwongkan TEC criteria. The use of diagnostic species is for situations in which the cover of Proteaceae species is reduced due to recent disturbance, such as gravel extraction.

The West Point Road Gravel Pit is part of the chained firebreak maintained by DBCA and will unlikely never return to a natural state as a result of the regular chaining. A high species richness was present at the site, however dominant eucalypt species are unlikely to reach a reproductive age before being rechained and surveying for dominant species is not practical due to difficulties in accurate identification without mature fruit.

**Table 3.** Completion criteria following the SMART (specific, measurable, achievable, relevant, time-bound) principles for the rehabilitation of the Rollond Road gravel pit.

Criterion	Baseline Floristic data	Completion Target	Completion Criteria
1	A total of 12 Proteaceous species were recorded within the application area	66% of Proteaceous species return to the site	A total of at least 8 Proteaceous species present throughout the site.
2	<i>Eucalyptus pleurocarpa</i> and <i>Banksia media</i> are present as the dominant tree species although at low density	Return of dominant tree species	<i>Eucalyptus pleurocarpa</i> and <i>Banksia media</i> are present in the rehabilitation area scattered throughout at a density of one plant of each species per 400m <sup>2</sup>
3	<i>Acacia pycnantha</i> is present at the site (single plant)	Significant Environmental weed species are absent from the revegetation site.	No <i>Acacia pycnantha</i> plants are found in the rehabilitation area
4	Drone aerial showing 46% vegetation cover via Green Leaf Index	A majority of vegetation cover has returned.	Drone aerial showing 30% vegetation cover via Green Leaf Index



**Table 4.** Completion criteria following the SMART (specific, measurable, achievable, relevant, time-bound) principles for the rehabilitation of the West Point Road gravel pit.

Criterion	Baseline Floristic data	Completion Target	Completion Criteria
5	<i>Eucalyptus forrestiana</i> , <i>Eucalyptus kessellii</i> are present as the dominant tree species in neighbouring areas outside of the chain break	Return of Eucalypts species	<i>Eucalyptus</i> species are present in the rehabilitation area scattered throughout at a density of one plant per 400m <sup>2</sup>
6	A total of 96 species are present in the West Point Road Pit	Return of 66% of species richness	A total of 62 species are present in the West Point road Pit
7	Drone aerial showing 37% vegetation cover via Green Leaf Index	A majority of vegetation cover has returned.	Drone aerial showing 30% vegetation cover via Green Leaf Index

## 6 Monitoring

Monitoring of the rehabilitated area following gravel extraction will determine if completion criteria have been successful and if contingency measures are required (Section 7). The methodology for monitoring will involve onsite visual assessments to determine whether revegetation has been implemented as planned and that completion criteria have been met, as outlined in Table 1. Monitoring will occur annually by the Shire of Esperance's Environmental Officers, who have a tertiary level education in Environmental Science. Monitoring will coincide with the inspection period of the calendar year Annual Compliance report for CPS 9524/1, normally conducted between January and March. Drone aerials will begin five years after revegetation has occurred. This will continue until rehabilitation has been deemed successful.

Revegetation within the low rainfall region of Cascade is particularly slow and completion criteria are unlikely to be met until at least 7-8 years after revegetation has occurred.

## 7 Contingency measures

Where the rehabilitation is deemed unsuccessful by comparison to the completion criteria (Section 5), contingency measures will be undertaken, until the completion criteria are met sufficiently. This is an adaptive process and dependent on what completion criteria has failed. A few standard techniques are outlined below:

- If the composition of species does not meet criteria, such as return of at least 8 Proteaceous species, then specific species will be infill planted or seeded during the next revegetation season from April to June.
- If listed environmental weeds exist in the site then herbicide and or manual control will be applied to affected areas.

## 8 Species selection

Keystone and dominant species will be selected as a contingency measure if respreading topsoil and stockpiled vegetation has unsuccessful germination and does not meet the completion criteria. The incidental species list from the October 2020 survey (Appendix 1) will be the basis for determining species selection for seed and tubestock seedlings, based on availability. Seed can also be collected from the adjacent road reserve or under condition on the 202 ha UCL (Lot 1367 on Plan 215272) located immediately north of the gravel pit.

## 9 Reporting

The Annual Compliance Report for CPS 9524/1 will include a report on revegetation activities, outlining the measurable targets outlined in Tables 3 and 4 as the completion activities and results of the monitoring.

## 10 Responsibilities

**Table 5.** Responsible roles at the Shire of Esperance to implement the Revegetation Activities outlined in the Rehabilitation Plan for 'Site A - CPS 9524/1, Cascade Road and Gravel Pits'

<b>Role</b>	<b>Responsible Actions</b>
Rural Maintenance Supervisor	Revegetation implementation, record keeping and internal reporting
Environmental Coordinator / Environmental Officer	Monitoring rehabilitation and assessment against completion criteria Reporting to DWER on rehabilitation success (completed through annual reporting of CPS 9524/1)

## 11 References

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## Appendix 1 Incidental species list

**Table 6.** Flora species present within 'Site A - Cascade Road and Gravel Pits' application area. (October 2019)

Family	Genus	Species	Common Name	Weed	Cons Stat	Area		
						Rollond Road Pit	West Point Road Pit	Cascade Road
Aizoaceae	<i>Carpobrotus</i>	<i>modestus</i>	Inland Pigface			X		X
Amaranthaceae	<i>Ptilotus</i>	<i>polystachyus</i>	Prince-of-Wales Feather				X	X
Apiaceae	<i>Platysace</i>	<i>effusa</i>	Youlk			X	X	X
Asparagaceae	<i>Laxmannia</i>	<i>paleacea</i>						X
Asparagaceae	<i>Laxmannia</i>	<i>squarrosa</i>				X	X	
Asparagaceae	<i>Lomandra</i>	<i>micrantha</i> ssp. <i>teretifolia</i>				X	X	X
Asparagaceae	<i>Lomandra</i>	<i>mucronata</i>				X	X	X
Asparagaceae	<i>Thysanotus</i>	<i>patersonii</i>	Twining fringe lilly			X	X	
Asteraceae	<i>Arctotheca</i>	<i>calendula</i>	Cape Weed	X			X	
Asteraceae	<i>Brachyscome</i>	<i>ciliaris</i>	Variable daisy					X
Asteraceae	<i>Olearia</i>	<i>muricata</i>	Rough leaved daisy				X	
Asteraceae	<i>Vittadinia</i>	<i>gracilis</i>						X
Boraginaceae	<i>Halgania</i>	<i>andromedifolia</i>						X
Casuarinaceae	<i>Allocasuarina</i>	<i>acutivalvis</i> ssp. <i>acutivalvis</i>					X	
Casuarinaceae	<i>Casuarina</i>	<i>glauca</i>						X
Celastraceae	<i>Tripterococcus</i>	<i>brunonis</i>	Winged Stackhousia			X	X	
Celastraceae	<i>Stackhousia</i>	<i>scoparia</i>						X
Chenopodiaceae	<i>Atriplex</i>	<i>semibaccata</i>						X
Chenopodiaceae	<i>Enchylaena</i>	<i>tomentosa</i>				X		X
Convolvulaceae	<i>Wilsonia</i>	<i>humilis</i>	Silky Wilsonia				X	X
Cupressaceae	<i>Callitris</i>	<i>roei</i>				X		X
Cyperaceae	<i>Gahnia</i>	<i>ancistrophylla</i>						X
Cyperaceae	<i>Gahnia</i>	<i>aristata</i>						X
Cyperaceae	<i>Gahnia</i>	<i>drummondii</i>				X	X	
Cyperaceae	<i>Gahnia</i>	<i>sp.</i>						X
Cyperaceae	<i>Lepidosperma</i>	<i>carphoides</i>						X
Cyperaceae	<i>Lepidosperma</i>	<i>pruinatum</i>						X
Cyperaceae	<i>Lepidosperma</i>	<i>sp.</i>				X	X	
Cyperaceae	<i>Lepidosperma</i>	<i>squamatum</i>				X		
Cyperaceae	<i>Schoenus</i>	<i>breviculmis</i>					X	

Cyperaceae	<i>Schoenus</i>	<i>brevisetis</i> S. Lat					X	
Cyperaceae	<i>Schoenus</i>	<i>laevigatus</i>				X		
Cyperaceae	<i>Schoenus</i>	<i>racemosus</i>						X
Cyperaceae	<i>Schoenus</i>	sp. A1 <i>Boorabin</i>						X
Cyperaceae	<i>Schoenus</i>	<i>sublaxus</i>						X
Dilleniaceae	<i>Hibbertia</i>	<i>exasperata</i>				X	X	
Dilleniaceae	<i>Hibbertia</i>	<i>gracilipes</i>	Australian Butter Cup			X	X	X
Dilleniaceae	<i>Hibbertia</i>	<i>psilocarpa</i>					X	X
Dilleniaceae	<i>Hibbertia</i>	<i>pungens</i>						X
Droseraceae	<i>Drosera</i>	sp. Branched Styles						X
Ericaceae	<i>Leucopogon</i>	<i>obtusatus</i>					X	
Ericaceae	<i>Lissanthe</i>	<i>rubicunda</i>				X		X
Ericaceae	<i>Lysinema</i>	<i>ciliatum</i>	Curry Flower			X		
Ericaceae	<i>Lysinema</i>	<i>pentapetalum</i>	Lysinema					X
Ericaceae	<i>Styphelia</i>	<i>exserta</i>				X	X	
Ericaceae	<i>Styphelia</i>	<i>intertexta</i>						
Ericaceae	<i>Styphelia</i>	<i>lissanthoides</i>				X	X	
Euphorbiaceae	<i>Beyeria</i>	<i>sulcata</i>	Turpentine Bush			X	X	X
Euphorbiaceae	<i>Stachystemon</i>	<i>brachyphyllus</i> or <i>polyandrus</i>				X		
Fabaceae	<i>Acacia</i>	<i>chrysocephala</i>						X
Fabaceae	<i>Acacia</i>	<i>crassuloides</i>						X
Fabaceae	<i>Acacia</i>	<i>dermatophylla</i>						X
Fabaceae	<i>Acacia</i>	<i>evenulosa</i>						X
Fabaceae	<i>Acacia</i>	<i>fragilis</i>						X
Fabaceae	<i>Acacia</i>	<i>gonophylla</i>				X	X	X
Fabaceae	<i>Acacia</i>	<i>myrtifolia</i>						X
Fabaceae	<i>Acacia</i>	<i>octonervia</i>				X	X	X
Fabaceae	<i>Acacia</i>	<i>pycnantha</i>		x				X
Fabaceae	<i>Acacia</i>	<i>saligna</i>						X
Fabaceae	<i>Chorizema</i>	<i>aciculare</i>	Needle-leaf Chorizema			X	X	X
Fabaceae	<i>Daviesia</i>	<i>aphylla</i>						X
Fabaceae	<i>Daviesia</i>	<i>benthamii</i>					X	
Fabaceae	<i>Daviesia</i>	<i>campephylla</i>					X	
Fabaceae	<i>Daviesia</i>	<i>lancifolia</i>				X	X	X
Fabaceae	<i>Daviesia</i>	<i>scoparia</i>					X	X
Fabaceae	<i>Daviesia</i>	<i>teretifolia</i>				X		X
Fabaceae	<i>Dillwynia</i>	sp. Mallee	Parrot Pea				X	X
Fabaceae	<i>Gastrolobium</i>	<i>nutans</i>	Box Poison			X	X	X

Fabaceae	<i>Gompholobium</i>	<i>baxteri</i>						X
Fabaceae	<i>Gompholobium</i>	<i>marginatum</i>						X
Fabaceae	<i>Gompholobium</i>	<i>viscidulum</i>				X	X	
Fabaceae	<i>Isotropis</i>	<i>drummondii</i>	Lambs Tail Poison			X	X	X
Fabaceae	<i>Kennedia</i>	<i>sp. South Coast</i>						X
Fabaceae	<i>Pultenaea</i>	<i>indira</i> subsp. <i>indira</i>				X	X	
Fabaceae	<i>Templetonia</i>	<i>sulcata</i>	Centipede bush				X	X
Fabaceae	<i>Trifolium</i>	<i>subterraneum</i>		x				X
Goodeniaceae	<i>Cooperhooikia</i>	<i>polygalacea</i>					X	
Goodeniaceae	<i>Cooperhooikia</i>	<i>strophiolata</i>				X	X	
Goodeniaceae	<i>Dampiera</i>	<i>angulata</i>						X
Goodeniaceae	<i>Dampiera</i>	<i>lavandulacea</i>				X	X	X
Goodeniaceae	<i>Dampiera</i>	<i>parvifolia</i>					X	
Goodeniaceae	<i>Goodenia</i>	<i>concinna</i>	Slender Goodenia				X	
Goodeniaceae	<i>Goodenia</i>	<i>laevis</i> subsp. <i>laevis</i>			P3		X	
Goodeniaceae	<i>Goodenia</i>	<i>scapigera</i>						X
Goodeniaceae	<i>Leschenaultia</i>	<i>formosa</i>	Coastal Wreath				X	
Gyrostemonaceae	<i>Gyrostemon</i>	<i>ditrigynus</i>			P4			X
Haemodoraceae	<i>Conostylis</i>	<i>seorsifolia</i>				X		
Haloragaceae	<i>Glischrocaryon</i>	<i>angustifolia</i>				X		X
Hemerocallidaceae	<i>Dianella</i>	<i>revoluta</i>					X	X
Lamiaceae	<i>Hemigenia</i>	<i>teretiuscula</i>				X		X
Lauraceae	<i>Cassytha</i>	<i>aurea</i> var. <i>hirta</i>						X
Lauraceae	<i>Cassytha</i>	<i>melantha</i>						X
Lauraceae	<i>Cassytha</i>	<i>sp.</i>				X		
Loganiaceae	<i>Logania</i>	<i>buxifolia</i>						X
Loganiaceae	<i>Logania</i>	<i>micrantha</i>				X	X	
Loganiaceae	<i>Logania</i>	<i>stenophylla</i>					X	X
Loganiaceae	<i>Orianthera</i>	<i>tortuosa</i>						X
Malvaceae	<i>Alyogyne</i>	<i>hakeifolia</i>						X
Malvaceae	<i>Androcalva</i>	<i>crispa</i>						X
Malvaceae	<i>Guichenotia</i>	<i>asteriskos</i>			P2		X	X
Malvaceae	<i>Lasiopetalum</i>	<i>compactum</i>					X	X
Malvaceae	<i>Lasiopetalum</i>	<i>indutum</i>					X	
Malvaceae	<i>Lasiopetalum</i>	<i>rosmarinifolium</i>				X	X	X
Malvaceae	<i>Thomasia</i>	<i>microphylla</i>					X	X
Myrtaceae	<i>Beaufortia</i>	<i>empetrifolia</i>				X		

Myrtaceae	<i>Beaufortia</i>	<i>micrantha</i>					X	X
Myrtaceae	<i>Beaufortia</i>	<i>schaueri</i>	South Coast Beaufortia			X		X
Myrtaceae	<i>Calothamnus</i>	<i>gibbosus</i>	One-sided bottle brush			X	X	X
Myrtaceae	<i>Calytrix</i>	<i>leschenaultii</i>	Star Flower			X	X	X
Myrtaceae	<i>Cyathostemon</i>	<i>Aff. ambiguus</i>				X	X	
Myrtaceae	<i>Eucalyptus</i>	<i>densa</i>				X	X	
Myrtaceae	<i>Eucalyptus</i>	<i>eremophila</i>	Tall Sand Mallee			X		X
Myrtaceae	<i>Eucalyptus</i>	<i>flocktoniae</i> <i>subsp. hebes</i>						X
Myrtaceae	<i>Eucalyptus</i>	<i>forrestiana</i>	Fuchsia Gum				X	X
Myrtaceae	<i>Eucalyptus</i>	<i>grossa</i>						X
Myrtaceae	<i>Eucalyptus</i>	<i>incrassata</i>						X
Myrtaceae	<i>Eucalyptus</i>	<i>kessellii subsp.</i> <i>eugnota</i>				X	X	X
Myrtaceae	<i>Eucalyptus</i>	<i>pleurocarpa</i>	Tallerack			X		X
Myrtaceae	<i>Eucalyptus</i>	<i>tumida</i>						X
Myrtaceae	<i>Eucalyptus</i>	<i>uncinata</i>	Hook-leaved Mallee			X	X	
Myrtaceae	<i>Leptospermum</i>	<i>spinescens</i>						X
Myrtaceae	<i>Leptospermum</i>	<i>erubescens</i>				X	X	X
Myrtaceae	<i>Leptospermum</i>	<i>maxwellii</i>						X
Myrtaceae	<i>Leptospermum</i>	<i>spinescens</i>				X		
Myrtaceae	<i>Melaleuca</i>	<i>brophyi</i>						X
Myrtaceae	<i>Melaleuca</i>	<i>cucullata</i>						X
Myrtaceae	<i>Melaleuca</i>	<i>lateriflora</i>					X	
Myrtaceae	<i>Melaleuca</i>	<i>plumea</i>						X
Myrtaceae	<i>Melaleuca</i>	<i>podiocarpa</i>						X
Myrtaceae	<i>Melaleuca</i>	<i>rigidifolia</i>	Soccer ball Melaleuca			X	X	
Myrtaceae	<i>Melaleuca</i>	<i>sapientes</i>						X
Myrtaceae	<i>Melaleuca</i>	<i>scabra</i>						X
Myrtaceae	<i>Melaleuca</i>	<i>societatis</i>	Soccer ball Melaleuca				X	
Myrtaceae	<i>Melaleuca</i>	<i>subfalcata</i>					X	X
Myrtaceae	<i>Melaleuca</i>	<i>torquata</i>						X
Myrtaceae	<i>Melaleuca</i>	<i>tuberculata</i> <i>ssp.</i> <i>macrophylla</i>				X	X	
Myrtaceae	<i>Melaleuca</i>	<i>uncinata</i>				X	X	X
Myrtaceae	<i>Micromyrtus</i>	<i>imbricata</i>	Rock Thryptomene			X	X	X
Myrtaceae	<i>Rinzia</i>	<i>communis</i>				X	X	X
Myrtaceae	<i>Tetrapora</i>	<i>preissiana</i>					X	

Myrtaceae	<i>Verticordia</i>	<i>acerosa</i> var. <i>preissii</i>				X		
Myrtaceae	<i>Verticordia</i>	<i>chrysanthella</i>						X
Myrtaceae	<i>Verticordia</i>	<i>mitchelliana</i>						X
Olacaceae	<i>Olax</i>	<i>benthamiana</i>				X		
Orchidaceae	<i>Caladenia</i>	<i>attingens</i> ssp. <i>gracillima</i>						X
Orchidaceae	<i>Cyanicula</i>	<i>aperta</i>						X
Orchidaceae	<i>Ericksonella</i>	<i>saccharata</i>	Sugar Orchid					X
Orchidaceae	<i>Pterostylis</i>	<i>falcata</i>	Jug Orchid			X		X
Orchidaceae	<i>Pterostylis</i>	<i>recurva</i>						X
Orchidaceae	<i>Thelymitra</i>	<i>campanulata</i>						X
Pittosporaceae	<i>Billardiera</i>	<i>coriacea</i>						X
Pittosporaceae	<i>Marianthus</i>	<i>bicolor</i>	Painted Lady			X	X	
Poaceae	<i>Eragrostis</i>	<i>curvula</i>	African Lovegrass	X				X
Poaceae	<i>Neurachne</i>	<i>alopecuroidea</i>	Foxtail Mulga Grass			X	X	X
Poaceae	<i>Rytidosperma</i>	<i>caespitosum</i>						X
Poaceae	<i>Sporobolus</i>	<i>virginicus</i>						X
Polygalaceae	<i>Comesperma</i>	<i>drummondii</i>						X
Polygalaceae	<i>Comesperma</i>	<i>polygaloides</i>	Small Milkwort				X	
Polygalaceae	<i>Comesperma</i>	<i>spinosum</i>	Spiny Milkwort				X	
Proteaceae	<i>Banksia</i>	<i>cirsioides</i> - <i>xylothemelia</i>						X
Proteaceae	<i>Banksia</i>	<i>media</i>	Sandplain Banksia			X	X	X
Proteaceae	<i>Grevillea</i>	<i>anethifolia</i>				X		
Proteaceae	<i>Grevillea</i>	<i>aneura</i>			P4	X	X	X
Proteaceae	<i>Grevillea</i>	<i>disjuncta</i>						X
Proteaceae	<i>Grevillea</i>	<i>huegelii</i>					X	X
Proteaceae	<i>Grevillea</i>	<i>nudiflora</i>				X	X	X
Proteaceae	<i>Grevillea</i>	<i>oligantha</i>						X
Proteaceae	<i>Grevillea</i>	<i>pauciflora</i>					X	
Proteaceae	<i>Grevillea</i>	<i>pectinata</i>					X	X
Proteaceae	<i>Grevillea</i>	<i>plurijuga</i>						X
Proteaceae	<i>Grevillea</i>	<i>teretifolia</i>						X
Proteaceae	<i>Hakea</i>	<i>cinerea</i>	Ashy Hakea			X		
Proteaceae	<i>Hakea</i>	<i>commutata</i>						X
Proteaceae	<i>Hakea</i>	<i>corymbosa</i>						X
Proteaceae	<i>Hakea</i>	<i>cygnus</i> subsp. <i>cygnus</i>						X
Proteaceae	<i>Hakea</i>	<i>ilicifolia</i>						X
Proteaceae	<i>Hakea</i>	<i>laurina</i>	Pin Cushion Hakea			X	X	X



Proteaceae	<i>Hakea</i>	<i>multilineata</i>				X		X
Proteaceae	<i>Hakea</i>	<i>obliqua</i>	Needles and Cork Hakea			X		
Proteaceae	<i>Hakea</i>	<i>varia</i>				X		
Proteaceae	<i>Isopogon</i>	<i>sp. Fitzgerald River</i>				X	X	X
Proteaceae	<i>Persoonia</i>	<i>helix</i>				X	X	X
Proteaceae	<i>Persoonia</i>	<i>teretifolia</i>	Wild Pear			X		
Proteaceae	<i>Synaphea</i>	<i>favosa</i>						X
Restionaceae	<i>Desmocladius</i>	<i>flexuosus</i>						X
Restionaceae	<i>Desmocladius</i>	<i>myriocladus</i>				X	X	X
Rhamnaceae	<i>Cryptandra</i>	<i>apetala var anomala</i>						X
Rhamnaceae	<i>Cryptandra</i>	<i>nutans</i>					X	
Rhamnaceae	<i>Cryptandra</i>	<i>recurva</i>				X	X	X
Rhamnaceae	<i>Phebalium</i>	<i>lepidotum</i>				X	X	
Rhamnaceae	<i>Pomaderris</i>	<i>brevifolia</i>						X
Rhamnaceae	<i>Spyridium</i>	<i>microcephalum</i>					X	
Rhamnaceae	<i>Spyridium</i>	<i>minutum</i>					X	
Rutaceae	<i>Boronia</i>	<i>crassifolia</i>				X	X	X
Rutaceae	<i>Boronia</i>	<i>inornata</i>	Desert Boronia				X	X
Rutaceae	<i>Boronia</i>	<i>ramosa subsp. anethifolia</i>				X		
Rutaceae	<i>Cyanothamnus</i>	<i>baeckeaceus subsp. baeckeaceus</i>				X	X	X
Rutaceae	<i>Microcybe</i>	<i>pauciflora subsp. pauciflora</i>					X	
Rutaceae	<i>Phebalium</i>	<i>lepidotum</i>						X
Santalaceae	<i>Exocarpos</i>	<i>sparteus</i>	Native Cherry				X	X
Santalaceae	<i>Leptomeria</i>	<i>pachyclada</i>	Native Currant Bush			X		
Santalaceae	<i>Santalum</i>	<i>murrayanum</i>	Bitter Quandong					X
Sapindaceae	<i>Dodonaea</i>	<i>concinna</i>						X
Sapindaceae	<i>Dodonaea</i>	<i>divaricata</i>					X	X
Scrophulariaceae	<i>Eremophila</i>	<i>dichroantha</i>						X
Solanaceae	<i>Cyphanthera</i>	<i>microphylla</i>						X
Solanaceae	<i>Solanum</i>	<i>nigrum</i>	Black-berry Nightshade	X				X
Solanaceae	<i>Solanum</i>	<i>symonii</i>						X
Stylidiaceae	<i>Stylidium</i>	<i>breviscopum</i>	Boomerang triggerplant			X		X
Stylidiaceae	<i>Stylidium</i>	<i>repens</i>					X	
Stylidiaceae	<i>Stylidium</i>	<i>turleyae</i>						X

Thymelaeaceae	<i>Pimelea</i>	<i>brevifolia</i>				X		X
Thymelaeaceae	<i>Pimelea</i>	<i>sulphurea</i>	Yellow Banjine			X		X