

Priority Flora Survey of the Tarin Rock Representative Landscape Area



Consultants Report For The Department of Conservation and Land Management By Anne (Coates) Rick 2005

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Acknowledgments

I extend my sincere thanks to Elsie Bishop, Nancye Perkins, Phyllis Dunham, Annie Slarke and Lynette Taylor from the Lakes District Rare Flora Volunteers for their valuable assistance in the field.



Photograph 1. Phyllis Dunham, Lyn Taylor and Nancye Perkins helping to count plants of *Rinzia affinis* in the Water Reserve.



Photograph 2. Annie Slarke, Lyn Taylor and Phyllis Dunham next to a plant of *Rulingia incilis* ms west of the Tarin Rock wheat bin. Leaves of this species were collected and sent to Dr Carol Wilkins for DNA sequence analysis.

Introduction

1.1 **Project Description**

The aim of this project was to resurvey thirteen sites of priority flora occurring in the Tarin Rock Representative Landscape Area. The information provided with the original specimen collections or reports was insufficient in some cases for the exact location of the populations to be accurately mapped without further field work. Some of the priority species had not been re collected or surveyed at these sites for some time. Details provided by the Department of Conservation and Land Management (including Flora Base) are outlined in Table 1 and Figure 1.

Details Required :

- Completed rare flora report form for each site.
- Precise location details (latitude and longitude in GDA94 compatible)
- Two duplicate voucher specimens.
- Photographs of both the plant and site.

Table 1Priority Flora sites to be surveyed in the Tarin RockRepresentative Landscape Area.

Site No	Species	Status	Location Details
1	<i>Jacksonia debilis</i> Chappill ms	P1	Gravel reserve. Near Kulin Turnoff. Lake Grace to Harrismith Rd. Assoc. with <i>Banksia baueri</i> & <i>Dryandra</i> <i>pteridifolia.</i> Coarse sandy loam E.J. Croxford 5288, 21 October 1986
2	<i>Boronia ericifolia</i> Benth	P2	On Tarin Rock Rd, 4.25km WNW from junction with Hills Rd, N side of road in Shire of Dumbeyung, 3.5 km N of the N boundary of TRNR (25711). 1984 Not found on flora base
3	<i>Microcorys lenticularis</i> F.Muell.	P2	Tarin Rock Nature Reserve, 11.2 kms W of Tarin Rock J.W. Wrigley s.n. 9 November 1968
4	Persoonia hakeiformis Meisn	P2	6 km N of Kukerin (on Bladendale Rd?) Grey clayey sand. In shrubland R.J. Cranfield 4721, 24 October 1983

5	Rinzia affinis Trudgen	P2	Tarin Rock Water Reserve.
			Southern firebreak and MWA
			Railway Rd Sandy loam Assoc.
			Allocasuarina and Hakea.
6	Synaphea parviflora	P2	E.J. Croxford 6985, 7 August 1993 Tarin Rock Reserve, W of wheatbin
0	A.S.George	ΓZ	on the S side of Dumbleyung-Lake
	A.O.Ocorge		Grace Rd Heathland with scattered
			emergent mallee eucalypts. Gravelly
			lateritic soil. M.G.M Corrick 10992,
			2 October 1992
7	Baeckea sp. Hyden	P3	1.1 km NE of Tarin Rock North Rd,
	(J.M. Brown 141)		Road reserve runs NE for 1.6 kms
			900 ms S of junction with Holden
			Rd. 33 01' 40"S 118 14' 34"E S.A.
8	Parania paniaillata Panth	P3	McNee DY 547, 5 November 1994 S verge of Dumbleyung-Lake Grace
0	<i>Boronia penicillata</i> Benth	гJ	Rd; 0.85km SE of the junction with
			Hills Rd, adjoining TRNR. 1989
9	Daviesia uncinata Crisp	P3	8 km NNE of Kukerin on road
(11)			reserve that runs east for 7.2 km
~ /			from Bladendale Rd.?to
			Dumbleyung – Lake Grace Rd
			33°06' 56"; 118°07'35" S.A.
			McNee DY 734, 4 November 1992
10	Dryandra fasciculata	P3	8 km N of Kukerin. In thick scrub in
	A.S. George		lateritic clay loam. A.S. George
4.4		D 2	9897, 1 July 1970
11	Dryandra meganotia	P3	8 km NNE of Kukerin. Road reserve runs E for 7.2 kms from Bladendale
(9)	A.S. George		Rd to?Dumbleyung - Lake Grace Rd
			33°06' 56" 118°07' 35 " S.A.
			McNee DY 596, 4 November 1992
12	Gyrostemon prostratus	P3	1km west of Tarin Rock siding along
	A.S. George	-	railway line. J.W. Wrigley WA/68
	U U U U U U U U U U U U U U U U U U U		5093, 9 November 1968
13	Gastrolobium	P4	11 km NW of Tarin rock. On Tarin
	densifolium C.A.		Rock Rd, 2km E of Pearce Rd and
	Gardner		3.1km E of Bladendale road reserve.
			1989. Not found on flora base



2.0 Method

The survey of the study area was carried out on the 12th October 2005 and the 24th October 2005 with the assistance of members of the Lakes District Rare Flora Volunteers. On the 12th October populations of *Rulingia incilis* ms. were also surveyed. Leaves of this species were collected and sent to Dr Carol Wilkins (University of Western Australia) for DNA sequence analysis for defining specific and generic boundaries of the Lakes District Regional Herbarium. On the 26th October 2005 and 1st November 2005 survey work was carried out by the consultant.

Priority flora sites were photographed and described. Information recorded included soil type, topography, associated vegetation, characteristic species, exact location, GPS reading (datum, GPS map - WGS 84), health of the population and management issues. Plants were described, photographed and the number of plants counted.

Vegetation association descriptions were based on the classification system devised by Muir (1977) which was specifically designed for describing wheatbelt vegetation (see Table 1).

Voucher specimens of plant species encountered were collected and identified using keys and by comparison with specimens at the Western Australian Herbarium. Experts involved in revising particular genera were consulted wherever possible to ensure accuracy with identification.

Voucher specimens will be lodged at the WA Herbarium with duplicates at the Lakes District Regional Herbarium.

		CANOF	CANOPY COVER	
HEIGHT CLASS	DENSE 70-100% d	MID-DENSE 30-70% c	SPARSE 10-30% i	VERY SPARSE 2-10% r
T Trees > 30m	Dense Tall Forest	Tall Forest	Tall Woodland	Open Tall Woodland
M Trees 15-30m	Dense Forest	Forest	Woodland	Open Woodland
LA Trees 5-15m	Dense Low Forest A	Low Forest A	Low Woodland A	Open Low Woodland A
LB Trees < 5m	Dense Low Forest B	Low Forest B	Low Woodland B	Open Low Woodland B
KT Mallee tree form	Dense Tree Mallee	Tree Mallee	Open Tree Mallee	Very Open Tree Mallee
KS Mallee shrub form	Dense Shrub Mallee	Shrub Mallee	Open Shrub Mallee	Very Open Shrub Mallee
Shrubs > 2m	Dense Thicket	Thicket	Scrub	Open Scrub
SA Shrubs 1.5-2.0m	Dense Heath A	Heath A	Low Scrub A	Open Low Scrub A
SB Shrubs 1.0-1.5m	Dense Heath B	Heath B	Low Scrub B	Open Low Scrub B
SC Shrubs 0.5-1.0m	Dense Low Heath C	Low Heath C	Dwarf Scrub C	Open Dwarf Scrub C
SD Shrubs 0.0-0.5m	Dense Low Heath D	Low Heath D	Dwarf Scrub D	Open Dwarf Scrub D
P Mat plants	Dense Mat plants	Mat plants	Open Mat plants	Very Open Mat plants
H Hummock Grass	Dense Hum. Grass	Mid-Dense Hum. Grass	Hummock Grass	Open Hummock Grass
GT Bunch grass > 0.5m	Dense Tall Grass	Tall Grass	Open Tall Grass	Very Open Tall Grass
GL Bunch grass < 0.5m	Dense Low Grass	Low Grass	Open Low Grass	Very Open Low Grass
J Herbaceous spp.	Dense Herbs	Herbs	Open Herbs	Very Open Herbs
VT Sedges > 0.5m	Dense Tall Sedges	Tall Sedges	Open Tall Sedges	Very Open Tall Sedges
VL Sedges < 0.5m	Dense Low Sedges	Low Sedges	Open Low Sedges	Very Open Low Sedges
X Ferns	Dense Ferns	Ferns	Open Ferns	Very Open Ferns
Mosses, liverwort	Dense Mosses	Mosses	Open Mosses	Very Open Mosses

TABLE 2 - MUIR SYSTEM OF VEGETATION CLASSIFICATION

3.0 Results

3.1 Summary of Survey Results

- Populations at 8 of the priority flora sites were found and re surveyed.
- The record of *Boronia ericifolia* was thought to be misleading as this species occurs in the Moora-Wongan Hills area and no collections from the Tarin Rock area were found on flora base.
- The area where *Persoonia hakeformis* was previously collected has been burnt in Dec 2004. This site will need to be surveyed at a later date when plants are mature enough to be accurately identified.
- The population of *Synaphea parviflora* west of the Tarin Rock wheat bin was not found. The taxonomy of the genus *Synaphea* is still in some confusion and the status of *Synaphea parviflora* as a distinct species is uncertain (Ryonen Butcher pers. comm.).
- The population of *Gyrostemon prostratus* west of the Tarin Rock wheat bin was not re located. The last collection from this site was in 1968.
- *Gastrolobium densifolium* was not relocated at site 13 and a collection is not recorded from this site on flora base. The original collection has probably been re identified. A population of this species recorded from the southern section of the Water Reserve was re located and surveyed.
- Four new populations of priority flora are described in this report including:

Jacksonia debilis (collected during the present survey),

Microcorys lenticularis (collected by the Lakes District Rare Flora Volunteers 2002 and surveyed 2005),

Dryandra meganotia (collected 2003 Kukerin Herbarium Project)

Baeckea sp Hyden (collected by the Lakes District Rare Flora Volunteers 2004)

• Three new populations of Dryandra fasciculata were also found at sites 7, 8 and 13. Due to time limitations the survey of these populations could not be completed within the scope of the present project. Flowering specimens need to be collected in July – August, plant numbers counted and rare flora report forms completed.

Location Details Site Species Status Results of 2005 No survey 1 Jacksonia P1 Gravel reserve. Near Kulin Population Found Voucher debilis Turnoff. Lake Grace to Harrismith Rd 1986 AC 5007 Assoc. with Banksia baueri & Dryandra pteridifolia P1 8 km NNE of Kukerin on New Jacksonia Voucher AC 9/11 5017 debilis road reserve that runs east for 7.2 km from Bladendale Rd. 2 Boronia P2 On Tarin Rock Rd, 4.25km This species ericifolia WNW from junction with occurs in the Hills Rd, N side of road in Moora-Wongan Shire of Dumbeyung, 3.5 Hills area. km N of the N boundary of Probably an TRNR (25711). 1984 incorrect record. 3 Microcorys P2 Tarin Rock Nature Population lenticularis Reserve, 11.2 W of Tarin found Voucher Rock AC 5018 P2 New Microcorys Tarin Rock Nature Voucher EB 169 2002 lenticularis Reserve NS firebreak 20 · D

TABLE 3Summary of Results of the Priority Flora survey of the TarinRock Representative Landscape Area

4	Persoonia	P2	6 km N of Kukerin (on	Area burnt Dec
	hakeiformis		Bladendale Rd?) 1983	2004. resurvey
				at a later date
5	Rinzia affinis	P2	Tarin Rock Water	Area on map
			Reserve. Southern	provided burnt
			firebreak and MWA	Dec 2004.
			Railway Rd 1993	Resurvey at a
				later date.
5	Rinzia affinis	P2	Tarin Rock Water	Voucher AC
			Reserve. Southern	4991
			firebreak and MWA	
			Railway Rd 1993	
6	Synaphea	P2	Tarin Rock (Townsite?)	Not found
	parviflora		Reserve, W of wheatbin	Confusion in the
			on the S side of	current
			Dumbleyung-Lake Grace	taxonomy
			Rd 1992	
7	Baeckea sp.	P3	Tarin Rock North Rd, 900	Population
	Hyden (JM		ms S of Holden Rd. 33 01'	found. Voucher
	Brown)		40"S 118 14' 34"E 1996	AC 5006

Pop 2004Hyden (JM Brown)Northern boundary49218Boronia penicillataP3S verge of Dumbleyung- Lake Grace Rd; 0.85km SE of the junction with Hills Rd, adjoining TRNR. 1989Population found Voucher AC 50319Daviesia uncinataP38 km NNE of Kukerin on road reserve that runs east for 7.2 km from Bladendale Rd. 1992.33 06°56°; 11 07'35"Population found Voucher AC 5015 – no flowers Voucher AC 5044 – flowering10Dryandra fasciculataP38 km N of Kukerin 1970. In thick scrub in lateritic clay on loam.Population found Voucher AC 50167.8,Dryandra fasciculataP38 km NNE of Kukerin. E of Bladendale Rd. 7.2km to Dubleyung-Lake Grace Rd. ? yearVouchers to be confirmed when flowering material is available11Dryandra meganotiaP38 km NNE of Kukerin. E of Bladendale Rd. 7.2km to Dumbleyung-Lake Grace Rd. ? yearPopulation found Voucher AC 504212Gyrostemon prostratusP31km west of Tarin Rock siding along railway line. 1968Not found on Coriginal collection reidentified?13Gastrolobium densifoliumP411 km NW of Tarin rock. of Bladendale road reserve. 1989Population not found. Original collection reidentified?	Now	Decelies on	D 2	North Tarin Rock NR.	
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3.2 Priority Flora Site Descriptions

Site 1 Jacksonia debilis Chappill ms

Location: 4.7 kms West of Hills Rd along the Tarin Rock Rd. Road Reserve on the North side of the road. ~75ms wide.

Lat 33°03' 07.7" Long 118°08' 33.3"

Soils and Topography: Deep loamy sand over laterite. Gently sloping terrain.

Associated vegetation: Dwarf Scrub C over Low Heath D (scattered shrubs over 2 ms)

Characteristic species: Hakea obliqua, Petrophile ericifolia, Dryandra pteridifolia, Banksia baueri, Eremaea pauciflora, Anigozanthos humilis, Andersonia sp, Dryandra nivea, Banksia violacea, Allocasuarina microstachya, Caustis dioica, Verticordia ovalifolia, Verticordia ?insignis, Lachnostachys verbascifolia, Conostylis sp, Dampiera ?linearis, Boronia ramosa ssp anethifolia

Number of Plants: 3 plants. 1 in flower

Voucher: AC 5007

Health of population: Healthy population. The Road Reserve is ~75 ms wide and is generally in good condition.

Comments: This locality is 3kms east of the Kulin turnoff (Pearce Rd). It is the only site with the described associated species *Banksia baueri* and *Dryandra pteridifolia* along the Tarin Rock road in this general area.



Photograph 3 Jacksonia debilis at site 1.



Photograph 4 Shrubland on sandy soils at Site 1 (*Jacksonia debilis* site)

Site 2 Boronia ericifolia Benth

The record of *Boronia ericifolia* was thought to be misleading as this species occurs in the Moora-Wongan Hills area and no collections from the Tarin Rock area were found on flora base. The original collection has probably been re identified.

Site 3 *Microcorys lenticularis* F. Muell

Location: 6 kms west of Hills Rd on the Dumbleyung-Lake Grace Road. Plants occurred on both sides of the road on verges for 750 ms and a disturbed area south of the road.

Road Verges

Lat 33°08' 50.1" Long 118°08' 30.9"

Soils and Topography: Sandy soils over laterite at depth.

Associated vegetation: Dwarf Scrub C over Open Dwarf Scrub D

Characteristic species: Hakea corymbosa, Eremaea pauciflora, Verticordia ovalifolia, Lambertia inermis, Caustis dioica, Pityrodia terminalis, Comespermum sp, Acacia sp

Adjacent vegetation: Open Scrub over Low Heath C over Dwarf Scrub D (scattered shrub mallee).

Eucalyptus albida, Banksia attenuata, Lambertia inermis, Hakea corymbosa, Allocasuarina humilis, Hakea brownii, Dryandra ?purdiana, Leptospermum spinescens, Eremaea pauciflora (frequent) Banksia baueri, Adenanthos ?cygnorum, Petrophile ericifolia, Kunzea sp, Petrophile longifolia, Melaleuca pungens, Andersonia sp, Calytrix leschenaultii, Gastrolobium bennettsianum, Dampiera sp, Baeckea sp, Leucopogon sp, Desmocladus sp

Number of Plants: 108 on verge.

Voucher: AC 5018.

Health of population: Population healthy.

Comments : The road verge has been previously slashed. Future slashing of the verge, if too frequent, may endanger the population. Rare flora markers in the area need to be extended



 Photograph 5
 Microcorys lenticularis on the road verge of the Lake Grace –

 Dumbleyung Road.



Photograph 6 Roadside verge at site 3.

Disturbed Area South of the Road

Location: Area south of the road. The vegetation was regenerating on an old track and sand pit.

Lat 33°09' 05.5" Long 118°08' 23.1"

Soils and Topography: Deep sandy soils, laterite at depth on gently sloping terrain.

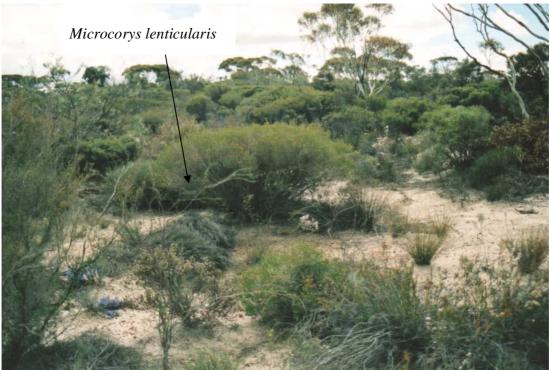
Associated vegetation: Open Scrub over Dwarf Scrub C over Dwarf Scrub D

Characteristic species: Kunzea sp, Leptospermum ?nitens, Eremaea pauciflora (frequent), Banksia baueri, Lambertia inermis, Daviesia sp, Caustis dioica, Adenanthos cygnorum, Verticordia ovalifolia, Dryandra nivea, Comespermum ?distichum, Comespermum brownii, Petrophile ericifolia, Calytrix leschenaultii, Verticordia chrysantha, Petrophile longifolia, Urodon dasyphyllus, Lechenaultia tubiflora, Andersonia sp, Verticordia ?insignis

Number of Plants: 62 plants

Voucher: AC 5018

Health of population: Healthy population with good regeneration of associated species.



Photograph 7 *Microcorys lenticularis* south of the road at site 3.

Site 4 Persoonia hakeiformis Meisn

The general area was burnt in December 2004. The site will need to be surveyed at a later date when plants are mature enough to be accurately identified. Good regeneration was observed after winter and spring rains.

Location: Bladendale Rd, 3.7kms North of the Dumbleyung-Lake Grace Rd.

Lat 33°07' 46.7" Long 118°05' 04.1"

Soils and Topography: Gravelly soils over ironstone. Top of hill and slope.

Associated vegetation: Seedlings. Area burnt - regeneration good.

Characteristic species: Mallet trees, shrub mallee and *Dryandra* shrubs - burnt stays. Species collected include Actinotus sp AC4994, Astridia sp AC 4995 and other Asteraceae.

Comments: Only two areas of remnant vegetation occur in the area specified ie 6 km N of Kukerin (on Bladendale Rd?). Specimens of *Persoonia hakeiformis* listed on flora base have been collected from heath areas with laterite soils. The above locality is therefore the most likely location for site 4. Morrel (*Eucalyptus lonicornis*) and salmon gum (*Eucalyptus salmonophloia*) woodlands on loamy soils occur in the second area of remnant vegetation occurring in the general area



Photograph 8 Site 4 burnt in December 2004.

General area of Site 5

Rinzia affinis Trudgen

The area marked on the map (Figure 1)

This area was burnt in the December 2004 fire. *Rinzia affinis* is probably more common in the study area than before realised. One population is described below in the general area of site 5 and a new population is described at site 8. Surveying for more populations was beyond the scope of the present study. 12 specimens listed on flora base occur in the Tarin Rock survey area. These include the collections

E.J. Croxford 3538 and 3530, 15 October 1984 Tarin Rock Water Reserve, against railway Road and

E.J. Croxford 5222, 16 October 1986 Tarin Rock Water Reserve, beside railway line.

Rinzia affinis has also been collected by the Lakes District Rare Flora Volunteers at 2 other sites in the study area including:

E. Bishop 130, 14 October 2002 - Tarin Rock railway line, 1 km W of wheat bin. Population previously recorded and

E. Bishop 137, 14 October 2002. Tarin Rock Nature Reserve. Near Tower (Air Navigation Facility), 3.7 km W of Hills Rd.



Photograph 9

Area marked as site 5 on figure 1.

Rinzia affinis population in the general area of Site 5

Location: 250ms west of the eastern boundary of Duggan Water Reserve along the track running on the south side of the railway line.

Lat 33°08' 03.0" Long 118°10' 19.5"

Soils and Topography: Sandy soils over laterite. Flat terrain.

Associated vegetation: Open Shrub Mallee over Open Scrub over Low Heath D

Characteristic species: Eucalyptus uncinata, Eucalyptus falcata, Leptospermum sp, Hakea pandanocarpa ssp crassifolia, Grevillea cagiana, Leptospermum spinescens, Dryandra vestita, Melaleuca ?societatis, Kunzea sp, Beaufortia micrantha, Baeckea sp, Dampiera juncea, Caustis dioica, Hibbertia sp, Verticordia acerosa ssp preissii, Calytrix leschenaultii, Comesperma scoparium, Desmocladus sp, Neurachne alopecuroidea.

Number of Plants: 31 plants in flower.

Voucher: AC 4991

Comments: Track maintenance may endanger plants close to the track.



Photograph 10 *Rinzia affinis* in the general area of site 5.



Photograph 11 *Rinzia affinis* and associated vegetation at site 5.

Site 6 Synaphea parviflora A.S. George

The population of *Synaphea parviflora* west of the Tarin Rock wheat bin was not found. The taxonomy of the genus *Synaphea* is still in some confusion and the status of *Synaphea parviflora* as a distinct species is uncertain (Ryonen Butcher pers. comm.). Ryonen Butcher has also searched the area west of the Tarin Rock wheat bin and has failed to collect *Synaphea parvifolia*. The only *Synaphea* collected at the location marked on figure 1 has been identified by Ryonen as *Synaphea cervifolia* AC 4973. West of Wheatbin may mean some kms west and futher survey work and taxonomic revision are needed to clarify the situation.

Site 7 Baeckea sp. Hyden (J.M. Brown 141)

Location: 1.2 kms east of Tarin Rock North Road beside a track which runs east off the Tarin Rock North Road 900ms south of Holden Rd. Plants occurred In a narrow strip of remnant vegetation on both sides of the track. The population extents for ~250 ms.

Lat 33°01' 36.7" Long 118°14' 36.2"

Soils and Topography: Sandy loam soils with gravel over ironstone. Gently sloping terrain.

Associated vegetation: Very Open Shrub Mallee over Open Scrub over Low Scrub B over Dwarf Scrub C over Open Dwarf Scrub D (Muir 1977)

Characteristic species: Eucalyptus albida, Allocasuarina ?spinosissima, Callitris roei, Allocasuarina acutivalvis, Pittosporum angustifolium, Hakea multilineata, Dryandra purdiana (frequent), Isopogon teretifolius, Gastrolobium spinosum, Grevillea hookeriana, Leptospermum spinosum, Beaufortia micrantha, Persoonia ?coriacea, Dryandra ferruginea, Beackea sp, Dryandra fasciculata, Calytrix leschenaultii, Verticordia picta, Hibbertia sp

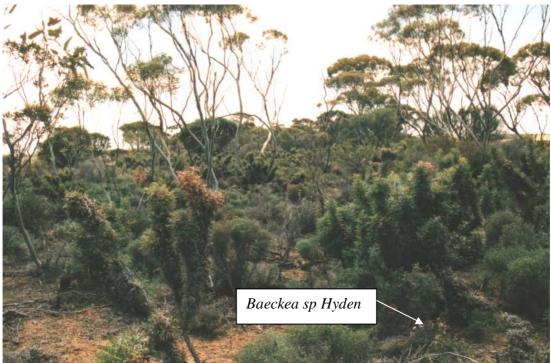
Number of Plants: 73 plants in flower – just finishing.

Voucher: AC 5006

Comments: The *Baeckea* population is healthy however the strip of vegetation on the sides of the track is narrow especially on the northern side and some weed invasion has occurred. *Dryandra fasciculata* was also recorded at this site.



Photograph 12 Baeckea sp Hyden (J.M.Brown) at site 7



Photograph 13Baeckea sp Hyden (J.M.Brown 141) and associated
vegetation at site 7.

Site 8 Boronia penicillata Benth

Location: Adjacent to the Lake Grace – Dumbleyung Rd. 850 ms East of Hills Rd. both sides of road. Population extends for 550ms. Tarin Rock Nature Reserve.

Lat 33°06' 25.9" Long 118°11' 58.0"

Soils and Topography: Sandy loam with gravel over ironstone. Gentle slope.

- Associated vegetation: Open Scrub over Low Heath C over Dwarf Scrub D (scattered shrub mallee)
- **Road side verge:** Open Dwarf Scrub C over Low Heath D Area previously slashed. *Dampiera sp, Lachnostachys ?bracteosa* prominent

Characteristic species: Eucalyptus albida, Grevillea cagiana, Hakea pandanocarpa ssp crassifolia, Hakea?cygna, Banksia baueri, Hakea brownii, Allocasuarina pinaster, Beaufortia incana, Isopogon gardneri, Isopogon teretifolius, Allocasuarina humilis, Dryandra ferruginea, Caustis dioica, Lachnostachys ?bracteosa, Petrophile phylicoides, Banksia sphaerocarpa, Dryandra erthrocephala, Dryandra vestita, Dampiera juncea, Xanthorrea nana, Beaufortia micrantha, Hibbertia ?pungens, Chloanthes coccinea, Verticordia picta, Daviesia uniflora, Verticordia roei, Verticordia chrysantha, Lechenaultia biloba, Boronia capitata, Jacksonia sp, Synaphea sp

Number of Plants: 195 plants on both sides of the road on the verge and mainly in the disturbed areas adjacent south eg old fire break / track

Voucher: AC 5030

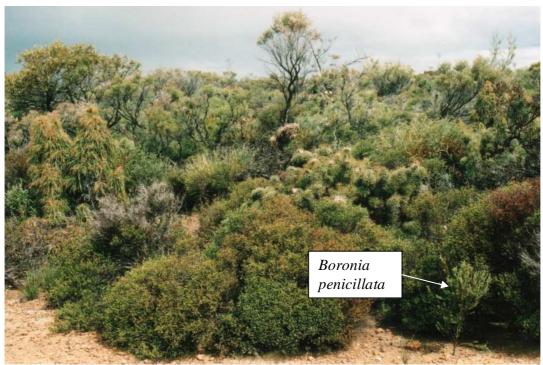
Comments: The population is healthy. Part of the road verge has rare flora markers due to the presence of *Dryandra foliosissima*. *Daviesia tortuosa* AC 5052, *Dryandra fasciculata* AC 5033 an *Rinzia affinis* AC 5030 were also collected from this site. Frequent slashing of the road verge may endanger this population.



Photograph 14 Boronia penicillata at site 8.



Photograph 15 Road verge with *Boronia penicillata, Rinzia affinis* and *Daviesia tortuosa* at site 8



Photograph 16 Site 8. Vegetation adjacent to the road verge.

Site 9 (site 11) Daviesia uncinata Crisp

Location: Unmade road running east to Tarin Rock Nature Reserve from Bladendale Rd. 7.95 kms south of Tarin Rock Rd. Same as site 11.

Lat 33° 06' 52.8" Long 118° 05' 49.6"

Soils and Topography: Sandy soil over laterite. Gently sloping terrain.

Associated vegetation: Low Scrub B (Low Heath B in places) over Dwarf Scrub C over Dwarf Scrub D

Characteristic species: Eremaea pauciflora (frequent), Hakea brownii, Dryandra pteridifolia, Hakea corymbosa, Leptospermum erubescens, Banksia baueri, Hakea obliqua, Lambertia ilicifolia, Petrophile ericifolia (frequent), Allocasuarina humilis, Dryandra nivea, Dryandra fasciculata, Leptospermum spinescens, Isopogon teretifolius, Petrophile longifolia, Banksia violacea, Beaufortia micrantha, Persoonia sp, Dampiera juncea, Hibbertia sp, Anigozanthos humilis, Verticordia ?insignis, Baeckea crispiflora, Petrophile brevifolia, Lepidobolus ?chaetocephalus. Desmocladus sp, Grevillea hookeriana Number of Plants: 7 mature plants, 1 dead.

Voucher: AC 5015, AC 5044 (Flowering specimen collected on 7th December 2005)

Health of population: The population of *Daviesia uncinata* and the surrounding vegetation is generally in good health. However rabbits are common and burrowing has caused the death of some plants in the area. The unmade road reserve is narrow ~50 ms and weed invasion has occurred at the edges. Kangaroos are also causing some damage. This population was revisited on the 7^{th} December 2005 and a flowering specimen collected.



Photograph 17 *Daviesia uncinata* in flower at site 9. The photograph was taken on the 7 December 2005.

Site 10 Dryandra fasciculata A.S. George

Location: Unmade road. Running east to Tarin Rock Nature Reserve from Bladendale Rd. Starting 7.95 kms South of Tarin Rock Rd. ~ 50 ms wide.

Lat 33° 06' 52.9" Long 118° 05' 48.4"

Soils and Topography: Sandy soil over laterite. Gently sloping terrain.

Associated vegetation: Low Scrub B over Dwarf Scrub C over Dwarf Scrub D

Characteristic species: Eremaea pauciflora, Hakea brownii, Dryandra pteridifolia, Hakea corymbosa, Banksia baueri, Hakea obliqua, Lambertia ilicifolia, Petrophile ericifolia Allocasuarina humilis, Dryandra nivea, Dryandra fasciculata, Leptospermum spinescens, Isopogon teretifolius, Petrophilte longifolia, Banksia violacea, Beaufortia micrantha, Persoonia sp, Dampiera juncea, Hibbertia sp, Anigozanthos humilis, Verticordia ?insignis, Baeckea crispiflora, Petrophile brevifolia, Lepidobolus ?chaetocephala. Desmocladus sp, Grevillea hookeriana

Number of Plants: Scattered throughout the association. Over 100 plants estimated.

Voucher: AC 5016

Comments: The population of *Dryandra faciculata* and the surrounding vegetation is generally in good health. Management issues such as rabbits are also relevant at site 10. This species is more widely spread than *Daviesia uncinata* and *Dryandra meganotia* (site 9/11) which are confined to the deeper sandy soils adjacent to Bladendale road. *Dryandra fasciculata* is found at site 9/11 and also further east in the more shallow sandy soils over laterite (site 10).



Photograph 18 Dryandra fasciculata at site 10.



Photograph 19 Dryandra fasciculata at Site 10.

Site 11 *Dryandra meganotia* A.S. George

Location: Unmade road. Running east to Tarin Rock Nature Reserve from Bladendale Road, 7.95 kms south of Tarin Rock road and on the Bladendale road verge to the south. Same as site 9.

Lat 33° 06' 53.1" Long 118° 05' 45.2"

Soils and Topography: Sandy soil over laterite. Gently sloping terrain.

Associated vegetation: Low Scrub B (Low Heath B in places) over Dwarf Scrub C over Dwarf Scrub D

Characteristic species: Eremaea pauciflora (frequent), Hakea brownii, Dryandra pteridifolia, Hakea corymbosa, Leptospermum erubescens, Banksia baueri, Hakea obliqua, Lambertia ilicifolia, Petrophile ericifolia (frequent), Allocasuarina humilis, Dryandra nivea, Dryandra fasciculata, Leptospermum spinescens, Isopogon teretifolius, Petrophilte longifolia, Banksia violacea, Beaufortia micrantha, Persoonia sp, Dampiera juncea, Hibbertia sp, Anigozanthos humilis, Verticordia ?insignis, Baeckea crispiflora, Petrophile brevifolia, Lepidobolus ?chaetocephalus. Desmocladus sp, Grevillea hookeriana

Number of Plants: 52 plants counted.

Voucher: AC 5042

Comments: The population of *Dryandra meganotia* and the surrounding vegetation is generally in good health. This site is the same as site 9. Rabbits are common and burrowing has caused the death of some plants in the area. The unmade road reserve is narrow ~50 ms and weed invasion has occurred at the edges. Kangaroos are also causing some damage.



Photograph 20 Dryandra meganotia at site 11.



Photograph 21 Dryandra meganotia and associated vegetation at site 11

Site 12 *Gyrostemon prostratus* A.S.George

The Lakes District Rare Flora Volunteers have collected *Gyrostemon prostratus* (Sam Walsh collection SW 52) previously on the Walsh property near Dunn Rock Nature Reserve. Both sides of the railway line were searched on 12 October 2005 and the consultant revisited the area on the 1 November 2005. However no plants were found. This species was last collected at this site in 1968.

Site 13 *Gastrolobium densifolium* C.A.Gardner

Comments Gastrolobium densifolium was not relocated at site 13 and a collection is not recorded from this site on flora base. The original collection has probably been re identified. A population of this species located in the southern section of the Water Reserve was re located and surveyed. The details of the original collect are as follows

E.J.Croxford 5188, 23 October 1986. Sandy loam soil, in association with *Eucalyptus* sp and *Calytrix* sp. Near railway line, Duggan Water Reserve.

Location Duggan Water Reserve, 200ms west of the track crossing the railway line on the southern side of the line. Plants occur between the railway line and the track on the south side of the line and on the southern side of the track.

Lat 33°08' 46.1" Long 118°09' 15.2"

Soils and Topography: Sandy loam and gravel. Gentle slope

Associated vegetation: Between the railway line and the track – Scrub A over Low Heath D. South of the track – Scrub A over Dwarf Scrub C over Low Heath D.

Characteristic species: Melaleuca "uncinata", Allocasuarina campestris, Leptospermum erubescens, Grevillea hookeriana, Hakea lissocarpha, Hakea scoparia, Melaleuca ?carrii, Pimelea angustifolia, Dodonaea ?caespitosa, Philotheca rhomboidea, Phebalium filifolium, Allocasuarina microstachya, Hakea incrassata, Hibbertia ?pungens, Neurachne alopecuroidea, Comesperma scoparium, Dampiera juncea, Baeckea crispiflora, Verticordia chrysantha, Verticordia picta, Waitzia acuminata, Calytrix, Ieschenaultii, Stylidium Iuteum, Borya sp,

Number of Plants: 157 plants counted. Plants in flower.

Voucher: AC 5028

Comments The population is healthy. Track and railway maintenance may threaten the population in the future.



Photograph 22 Gastrolobium densifolium in Duggan Water reserve.



Photograph 23 *Gastrolobium densifolium* on the south side of the track.

3.3 New Populations

New Population Site 9/11 Jacksonia debilis Chappill ms

Location: Unmade road. Running east to Tarin Rock Nature Reserve from Bladendale Rd. 7.95 kms South of Tarin Rock Rd. At site 9 /11.

Lat 33° 06' 52.9" Long 118° 05' 48.4"

Soils and Topography: Sandy soils over laterite. Gently sloping terrain.

Associated vegetation: Low Scrub B (Low Heath B in places) over Dwarf Scrub C over Dwarf Scrub D

Characteristic species: Eremaea pauciflora (frequent), Hakea brownii, Dryandra pteridifolia, Hakea corymbosa, Leptospermum erubescens, Banksia baueri, Hakea obliqua, Lambertia ilicifolia, Petrophile ericifolia (frequent), Allocasuarina humilis, Dryandra nivea, Dryandra fasciculata, Leptospermum spinescens, Isopogon teretifolia, Petrophilte longifolia, Banksia violacea, Beaufortia micrantha, Persoonia sp, Dampiera juncea, Hibbertia sp, Anigozanthos humilis, Verticordia ?insignis, Baeckea crispiflora, Petrophile brevifolia, Lepidobolus ?chaetocephalus. Desmocladus sp, Grevillea hookeriana

Number of Plants: Three plants in flower

Voucher: AC 5017

Health of population: The population of *Jacksonia debilis* and the surrounding vegetation is generally in good health. However rabbits are common and burrowing has caused the death of some plants in the area. The unmade road reserve is narrow ~50 ms and weed invasion has occurred at the edges. Kangaroos are also causing some damage. See *Daviesia uncinata* site 9, page 26.



Photograph 24Jacksonia debilis at site 9 growing with Daviesia uncinata
and Dryandra meganotia.



Photograph 25 Site 9 the location of a new population of Jacksonia debilis.

New Population 2002 *Microcorys lenticularis* F Muell

Location: Tarin Rock Nature Reserve, Adjacent to North - South fire break. 1.1 kms from the Northern boundary

Lat 33°05' 37" Long 118°10' 49"

Soils and Topography: Deep sandy soils over laterite. Gentle slope.

Associated vegetation: Low Scrub B over Low Heath C (scattered Shrub Mallee)

Characteristic species: Eucalyptus albida, Banksia baueri, Eremaea pauciflora, Lambertia ilicifolia, Leptospermum erubescens, Dryandra nivea, Callitris sp, Dampiera wellsiana, Conostylis petrophiloides, Pityrodia bartlingii, Dampiera linearis, Billardiera sp, Calectasia pignattiana DRF, Pultenaea verruculosa var brachyphylla, Lachnostachys albicans,

Number of Plants: Counted 2005, 20 plants

Voucher: Elsie Bishop EB 169, collected 14 October 2002

Comments: Fire break maintenance may endanger plants close to the edge of the track including *Calectasia pignattiana* DRF which was also collected from this site, Elsie Bishop collection EB 167.



Photograph 26 Microcorys lenticularis in the Tarin Rock Nature Reserve.



Photograph 27 Close up of *Microcorys lenticularis*.



Photograph 28

Site of the new population of *Microcorys lenticularis* in the Tarin Rock Nature Reserve.

New Population at site 8 *Rinzia affinis* Trudgen

Location: Adjacent to the Lake Grace – Dumbleyung Rd. 850 ms East of Hills Rd. both sides of road

Lat 33°06' 25.9" Long 118°11' 58.0"

Soils and Topography: Sandy loam with gravel over ironstone. Gentle slope

Associated vegetation: Open Scrub over Low heath C over Dwarf Scrub D (scattered shrub mallee)

Characteristic species: Eucalyptus albida, Grevillea cagiana, Hakea pandanocarpa ssp crassifolia, Hakea?cygna, Banksia baueri, Hakea brownii, Allocasuarina pinaster, Beaufortia incana, Isopogon gardneri, Isopogon teretifolius, Allocasuarina humilis, Dryandra ferruginea, Caustis dioica, Lachnostachys ?bracteosa, Petrophile phylicoides, Banksia sphaerocarpa, Dryandra erthrocephala, Dryandra vestita, Dampiera juncea, Xanthorrea nana, Beaufortia micrantha, Hibbertia ?pungens, Chloanthes coccinea, Verticordia picta, Daviesia uniflora, Verticordia roei, Verticordia chrysantha, Lechenaultia biloba, Boronia capitata, Jacksonia sp, Synaphea sp

Number of Plants: 47 plants

Voucher: AC 5030

Comments: This is the same site as *Boronia penicillata* – Site 8. The population is healthy. Part of the road verge has rare flora markers due to the presence of *Dryandra foliosissima*. *Daviesia tortuosa* AC 5052 and *Dryandra fasciculata* AC 5033 were also collected from this site. Frequent slashing/ grading of the road verge may endanger this population.



Photograph 29 Rinzia affinis at site 8

New population *Dryandra meganotia* A.S. George

Location: Area of remnant vegetation situated approximately 5 kms south east of Kukerin (Williams Location 15205) south of Siberia Road. Survey site 2 and Quadrat 2 near the western boundary.

Lat 33°12'31" Long 118°07'51"

Soils and Topography: Deep sandy soils with sub-surface laterite on gently sloping terrain.

Associated vegetation: Open Low Scrub B over Low Heath C over Dwarf Scrub D (scattered shrub mallee)

Characteristic species: Eucalyptus incrassata, Hakea pandanicarpa ssp crassifolia, Eremaea pauciflora, Dryandra fasciculata, Leptospermum erubescens, Daviesia uniflora, Isopogon teretifolius, Verticordia roei, V. chrysantha, V. picta, Xanthorrhoea nana, Dryandra erythrocephala, Persoonia striata, Hakea incrassata, Allocasuarina microstachya, Kunzea micromera. Caustis dioica, Lepidosperma sps, Lepidobolus chaetocephalus, Hibbertia ?gracilipes, Leucopogon sps, Rinzia communis, Calytrix leschenaultii, Petrophile brevifolia, Verticordia acerosa var. preissii, Baeckea preissiana, Hakea lissocarpha, Desmocladus quiricanus, Verticordia acerosa var. preissii Voucher: Jan Grey collection JG 30

Date of Survey 18 October 2002

Comments: This area was surveyed in 2002 and 2003 as part of a project for the Dumbleyung Landcare Zone Committee to establish the Kukerin Regional Herbarium.



Photograph 30 The site of the collection of *Dryandra meganotia* on Williams Location 15205 (Site 2 and Quadrat 2 of the consultants report)

New population North Tarin Rock Nature Reserve Baeckea sp Hyden (J.M. Brown 141)

Location: North Tarin Rock Nature Reserve No 29857 Northern Boundary

Lat 32°58' 30.3" Long 118°14' 26.5"

Soils and Topography: Sandy loam with some gravel. Gently sloping terrain.

Associated vegetation: Open Scrub over Open Low Scrub B over Dwarf Scrub D (Muir 1977). Vegetation regenerating on edge of track.

Characteristic species: Melaleuca pungens, Xanthorrea nana, Banksia violacea, Gastrolobium spinosum, Dampiera juncea, Caustis dioica, Mesomelaena sp, Pityrodia terminalis, Dryandra ?fasciculata, Dryandra ferruginea, Daviesia sp, Acacia sp, Synaphea sp

Number of Plants: 20 estimated.

Voucher: AC 4921

Comments: Mal Graham collected Baeckea sp Hyden (J.M. Brown 141) on Williams Loc 15435, east side of North Tarin Rock Nature Reserve No. 29857, 28 July 1997 MSG 784

4.0 References

Muir, B. (1977) "Vegetation and Habitat of Bendering Reserve" Part 2 of Biological Survey of the Western Australian Wheatbelt. Recordings of the Western Australian Museum. Suppl. No. 3

Rick, AM (2004 unpublished) "Vegetation and Flora Survey of Remnant Vegetation on Williams Location 15205 Lukins Property Kukerin" Report for the Dumbleyung Landcare Zone Committee.

Appendix 1

Rare Flora Report forms

and

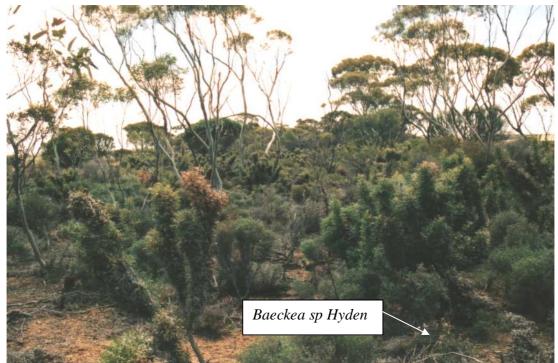
Location Maps

TAXON: Baeckea	sp Hyden (J.M. Brown 1	(41) CA	ALM POPULATIO)N No.:	
DRF 🗖	Priority Specie	es: P3 Partial Surv	vey 🗖 🛛 Full Sur	rvey 🗹 🛛 N	New Population
	elt DIST stars east of Tarin Rock North F of remnant vegetation on both	RICT: Katanning Road beside a track which h sides of the track.		Oumbleyung Farin Rock Nort	h Road 900ms south of Holder
G.P.S. USED: 🗹	DATUM (GPS/MAP):	WGS84 🗹	AGD84 🗖 🛛 🔾	GDA94 🗖	GDA94-Compatible 🗖
LAND STATUS:	Nature Reserve National Park State Forest Water Reserve	Private Pastoral Lease VCL Other Specify:	Gravel Res. M Gravel Res. S Other Shire Res	Shire 🗖 erve 🗖	Rail Reserve Rd. Verge Shire Rd. Verge MRD LK to
LANDFORM:	-	away 🗖 Low I Dune 🗖		Valley Gully Gully Cainageline Coing terrain	Swamp 🗖 Riverbank 🗖 Lake Edge 🗖
ROCK TYPE:	Laterite 🗹 Granite		Limestone		
ROCK FORM:	Sheet D Boulder		_	ncretionary Grav	
SOIL TYPE: SOIL COLOUR:			lay 🗖	Peat 🗖 White 🗖	Gravel 🗹 Grey 🗖
SOIL CONDITION over ironstone					Sandy loam soils with gravel
Open Dwarf Scrub I ASSOCIATED SPI angustifolium, Hake Leptospermum spino	LASSIFICATION (Muir's): V D ECIES: Eucalyptus albida, Ala a multilineata, Dryandra purd osum, Beaufortia micrantha, P ordia picta, Hibbertia sp	locasuarina ?spinosissin liana (frequent), Isopogo	na, Callitris roei, Al on teretifolius, Gastr	locasuarina act olobium spinos	utivalvis, Pittosporum um, Grevillea hookeriana,
No. of PLANTS:	Mature: 73 Seedlings:	Dead: Ac	ctual 🗹 Estim	nate 🗖 Area	Occupied: ~ 2ha
REPRODUCTIVE POLLINATORS: Other observat	-		Other insects	Old Fruit Birds	
CONDITION OF H	POPULATION: Healthy	Moderate	Poor	Disturbed 🗖	Comment:
POTENTIAL THR Salinity 🗖 FIRE HISTORY: FENCING: N	Disease D Prescribed H Not known D But	Burning D Other D	Comment: Road	grading.	zing 🗖 Weeds 🗹 er 🗖 Spring 🗖
ROADSIDE MARI			— [†]	Replace	Reposition \Box
OTHER COMME	NTS (include action taken/required specially on the northern side a	uired): The <i>Baeckea</i> pop	oulation is healthy ho	-	-
VOUCHER SPEC	MEN: Regional Her	rb. 🗹 District Herb.	□ WA Herb.	✓ Other □	AC 5006
ATTACHED:	Map 🗹 Mudmap	□ Illustration □	Photo 🗹	Field No	otes 🗖
COPY SENT TO:	Regional Office \Box	District Office \checkmark	Other	Specify:	
Signed:		Da	nte: 19/12/2005		



Photograph 1

Baeckea sp Hyden (J.M.Brown 141)



Photograph 2 Baeckea sp Hyden (J.M.Brown 141) and associated vegetation .

TAXON: Baeckea s	p Hyden (J.M. Bro	own 141)	CALM POP	ULATION No	o.:	_
DRF 🗖	Priority S	Species: P3	Partial Survey	🗹 Ful	l Survey 🗖	New Population
FROM: Anne Rick	TITLE: Botanica	-	-	VEY DATE:		-
REGION: Wheatbelt	I	DISTRICT: Ka	tanning	SHIRE	: Dumbleyung	
LOCATION: North T	arin Rock Nature Res	erve No 29857 I	Northern Bound	lary Reserv	e No : A29857	
LATITUDE: 32° 58' 3	30.3"S	LONGITU	J DE: 118° 14' 2	6.5" E Ma p	• Used:	
G.P.S. USED : 🗹	DATUM (GPS/N	(IAP): WGS 8	4 🗹 AGD8	4 🗖 GDA9	94 🗖 GDA94	-Compatible
LAND STATUS:	Nature Reserve		Private	Gravel Re	es. MRD 🗖	Rail Reserve
	National Park	Pastora	al Lease 🗖	Gravel Re	es. Shire 🗖	Rd. Verge Shire 🗖
	State Forest		VCL	Other Shire	Reserve 🗖	Rd. Verge MRD 🗖
	Water Reserve	Other	□ Specify:			SLK to
LANDFORM:	Hilltop 🗖	Cliff 🗖	Slo	ope 🗖	Valley 🗆	Swamp 🗖
	Outcrop	Breakaway 🗖	Low Pl	ain 🗖	Gully	Riverbank
	Ridge 🗖	Sand Dune \square	H	Flat 🗖	Drainageline	Lake Edge 🗖
F	ïrebreak 🗖	(Other 🗹 S	pecify: Gently	sloping terrain	
ROCK TYPE: La	terite 🗹 Gra	anite 🗖	Dolerite	Limesto	one 🗖 Othe	er:
ROCK FORM:	Sheet 🗖 🔄 Bou	ılder 🗖 🔡 🔤	Fluviatile Grave	el 🗖	Concretionary C	Gravel 🗖
SOIL TYPE:	Sand 🗹	Loam 🗹	Cla	у 🗖	Peat 🗖	Gravel 🗹
SOIL COLOUR:	Red 🗖	Brown	Yellov			Grey 🗖
SOIL CONDITION:	Moist 🗖	Inundated 🗖	Di	ry 🗹	Saline DOthe	er: Sandy loam with some gravel
regenerating on edge of	track. IES : <i>Melaleuca pung</i>	ens, Xanthorrea	nana, Banksia	violacea, Gast	rolobium spinosi	(Muir 1977). Vegetation um, Dampiera juncea, Caustis cacia sp. Synaphea sp
No. of PLANTS: M						
REPRODUCTIVE ST POLLINATORS: Other observation	ATE: Clonal Native bees S:	Flower bud D Honey be	Flower 🗹	Immat. fruit C	Gruit G Birds	Old Fruit Vegetative Mammals
CONDITION OF POI	PULATION: He	althy 🗹	Moderate 🗖	Poor 🗖	Disturbed	Comment:
POTENTIAL THREA Salinity D E population.		Mining	-		coadworks 🗖 at: Fire break ma	Grazing D Weeds D wintenance may endanger this
FIRE HISTORY:	Not known 🗹	Burnt in 19	Summe	er 🗖 🛛 Aut	tumn 🗖 🛛 Wi	nter 🗖 Spring 🗖
FENCING: Not ROADSIDE MARKE	Required	Fenced D	Required resent D H	□ Rep Required □	olace/Repair	Banasitian
	S (include action take	n/required): Mal	Graham collec	ted Baeckea sp	Replace Hyden (J.M. Br	Reposition Crown 141) on Williams Loc
VOUCHER SPECIM					rb. 🗹 Other 🗆	AC 4921
ATTACHED:Map	-		lustration			Field Notes
COPY SENT TO:	Regional Office		t Office	Other		
Signed:	-		Date			

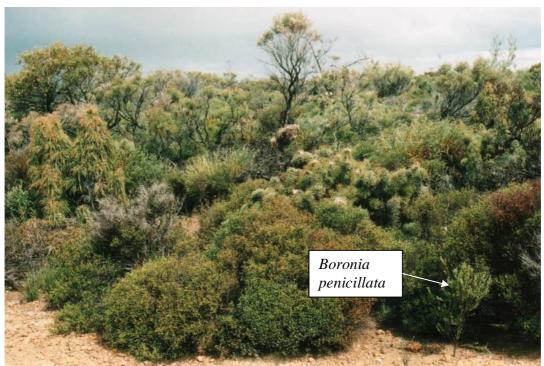
l	DEPARTMENT OF C RA		ATION AND I A <i>REPORT F</i> (AGEMENT	(F	À
TAXON: Boronia p	penicillata Benth		CALM POPU	JLATION No).:	_	
DRF 🗖	Priority Spe	cies: P3	Partial Survey	y 🗖 🛛 Full S	Survey 🗹	New Population	
FROM: Anne Rick	TITLE: Botanical Co	onsultant	SUR	VEY DATE:	1/11/2005		
	ent to the Lake Grace – Du serve. Plants both sides of 1	road on verg	d. 850 ms East o e and in the dist	of Hills Rd. bo urbed areas ad	ljacent south eg o	Population extends for 550 ld fire break / track)ms.
G.P.S. USED: 🗹	DATUM (GPS/MAP):			-	GDA94-C		
LAND STATUS:	Nature Reserve		Private		s. MRD	Rail Reserve	
	National Park□State Forest□Water Reserve□	Pastora	al Lease 🗖 VCL 🗖 🗖 Specify:	Gravel Re Other Shire	es. Shire 🗖 Reserve 🗖	Rd. Verge Shire Rd. Verge MRD SLK to	_
LANDFORM:	Hilltop 🗖	Cliff 🗖	Slop	e 🗹	Valley 🗖	Swamp 🗖	
	-	eakaway 🗖 nd Dune 🗖	Low Pla F Other	lat 🗖	Gully Drainageline Gully Gentle slope		
	aterite 🗹 Granit				one 🗖 Other		-
ROCK FORM:	Sheet Boulde Sand		luviatile Gravel		Concretionary Gra	avel 🗹 Gravel 🗹	
SOIL TYPE: SOIL COLOUR:	Red	Loam 🗹 Brown 🗖	Clay Yellov		Peat □ White □	Gravel G rey	
Adjacent south - Ope Road side verge - Ope ASSOCIATED SPEC Hakea brownii, Alloca ferruginea, Caustis did vestita, Dampiera junc uniflora, Verticordia r	SSIFICATION (Muir's): n Scrub over Low Heath (en Dwarf Scrub C over Lo CIES: Eucalyptus albida, suarina pinaster, Beaufor bica, Lachnostachys ?brac cea, Xanthorrea nana, Bea oei, Verticordia chrysanth	C over Dwarf ow Heath D – Grevillea cag tia incana, Is cteosa, Petrop tufortia micra na, Lechenaul	Scrub D (scatte Dampiera sp, giana, Hakea par gopogon gardner phile phylicoides antha, Hibbertia	red shrub mal Lachnostachy ndanocarpa ss ri, Isopogon te s, Banksia sph ?pungens, Ch nia capitata, .	lee) sp crassifolia, Ha sp crassifolia, Ha eretifolius, Alloca aerocarpa, Dryan aloanthes coccine lacksonia sp, Syn	kea?cygna, Banksia bauet suarina humilis, Dryandra ndra erthrocephala, Dryan a, Verticordia picta, Davi	a ndra
POLLINATORS:	TATE: Clonal 🗖 Flendstrive bees 🗖		Flower 🗹			Old Fruit Vegetative Mammals	re 🗖
CONDITION OF PO	PULATION: Health	ny 🗹	Moderate 🗖	Poor 🗖	Disturbed	Comment:	
POTENTIAL THRE Salinity	Disease 🗖 Prescribe	☐ Mining ad Burning □				Grazing D Weeds grading of the road verge	
FIRE HISTORY:	Not known 🗹 🛛 I	Burnt in 19	Summe	r 🗖 🛛 Aut	umn 🗖 🛛 Wir	nter 🗖 Spring 🗖	
FENCING: Not	Required	Fenced 🗖	Required	C Rep	olace/Repair 🗖		
presence of <i>Dryandra</i> collected from this site	(include action taken/re <i>foliosissima. Daviesia tor</i> 2.	equired): The tuosa AC 505	population is he 52, <i>Rinzia affinis</i>	s AC 5030 and		s rare flora markers due to	
VOUCHER SPECIM	IEN: Regional Herb. 🗹	District He	erb. 🗖 WA He	erb. 🗹	Other 🗖 AC 50	030	
ATTACHED:Map	☐ Mudmap □	Illustration	D Photo	\checkmark	Field Notes		
COPY SENT TO:	Regional Office \Box	District	Office 🗹	Other \Box	Specify:		
Signed:			Date:	19/12/200	5		



Photograph 1 Boronia penicillata at site 8. Tarin Rock Nature Reserve



Photograph 2 Road verge with *Boronia penicillata, Rinzia affinis* and *Daviesia tortuosa* at site 8. Tarin Rock Nature reserve



Photograph 3 Site 8. Vegetation adjacent to the road verge. Tarin Rock Nature Reserve

TAXON: Daviesia	uncinata Crisp	CALM POPUL	ATION No.:	
DRF 🗖	Priority Species: P3	Partial Survey 🗖 🛛 Fu	ll Survey 🗹 🛛 N	New Population
FROM: Anne Rick	TITLE: Botanical Consultant	SURVEY DATE		
REGION: Wheatbelt LOCATION: Unma Reserve No:	DISTRICT: Katar de road running east to Tarin Rock Nature		E: Dumbleyung e Rd. 7.95 kms south	of Tarin Rock Rd.
LATITUDE 33º 06'	52.8" SLONGITUDE	: 118º 05' 49.6" E M a	ap Used:	
G.P.S. USED : 🗹	DATUM (GPS/MAP): WGS84	AGD84 🗖 GDA	A94 🗖 GDA94-Co	mpatible
LAND STATUS:	Nature Reserve P	rivate 🗖 Gravel I	Res. MRD 🗖	Rail Reserve
				Rd. Verge Shire □ Rd. Verge MRD □
LANDFORM:	Hilltop 🗖 Cliff 🗖	Slope 🗖	Valley 🗖	Swamp
			Gully 🗖	Riverbank
	Ridge Sand Dune			Lake Edge 🗖
			tly sloping terrain	
		_	stone Other:	
ROCK FORM:		viatile Gravel	Concretionary Grav	—
SOIL TYPE:	Sand 🗹 Loam 🗹	Clay 🗖 Yellow 🗖	Peat Vhite	Gravel
SOIL COLOUR: SOIL CONDITION:	Red 🗆 Brown 🗖 Moist 🗖 Inundated 🗖	$\frac{1}{\text{Dry}} \mathbf{\nabla}$		Grey □ Sandy soils over laterite
erubescens, Banksia b Dryandra fasciculata, Persoonia sp, Dampie	CIES: Eremaea pauciflora (frequent), Ha aueri, Hakea obliqua, Lambertia ilicifolia Leptospermum spinescens, Isopogon tere ra juncea, Hibbertia sp, Anigozanthos hu ephalus. Desmocladus sp, Grevillea hook	a, Petrophile ericifolia (fr tifolius, Petrophile longif milis, Verticordia ?insign	equent), Allocasuarin folia, Banksia violaced	a humilis, Dryandra nivea, 1, Beaufortia micrantha,
No. of PLANTS: N	Mature: 7 Seedlings: Dead: 1	Actual 🗹 Estima	ate 🗖 🛛 Area Occup	oied: ~ 2ha
REPRODUCTIVE S POLLINATORS: Other observatio	TATE: Clonal □ Flower bud □ Native bees □ Honey bees	Flower D Immat. fruit		
CONDITION OF PO	PPULATION: Healthy M	oderate 🗖 🛛 Poor 🗖	Disturbed	Comment:
POTENTIAL THRE Salinity	ATS: Firebreaks D Mining Disease D Prescribed Burning D n the area. The unmade road reserve is national terms of the second seco	Other Comment: R		d burrowing has caused the
FIRE HISTORY:	Not known 🗹 Burnt in 19	Summer 🗖 🛛 A	utumn 🗖 Winte	r 🗖 Spring 🗖
FENCING: N	ot Required D Fenced D	Required D R	eplace/Repair 🗖	
	ERS: Not Required Pres IS (include action taken/required): The po- ulation was revisited on the 7 December 2			Reposition □ ding vegetation is generally in
	IEN: Regional Herb. \checkmark District n collected on 7 th December 2005)	Herb. 🗖 WA Herb. 🗹	Other 🗖 A	C 5015, AC 5044
ATTACHED:		ustration Photo	Field Not	tes 🗖
COPY SENT TO:	Regional Office District Of	ffice 🗹 Other 🕻	Specify:	
Signed:		Date: 19/12/20	005	



Photograph 1 Daviesia uncinata in flower at site 9. The photograph was taken on 7 December 2005.



Photograph 2 Daviesia uncinata - associated vegetation east of Bladendale Road.

TAXON: Dryandi	a fasciculata A.S. George CALM POPULATION No.:
DRF 🗖	Priority Species: P3 Partial Survey 🗖 Full Survey 🗹 New Population 🗖
	de road. Running east to Tarin Rock Nature Reserve from Bladendale Rd. Starting 7.95 kms South of Tarin Rock Rd. ~ serve No:
G.P.S. USED : 🗹	DATUM (GPS/MAP): WGS 84 🗹 AGD84 🗖 GDA94 🗖 GDA94-Compatible 🗖
LAND STATUS:	Nature Reserve Private Gravel Res. MRD Rail Reserve National Park Pastoral Lease Gravel Res. Shire Rd. Verge Shire State Forest VCL Other Shire Reserve Rd. Verge MRD Water Reserve Other Specify: Unmade Road SLK
LANDFORM:	Hilltop Cliff Slope Valley Swamp Outcrop Breakaway Low Plain Gully Riverbank Ridge Sand Dune Flat Drainageline Lake Edge Firebreak Other Specify: Gently sloping terrain
ROCK FORM: SOIL TYPE: SOIL COLOUR: SOIL CONDITION VEGETATION CL ASSOCIATED SPH Lambertia ilicifolia, teretifolius, Petrophi	ASSIFICATION (Muir's): Low Scrub B over Dwarf Scrub C over Dwarf Scrub D CIES: Eremaea pauciflora, Hakea brownii, Dryandra pteridifolia, Hakea corymbosa, Banksia baueri, Hakea obliqua, Petrophile ericifolia Allocasuarina humilis, Dryandra nivea, Dryandra fasciculata, Leptospermum spinescens, Isopogon Ite longifolia, Banksia violacea, Beaufortia micrantha, Persoonia sp, Dampiera juncea, Hibbertia sp, Anigozanthos
hookeriana	insignis, Baeckea crispiflora, Petrophile brevifolia, Lepidobolus ?chaetocephala. Desmocladus sp, Grevillea
No. of PLANTS:	Mature: 100+ Seedlings: Dead: Actual
POLLINATORS:	STATE: Clonal □ Flower bud □ Flower □ Immat. fruit □ Fruit □ Old Fruit □ Vegetative ✓ Native bees □ Honey bees □ Other insects □ Birds □ Mammals □ ons:
CONDITION OF P	OPULATION: Healthy 🗹 Moderate 🗆 Poor 🗖 Disturbed 🗖 Comment:
POTENTIAL THR Salinity □ death of some plants causing some damag	Disease D Prescribed Burning D Other Comment: Rabbits are common and burrowing has caused the in the area. The unmade road reserve is narrow ~50 ms and weed invasion has occurred at the edges. Kangaroos are also
FIRE HISTORY:	Not known 🗹 Burnt in 19 Summer 🗆 Autumn 🗖 Winter 🗖 Spring 🗖
FENCING:	Not Required D Fenced 🗹 Required D Replace/Repair D
ROADSIDE MARE OTHER COMMEN in good health.	ERS: Not Required Present Required Replace Reposition Reposition TS (include action taken/required): The population of <i>Dryandra faciculata</i> and the surrounding vegetation is generally
VOUCHER SPECI	MEN: Regional Herb. 🗹 District Herb. 🗖 WA Herb. 🗹 Other 🗖 AC 5016
ATTACHED:	Map 🗹 Mudmap 🗆 Illustration 🗖 Photo 🗹 Field Notes 🗖
COPY SENT TO:	Regional Office 🗖 District Office 🗹 Other 🗖 Specify:
Signed:	Date: 19/12/2005



Photograph 1. Dryandra fasciculata at site 10 - unmade road running east from Bladendale Rd



Photograph 2 Dryandra fasciculata and associated vegetation at Site 10 unmade road running east from Bladendale Rd

TAXON: Dryandra	meganotia A.S. Georg	e	CALM POPULAT	ION No.:	
DRF 🗖	Priority Specie	s: P3 Partial S	urvey 🗖 🛛 Full S	Survey 🗹	New Population
FROM: Anne Rick	TITLE: Botanical Con		SURVEY DATE:	•	
REGION: Wheatbelt LOCATION: Unmade the Bladendale road ver LATITUDE: 33° 06' 5	road. Running east to Tarir ge to the south.	RICT: Katanning Rock Nature Reserve Reserve No: E: 118° 05' 45.2''E	e from Bladendale	Dumbleyung Road, 7.95 kms so	outh of Tarin Rock road and on
G.P.S. USED : 🗹	DATUM (GPS/MAP): W	GS84 🗹 AGD84	GDA94	GDA94-Comp	atible
LAND STATUS:	Nature Reserve	Private 🗖	Gravel Res	s. MRD 🗖	Rail Reserve
	National Park	Pastoral Lease	Gravel Re	s. Shire 🗖	Rd. Verge Shire 🗖
	State Forest	VCL 🗖	Other Shire I	Reserve 🗖	Rd. Verge MRD 🗖
	Water Reserve	Other 🗹	Specify: Unm	ade Road S	SLK to
LANDFORM:	Hilltop 🗖	Cliff	Slope	Valley 🗖	Swamp 🗖
	-	away 🗖 🛛 Lov	w Plain 🗖	Gully	Riverbank 🗖
	•	Dune		Drainageline	Lake Edge 🗖
F	irebreak 🗖	Other 🗹	Specify: Gently	sloping terrain	-
ROCK TYPE: Late	eritic 🗹 Granite	Dolerite	Limesto	ne 🗖 Other:	
ROCK FORM:	Sheet Boulder			Concretionary Gra	
SOIL TYPE:	Sand 🗹 🛛 I	Loam 🗹	Clay	Peat	Gravel 🗹
SOIL COLOUR:			ellow 🗖	White	Grey 🗖
SOIL CONDITION:	Moist 🗖 Inundat	ed 🗖	Dry 🗹	Saline DOther:	Sandy soil over laterite
Dryandra fasciculata, I Persoonia sp, Dampiero	ueri, Hakea obliqua, Lambo Leptospermum spinescens, I 1 juncea, Hibbertia sp, Anig 2 bhalus. Desmocladus sp, Gi	sopogon teretifolius, l ozanthos humilis, Ve	Petrophilte longifol	ia, Banksia violac	
No. of PLANTS: Ma	ature: 52 Seedlings: _	Dead:	Actual	Estimate 🗖 A	area Occupied: ~ 2ha
REPRODUCTIVE ST POLLINATORS: Other observations	Native bees \Box	er bud 🗖 Flower 🖸 Honey bees 🗖	Immat. fruit Other insects		Dld Fruit Vegetative Mammals
CONDITION OF POI	PULATION: Healthy	Moderate f	Poor	Disturbed 🗖	Comment:
POTENTIAL THREA	TS: Firebreaks	Mining 🗖 🛛 R	ecreation D Re	padworks 🗖 G	Grazing 🗹 Weeds 🗹
Salinity caused the death of som Kangaroos are also caus	e plants in the area. The un				are common and burrowing has s occurred at the edges.
FIRE HISTORY:	Not known 🗹 Bur	nt in 19 Su	mmer 🗖 Autu	umn 🗖 🛛 Wint	ter 🗖 Spring 🗖
FENCING: Not	Required D Fence	ed 🗹 Requ	ired 🗖 Repl	lace/Repair 🗖	
ROADSIDE MARKE	RS: Not Required	Z Present □	Required 🗖	Replace 🗖	Reposition D
OTHER COMMENTS in good health. This site	S (include action taken/requ also has <i>Daviesia uncinata</i>	ired): The population and Dryandra fascic	of <i>Dryandra mega</i> ulata present.	notia and the surro	ounding vegetation is generally
VOUCHER SPECIMI	EN: Regional Herb. 🗹 🛛	District Herb. 🗖 WA	A Herb. 🗹	Other C AC 504	2
	Map Mudmap		-	Field No.	otes 🗖
COPY SENT TO:	Regional Office	District Office	Other \Box	Specify:	
Signed:]	Date: 19/12/2005	5	



Photograph 1Dryandra meganotia.Unmade road north of Kukerin.



Photograph 2 Dryandra meganotia and associated vegetation at site 11

TAXON: Dryandr	a meganotia A.S. George	CALM	POPULATION No.:	
DRF 🗖	Priority Species: F	P3 Partial Survey	Full Survey 🗖 🗌	New Population
FROM: Anne Rick	TITLE: Botanical Consulta		CY DATE: 18/10/2002	
REGION: Wheatber LOCATION: Area Road. Survey site 2 a LATITUDE: 33°12	of remnant vegetation situated app nd Quadrat 2 near the western bou	undary. Reserve No:	SHIRE: Dumbleyung east of Kukerin (Williams L Used:	
G.P.S. USED :	DATUM (GPS/MAP): WGS	584 🗹 AGD84 🗖	GDA94 🗖 GDA94-Co	mpatible
LAND STATUS:	Nature Reserve	Private	Gravel Res. MRD	Rail Reserve
	National Park	Pastoral Lease 🗖	Gravel Res. Shire	Rd. Verge Shire 🗖
	State Forest	VCL 🗖 🛛	Other Shire Reserve	Rd. Verge MRD 🗖
	Water Reserve	Other 🗖 Specify: Remna	int vegetation on farmland	SLK to
LANDFORM:	Hilltop 🗖 Cli	ff 🗖 Slope	□ Valley □	Swamp 🗖
	Outcrop 🗖 Breakawa	ay 🗖 🛛 Low Plain	□ Gully □	Riverbank
	Ridge 🗖 Sand Dur	ne 🗖 💦 📕 Flat	□ Drainageline □	Lake Edge 🗖
	Firebreak	Other 🗹 Spe	cify: gently sloping terrain	
ROCK TYPE:	Laterite 🗹 Granite 🗖	Dolerite	Limestone 🗖 Othe	r:
ROCK FORM:	Sheet 🗖 🔄 Boulder 🗖	Fluviatile Gravel	Concretionary G	ravel 🗖
SOIL TYPE:	Sand 🗹 Loan	n 🗹 Clay f	Peat 🗆	Gravel 🗖
SOIL COLOUR:	Red D Brow		7	Grey 🗖
SOIL CONDITION surface laterite	: Moist Inundated	Dry 🗹	Saline Othe	r: Deep sandy soils with sub-
Leptospermum erube erythrocephala, Pers Lepidobolus chaetoce	CIES: Eucalyptus incrassata, Ha scens, Daviesia uniflora, Isopogo oonia striata, Hakea incrassata, A ephalus, Hibbertia ?gracilipes, Le var. preissii, Baeckea preissiana, A	m teretifolius, Verticordia Allocasuarina microstach ucopogon sps, Rinzia coi	a roei, V. chrysantha, V. pica ya, Kunzea micromera. Cau nmunis, Calytrix leschenaul	ta, Xanthorrhoea nana, Dryandra stis dioica, Lepidosperma sps, tii, Petrophile brevifolia,
No. of PLANTS:	Mature: 20 Seedlings:	Dead: Actual	\Box Estimate \checkmark	Area Occupied: ~1 ha
POLLINATORS:	STATE: Clonal 🗖 Flower b Native bees 🗇 Ho ons:		mat. fruit Fruit Fruit Birds	Old Fruit Vegetative Mammals
POTENTIAL THR	OPULATION: Healthy Image: Comparison of the state of the sta	Mining 🗖 Recreation		Comment: Grazing D Weeds D
FIRE HISTORY:	Not known 🗹 🛛 Burnt in	n 19 Summer [Autumn 🗖 Wi	nter 🗆 Spring 🗖
FENCING: N	Iot Required Image: Fenced	Required	Replace/Repair	
ROADSIDE MARK	ERS: Not Required	Present 🗖 Req	uired Replace	Reposition \Box
	TS (include action taken/required nittee to establish the Kukerin Reg		l in 2002 and 2003 as part o	f a project for the Dumbleyung
	ublished) "Vegetation and Flora S leyung Landcare Zone Committee		ation on Williams Location	15205 Lukins Property Kukerin"
VOUCHER SPECI	MEN: Regional Herb. 🗹 Dist	trict Herb. 🗖 WA Herb	. 🗹 Other 🗖 Jan G	rey collection JG 30
ATTACHED:	Map 🗹 Mudmap 🗖	Illustration	Photo Field	Notes 🗖
COPY SENT TO:		istrict Office	_	
Signed:		Date:	19/12/2005	



Photograph 1. The site of the collection of *Dryandra meganotia* on Williams Location 15205 (Site 2 and Quadrat 2 of the consultants report)

TAXON: Gastrolo	ium densifolium C.A. Gardner CALM POPULATION No.:
DRF 🗖	Priority Species: P4 Partial Survey 🗖 Full Survey 🗹 New Population 🗖
FROM: Anne Rick REGION: Wheatbel LOCATION: Dugga between the railway li LATITUDE: 33°08	Water Reserve, 200ms west of the track crossing the railway line on the southern side of the line. Plants occur a e and the track on the south side of the line and on the southern side of the track.
G.P.S. USED : 🗹	DATUM (GPS/MAP): WGS84 ☑ AGD84 □ GDA94 □ GDA94-Compatible □
LAND STATUS:	Nature Reserve Private Gravel Res. MRD Rail Reserve National Park Pastoral Lease Gravel Res. Shire Rd. Verge Shire State Forest VCL Other Shire Reserve Rd. Verge MRD Water Reserve Other Specify: SLK to
LANDFORM:	Hilltop Cliff Slope Valley Swamp Outcrop Outcrop Breakaway Low Plain Gully Riverbank Riverbank Ridge Sand Dune Flat Drainageline Lake Edge Edge Firebreak Other Specify: Gentle slope Specify: Gentle slope
ROCK TYPE:	Laterite Granite Dolerite Limestone Other:
ROCK FORM: SOIL TYPE: SOIL COLOUR: SOIL CONDITION:	Sheet Boulder Fluviatile Gravel Concretionary Gravel Sand Loam Clay Peat Gravel Red Brown Yellow White Grey Grey Moist Inundated Dry x Saline Other: Sandy loam and gravel
Between the railway l South of the track – S ASSOCIATED SPE lissocarpha, Hakea so Allocasuarina micross Baeckea crispiflora, W	SSIFICATION (Muir's): ne and the track – Scrub A over Low Heath D. rub A over Dwarf Scrub C over Low Heath D. IES: Melaleuca "uncinata", Allocasuarina campestris, Leptospermum erubescens, Grevillea hookeriana, Hakea oparia, Melaleuca ?carrii, Pimelea angustifolia, Dodonaea ?caespitosa, Philotheca rhomboidea, Phebalium filifoliu uchya, Hakea incrassata, Hibbertia ?pungens, Neurachne alopecuroidea, Comesperma scoparium, Dampiera junce erticordia chrysantha, Verticordia picta, Waitzia acuminata, Calytrix, leschenaultii, Stylidium luteum, Borya sp,
	lature: 157 Seedlings: Dead: Actual 🗹 📃 Estimate 🗖 Area Occupied: ~ 1ha
POLLINATORS:	FATE: Clonal □ Flower bud □ Flower ✓ Immat. Fruit ✓ Fruit □ Old Fruit □ Vegetative □ Native bees □ Honey bees □ Other insects □ Birds □ Mammals □ is:
CONDITION OF PO	PULATION: Healthy 🗹 Moderate 🗆 Poor 🗖 Disturbed 🗖 Comment:
POTENTIAL THRE	ATS: Firebreaks D Mining D Recreation D Roadworks 🗹 Grazing D Weeds D
Salinity \square threaten the populatio	Disease D Prescribed Burning D Other D Comment: Track and railway maintenance may in the future.
	Not known 🗹 Burnt in 19 Summer 🗖 Autumn 🗖 Winter 🗖 Spring 🗖
	Required Fenced Required Replace/Repair
ROADSIDE MARK	
	EN: Regional Herb. ☑ District Herb. □ WA Herb. ☑ Other □ AC 5028
	Map Mudmap I Illustration Photo Field Notes
COPY SENT TO:	Regional Office 🗖 District Office 🗹 Other 🗖 Specify:
Signed:	Date: 19/12/2005



Photograph 1 Gastrolobium densifolium in Duggan Water reserve.



Photograph 2 *Gastrolobium densifolium* between the railway line and the track.



Photograph 3

Gastrolobium densifolium on the south side of the track.

TAXON: Jacksonia	debilis Chappill ms	CALM POP	ULATION No	.:		
DRF 🗖	Priority Species	: P1 Par	tial Survey 🗖	Full Surve	ey 🗹 🛛 Ne	w Population \Box
FROM: Anne Rick	TITLE: Consultant Bota		RVEY DATE:			
REGION: Wheatbelt LOCATION: 4.7 k	DISTR ms West of Hills Rd along th	ICT: Katannin e Tarin Rock R			mbleyung Shire h side of the road	1. ~75ms wide.
LATITUDE 33° 03'	07.7"S LON	GITUDE: 11	8° 08' 33.3" E	Ξ	Map Used:	
G.P.S. USED :	DATUM (GPS/MAP):	WGS 84 🗹	AGD84 🗖	GDA94	GDA94-Com	patible
LAND STATUS:	Nature Reserve National Park State Forest Water Reserve	Priva Pastoral Leas VC Other	se 🗖 🛛 C	Fravel Res. M Gravel Res. Sh er Shire Rese Shire road res	nire 🗖 🦷 F rve 🗖 R	Rail Reserve □ Rd. Verge Shire ☑ .d. Verge MRD □ K to
	Outcrop Breaka Ridge Sand Firebreak	Dune	Low Plain]] Drai	Gully □ nageline □	_
ROCK TYPE: L	aterite 🗹 Granite 🗆					
ROCK FORM:	Sheet D Boulder D				cretionary Grave	
SOIL TYPE:			Clay 🗖		Peat 🗖	
SOIL COLOUR:		own 🗖	Yellow		White 🗖	Grey 🗖
SOIL CONDITION:	Moist Inundated	d 🗖	Dry 🗹	Sa	lline 🗖 Deep loa	my sand over laterite
ASSOCIATED SPEC humilis, Andersonia sp ?insignis, Lachnostach No. of PLANTS: M	SSIFICATION (Muir's): Dw IES Hakea obliqua, Petroph , Dryandra nivea, Banksia via ys verbascifolia, Conostylis s lature: 3 Seedlings:	ile ericifolia, D olacea, Allocas p, Dampiera ?l Dead :	ryandra pteridi uarina microsta inearis, Boroni Actual	folia, Banksia achya, Causti a ramosa ssp	ı baueri, Eremae s dioica, Vertico anethifolia	ra pauciflora, Anigozanthos rdia ovalifolia, Verticordia
POLLINATORS:	TATE: Clonal □ Flowe Native bees □			at. fruit □ nsects □	Fruit D Old Birds D	Fruit Vegetative Mammals
FIRE HISTORY:	ATS: Firebreaks □ Disease □ Prescribed B Not known ☑ Burn	$\begin{array}{c} \text{Mining } \square \\ \text{urning } \square \\ \text{t in 19} \end{array}$	Recreation Other	Roadwond Roadwond	ts are some dista Winter	$ \begin{array}{c} \text{zing} \ \Box & \text{Weeds} \ \Box \\ \text{ance from the road edge.} \end{array} $
FENCING: No	t Required D Fence	d ⊻	Required 🗖	Replace/	Repair 🗖	
ROADSIDE MARKE	CRS: Not Required ☑	Present	Requir	red 🗖	Replace 🗖	Reposition
OTHER COMMENT	S (include action taken/requi		reserve is ~ 75 i	ms wide and i	s generally in go	od condition.
VOUCHER SPECIM	EN: Regional Herb	. 🗹 District	Herb. 🗖	WA Herb.	Z Other □ AC	2 5007
ATTACHED:	Map 🗹 Mudmap i			Photo 🗹	Field Note	
COPY SENT TO:	Regional Office	District Office	• 🗹 с	other 🗖 S	pecify:	
Signed:			Date: 19	9/12/2005		

NOTE: More than one box, in any section may be ticked. Map or further information may be given on the back of this form. Please return completed form to Executive Director, CALM, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

RECORDS: PLEASE FORWARD TO ADMINISTRATIVE OFFICER, FLORA, WILDLIFE BRANCH



Photograph 1 Jacksonia debilis



Photograph 2

Shrubland on sandy soils at Site 1 (Jacksonia debilis site)

TAXON: Jackson	ia debilis Chappill ms	CALM PO	OPULATION N	lo.:			
DRF 🗖	Priority Spe	cies: P1 I	Partial Survey	Full Sur	rvey 🗹	New Population	
FROM: Anne Rick REGION: Wheatbe LOCATION: Ur LATITUDE: 33° 06	It DIS made road. Running east to	TRICT: Katan Tarin Rock Nat	ning ure Reserve fror	n Bladendale	5/10/05 Dumbleyung Rd. 7.95 kms		
G.P.S. USED :	DATUM (GPS/MAP):	WGS84 🗹	AGD84	GDA94 🗖	GDA94-Cor	npatible	
LAND STATUS:	Nature Reserve National Park State Forest Water Reserve	Pastoral L	lease □ VCL □ 0	Gravel Res. I Gravel Res. ther Shire Re ecify: Unmad	Shire □ serve □	Rail Reserve □ Rd. Verge Shire □ Rd. Verge MRD □ SLK to	
LANDFORM:	Ridge 🗖 Sa	Cliff 🗖 eakaway 🗖 nd Dune 🗖 er 🗖 Specif	Slope Low Plain Flat		Valley Gully rainageline	Swamp □ Riverbank □ Lake Edge □	
ROCK TYPE:	Laterite 🗹 Granit	e 🗖 🛛 Do	olerite 🗖	Limestone	□ Other	•	
ROCK FORM:	Sheet 🗖 🔄 Boulde		viatile Gravel 🗆	Co	oncretionary G	Ē	
SOIL TYPE:	Sand 🗹	Loam 🗹	Clay 🗆		Peat 🗖	Gravel	
SOIL COLOUR:	Red 🗖	Brown	Yellow	ſ	White 🗖	Grey 🗖	
SOIL CONDITION	I: Moist 🗖 Inune	lated 🗖	Dry 🗹	Other: S	Sandy soils ove	er laterite	
Dryandra fasciculata Persoonia sp, Damp Lepidobolus ?chaeto	baueri, Hakea obliqua, Lan a, Leptospermum spinescen: iera juncea, Hibbertia sp, A cephalus. Desmocladus sp, Mature: 3 Seedlings:	s, Isopogon teret nigozanthos hun Grevillea hooke	ifolia, Petrophil nilis, Verticordic riana	te longifolia, 1 ?insignis, Ba	Banksia violac aeckea crispifl		ι,
	STATE: Clonal D Flo			– nat. fruit 🗖		-	-
POLLINATORS: Other observati	Native bees \Box	Honey bees		r insects	Birds	Ũ	L
CONDITION OF P Jacksonia debilis and	OPULATION: Heal the surrounding vegetation	, , , , , , , , , , , , , , , , , , ,		Poor 🗖 Dist	urbed 🗖 🤇	Comment: The population of	f
		scribed Burning	□ Other □	Con		are common and burrowing	
FIRE HISTORY:	Not known 🗹 🛛 H	Burnt in 19	Summer	Autum	nn 🗖 Wir	ter 🗆 Spring 🗖	
FENCING:	Not Required 🗖 Fe	enced V	Required 🗖	Replac	e/Repair 🗖		
ROADSIDE MARE	XERS: Not Required	Pres	ent 🗖 Requ	ired 🗖	Replace 🗖	Reposition \Box	
OTHER COMMEN	TS (include action taken/re	equired):			·····		
VOUCHER SPECI	MEN: Regional H	Ierb. 🗹 Dist	rict Herb. 🗖	WA Herb.	☑ Other □	AC 5017	
ATTACHED:	Map 🗹 Mudm	ap 🗖 🛛 Illu	ustration	Photo 🗹	Field N	lotes 🗖	
COPY SENT TO:	Regional Office	District Of	fice 🗹	Other	Specify:		-
Signed:			Date:	19/12/2005			



Photograph 1 Jacksonia debilis at site 9 growing with Daviesia uncinata and Dryandra meganotia.



Photograph 2 Site 9 the location of a new population of *Jacksonia debilis*.

TAXON: Microcory	os lenticularis F. Muell. C.	ALM POPULAT	ION No.:			Ŭ
DRF 🗖	Priority Sp	ecies: P2 Pa	artial Survey 🗖	Full Survey 🔽	New Popula	ation 🗖
FROM: Anne Rick	TITLE: Botanical	consultant SU	RVEY DATE:	26/10/2005		
REGION: Wheatbe LOCATION: 6 kms area south of the road LATITUDE: 33° 08	s west of Hills Rd on the I l.	STRICT: Katann Dumbleyung-Lake LONGITUDE:	Grace Road. Bot			
				-		
G.P.S. USED :	DATUM (GPS/MAP)				GDA94-Compatible	
LAND STATUS:	Nature Reserve National Park State Forest Water Reserve	Pastoral Le V	ease 🗆 🛛 🗘	Gravel Res. MRD C Gravel Res. Shire C ner Shire Reserve C	Rd. VergeRd. Verge I	MRD 🗹
LANDFORM:	Ridge 🗖 S Firebreak 🗖	Cliff reakaway and Dune	Slope C Low Plain C Flat C Other 🗹	ງ Gi	illy Rive Rive Lake	wamp erbank e Edge
ROCK TYPE:	Laterite 🗹 Gran	ite 🗖 🛛 Dol	lerite 🗖	Limestone	Other:	
ROCK FORM:			iatile Gravel 🗖		onary Gravel 🗖	
SOIL TYPE:	Sand	Loam 🗹	Clay 🗖	Peat		
SOIL COLOUR: SOIL CONDITION	Red □ : Moist □ Inu	Brown 🗖 ndated 🗖	Yellow Dry	White	soils over laterite at	Grey 🗖
	ASSIFICATION (Muir's					deptil.
Adjacent vegetation Disturbed area sout	- Open Scrub over Low H h - Open Scrub over Dwa CIES: Road verge Hake	Heath C over Dwar rf Scrub C over Dy	f Scrub C (scatte warf Scrub D	red Shrub Mallee).		mis, Caustis dioica,
Adjacent vegetation Dryandra ?purdiana, ericifolia, Kunzea sp, Dampiera sp, Baecke Disturbed area sout Caustis dioica, Adena Petrophile ericifolia, Andersonia sp, Vertio	e e	sia attenuata, Lamb s, Eremaea paucif elaleuca pungens, A mocladus sp um ?nitens, Erema rdia ovalifolia, Dry erticordia chrysant	lora (frequent) B Andersonia sp, C ea pauciflora (fr yandra nivea, Co tha, Petrophile la	Panksia baueri, Ade Palytrix leschenaulti equent), Banksia ba mespermum ?distic ongifolia, Urodon d	nanthos ?cygnorum i, Gastrolobium ben uueri, Lambertia ine hum, Comespermur asyphyllus, Lechena	, Petrophile nettsianum, rmis, Daviesia sp, n brownii, ultia tubiflora,
No. of PLANTS:	Mature: 108 on verge, 62	-	_		te 🗖 Area Occupie	ed: ~ 5 ha
REPRODUCTIVE : POLLINATORS:	Native bees \Box	Flower bud 🗖 Flower bud Flower bud		at. fruit 🗖 Fruit insects 🗖		Vegetative 🗖 mmals 🗖
CONDITION OF P	OPULATION: Heal	thy Mod			bed 🗖 Comme	ent:
POTENTIAL THR		□ Mining □ ed Burning □Oth		D Roadworks nt: Frequent grading	Grazing Grazing Grazing Grazing	Weeds
FIRE HISTORY:	Not known 🗹	Burnt in 19	Summer 🗖	Autumn 🗖	Winter	Spring 🗖
FENCING: No	ot Required 🗹	Fenced	Required 🗖	Replace/Repa	ir 🗖	
	TS (include action taken/ ger the population. Rare flo	required): Road ve	rge has been pre o be extended.		ture slashing of the	sition 🗹 verge, if too
ATTACHED:			stration		Field Notes	
COPY SENT TO:	Regional Office	-				
COFI SENI IU:	Regional Office L			Other D Specif	y:	



Photograph 1



Photograph 2 Roadside verge at site 3.



Photograph 3 *Microcorys lenticularis* south of the road at site 3.

TAXON: Microcor	ys lenticularis F Muell	С	ALM POPULATION	No.:
DRF D FROM: Anne Rick REGION: Wheatbelt	TITLE: Botanical consultant	SURVEY DATE:		Population 🗹
LOCATION: Tarin R Reserve No: A 25711	ock Nature Reserve, Adjacent to North - So	outh fire break. 1.1 kms fro	om the Northern bound	lary
LATITUDE: 33° 05'	37" S LONGITUDI	E: 118° 10' 49" E Map	Used:	
G.P.S. USED : 🗹	DATUM (GPS/MAP): WGS 84	AGD84 🗖 GDA94	GDA94-Compa	atible 🗖
LAND STATUS:	National ParkPastoral LeState ForestV	CL Other Shire I Specify:	s. Shire Rd Reserve Rd	Rail Reserve □ . Verge Shire □ . Verge MRD □ to
LANDFORM:	Hilltop Cliff Outcrop Breakaway Ridge Sand Dune		Valley Gully Valley Va	Swamp □ Riverbank □ Lake Edge □
ROCK TYPE: L		erite Limestone	O Other:	
ROCK FORM: SOIL TYPE: SOIL COLOUR: SOIL CONDITION:	Sheet Sh	tile Gravel 🗹 Clay 🗖 Yellow 🗖 Dry 🗹	Concretionary Gravel Peat White Saline Other: Deep	Gravel Gravel Grey Grey Grey Composite over laterite
ASSOCIATED SPEC Dryandra nivea, Calli Calectasia pignattiand	SSIFICATION (Muir's): Low Scrub B ov CIES: Eucalyptus albida, Banksia baueri, E tris sp, Dampiera wellsiana, Conostylis pet a DRF, Pultenaea verruculosa var brachypl	remaea pauciflora, Lambo rophiloides, Pityrodia bar tylla, Lachnostachys albic	ertia ilicifolia, Leptosp tlingii, Dampiera linea ans,	eris, Billardiera sp,
	Iature: 20 Seedlings: Dead:	<u> </u>	Estimate 🗖 Area (Occupied: ~ 1ha
POLLINATORS:	TATE: Clonal Image: Flower bud Image: Flower bud Native bees Image: Honey bees Image: Flower bud ns: Image: Flower bud Image: Flower bud			ruit □ Vegetative □ Mammals □
CONDITION OF PC	PULATION: Healthy Mod	erate Poor	Disturbed D	Comment:
	Disease D Prescribed Burning Oth ding <i>Calectasia pignattiana</i> DRF.	er 🗖 Comment: Fire brea	ak maintenance may er	
	Required \square Fenced \square			Spring
ROADSIDE MARKI		· _ ·	lace/Repair □ Replace □	Reposition
	IS (include action taken/required): <i>Calectas</i>			-
	IEN: Regional Herb. \square District Herb	· · ·		-
ATTACHED: COPY SENT TO:		stration 🗖 Photo 🖥	Field Notes	
Signed:		Date: 19/12/2005		



Photograph 1 Microcorys lenticularis adjacent to the firebreak in the Tarin Rock Nature Reserve.



Photograph 2 Microcorys lenticularis.



Photograph 3 Site of the new population of *Microcorys lenticularis* in the Tarin Rock Nature Reserve.



Photograph 4 Calectasia pignattiana Tarin Rock Nature Reserve

TAXON: Rinzia affinis Trudgen		CALM POPULATION No.:					
DRF D Priority Spec FROM: Anne Rick TITLE: Botanical Co		• • • •					
REGION: Wheatbelt LOCATION Location railway line.	DISTRICT	F: Katanning	SHIRE: Dumbleyung Sh	nire			
LATITUDE: 33° 08' 0	3.0"S LON	GITUDE: 118° 10' 19.5"E	Map Used:				
G.P.S. USED :	DATUM (GPS/MAP): WGS	S84 ☑ AGD84 □	GDA94 🗖 GDA94	-Compatible			
LAND STATUS:	State Forest	Pastoral Lease Gr	avel Res. MRD ravel Res. Shire r Shire Reserve	Rail Reserve □ Rd. Verge Shire □ Rd. Verge MRD □ SLK to			
LANDFORM:	Outcrop Breakawa Ridge Sand Dun	·	-	Swamp □ Riverbank □ Lake Edge □			
ROCK TYPE: Lat ROCK FORM: SOIL TYPE: SOIL COLOUR: SOIL CONDITION:	erite 🗹 Granite 🗖	Dolerite I Fluviatile Gravel Clay Clay Yellow	Concretionary G Peat White	ravel □ Gravel ☑ Grey □ : Sandy soils over laterite.			
ASSOCIATED SPECI cagiana, Leptospermum	SIFICATION (Muir's): Open S ES : Eucalyptus uncinata, Euca spinescens, Dryandra vestita, l Hibbertia sp, Verticordia aceros ea.	lyptus falcata, Leptospermur Melaleuca ?societatis, Kunze	n sp, Hakea pandanocarp ea sp, Beaufortia micrant	ha, Baeckea sp, Dampiera			
No. of PLANTS: Ma	ture: 31 Seedlings:	Dead: Actual	Estimate 🗖 A	Area Occupied: ~2 ha			
REPRODUCTIVE ST POLLINATORS: Other observations	Native bees Hor	ıd □ Flower ☑ Immat. ney bees □ Other ins		Old Fruit Vegetative Mammals			
CONDITION OF POP	ULATION: Healthy	Moderate 🗖 Poo	or Disturbed D	Comment:			
POTENTIAL THREA Salinity D D the track.		Mining □ Recreation ing □ Other □Comme		Grazing D Weeds D ork may endanger plants close to			
FIRE HISTORY:	Not known 🗹 Burnt in	19 Summer 🗖	Autumn 🗖 🛛 Win	ter 🗖 Spring 🗖			
FENCING: Not F	Required F enced	□ Required □	Replace/Repair				
	RS: Not Required □ (include action taken/required) EN: Regional Herb. ☑ Dist		_	Reposition			
ATTACHED:	Map 🗹 Mudmap 🗖	Illustration D	Photo Field N	lotes 🗖			
Signed:			/12/2005				



Photograph 1

Rinzia affinis in Duggan Water Reserve.



Photograph 2 *Rinzia affinis* and associated vegetation at site 5.

	DEPARTMENT	OF CONSERVA RARE FLOR			IANAGEMENT		
TAXON: Rinzia	affinis Trudgen	CALM POPUI	LATION No.:				Ŭ
DRF 🗖	Priori	ty Species: P2	Partial Surve	ey 🗖 🛛 🗎	Full Survey 🗹	New Population	on 🗹
FROM: Anne Rick	TITLE: Const	ıltant Botanist	SURVEY D	ATE: 1/11	1/2005		
Tarin Rock Nature R Reserve No	cent to the Lake Grac Reserve. Plants both si p: A 25711	des of road on verg	d. 850 ms East ge and in the dis	of Hills Ro sturbed are	as adjacent south eg	road. Population g old fire break /	track
LATITUDE: 33° 0					Map Used:		
G.P.S. USED :	DATUM (GPS/M	_	AGD84	🗖 GI	DA94 🗖 GDA9	4-Compatible	
LAND STATUS:	Nature Reserve National Park State Forest Water Reserve	Pastor		Grav Other S	hire Reserve	Rd. Verge Rd. Verge M	IRD 🗹
LANDFORM:	Hilltop □ Outcrop □ Ridge □	Cliff Breakaway Sand Dune	Low P	pe ☑ lain □ Flat □		River	wamp □ rbank □ Edge □
	Firebreak				pecify: Gentle slope		
ROCK TYPE:		Granite 🗖	Dolerite			her:	
ROCK FORM:			luviatile Grave	_	Concretionary (
SOIL TYPE:	Sand V	Loam 🗹		ay 🗖	Peat 🗖		vel 🗹
SOIL COLOUR:	Red 🗖	Brown	Yello	w_□	White D	G	Brey 🗖
ASSOCIATED SPI Hakea brownii, Allo ferruginea, Caustis a vestita, Dampiera ju	LASSIFICATION (M ECIES: Eucalyptus al casuarina pinaster, B dioica, Lachnostachys ncea, Xanthorrea nam u roei, Verticordia chr	bida, Grevillea cag eaufortia incana, I ?bracteosa, Petro a, Beaufortia micro	giana, Hakea p sopogon gardn phile phylicoid antha, Hibberti	andanocar eri, Isopog es, Banksic a ?pungen	pa ssp crassifolia, I on teretifolius, Allo u sphaerocarpa, Dr s, Chloanthes cocci	Hakea?cygna, Ba casuarina humili yandra erthrocep inea, Verticordia	anksia baueri, is, Dryandra phala, Dryandra
No. of PLANTS:	Mature: 47 Seed	llings: I	Dead:	Actual	Estimate	Area Occupied	1: ~ 2ha
POLLINATORS:	STATE: Clonal Native bees				uit 🗇 Fruit 🗖 ets 🗇 Bir		-
CONDITION OF F	POPULATION:	Healthy 🗹	Moderate 🗖	Poor	Disturbed	Commen	ıt:
POTENTIAL THR Salinity	Disease 🗖 Pre	eaks 🗖 Mining	-		Roadworks 🗹 ent: Frequent slashin	Grazing D ng or grading of t	Weeds the road verge
FIRE HISTORY:	Not known	Burnt in 19	Summ	er 🗖	Autumn 🗖 🛛 V	Vinter 🗖 S	pring 🗖
FENCING: N	ot Required 🗹	Fenced 🗖	Required		Replace/Repair	1	
the Lakes District Ra Tarin Rock railway I Tarin Rock. Near To Part of the road verg	NTS (include action ta	ken/required): San bin E. Bishop 130, Facility), 3.7 km W rs due to the preser	ne site as <i>Boror</i> 14 October 20 7 of Hills Rd. E	02 - popul Bishop 13	<i>ata</i> AC5030. This lation already recording 37, 14 October 2002	species has also ded. 2.	·
VOUCHER SPECI	MEN: Regional Her	rb. 🗹 District H	erb. 🗖 WA H	Herb. 🗹	Other 🗖 AC	2 5030	
ATTACHED:	-	*	Illustration \Box			d Notes 🗖	
COPY SENT TO:	Regional Offi	District	Office 🗹	Other	Specify:		

Date: 19/12/2005



Photograph 1 Rinzia affinis Tarin Rock Nature Reserve



Photograph 2Road verge with Boronia penicillata, Rinzia affinis and Daviesia tortuosa .Tarin Rock Nature Reserve



Photograph 3 Vegetation adjacent to the road verge. Tarin Rock Nature Reserve. *Boronia penicillata, Dryandra fasciculata, Daviesia tortuosa* and *Rinzia affinis* site.

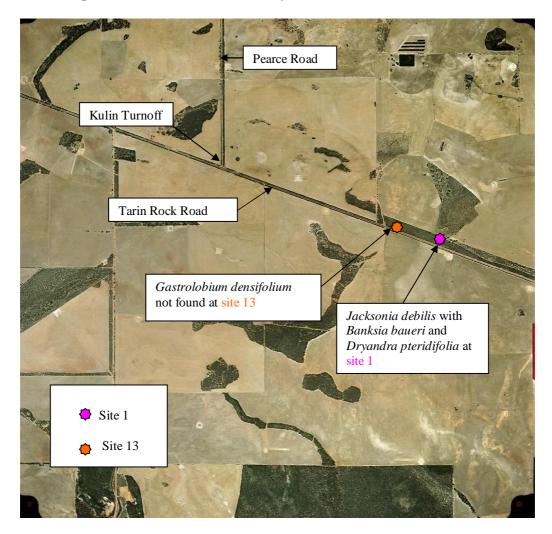
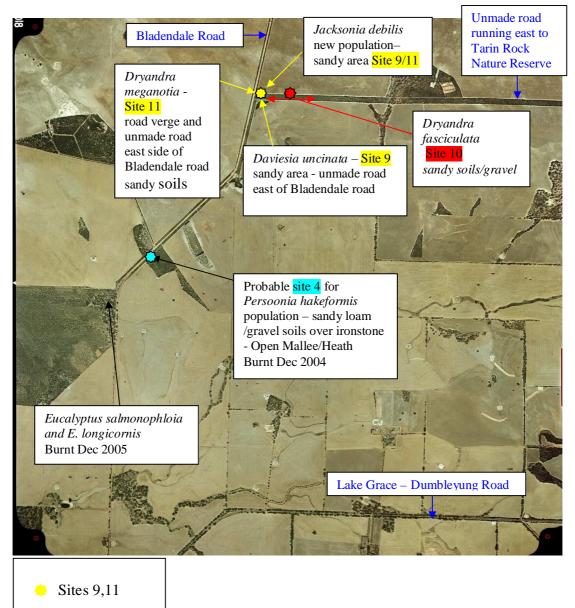


Figure 2Location of Priority Flora near Tarin Rock Road.

Figure 3 Location of Priority Flora near Bladendale Road.



Site 10

Site 4

 \sim

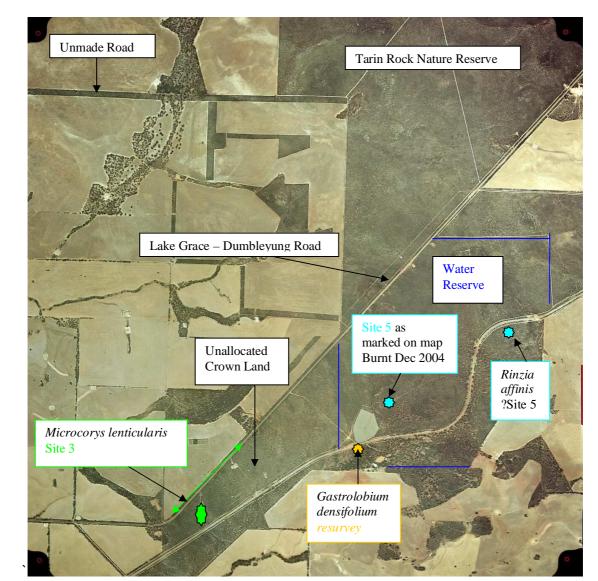
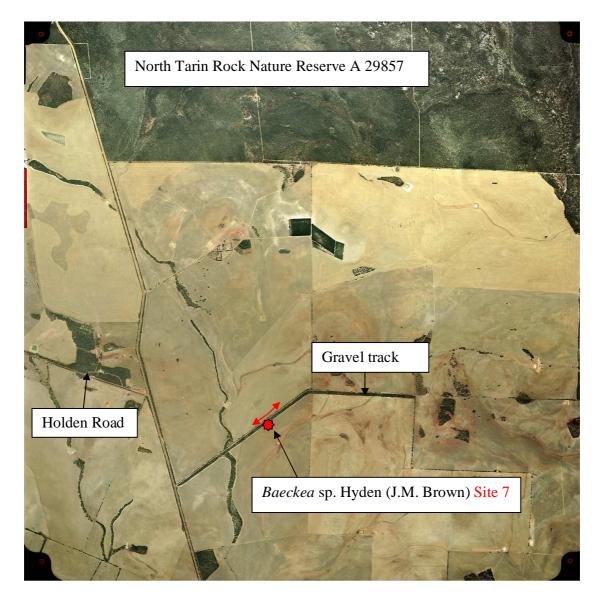
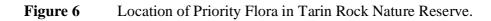
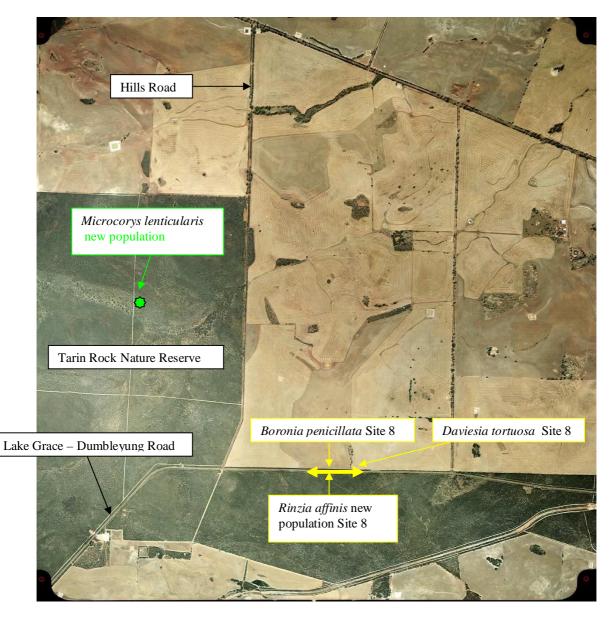


Figure 4 Location of Priority Flora in the Water Reserve and adjacent Unallocated Crown Land.









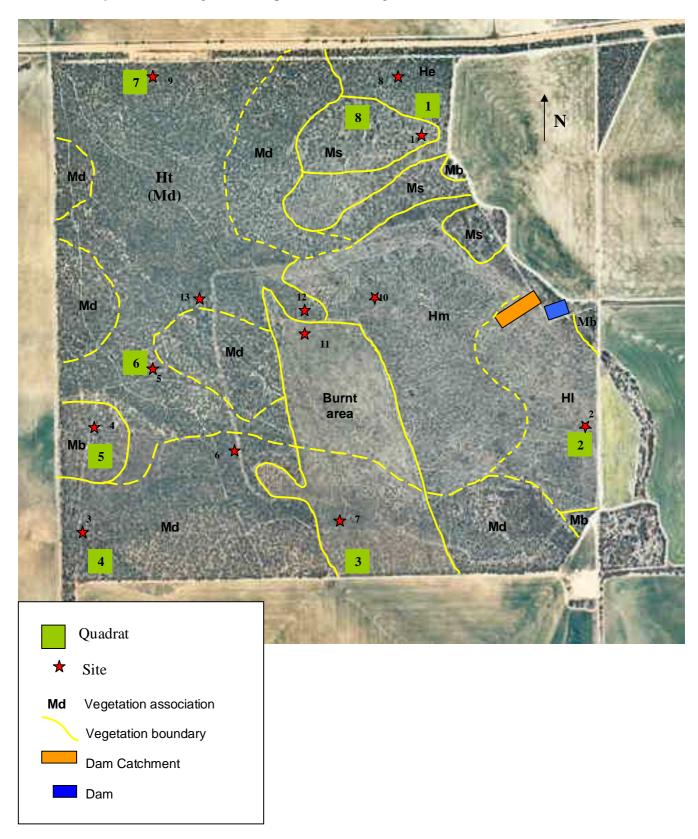


Figure 7 Vegetation Map of Remnant Vegetation on Williams Location 15205.