



ELACHBUTTING RESERVE VEGETATION and FLORA 2013 – A PRELIMINARY REPORT

Shire of Westonia, Western Australia.

by

Greg Keighery, Bronwen Keighery and the Wildflower Society of WA (Inc.)
Bushland Plant Survey Programme Volunteers.

September 2013

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SUMMARY

This preliminary report brings together vegetation and flora information on the Elachbutting Rock Reserve from survey in September 2013 for the Bioblitz. This work: established and sampled six quadrats, and walked transects of the various mapped units and collected flora from the units not observed in the quadrats. Five vegetation units are mapped and described and 291 plants listed for the Reserve, 262 natives and 29 weeds.

1 BACKGROUND

The Wildflower Society of WA (Inc.) Bushland Plant Survey Programme (WSBPSG) has been running since 1988. In 2013 the Bushland Plant Survey Programme was invited join a Bioblitz over 21/22 September 2013 run by the Shires of Westonia and Korda and the Mukinbudin Conservation Group.



2 REPORTING ON THE ELACHBUTTING VEGETATION AND FLORA

2.1 Introduction

This is a preliminary report as identifications are yet to be finalised and the vegetation map ground truthed.

2.2 Report Text and Appendices 1 to 3

This report presents: the methods underpinning, and limitations, associated with the WSBPSG work and some preliminary data collected.

The data and related codes, and their definitions, are in three appendices.

APPENDIX 1: Vegetation and flora conservation codes.

APPENDIX 2: Vegetation units and associated quadrats (BUTT01 to 06).

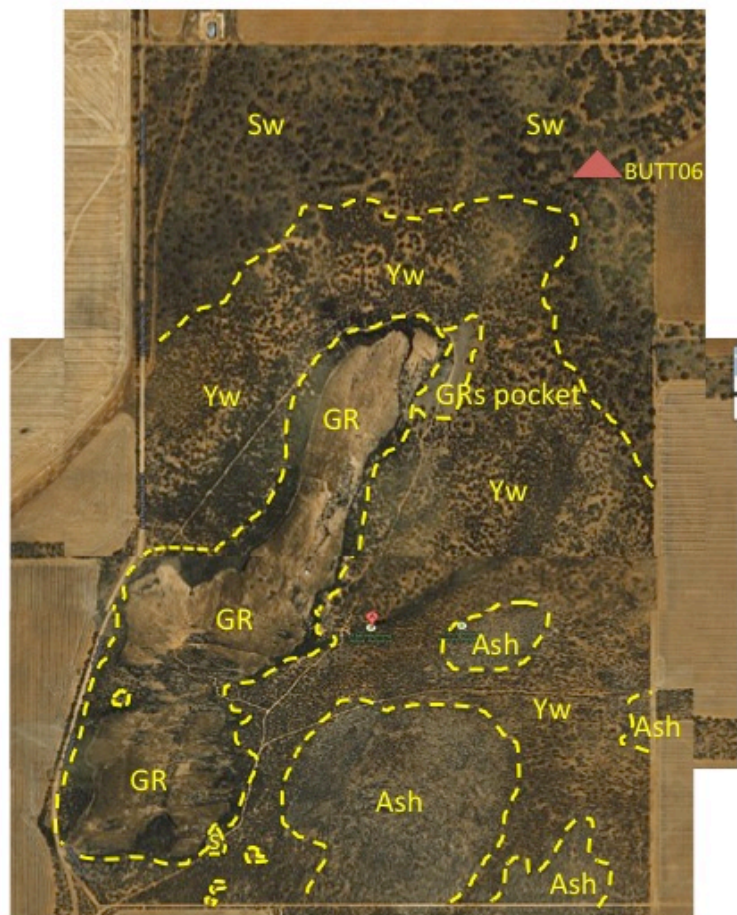
APPENDIX 3: Flora of the Elachbutting Rock Reserve.

Figure 2: Vegetation map

The principal plant communities are: Salmon Gum and York Gum woodlands on the red brown gritty sands; Acacia shrublands on the yellow sands; and associated with the granites are shrublands on the deep soil water gaining areas, with herb/grasslands on the shallow soil water gaining areas. The shallow soil communities are wetland communities.

KEY

- Sw = Salmon Gum woodland
- Yw = York Gum woodland
- Ash = Acacia shrubland
- GR = Granite communities
- s = shallow soils (herb/grasslands)
- t = deeper soils (shrublands)



3 METHODS AND LIMITATIONS

3.1 General Methods, Terminology and Definition (Appendices 1 to 3 & Appendix 4 Part 1 & 2)

Around 2 days were spent surveying the vegetation and flora of the Reserve. Survey methods follow the WSBPS procedures as outlined in Keighery (1994). The Reserve was visited in spring on 20, 21 and 22 September 2013. One preliminary day visit was made on 20 September 2013 by Greg and Bronwen Keighery, and between midday Saturday 21 September to midday Saturday 22 September 2013 survey work was done in the Reserve by the authors – Greg and Bronwen Keighery, the WSBPSP volunteers and Bioblitz volunteers. WSBPSP volunteers were Anne and Alan Bellman, Ian Johnson, Greg and Bronwen Keighery, Fran and David Kininmonth, Nina McLaren, Val Preston, Nicola Scholes and Anthony Tomkinson. Around 40 Bioblitz volunteers joined the WSBPSP volunteers. Greg Keighery is a principal Senior Research Scientist with the Department of Parks and Wildlife (DPaW).

Transects of the Reserve were walked on each day the Reserve was visited. On 21 September, six quadrats were established in the Reserve (Figure 3 and Appendix 2) to sample the range of plant communities. Plant communities were identified on the basis of aerial photographs and field interpretation.

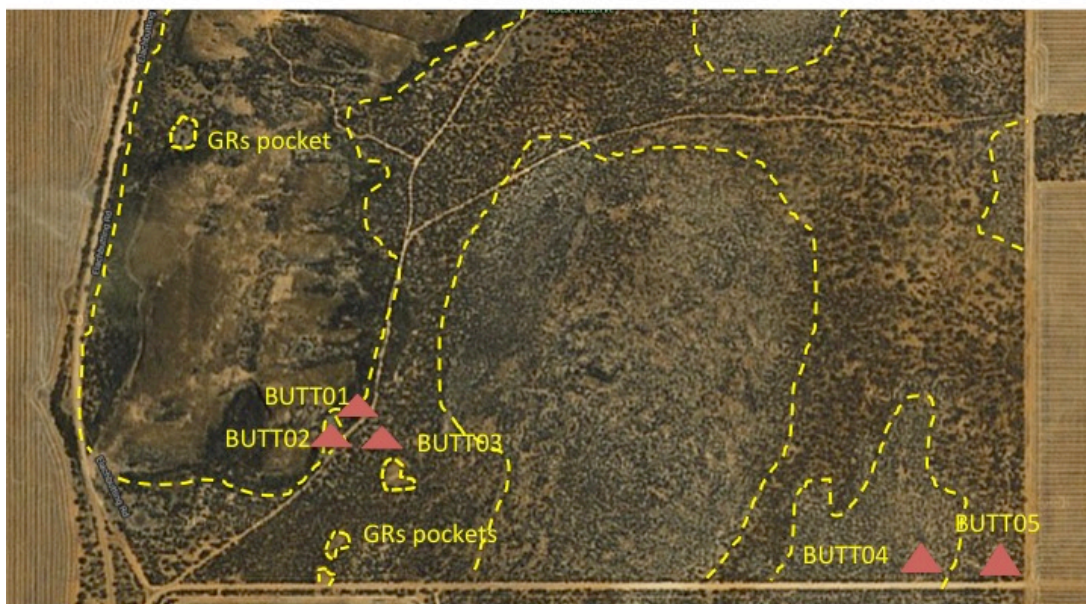
The vegetation and flora of the Reserve are described and discussed after Keighery (1994). Terminology used to describe the vegetation and conservation status of plant communities and flora are defined in Appendix 1.

The total flora list (Appendix 3) was compiled from combining and editing a list from NatureMap based on a 40km radius of the Reserve prepared by WSBPSP volunteers Arthur Blundell and Cyril Kelly, and Greg Keighery. Less than 20 collections are lodged in the WA Herbarium (DPaW) from the Reserve. Overall it is expected that this work would have recorded around 80% of the flora of the Reserve.

3.2 Limitations

While there were reasonable rains early in August and September there were poor rains in June and July 2013. As a consequence many annual and annually renewed plants had very low numbers and many individual species were reduced in size and number.

Figure 3: South Elachbutting Rock showing location of quadrats to Granite community (GRt) at edge rock (BUTT01), Acacia shrubland (Ash, silver grey area central, BUTT04) and York Gum woodland (Yw, darker green edges, BUTT03, 05). See Figure 2 for location of Salmon Bum Woodland (BUTT06).



4 LOCATION, GEOLOGY, LANDFORMS, SOILS AND VEGETATION

4.1 Location, landscape and soils

The Reserve is centred on a granite outcrop, with red-brown gritty sands at various depths over granite, and deeper red-brown gritty sands and yellow clayey sands on the surrounding mostly flat land.

4.2 Vegetation Units (Figure 2 and Appendix 2)

The Reserve's principal plant communities (or vegetation units) are: Granites on the red-brown gritty sands at various depths over granite; and on the surrounding mostly flat land (Figures 4 and 5); woodlands dominated by Salmon Gum or York Gum on the deeper red-brown gritty sands; and Acacia shrublands on yellow clayey sands.





4.2.1 Granite communities (Figure 2, mapping unit GR)

Two principal plant communities are found on the soils over granite. On the shallowest soils are *Borya constricta* Herbland (Figures 6 and 9 and mapping unit GRs) and Bunched Kerosene Grass (*Aristida contorta*) Closed Grassland (BULL02), with combinations of the two in some areas. On the deeper soils at the margins of the rock (Figures 4 and 5 and mapping unit GRt) and in the deeper soils on the rock (Figure 7) Granite Rock Box Tall Mallee, over Open Tall Shrubland to Closed Scrub dominated by combinations of *Leptospermum erubescens* (Figures 7, 15 and 16) and *Calycopeplus paucifolius* (Figures 7 and 13) and less commonly *Acacia lasiocalyx* and *Calothamnus quadrifidus* subsp. *petraeus* (Figure 15).

Figure 6: On Elachbutting Rock wetland Granite community (GRs) dominated by *Borya*, with blue *Thelymitra* and other herbs.



Figure 7: Deeper soils on Elachbutting Granite community (GRt, like BUTT01), but with *Leptospermum erubescens* (white), *Calycopeplus paucifolius* (dark green) and *Acacia lasiocalyx* (yellow).



Figure 8: Looking northeast from base Elachbutting Rock to Salmon Gum woodland on the horizon (BUTT06), midground York Gum woodland (Yw, darker green edges, BUTT03, 05) and Granite community (GRs, like BUTT02).

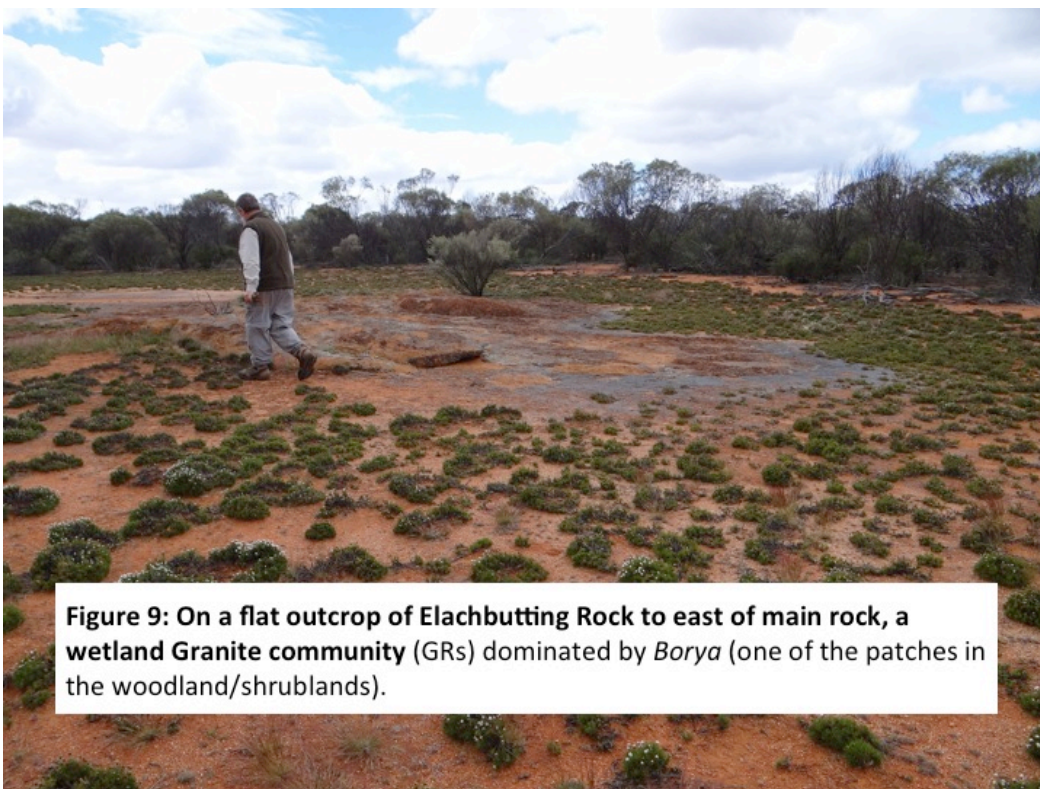


Figure 9: On a flat outcrop of Elachbutting Rock to east of main rock, a wetland Granite community (GRs) dominated by *Borya* (one of the patches in the woodland/shrublands).

4.2.2 Woodland communities (Figure 2, mapping units Sw and Yw)

Two principal woodland plant communities are found in the Reserve. The most widespread woodland unit is Scattered to Tree Mallee York Gum (*Eucalyptus loxophleba* subsp. *lissophloia*) as seen in Figures 4, 5 and 10 (mapping unit Yw). Salmon Gum (*Eucalyptus salmonophloia*) Open Woodland (Figure 5 and 8) is found on the northern side of the Reserve.



Figure 10: York Gum woodland (BUTT03).

4.2.3 Shrubland communities (Figure 2, mapping unit Ash)

Jam (*Acacia acuminata*) forms a Open Tall Shrubland to Scrub in number of areas at the southern end of the Reserve (Figure 4 and 11).

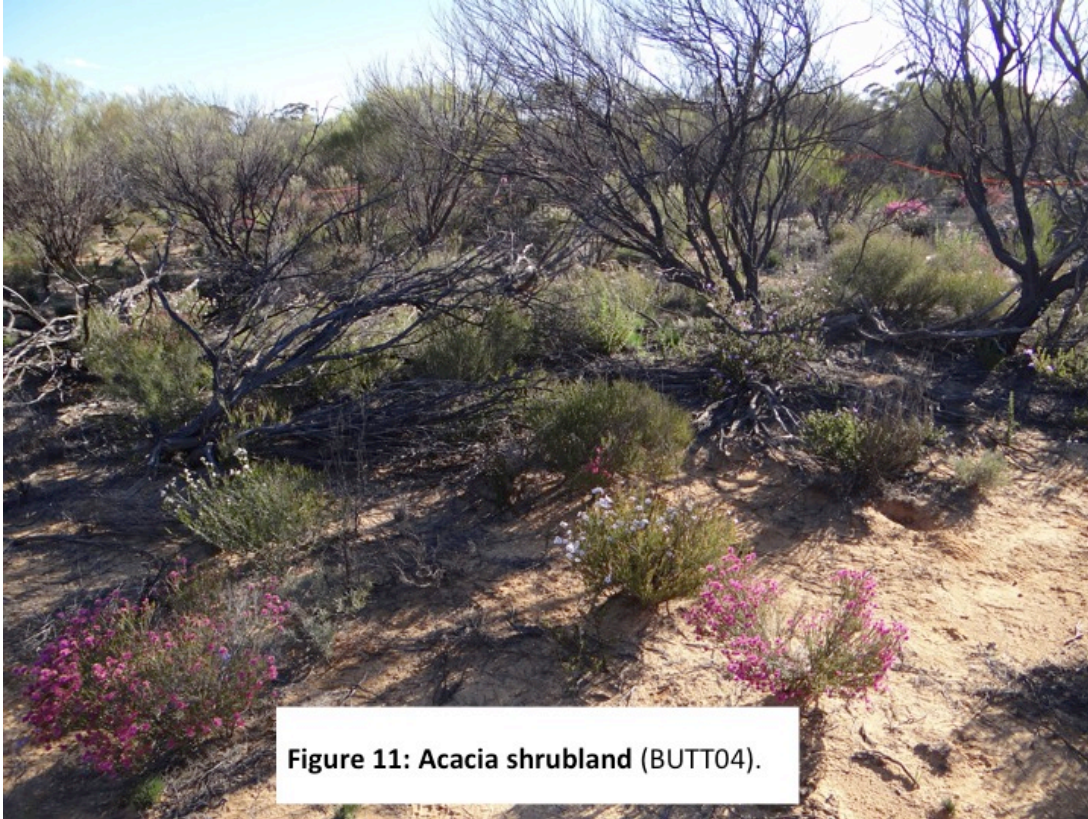
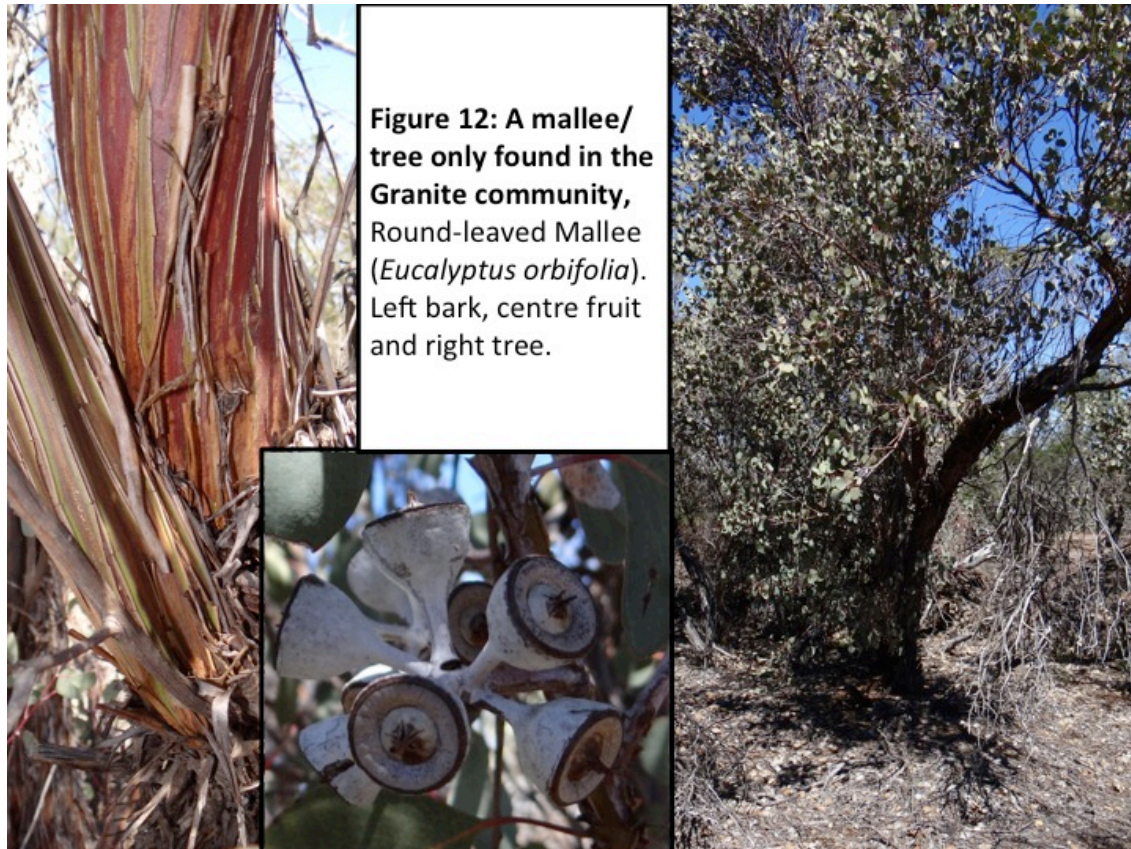


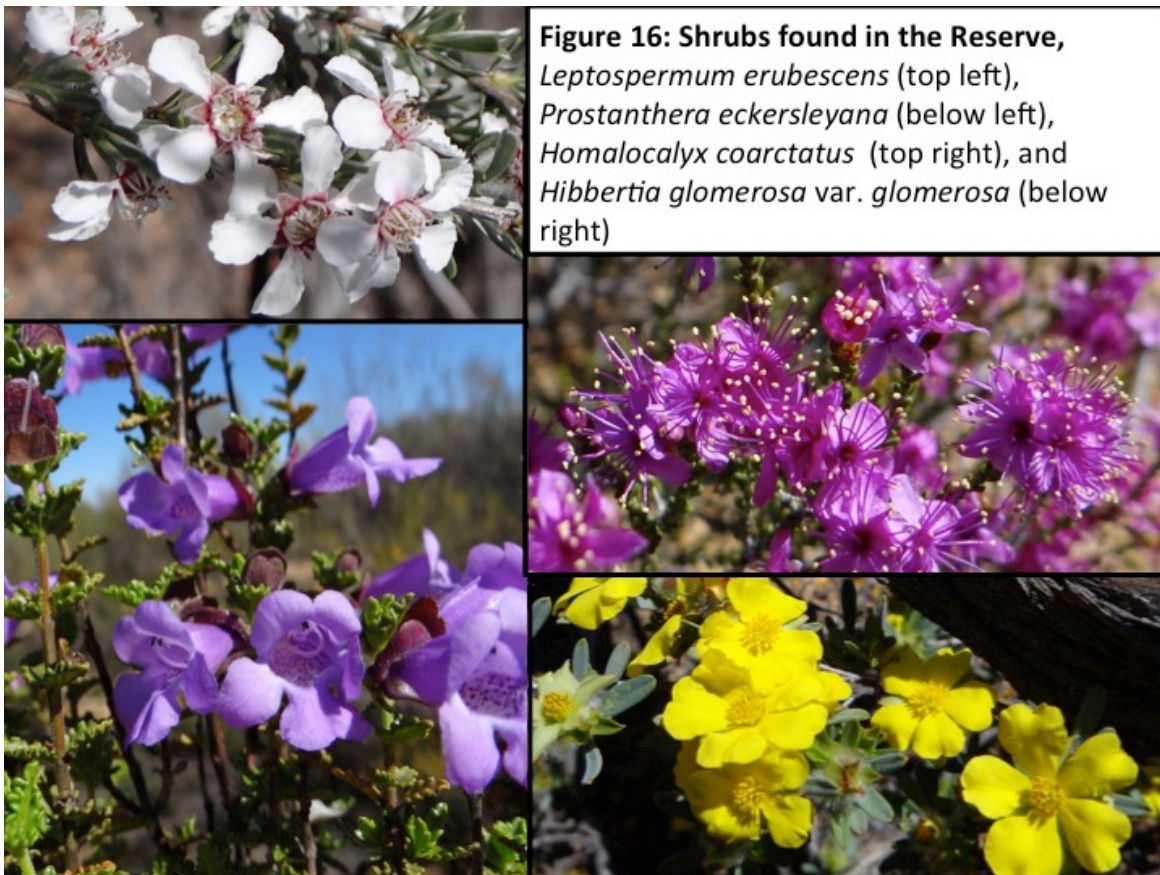
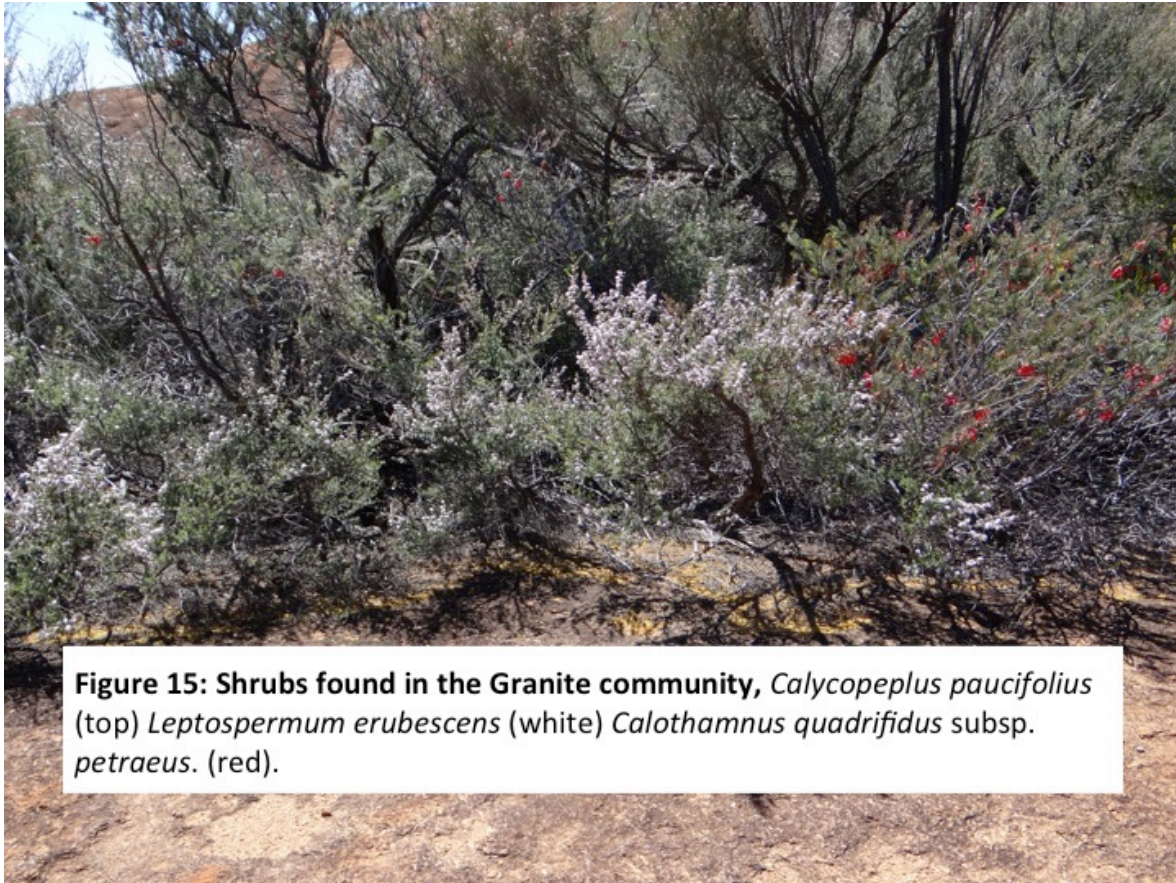
Figure 11: Acacia shrubland (BUTT04).

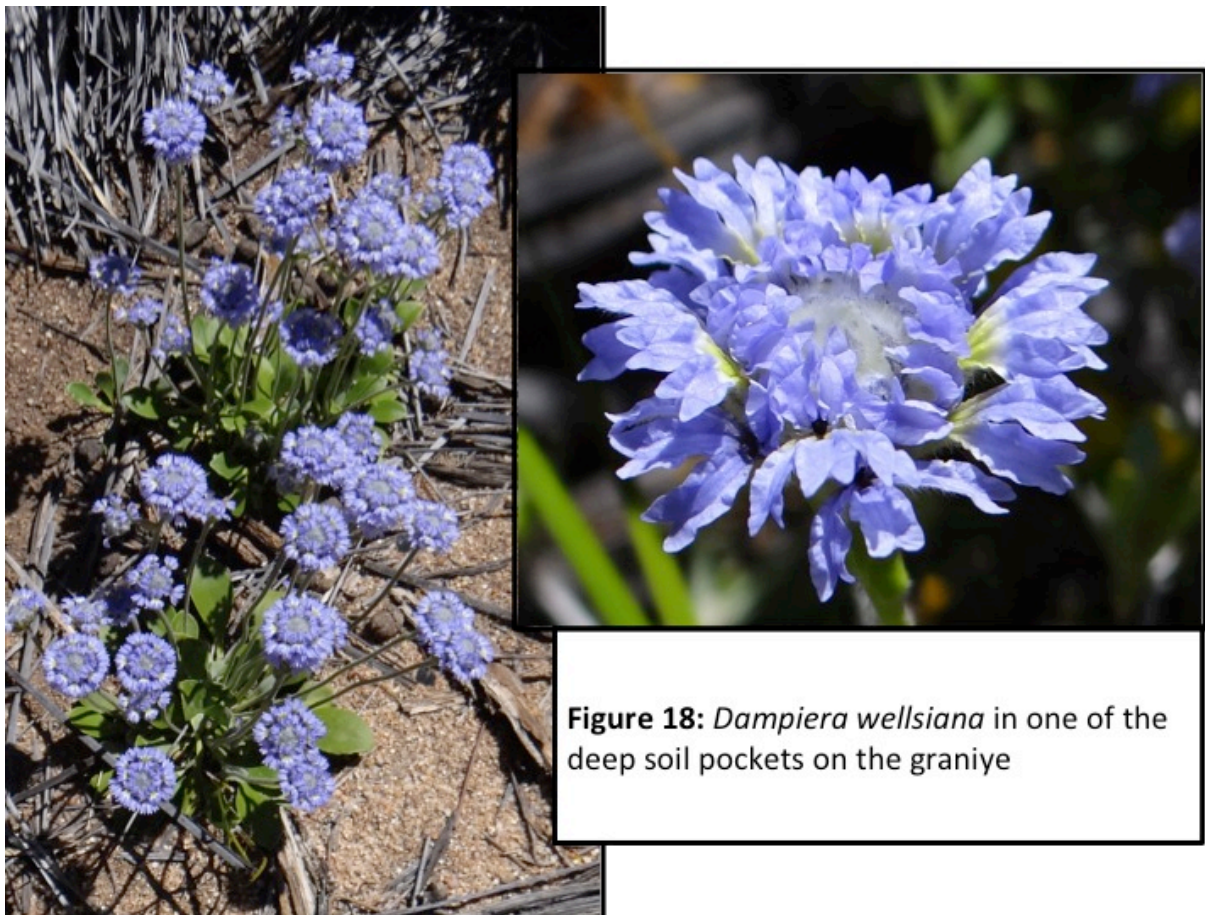
4.3 Total Flora (Appendix 3)

The Reserve supports more than 262 native plant taxa and around 29 weed taxa (Appendix 3). Many of the species listed are widespread in the Reserve while a number of others are restricted in their distribution. A number of species are confined to the granite, these include: *Isotoma petraea* (Figure 17), *Dampiera wellsi* (Figure 18), *Leptospermum erubescens* (Figures 7, 15 and 16), *Calycopeplus paucifolius* (Figures 7 and 13), *Acacia lasiocalyx*, *Calothamnus quadrifidus* subsp. *petraeus* (Figure 15), *Eucalyptus orbifolia* (Figure 12) and *Diplolaena velutina* (Figure 14).









4.4 Significant Flora

One species of Declared Rare Flora and a priority flora species are associated with the Rock gnamma holes: *Myriophyllum lapidicola* and *Glossostigma trichodes*. One species was found in the Acacia shrublands, *Stylidium choreanthum* (Figure 17).

There are undoubtedly other flora of conservation significance in the Reserve. The significant flora will be determined when the identifications are completed.

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9 APPENDICES

APPENDIX 1: Vegetation and flora conservation codes

Table 1: Vegetation structure. The classification system used to describe vegetation structure (based on BJ Keighery 1994, as adapted from Muir 1977 and Aplin 1979). Each row indicates a different vegetation layer.

Growth Form/Height Class	Canopy Cover			
	100-70%	70-30%	30-10%	10-2%
Trees over 30m	Closed Tall Forest CTF	Open Tall Forest OTF	Tall Woodland TW	Open Tall Woodland OTW
Trees 10-30m	Closed Forest CF	Open Forest OF	Woodland W	Open Woodland OW
Trees under 10m	Closed Low Forest CLF	Open Low Forest OLF	Low Woodland LW	Open Low Woodland OLW
Mallee over 8m (Tree Mallee)	Closed Tree Mallee CTM	Tree Mallee TM	Open Tree Mallee OTM	Very Open Tree Mallee VOTM
Mallee under 8m (Shrub Mallee)	Closed Shrub Mallee CSM	Shrub Mallee SM	Open Shrub Mallee OSM	Very Open Shrub Mallee VOSM
Shrubs over 2m	Closed Scrub CSC	Open Scrub OSC	Tall Shrubland TS	Open Tall Shrubland OTS
Shrubs 1-2m	Closed Heath CH	Open Heath OH	Shrubland S	Open Shrubland OS
Shrubs under 1m	Closed Low Heath CLH	Open Low Heath OLH	Low Shrubland LS	Open Low Shrubland OLS
Grasses	Closed Grassland CG	Grassland G	Open Grassland OG	Very Open Grassland VOG
Herbs	Closed Herbland CHB	Herbland HB	Open Herbland OHB	Very Open Herbland VOHB
Sedges	Closed Sedgeland CSG	Sedgeland SG	Open Sedgeland OSG	Very Open Sedgeland VOSG
Ferns	Closed Fernland CFL	Fernland FL	Open Fernland OFL	Very Open Fernland VOFL
Climbers	Closed Climbers CC	Climbers C	Open Climbers OC	Very Open Climbers VOC

Table 2: Vegetation condition scale (BJ Keighery 1994).

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

Table 3: Categories used to define the conservation status of flora taxa at state level, under the *Wildlife Conservation Act 1950*. Categories are defined in Atkins (2006).

Western Australian Flora Conservation Codes	
R Declared Rare Flora – Extant Taxa	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.
X Declared Rare Flora - Presumed Extinct Taxa	Taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such.
P1 Priority One - 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
P2 Priority Two - 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
P3 Priority Three - 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.
P4 Priority Four – 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.

Note, the need for further survey of poorly known taxa is prioritised into the three categories depending on the perceived urgency for determining the conservation status of those taxa, as indicated by the apparent degree of threat to the taxa based on the current information.

APPENDIX 2: Vegetation map units and associated quadrat descriptions/information

Quadrat BUTT01 **Unit: Granite (GRt)**

Granite Rock Box (*Eucalyptus petraea*) Tall Mallee, over *Leptospermum erubescens* Open Tall Shrubland, over Very Open Grassland.

- Variation unit Open Tall Shrubland varies in density to Closed Scrub, at times impenetrable and additional dominants including *Calycopeplus paucifolius* and less common *Acacia lasiocalyx* and *Calothamnus quadrifidus* subsp. *petraeus*. There can also be a tall sedge and/or grass layer dominated by the sedge *Lepidosperma ?viscidum* and/or the grass *Spartochloa scirpoidea* (Figure XX).
- Condition: Excellent. Weeds scattered, in more disturbed areas may have a number of grass and herb weeds.
- Soils: Red - brown gritty sandy loam
- Drainage: Wet with rains, water drains away but rock protection stays wet for longer than Sw, Yw and Ash.

Quadrat BUTT02 **Unit: Granite (GRs)**

Bunched Kerosene Grass (*Aristida contorta*) and Closed Grassland, and mixed Open Herbland.

- Variation unit Herb and grass as dominants vary, *Borya constricta* often forms a Herbland, with a reduced grass cover. In a good season grass dominated units have a cover of dense annual herbs (everlastings and other daisies).
- Condition: Excellent. Weeds scattered, rabbit droppings and diggings.
- Soils: Red - brown gritty sandy loam
- Drainage: Wet with rains, water drains away but rock protection stays wet for longer than Sw, Yw and Ash. Patches of this unit in the rock are wetlands until water dries from evaporation, then desert-like. These waterlogged pockets support a number of species typically found in wetlands.

Quadrat BUTT03 **Unit: York Gum woodland (Yw)**

Scattered to Tree Mallee York Gum (*Eucalyptus loxophleba* subsp. *lissophloia*) over Jam (*Acacia acuminata*) Open Tall Shrubland over *Melaleuca* sp Open Shrubland over **Aira caryophyllea* Very Open Grassland, and *Brachyscome iberidifolia* and *Trachymene ornata* Open Herbland.

- Variation unit York Gum and Jam density varies.
- Condition: Very Good to Excellent. Weed grass forms layer.
- Soils: Red - brown gritty sandy loam
- Drainage: Well drained.

Quadrat BUTT04 **Unit: Acacia shrubland (Ash)**

Scattered York Gum (*Eucalyptus loxophleba* subsp. *lissophloia*) over Jam (*Acacia acuminata*) Open Tall Shrubland over mixed Open Low Heath over mixed perennial grass Very Open Grassland, and *Brachyscome iberidifolia* and *Trachymene ornata* Herbland.

- Variation unit Jam density varies from Open Tall Shrubland to Open Scrub, as density increases the cover of the under 1m shrub layer declines.
- Condition: Excellent. Apparent disturbance event, loss Jam increased cover <1m layer.
- Soils: Yellow gritty sand

Drainage: Well drained.

Quadrat BUTT05

Unit: Acacia shrubland (Ash)

Scattered York Gum (*Eucalyptus loxophleba* subsp. *lissophloia*) over Jam (*Acacia acuminata*), *Hakea minyma* and *Melaleuca* sp 1 Open Scrub, over mixed Open Shrubland over mixed Open Low Shrubland over mixed perennial grass Very Open Grassland.

Variation unit York Gum and other mallee species vary.
Condition: Pristine.
Soils: Pale brown sandy clay
Drainage: Well drained.

Quadrat BUTT06

Unit: Salmon Gum woodland (Sw)

Salmon Gum (*Eucalyptus salmonophloia*) Open Woodland, over scattered York Gum (*Eucalyptus loxophleba* subsp. *lissophloia*), *Acacia tetragonophylla*, *Melaleuca zeteticorum* over *Maireana* species Open Low Scrubland over a mixed Open Herbland, and Open Grassland.

Variation unit Summer 1999 -2000 this unit was flooded by a freak flood event, flooding and waterlogging led to loss Salmon Gum on western areas unit (B. Watson pers. comm.).
Condition: Excellent. Weeds scattered.
Soils: Red gritty sandy loam
Drainage: Well drained unless freak flood event when very poorly drained.

APPENDIX 3: Flora of the Elachbutting Reserve

TABLE 1: Vascular Plant Taxa in alphabetical order by genus and species.

KEY

Column 1 WEEDs (*)

Columns 2 **SCIENTIFIC NAME**

Ordered alphabetically by genus and species.

aff. A plant with an affinity to a certain species

subsp. Subspecies

var. Variety

MS A manuscript name yet to be published

PN A phrase name for a taxon yet to be described and published.

Column 3 **COMMON NAME**

Column 4 **Vegetation units** (See Key to Growth Forms at the end of this key for definitions)

Sw =Salmon Gum woodland

Yw = York Gum woodland

Ash = Acacia shrubland

GR = Granite communities

- s = shallow soils (herb/grasslands)

- t = deeper soils (shrublands)

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	<i>Abutilon oxycarpum</i>	Flannel Weed	Sw, Yw
	<i>Acacia acuminata</i>	Jam, Mangard	Yw, GRs
	<i>Acacia erinacea</i>		Sw
	<i>Acacia fauntleroyi</i>		GRt
	<i>Acacia lasiocalyx</i>	Silver Wattle, Wilyurwur	GRt
	<i>Acacia murrayana</i>	Sandplain Wattle	Yw, GRt
	<i>Acacia nyssophylla</i>		Sw
	<i>Acacia ramulosa</i> var. <i>ramulosa</i>		Ash
	<i>Acacia restiacea</i>		Yw, GRt
	<i>Acacia saligna</i>		GRt
	<i>Acacia tetragonophylla</i>	Kurara, Wakalpuka	Yw, Ash, Grt
	<i>Actinobole uliginosum</i>	Flannel Cudweed	Sw, Yw
*	<i>Aira caryophylla</i>	Silvery Hairgrass	GRt, Grs
	<i>Allocasuarina acutivalvis</i> subsp. <i>acutivalvis</i>		Yw
	<i>Alyxia buxifolia</i>	Dysentery Bush	Sw, Yw
	<i>Amphipogon caricinus</i> var. <i>caricinus</i>		Yw
	<i>Amyema miquelii</i>	Stalked Mistletoe	Sw, Ys
	<i>Amyema preissii</i>	Wireleaf Mistletoe	Sw, Ys
	<i>Androcalva stowardii</i>		Ash
	<i>Angianthus burkittii</i>		GR
	<i>Angianthus tomentosus</i>	Camel-grass	GRs
*	<i>Arctotheca calendula</i>	Cape Weed	Yw, GRt, GRs
	<i>Aristida contorta</i>	Bunched Kerosene Grass	Yw, GRs
	<i>Aristida holathera</i>		Yw
	<i>Arthropodium curvipes</i>		Ash
	<i>Atriplex vesicaria</i>	Bladder Saltbush	Sw
	<i>Austrostipa elegantissima</i>		Sw, Yw, GRt
	<i>Austrostipa nitida</i>		Sw, Yw, GRt
	<i>Austrostipa scabra</i> subsp. <i>scabra</i>		GRt
	<i>Austrostipa trichophylla</i>		Ash
*	<i>Avena barbata</i>	Bearded Oat	GRs/t
	<i>Baeckea elderiana</i>		GRt
	<i>Baeckea ?grandiflora</i>		Ash
	<i>Baeckea</i> sp		Yw
	<i>Blennospora drummondii</i>		GR
	<i>Blennospora phlegmatocarpa</i>		Ash
	<i>Boronia coerulescens</i>		GRt
	<i>Boronia</i> sp.		Yw
	<i>Borya constricta</i>		GRs
	<i>Borya sphaerocephala</i>	Pincushions	GRs
	<i>Bracychiton gregorii</i>		GR
	<i>Brachyscome ciliaris</i> var. <i>lanuginosa</i>		GRs
	<i>Brachyscome iberidifolia</i>		GRs
*	<i>Brassica tournefortii</i>	Mediterranean Turnip	Yw, GRt/s
*	<i>Briza maxima</i>		GRt/s
	<i>Bromus arenarius</i>	Sand Brome	GRt/s
*	<i>Bromus madritense</i>		GRt/s
*	<i>Bromus hordeaceous</i>		GRt/s

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	<i>Brunonia australis</i>	Native Cornflower	Ash, GR
	<i>Bulbine semibarbata</i>	Leek Lily	Yw, GR
	<i>Bursaria occidentalis</i>		Yw
	<i>Caladenia dimidia</i>		Yw, GR
	<i>Caladenia roei</i>	Ant Orchid	GRt
	<i>Calandrinia corrigioloides</i>	Strap Purslane	Sw
	<i>Calandrinia eremaea</i>		GR
	<i>Calandrinia granulifera</i> Pygmy Purslane	Twining Purslane	Yw, GR
	<i>Calandrinia porifera</i>		GR
	<i>Calandrinia</i> sp. Blackberry (D.M. Porter 171)		?GR
	<i>Callitris canescens</i>		Yw
	<i>Calothamnus quadrifidus</i> subsp. <i>petraeus</i>	One-sided Bottlebrush, Kwowdjard	GR
	<i>Calotis hispidula</i>	Bindy Eye	Sw, Yw, GR
	<i>Calycopeplus paucifolius</i>		GRt
	<i>Calytrix ?violacea</i>		Ash
	<i>Cassytha glabella</i>		Ash
	<i>Centrolepis ?drummondiana</i>		GRs
	<i>Centrolepis strigosa</i> subsp. <i>rupestris</i>		GR
	<i>Cephalopterum drummondii</i>	Pompom Head	Yw, Ash
	<i>Ceratogyne obionoides</i>	Wingwort	Yw, GRt
	<i>Chamaexeros fimbriata</i>		Ash
	<i>Chamelaucium pauciflorum</i> subsp. <i>thryptomenioides</i>		Ash
	<i>Cheilanthes austrotenuifolia</i>	Rock Fern	GR
	<i>Cheilanthes lasiophylla</i>	Woolly Cloak Fern	GR
	<i>Chthonocephalus pseudevax</i>	Woolly Groundheads	Sw, Yw, Ash
*	<i>Cleretum papulosum</i> subsp. <i>papulosum</i>		Yw, GR
	<i>Comesperma integerrimum</i>		Ash, GRt
	<i>Cotula australis</i>		GR
	<i>Crassula closiana</i>		Yw
	<i>Crassula colorata</i>	Dense Stonecrop	GR
*	<i>Cuscuta epithymum</i>	Lesser Dodder, Greater Dodder	GR
	<i>Cymbopogon ambiguus</i>	Scentgrass	GRs
	<i>Dampiera juncea</i>	Rush-like Dampiera	GR
	<i>Dampiera lavandulacea</i>		Yw, Ash
	<i>Dampiera wellsiana</i>	Wells' Dampiera	GR
	<i>Daucus glochidiatus</i>	Australian Carrot	Yw, GR
	<i>Daviesia hakioides</i>		Yw
	<i>Dianella revoluta</i>	Blueberry Lily	Sw, Yw, Ash
	<i>Diplolaena velutina</i>		GRt
	<i>Diuris</i> aff. <i>corymbosa</i>		GR
	<i>Dodonaea adenophora</i>		
	<i>Dodonaea bursariifolia</i>		GR
	<i>Dodonaea stenozyga</i>		Ash
	<i>Dodonaea viscosa</i> subsp. <i>angustissima</i>		GR

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	<i>Drosera bulbosa</i> subsp. <i>bulbosa</i>	Red-leaved Sundew	GR
	<i>Drosera glanduligera</i>	Pimpernel Sundew	GR
	<i>Drosera macrantha</i>	Bridal Rainbow	GR
	<i>Duboisia hopwoodii</i>	Pituri, Kundugu	GRt
	<i>Dysphania melanocarpa</i>	Black Crumbweed	Yw
*	<i>Echium plantagineum</i>	Paterson's Curse	GR
	<i>Enchylaena tomentosa</i>	Barrier Saltbush	Sw, Yw, Ash
	<i>Eragrostis dielsii</i>	Mallee Lovegrass	GR
	<i>Eremophila clarkei</i>	Slender Fuchsia	Yw
	<i>Eremophila decipiens</i>	Slender Fuchsia	Sw
	<i>Eremophila ionantha</i>	Violet-flowered Eremophila	Yw
	<i>Eremophila oppositifolia</i>	Weeooka	Yw
	<i>Eremophila serrulata</i>	Serrate-leaved Eremophila	GR
	<i>Eriachne ovata</i>		GRs
	<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	Pretty Wanderrie	GRs
*	<i>Erodium cicutarium</i>	Common Storksbill	GR
	<i>Erodium cygnorum</i>	Blue Heronsbill	Yw, Gr
	<i>Erymophyllum ramosum</i> subsp. <i>ramosum</i>		Yw
	<i>Eucalyptus horistes</i>		Sw
	<i>Eucalyptus leptophylla</i> var. <i>floribunda</i> P1		GRt
	<i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i>		Sw, Yw, GR
	<i>Eucalyptus orbifolia</i>	Round-leaved Mallee	GRt
	<i>Eucalyptus petraea</i>	Granite Rock Box	GRt
	<i>Eucalyptus salmonophloia</i>	Salmon Gum, Wurak	Sw
	<i>Euphorbia drummondii</i>	Caustic Weed, Piwi	GR
	<i>Exocarpos aphyllus</i>	Leafless Ballart	Sw
*	<i>Galium spurium</i>		GR
	<i>Gilberta tenuifolia</i>		Yw
	<i>Glossostigma trichodes</i> P1		Grs
	<i>Glycine canescens</i>	Silky Glycine	GRt
	<i>Gnephosis tenuissima</i>		GRt/s
	<i>Gonocarpus nodulosus</i>		GR
	<i>Goodenia</i> sp 1		Yw
	<i>Goodenia</i> sp 2		Yw
	<i>Goodenia</i> sp 3		Ash
	<i>Goodenia xanthosperma</i>	Yellow-seeded Goodenia	Ash
	<i>Granitites intangendus</i>		GRt
	<i>Grevillea haplantha</i> subsp. <i>haplantha</i>		Yw
	<i>Grevillea levis</i>		Yw
	<i>Grevillea sarissa</i> subsp. <i>sarissa</i>	Wheel Grevillea	Yw
	<i>Hakea minyma</i>		Yw
	<i>Halgania cyanea</i>	Rough Halgania	GR
	<i>Hemigenia</i> sp		???
	<i>Hibbertia glomerosa</i> var. <i>glomerosa</i>		Ash, GR

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	<i>Homalocalyx coarctatus</i>		Ash
*	<i>Hordeum leporinum</i>	Barley	GRs
	<i>Hyalochlamys globifera</i>		GRs
	<i>Hyalosperma demissum</i>		GR
	<i>Hyalosperma glutinosum</i> subsp. <i>glutinosum</i>		GR
	<i>Hydrocotyle diantha</i>		GR
	<i>Hydrocotyle medicaginoides</i>	Trefoil Pennywort	GR
	<i>Hydrocotyle</i> sp		GR
*	<i>Hypochaeris glabra</i>	Smooth Catsear	GR
	<i>Indigofera</i> sp. <i>Occidentalis</i> (D.J. Edinger 1259)		Ash
	<i>Isoetes inflata</i>		GRs
	<i>Isoetopsis graminifolia</i>	Cushion Grass	Yw, Ash, GR
	<i>Isolepis</i> sp		GR
	<i>Isotoma petraea</i>	Rock Isotome, Tundiwari	GR
	<i>Keraudrenia hermanniifolia</i>		Ash
	<i>Kunzea pulchella</i>	Granite Kunzea	GRT/s
	<i>Labichea lanceolata</i> subsp. <i>brevifolia</i>		GRT/s
	<i>Lawrencella rosea</i>		Yw, Ash
	<i>Lepidosperma ?viscidum</i>	Sticky Sword Sedge	GRT
	<i>Leptosema daviesioides</i>		Ash
	<i>Leptospermum erubescens</i>	Roadside Teatree	GRT
	<i>Levenhookia dubia</i>		GR
	<i>Levenhookia leptantha</i>	Trumpet Stylewort	Yw
	<i>Lomandra effusa</i>	Scented Matrush	Yw, Sw
	<i>Lomandra collina</i>		GRT
*	<i>Lysimachia arvensis</i>		GR
	<i>Maireana amoena</i>		Sw
	<i>Maireana carnosa</i>	Cottony Bluebush	Sw, Yw
	<i>Maireana planifolia</i>	Low Bluebush	Sw
	<i>Maireana trichoptera</i>	Downy Bluebush	Sw
	<i>Maireana triptera</i>	Threewinged Bluebush	Sw
	<i>Maireana suaedifolia</i>		Sw
	<i>Melaleuca acuminata</i> subsp. <i>acuminata</i>		Yw, Ash
	<i>Melaleuca hamata</i>		Yw
	<i>Melaleuca zeteticorum</i>		Sw
	<i>Menkea australis</i>	Fairy Spectacles	Yw
	<i>Menkea</i> sp.		Yw
	<i>Microtis media</i>	Tall Mignonette Orchid	GR
	<i>Millotia eichleri</i>		GR
	<i>Mirbelia ramulosa</i>		GR
	<i>Mirbelia</i> sp.		AshS
	<i>Monachather paradoxus</i>		Sw, Yw, GRT
*	<i>Monoculus monstrosus</i>		Yw, GR
	<i>Monotaxis grandiflorus</i>		Yw
*	<i>Moraea collina</i>		GR
	<i>Muehlenbeckia adpressa</i>	Climbing Lignum	GRT
	<i>Muelleranthus</i>		Yw

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	<i>Myriophyllum lapidicola</i> T		GR
	<i>Nicotiana rosulata</i>	Rosetted Tobacco	GR
	<i>Olearia ?dampieri</i>		Yw
	<i>Olearia muelleri</i>	Goldfields Daisy	Sw, Yw
	<i>Olearia pimeleoides</i>	Pimelea Daisybush, Burrobunga	Sw, Yw
	<i>Omphalappula concava</i>		GR
*	<i>Oncosiphon piluliferum</i>		GR
	<i>Opercularia ?vaginata</i>		GR
	<i>Ophioglossum lusitanicum</i>	Adders Tongue	GR
	<i>Oxalis perennans</i>		Ash
*	<i>Parentucellia latifolia</i>	Common Bartsia	GR
	<i>Parietaria cardiostegia</i>		
	<i>Parietaria debilis</i>	Pellitory	Yw, GRt
*	<i>Pentameris airoides</i> subsp. <i>airoides</i>	False Hairgrass	Yw, GRt/s
	<i>Phebalium filifolium</i>	Slender Phebalium	Yw
	<i>Philothea brucei</i> subsp. <i>brucei</i>		Yw
	<i>Philothea deserti</i> subsp. <i>deserti</i>		AshS
	<i>Phyllangium sulcatum</i>		GR
	<i>Pimelea microcephala</i> subsp. <i>microcephala</i>	Shrubby Riceflower, Banjine	Yw
	<i>Pittosporum angustifolium</i>		Yw
	<i>Podolepis canescens</i>	Bright Podolepis, Grey Podolepis	Sw, Yw
	<i>Podolepis capillaris</i>	Wiry Podolepis	Sw, Yw, Ash
	<i>Podolepis lessonii</i>		Yw, Ash, Ash
	<i>Podolepis tepperi</i>		Yw
	<i>Podotheca angustifolia</i>	Sticky Longheads	Yw, Ash, GR
	<i>Podotheca gnaphalioides</i>	Golden Long-heads	Yw, Ash
	<i>Pogonolepis muelleriana</i>		Yw, Ash, GR
	<i>Poranthera microphylla</i>	Small Poranthera	GR
	<i>Prasophyllum gracile</i>		GR
	<i>Prostanthera aspalanthoides</i>		Yw, Ash
	<i>Prostanthera grylloana</i>		Yw, Ash
	<i>Prostanthera eckersleyana</i>	Crinkly Mintbush	Yw, Ash
	<i>Pterostylis picta</i>		Yw, GRt
	<i>Pterostylis</i> sp. inland (A.C. Beaglehole 11880)		Yw, Ash
	<i>Ptilotus gaudichaudii</i>		Ash
	<i>Ptilotus polystachyus</i>		Yw, Ash
	<i>Ptilotus holosericeus</i>		Ash
	<i>Ptilotus nobilis</i>	Tall Mulla Mulla	Yw, Ash
	<i>Ptilotus spathulatus</i>		Yw, Ash
	<i>Ptilotus stirlingii</i>		Sw, Yw
	<i>Quinetia urvillei</i>		Yw, Ash
	<i>Rhagodia</i> sp.		Sw
	<i>Rhodanthe citrina</i>		Yw, Ash
	<i>Rhodanthe pygmaea</i>		GR
	<i>Rhyncharrhena linearis</i>	Bush Bean	Sw
	<i>Rinzia carnosa</i>		Ash
	<i>Rytidosperma caespitosum</i>		Sw, Yw

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	<i>Santalum acuminatum</i>	Quandong, Warnga	GRt
	<i>Santalum spicatum</i>	Sandalwood, Wilarak	Yw
	<i>Scaevola spinescens</i>	Currant Bush, Maroon	Sw, Yw
*	<i>Schismus barbatus</i>	Kelch Grass	Yw, GRt/s
	<i>Schoenia cassiniana</i>	Schoenia	Yw, GRt/s
	<i>Schoenus armeria</i>		Yw
	<i>Schoenus ?humilis</i>		GR
	<i>Schoenus ?nanus</i>	Tiny Bog Rush	GR
	<i>Sclerolaena diacantha</i>	Grey Copperburr	Sw, Yw
	<i>Sclerolaena eurotioides</i>	Fluffy Bindii	Sw, Yw
	<i>Sclerolaena fusiformis</i>		Sw, Yw
	<i>Senecio glossanthus</i>	Slender Groundsel	Sw, Yw
	<i>Senna artemisioides</i> subsp. <i>filifolia</i>		Ash
*	<i>Silene nocturna</i>		GR
	<i>Siloxerus multiflorus</i>		GRt/s
	<i>Siloxerus pygmaeus</i>		GRt/s
	<i>Solanum hoplopetalum</i>	Thorny Solanum	GRt/s
	<i>Solanum lasiophyllum</i>	Flannel Bush, Mindjulu	Sw
*	<i>Solanum nigrum</i>	Black Berry Nightshade	Yw
	<i>Solanum orbiculatum</i>	Wild Tomato	GR
*	<i>Sonchus oleraceus</i>	Common Sowthistle	GRt/s
	<i>Spartochloa scirpoidea</i>		GR
*	<i>Spergularia rubra</i>		Dist
	<i>Spiculaea ciliata</i>	Elbow Orchid	GR
	<i>Stackhousia monogyna</i>		GRs
	<i>Stenopetalum filifolium</i>		Yw
	<i>Stenopetalum lineare</i> var. <i>lineare</i>	Narrow Thread Petal	Yw
	<i>Stylidium choreanthum</i> P3	Dancing Triggerplant	AshS
	<i>Stylidium dielsianum</i>	Tangle Triggerplant	Yw, Ash
	<i>Stylidium ecorne</i>	Foot Triggerplant	GR
	<i>Stypandra glauca</i>		GR
	<i>Templetonia aculeata</i>		Ash
	<i>Thelymitra antennifera</i>	Vanilla Orchid	GRs
	<i>Thelymitra petraea</i>		GRs
	<i>Thryptomene australis</i>	Hook-leaf Thryptomene	GR
	<i>Thysanotus manglesianus</i>	Fringed Lily	Yw, GR
	<i>Thysanotus patersonii</i>		Ash, GR
	<i>Thysanotus speckii</i>		Yw, Ash
	<i>Trachymene cyanopetala</i>		Yw, Ash, GR
	<i>Trachymene ornata</i>	Spongefruit	Yw, Ash, GR
	<i>Trichanthodium skirroporum</i>		Yw
*	<i>Trifolium arvense</i>	Hare's Foot Clover	Yw
	<i>Triglochin nana</i>		Ash, GR
	<i>Triglochin</i> sp. A Flora of Australia (G.J. Keighery 2477)		Ash, GR
	<i>Triodia scariosa</i>		Ash
	<i>Tripogon loliiformis</i>	Five Minute Grass	GRs
	<i>Triptilodiscus pygmaeus</i>		GR
*	<i>Urospermum picroides</i>	False Hawkbit	GR
*	<i>Ursinia anthemoides</i>	Ursinia	Yw, GR
	<i>Velleia cynopotamica</i>		Yw

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	Velleia rosea	Pink Velleia	Yw
	Vittadinia ?cervicularis		Yw, GR
	Wahlenbergia gracilentata		GR
	Wahlenbergia sp		Ash
	Waitzia acuminata		Sw, Yw, Ash
	Westringia rigida		Sw
	Westringia cephalantha		Ash
	Wurmbea sp		GRt/s
	Xerolirion divaricata	Basil's Asparagurus	GR
*	Zaluzianskya divaricata	Night Phlox	GRt/s
	Zygophyllum eremaeum		Sw