

# The distribution and habitat requirements of Grevillea lullfitzii, a Priority 1 taxa, known from the Digger Rock-South Ironcap Area of the Forrestania Greenstone Belt, Western Australia.

Greg Durell and Leon Silvester

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The distribution and habitat requirements of Grevillea lullfitzii, a Priority 1 taxa, known from the Digger Rock- South Ironcap Area of the Forrestania Greenstone Belt, Western Australia.

By

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#### **ABSTRACT**

During the summer of 1994, approximately 600 000 ha of native bushland was burnt in a wildfire from the rabbit proof fence eastwards to the Johnston Lake area. The fire burnt through an area called "Forrestania". This area is a green stone belt stretching from Mount Holland south to Hatter Hill, a distance of 70 km. This area lies approximately 80 kilometres east of Hyden.

Soon after the fire, during a transmission line rebuilding project, Western Power Corporation were responsible for accidentally destroying several populations of Declared Rare and Priority Flora. The species were *Eremophila racemosa*, *E. inflata*, *Banksia sphaerocarpa* var. *dolychostyla* and *Grevillea lullfitzii*. Consequently, Western power Corporation agreed to provide funds for surveys of the effected species and to determine post fire germination and growth responses.

Three surveys undertaken since the fire, July 1996, November 1996 and May 1997 provided sufficient data for all species targeted except for G. lullfitzii.

This report describes the survey undertaken in respect to G. lullfitzii during November 1997. It is intended to compliment other surveys undertaken as part of this project. (See reference section). The report describes the population ecology of G lullfitzii including a summary known populations (with new discoveries), along with recommendations for this species future management and protection status

#### INTRODUCTION

G. Lullfitzii is an open spreading shrub to about 1.5 metres high. The branchlets are angular covered with loose closely pressed hairs. The leaves are 3-5 cm long curved upward with little or no stalk and divided two or three times. The leaf margins are rolled backwards towards the midrib, enclosing the lower surface except for mid-vein. The upper leaf surface is mostly hairless with a conspicuous mid vein on the lower surface. The leaf texture is leathery. The inflorescences are terminal, erect, about 10.5-20.5 mm long. The flowering period is October - December with the flowers being an off-white colour. The fruit is 16-17 mm long and 6 mm wide, erect on erect stalks. The species named after Fred Lullfitz, a botanical collector for Kings Park, who collected it on a hill at Digger Rocks, part of the Forrestania greenstone belt, in 1964.

The Forrestania greenstone belt stretches from Mt Holland south to Hatter Hill, a distance of some 70 kilometres. It is approximately 80 km east of Hyden. This narrow greenstone belt is composed of an undulating plain or mafic and ultra mafic lithology's and abrupt ridges of banded ironstone's with some tertiary lateritic development (Gibson N. et al 1996).

G. *lullfitzii* is known to occur only within the southern portion of the Forrestania greenstone belt from near Diggers Rock and South Ironcap. The geology from this area, based on the Hyden 1:250 000 Geological Survey of Western Australia, is described predominantly a mafic amphibolite and metabasalt with occurrences of seriate granite and ademellite, banded ironstone and colluvium derived from the mafic amphibolite.

The climate of the area is warm dry Mediterranean with cool winters and hot summers. Mean annual rainfall at Hyden is 336 mm, (rainfall is presumed to be greater at Forrestania than Hyden), with moderate seasonal variation. Most rainfalls during winter and is associated with frontal activity from May to August. Summer falls are highly erratic and result from thunderstorms or south eastward moving tropical depressions. The mean highest temperature, based on Hyden's recordings, is January with December to April months all recording mean annual temperatures above 30° C. Lowest mean temperatures of 5°C are recorded in July and August.

The Digger Rock - South Ironcap area lies within the Roe Botanical District, an area characterised by mallee vegetation with some eucalypt woodland in lower valleys and scrub heath and *Allocasuarina* thicket on the residual plateau soils (Beard 1990).

The southern Forrestania belt has similar sized flora to that recorded for the Bremer and Parker Ranges (some 80 kilometres to the east). The flora belt was typically south western in composition with low representation of genera common in the more arid South west Interzone (eg Eremophila). Occurrence of priority species was much higher than the nearby Bremer and Parker Ranges, perhaps reflecting the unusual combination of geology and climate (Gibson, N. et al 1996).

Two species of Declared Rare Flora, Banksia sphaerocarpa var. dolichostya and Boronia revoluta, along with eleven priority species, including G. lullfitzii presently occur within the Digger Rock - South Ironcap area (Gibson, N. et al 1996).

The aim of this *G. Lullfitzii* survey was to investigate and survey potential sites within the Forrestania green stone zone and similar adjacent sites in the hope of extending the species distribution, increase population numbers and provide a suitable recommendation for this species future protection status.

#### **METHODS**

A desktop study prior to the survey was undertaken. This study analysed previous collection information available for the species, for example literature, Western Australian Herbarium data base records, vegetation and geology plans and aerial photographs were studied.

In particular, the study of plans and aerial photographs based on known vegetation and geological associations helped identify possible location sites for the species. These sites were recorded prior to the survey and amended when surveying as further evidence was discovered concerning the species preferred habitat.

The survey was mainly vehicular based, traversing likely sites using major roads, minor roads and tracks and grid lines (many grid lines are associated with the exploration and mining in the area).

When a population of the species was discovered, a brief ground search was undertaken. Following this search, CALM's Rare Flora Report Form were completed and Global Positioning System (GPS) location details were recorded.

Potential sites for G. lullfitzii, well away from the species known distribution range, were also searched (See Appendix 4) attempting to extend its present known distribution therefore, reducing the species conservation status and decreasing the need to impose actions to ensure the species long term survival.

When found, other species of Declared Rare or Priority Flora known to the authors were also recorded following the same procedure.

#### RESULTS

A total of 15 new populations of *G. lullfitzii* were discovered and 1 population re-surveyed. (Appendix 1A, 2, 3 & 4 provide plans and GPS location details for all populations discovered). All the populations found were located within an area from South Ironcap to Digger Rock. A summary of each new population found is recorded on CALM's Rare Flora Report Form. (A copy is provided as Attachments 1-15).

No new populations were found outside the previously recorded distribution area of the Digger Rock and South Ironcap area.

#### DISCUSSION

All occurrences of G. *Iullfitzii* were recorded within the environs from South Iron Cap to Digger Rock. A distance of approximately 6 square kilometres. Finding several populations east of the Forrestania - Southern Cross Road was significant because it extends the distribution away from the existing Cosmic Boy and Digger Rock Nickel Mines and appears to be outside existing Mining Tenements (See Attachment 16).

G. *lullfitzii* occurs as scattered individuals rather than a common species. It appears to be a long lived species with plants reaching 1.5 metres - tall, spreading foliage and thick woody stems. It favours a habitat comprising eucalyptus mallee low woodland over allocasuarina thicket. Its geological preference was not determined however, it is believed also to be specific. It appears not to be affected adversely from the impact of fire, as indicated by the seed regenerating populations found around and south of Digger Rock.

The species should occur at Hatter Hill. The vegetation and geology appear to be similar in composition however, we were unable to find any evidence of the species there.

The immediate threats to the species appear to be those activities associated with the present mineral exploration and development of mine sites within the species present distribution. Two active mines and extensive mineral exploration is occurring in the area. The current mines are predominantly underground although the Digger Rock operation has a large open pit associated with the underground mine. In the longer term, the mining company, Outokumpu Mining Western Australia Pty Limited is committed to the rehabilitation of completed mining areas. (Presently rehabilitation of the Flying Fox mine, further to the north, is proceeding).

Because the species known range is small and within an active mining lease, there are good reasons to include this species as Declared Rare Flora. This will ensure that while mining activity occurs within the area the species populations are not damaged. The decision to declare as rare flora should however be made after consultation with Outokumpu Western Australia PTY LTD, who may provide CALM with alternative acceptable strategies for the species preservation.

The other threat to the species would be if a decision was ever made to open the area up for agricultural purposes. This is unlikely to occur however, is always a possibility. If the decision was made to clear then reservation of the species within a conservation reserve is essential. There is almost none of the Forrestania greenstone belt reserve currently in the state's conservation reserve system. The small Lake Cronin Nature Reserve (1016 ha) 30 kilometres to the north is the only conservation reserve covering the southern Forrestania vegetation system. None of the banded ironstone or associated lateritic areas, of which *G. lullfitzii* occurs are currently conserved for conservation. This *G. lullfitzii* work strongly supports Henry-Hall's (1990) conclusion that there is an urgent need for a series of nature reserves along the Forrestania belt.

#### RECOMMENDATIONS

In relation to G. *lullfitzii* it is recommended:

the species be considered for gazettal as Declared Rare Flora. It has been adequately searched for over the past two years by the Narrogin District and because of its restricted population distribution is in need of special protection. Any decision to gazette as DRF should be made after consultation with Outokompu, discussing alternative strategies the company may adopt to ensure adequate protection of the species within their mining tenements.

- consideration be given for the inclusion of some populations within a future NPNCA vested conservation reserve. An area within the environs of Digger Rocks and South Ironcap would be an appropriate location for a reserve, and.
- Outokumpu Mining Australia Pty Limited be requested to include G. *Iullfitii* as a regeneration species within any future Digger Rock Mine regeneration programmes.

#### REFERENCES

Beard J. S - (1972) The vegetation of the Hyden areas, Western Australia. Vegmap, Perth.

Beard J. S. (1990) Plant life of Western Australia. Kangaroo Press, Kenthurst.

CALM (1997) Declared Rare and Priority Flora List - 10/12/97. Unpublished Report, CALM.

Chin R.J, Hickman A.H. and Thom R. (1984) Geological Survey of Western Australia. 1: 250 000 Geological Series and Explanatory Notes. Hyden Western Australia. Department of Mines Western Australia.

Durell G. & Buehrig R. (1997) Narrogin District Declared Rare and Threatened Flora Management Plan (Draft). The Department of Conservation and Land Management

Gibson N. & Lyons M.N. (1997) Floristic survey of the Middle and Southern Ironcap, Digger Rocks and Hatter Hill of the Eastern Gold, fields of Western Australia. Unpublished report for the Australian Heritage Commission prepared by the Department of Conservation and Land Management.

Gower C.F and Bunting J.A. Geological Survey of Western Australia. 1: 250 000 Geological Series and Explanatory Notes. Lake Johnston Western Australia. Department of Mines Western Australia.

Green J.W. (1985) Census of the Vascular Plants of Western Australia. Department of Agriculture, Perth.

Henry-Hall N.J. (1990) Nature Conservation Reserves in the Eastern Goldfields, Western Australia. (Southern two thirds of CTRC System 1). Unpublished Report to EPA Red Book Task Force.

Newbey K.R. & Hnatluk R.J. (1988). Vegetation and Flora In.. The biological survey of the Eastern Goldfields of Western Australia. Part 4. Lake Johnson - Hyden study area. Records of the Western Australian Museum Supplement 30: 17-43.

Olde P. & Marriott, N. (1995) The Grevillea Book Part Two. Kangaroo Press.

Richmond G.S. (July 1996, June 1997 & October 1997) Survey of Declared Rare and Priority Flora within the Environs of Mt. Holland. Unpublished reports. The Department of Conservation and Land Management.

Thom R., Lipple S.L and Sanders C.C. (1977 Geological Survey of Western Australia. 1: 250 000 Geological Series and Explanatory Notes. Ravensthorpe Western Australia. Department of Mines Western Australia.

# Appendix

Appendix 1 & 1A Location plans for populations.

Appendix 2-3 Aerial photographs showing population distribution

Appendix 4 Summary of locations
Appendix 5 Photographs of G. lullfitzii

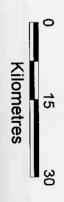
Hyden Roundtop Hill Vermin proof fence LEGEND Major gravel Road

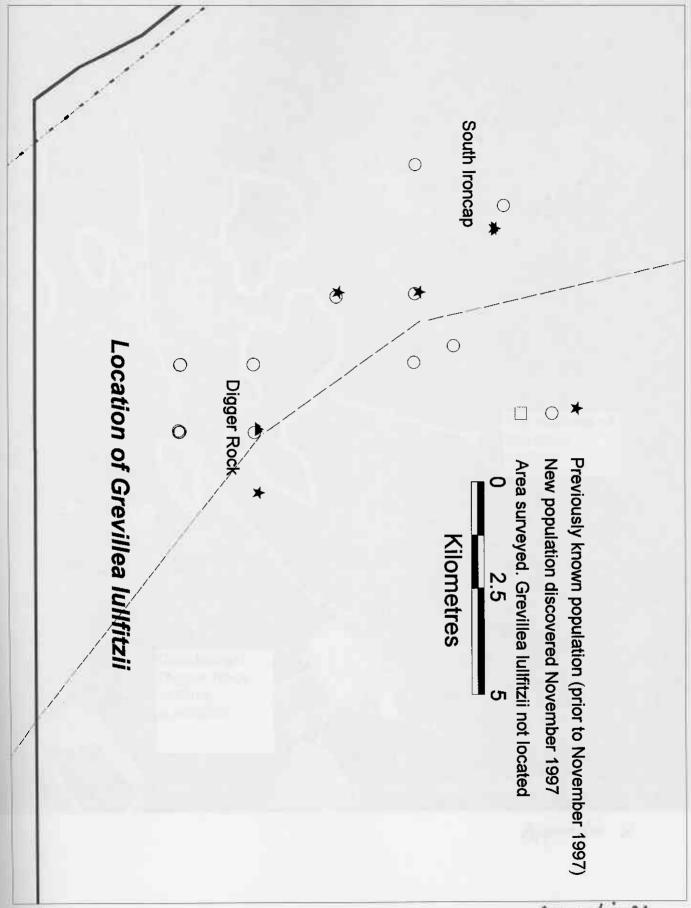
- - Area surveyed. Grevillea lullfitzii not located

Previously known population (prior to November 1997)

New population discovered November 1997

Location of Grevillea lullfitzii





MY 3510(C) HOFFWAD & HONCAP (2832 & 2833) 1100000 SHEET AREA RUN 8 (5001-5055) 1:25000 24 FEB 93 91056; 1 Outokumpu Digger Rock Mining operation Populations of Grevillea lultitali Appendix 3

# Population summary of Grevillea lullfitzii as at November 1997.

# 1 Existing populations

# Population No. 1 Diggers Rock

Population	latitude	longitude		
1A	32° 42' 20"	119° 47' 45"		
1B	32° 43' 34"	119° 49' 02"		

# Population No. 2 Near Lake Cronin

Population	latitude	longitude		
2 ****	32° 23' 03"	119° 44' 51"		

\*\*\*\* This population was incorrectly determined. It is not G. lullfitzii. It is G. teretifolia.

# Population No.3 South east of South Ironcap

Population	latitude	longitude		
3	32° 42' 00"	119° 48' 00"		

# Population No. 5 Mount Roe: Requires confirmation

# Population No.6 South Ironcap

Population	latitude	longitude		
6	32° 43' 04"	119° 49' 42"		

# 2 New populations

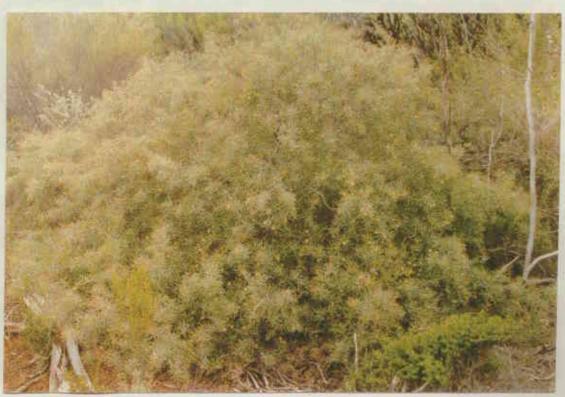
latitude	longitude
32° 43'43"	119° 48' 50"
32° 44' 23"	119° 49' 34"
32° 44' 32"	119° 49' 43"
32° 43' 58"	119° 48' 12"
32° 44' 24"	119° 48' 49"
32° 44' 27"	119° 48' 56"
32° 44' 44"	119° 49' 22"
32° 44' 40"	119° 49' 42"
32° 43' 22"	119° 48' 36"
32° 43' 39"	119° 48' 44"
32° 42' 22"	119° 47' 57"
32° 41' 59"	119° 48' 20"
32° 41' 57"	119° 47' 20"
32° 40' 41"	119° 45' 57"
32° 43' 47"	119° 49' 49"

# 3 Main locations searched without success

Place name	latitude	longitude
North Ironcap	32° 21' 06"	119° 39' 45"
Middle Ironcap	32° 34 ' 25"	119° 44' 13"
Hatter Hill	32° 49' 26"	119° 58' 41"
North of Emu Fence Road	32° 05' 07"	119° 04' 40"
Mason Ridge	32° 31' 10"	119° 44' 07"
NW of Mount Holland	32° 17' 49"	119° 41' 30"
Roundtop Hill	32° 11' 36"	120° 24' 48"

Appendix 5





Form of Grevillea Iullfitzii





Grevillea lullfitzii flowers

# Attachments

Attachments 1-15 Rare Flora Report Forms for all populations surveyed.

# DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT RARE FLORA REPORT FORM

AXON: Grevillea lu	llfitzii	POP	ULATION No	/		
old Type) DR		riority Species	Pr 1	_ Partial Surv	ey Full Survey	New Populati
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L COLOUR:	Red	Loam	Clay	Peat	Gravel	
L CONDITION:	Inundated	Brown	Yellow	White	Grey	
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Please return completed form to Executive Director. CALM,. PO Box 104,. COMO WA 6152

RARE FLORA REPORT FORM

TAXON Grevillea lullfitzii		POPULA	TION No	0. 1			
	Priority Sp			2 Partial	Survey Fu	ıll Survey	New Populatio
FROM: G S Durell & L. Silvester	TITLE: Ops. O	fficer and V					Composition of the common of t
REGION: Wheatbelt DISTR	ICT:Narrogin		Kondinin				
File Ref: Map/Site Ref.:		Reserve 1	No <u></u>				
LAND STATUS: (Bold typed)	Nature Reserve	Private (	Gravel Res. N	/IRD	Gravel R	es. Shire	
National Park	Pastoral Lease		MRD Rd.				Rail Reserve
Other Shire Res.	Water Reserve		Specify: Min				210002
LOCATION: In the near proxim	ity of Digger Roc	k.					
LATITUDE: 32 <u>° 44 ' 24 "S</u>	LONGITUDE:	119° 48 ' 4	9 ""E G.P.	S. USED: Y	ASPEC'	Γ: <u>northerly</u>	
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SOIL CONDITION: Inunda	ted Moist	Dry S	Saline Oth	er <u>:</u>			
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REPRODUCTIVE STATE:(Bole			lower Imm	at. fruit	Fruit Cl	Fruit Dehisced	Vegetative
POLLINATORS: Native I Other observations:	bees Honey	bees (	Other insects	Birds	Mamma	ls	
CONDITION OF POPULATION	N:(Bold type)	Healthy N	Moderate	Poor	Disturbe	d Comment <u>:</u>	
POTENTIAL THREATS: (Bold	type) Firebres	aks N	Mining Recr	eational acti	ivities	Roadworks	Grazing
Weeds	Disease Prescrib					KOMOWOLKS	Orazing
(Bold type)							
FIRE HISTORY: not known	Burnt in 19_	Summer	Autu	mn Winter	Spring		
VOUCHER SPECIMEN: Distric			_				
ATTACHED: Map Mudma	•			Notes			
FENCING: Not Required ROADSIDE MARKERS:	Fenced	Required		ace/Repair	<b>n</b> 1		
OTHER COMMENTS (include a	Not Required action taken/required	Present Fred):	cequirea	керіас	Reposition	on	
Copy sent to (Bold type) Regiona	al Office Distric	t Office (	Other Specif	y <u>:</u>			
00 11							
Migned: Joseph Ce.		_Date: 29 I	December 19	97			
Note: More than one selected critic	eria in any section	n may be tic	cked. Attach	map or furt	her inforn	nation to this for	m.

Please return completed form to Executive Director. CALM,. PO Box 104,. COMO WA 6152

TAXON: Grevillea lull	fitzi <u>i</u>	PC	PULATION	l No			
(Bold Type) DRF		iority Specie		Pr 1_ Pa	artial Survey F	ull Survey	New Population
FROM: G S Durell & L.	Silvester_TITLE	Ops. Office	and Wildlife	Officer SU	URVEY DAT	E: _5/11/97	
REGION: Wheatbelt	DISTRICT:Nat	rrogin SH	IRE: Kone	dinin		-	
File Ref: Map/Si	te Ref.:	Re	serve No <u></u>				
LAND CTATUS, /Dala	4 J\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	n n		D 1000			
LAND STATUS: (Bold National					Gravel		
	hire Res. Water I				Shire State Fo	orest VCL	Rail Reserve
Other 5	mic Res. Water i		ici Specify	: Mining lea	ase aiso		
LOCATION: In the near	r proximity of Dig	gger Rock.					
LATITUDE: 32°44	<u>23 "S</u> LONG	ITUDE: <u>119</u>	° 49 ° 34 ""E	G.P.S. USI	ED: Y ASPEC	T: northerly	
(Bold type)							
LANDFORM: Low ris	se grading into a	Hilltop					
ROCK TYPE:	Othan 1-4						
ROCKFORM:	Other: <u>lateritic</u> g Sheet	ravei Boulder	Fluriot	ilo G <del>r</del> ovol, Co	oncretional Gra		
SOIL TYPE:	Sand	Loam	Clay		eat	Gravel	
SOIL COLOUR:	Red	Brown	Yellow		hite	Grey	
SOIL CONDITION:	Inundated	Moist Dr		Other:	nite	Gley	
			,				
VEGETATION CLASS	IFICATION (Mu	ir's): Scrub c	f Allocasuari	na campestri	is and A. acutiv	<u>valvis</u>	
ACCOCIATED OREGIE	C P						
ASSOCIATED SPECIE	S: <u>Banksia sp., L</u>	<u>Pryandra sp. ,</u>	Hibbertia, A	cacia sp., Ca	<u>ilothamnaus s</u> j	o., Hakea francis	<u>siana.</u>
No of PLANTS: Scatte	red Matura	Coadlings	Dand	41			
No. of PLANTS: Scatte	ica_iviature	Secunds	Dead:	Actuai	/Estimate	Area Occupied:	
REPRODUCTIVE STA	TE:(Bold type) F	lower bud	Flower	Immat. fru	iit Fmit Cl	Fruit Dehisced	Venetative
POLLINATORS:	Native bees		Other is		rds Mamm		vegetative
Other observations:					1.1311111		
CONDITION OF POPU	LATION:(Bold	type) He	althy Modera	ite Po	oor Disturbe	ed Comment <u>:</u>	
DOTENTIAL TILDE ATO	S. (D. U.)	F' 1 1	3.61	<b>.</b>			
POTENTIALTHREATS	S: (Bold Type) Weeds Disease		Mining	Recreationa		Roadworks	Grazing
(Bold type)	weeds Disease	rtescribed i	outting	Other Co	omment <u>:</u>		
FIRE HISTORY: not kr	nown Burnt in	19 511	nmer	Autumn W	Vinter Spring		
VOUCHER SPECIMEN		WA Herb.		Autumm w	inter spring		
ATTACHED: Map	Mudmap	Illustration	Photo	Field Notes			
FENCING: Not Rec			quired	Replace/Re			
ROADSIDE MARKERS	•		sent Require		eplace Reposit	on	
OTHER COMMENTS (	include action tak				art of this popu	lation.	
Copy sent to (Bold type)	Regional Office	District Off	ice Other S	Specify <u>:</u>			
Signed:	_0	D	. 20 D	1007			
oigheu.		Da	te: 29 Decem	ber 1997			
Note: More than one sele	ected criteria in a	iv section ma	v he ticked A	ttach man o	r further infor	mation to this for	PIA
The state of the s	con concorn on ur	у эссион ти	у ос неква. А	шасн тар 01	r juriner injor	mation to this Joi	· ///.
Please return completed	form to Executiv	e Director.	CALM,, PO	Box 104 C	COMO WA 61	52	
RECORDS: PLEASE F	ORWARD TO A	DMINISTRA	ATIVE OFFI	CER. FLOR	RA. WILDLIE	EBRANCH	
International Control of the Control				-,			

TAXON: Grevi	illea lullfi	tzii			_POPUI	LATION	No				
(Bold Type)	DRF			ority Sp			Pr 1_	_ Partial S	Survey F	full Survey	New Population
FROM: G S Dur	ell & L. S	Silvester	_TITLE:	Ops. Of	ficer and	Wildlife	Officer	SURVE	EY DAT	E: <u>5/11/97</u>	
REGION: Whea			ICT:Nar	rogin		: Kone	<u>linin</u>				
File Ref	Map/Site	Ref.:			Reserve	No <u></u>					
LAND STATUS	: (Bold ty	ped)	Nature 1	Reserve	Private	Gravel	Res. MR	D	Gravel	Res. Shire	
	National	Park	Pastoral					ge Shire			Rail Reserve
	Other Sh	ire Res.	Water F	Reserve				<u>g lease als</u>		(02	rain regerye
LOCATION: In	the near	proximi	ty of Dig	ger Rocl	ζ.						
LATITUDE:	32 <u>° 43</u> ,	58 "S	LONG	TUDE:_	119° 48	' 49 ""E	G.P.S.	USED: Y	' ASPEC	CT: northerly	
(Bold type) LANDFORM:	Low rise	gradin	g into a l	Hilltop							
ROCK TYPE:		Other: 1a	ateritic gr	ravel							
ROCKFORM:		Sheet	atoritio <u>E</u>	Boulder		Fluviat	ile Grav	al		Concretional	Crovel
SOIL TYPE:		Sand		Loam		Clay	ne Grav	Peat		Gravel	Gravei
SOIL COLOUR		Red		Brown		Yellow		White		Grey	
SOIL CONDITI		Inundat	ed	Moist	Drv	Saline	Other;	,, 11110		Grey	
ASSOCIATED S	nta and Gi	revillea : : <u>Melal</u>	insignis <u>;</u> euca sp.,	subsp. eli Gastrolo	ottii (Pri bium sp.	ority 3) . Hakea	<u>francisia</u>	na.			na campestris and
No. of PLANTS:	Scattere	ed_Ma	ture:	Seedli	ngs:	_ Dead:	Ac	tual /Estir	mate	Area Occupied	<b>i</b> :
REPRODUCTIVE POLLINATORS Other observation	S:	<b>E:(Bold</b> Native b		lower bud Honey b		Flower Other in	Immat. nsects	fruit Birds	Fruit Cl Mamm	Fruit Dehisce als	d Vegetative
CONDITION O	F POPUI	LATION	N:(Bold t	ype)	Healthy	y Modera	te	Poor	Disturb	ed Comment <u>:</u>	
POTENTIALTH (Bold type)			ype) Disease	Firebrea Prescrib			Recreat Other	ional acti Comme		Roadworks	Grazing
FIRE HISTORY	: not kno	wn	Burnt in	19_	Summe	r	Autumr	Winter	Spring		
VOUCHER SPE					rb. Othe	er _					
	-	Mudma	•	Illustrati	on	Photo	Field N	otes			
FENCING:	Not Requ		Fenced		Require			/Repair			
ROADSIDE MA			Not Rec		Present			Replace	Reposit	ion	
OTHER COMM	ENTS (it	nclude a	ction take	en/requir	ed): <u>Pop</u>	<del>ulation n</del>	umber 1	is part of	this popu	llation.	
Copy sent to (Bo	ld type)	Regiona	l Office	District	Office	Other S	Specify:				
Signed:	58 Qu	U.			Date: 29	Decemi	per 1997				
/											
Note: More than											orm.
Please return con	mpleted f	orm to	Executiv	e Directe	or. CAL	M, PO	Box 104	" COM	O WA 61	152	
RECORDS: PLI											

RARE FLORA REPORT FORM

TAXON: Grev	illea lullfitzii		POPULATIO	N No			
(Bold Type)		Priority S			tial Survey Fu		New Population
FROM: G S Du	rell & L. Silveste	r_TITLE: Ops. C	Officer and Wildlin	e Officer SUI	RVEY DATE	: 5/11/97	
REGION: Whe	atbelt DISTI	RICT:Narrogin	SHIRE: Koi	<u>ıdinin</u>			
File Ref:	Map/Site Ref.:		Reserve No				
LAND STATUS	S: (Bold typed)		Private Grave			tes. Shire	
	National Park	Pastoral Lease		D Rd. verge Sh		rest VCL	Rail Reserve
	Other Shire Res	. Water Reserve	Other Specia	y: Mining lease	e alşo		
LOCATION: In	the near proxim	nity of Digger Ro	ck.				
LATITUDE:	32 <u>° 44</u> ' 32 "S	LONGITUDE	: <u>119° 49 ' 43 "</u> "F	G.P.S. USEI	D: Y ASPEC	Γ: <u>northerly</u>	
(Bold type)							
LANDFORM:	Low rise gradi	ng into a Hilltop					
DOOR STATE	0.1	1					
ROCK TYPE:		lateritic gravel			.: 10		
ROCKFORM: SOIL TYPE:	Sheet	Bould Loam		tile Gravel Con			
OIL COLOUR	Sand R: Red	Loam Browi				Gravel	
SOIL CONDIT		-	Dry Saline		ne	Grey	
TOTAL COLUMN	iorii muna	410131	Diy Same	Oulci.			
VEGETATION	CLASSIFICAT	TION (Muir's): ve	ery open tree mall	ee of Eucalyntu	s sp. over thic	ket of Allocasua	rina campestris
and Hakea franc							
ASSOCIATED	SPECIES: <u>Mel</u>	aleuca sp., Gastro	lobium sp., Hake	a francisiana.			
No of PLANTS	: Scattered M	ature: Seed	dlings: Dead	i: Actual /	Estimate	Area Occupied:	
www.a.p.i.cmx	Y 700 COD L FEDER ATS		1 771			<u> </u>	
		ld type) Flower b		r Immat. frui		Fruit Dehisced	Vegetative
POLLINATOR		bees Honey	bees Other	insects Bird	ds Mamma	ils	
Other observatio	11S <u>.</u>						
CONDITION O	F POPIII ATIO	N:(Bold type)	Healthy Mode	rate Poo	r Dieturba	d Comment:	
COMPTITOR	of TOTOLATIC	iv.(Doid type)	Healthy Mode	iate roo	i Disturbe	d Comment.	
POTENTIALT	HREATS: (Bold	type) Firebr	eaks Minir	g Recreational	activities	Roadworks	Grazing
		Disease Prescr		Other Cor		reduction of the	Grazing
(Bold type)	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2100100 11001		omer cor			
FIRE HISTORY	Y: not known	Burnt in 19_	Summer	Autumn Wi	nter Spring		
VOUCHER SPI	ECIMEN: Distri		Herb. Other		1 0		
ATTACHED:	Map Mudn	nap Illustr	ation Photo	Field Notes			
FENCING:	Not Required	Fenced	Required	Replace/Rep	air		
ROADSIDE MA	ARKERS:	Not Required	Present Requi	red Rep	lace Repositi	on	
OTHER COMP	MENTS (include	action taken/requ	ired): Population	number 1 is pa	rt of this popu	lation.	
Copy sent to (B	old type) Region	nal Office Distri	ict Office Other	Specify:			
	180 1	1					
Signed:	Jour C	1.	Date: 29 Decei	nber 1997			
(M) (S)				4			
More than	one selected cri	iteria in any secti	on may be ticked.	Attach map or	jurther infori	mation to this foi	m.
Withinson	50000 W -						

Please return completed form to Executive Director. CALM, PO Box 104, COMO WA 6152

IAAON <u>Grevillea la</u>	-	POPU	LATION NO			
	P P	riority Species	Pr <b>1</b> _	Partial Survey F	ull Survey	New Population
FROM: G S Durell &	L. Silvester_TITL	E: Ops. Officer and	Wildlife Officer	SURVEY DATI	E: 5/11/97	
REGION: Wheatbel	t DISTRICT:N:	arrogin SHIRE	: Kondinin			
	p/Site Ref.:	Reserve				
THE TECK. TVIA	JISIC ICI	Kesei ve	= NO			
LAND OF A POYTO (D.						
LAND STATUS: (B	V		Gravel Res. MRI			
Nat	ional Park Pastor	al Lease Rd. Ver	rge MRD Rd. vers	ge Shire State Fo	rest VCL	Rail Reserve
Oth	er Shire Res. Water	Reserve Other	Specify: Mining	lease also		
LOCATION: Near I	Digger Rock					
	-8801 1100111					
LATITUDE: 32°	44 1 27 % LONG	TITIDAT: 1100 40	SECULE CORO	VICED II LEDEC		
LATITUDE: 34_	44 ' 27 "S LONG	511 UDE: 119° 48	<u>156 "</u> "E G.P.S.	USED: Y ASPEC	T: northerly	
(Bold type)						
LANDFORM: Lov	v rise grading into a	Hilltop				
ROCK TYPE:	Other: lateritic	gravel				
ROCKFORM:	Sheet	Boulder	Fluviatile Grave	at .	Concretional C	Twowal
SOIL TYPE:	Sand	Loam				Fravei
			Clay	Peat	Gravel	
SOIL COLOUR:	Red	Brown	Yellow	White	Grey	
SOIL CONDITION	Inundated	Moist Dry	Saline Other:			
VEGETATION CLA	SSIFICATION (M	luir's): Low woodla	and A of Eucalypti	us argyphea, over	thicket of Alloca	asuarina campestri:
and Melaleuca uncind	eta.			J, 1		
ASSOCIATED SPE	TES Melaleuca si	Gastrolohium en	Hakaa francisia	w a		
	one metalenca of	na Gusti otootum sp.	. 11ukeu ji uncisiu	<u> 114.</u>		
No of DY ANTIC. C.	1 30%	0 111	<b>D</b>	1 4		
No. of PLANTS: So	attered [Mature:	Seedlings:	_ Dead: Act	tual/Estimate	Area Occupied:	:
REPRODUCTIVE S	TATE:(Bold type)	Flower bud	Flower Immat.	fruit Fruit Cl	Fruit Dehisced	Vegetative
<b>POLLINATORS:</b>	Native bees	Honey bees	Other insects	Birds Mamm	als	
Other observations:						
CONDITION OF PO	PULATION (Bold	tyne) Health	y Moderate	Poor Disturbe	ed Comment <u>:</u>	
		r type) incurri	, moderate	Tool Disturb	a commen.	
POTENTIAL TUDE	ATC: (Pold type)	Eingh-agler	Minin D	1 1	D 1 1	
POTENTIALTHRE					Roadworks	Grazing
	Weeds Diseas	se Prescribed Burni	ing Other	Comment:		
(Bold type)						
FIRE HISTORY: no	t known Burnt	in 19_ Summe	r Autumn	Winter Spring		
<b>VOUCHER SPECIN</b>	<b>1EN:</b> District Herb	WA Herb. Othe		1 0		
ATTACHED: May		Illustration	Photo Field No	ntec		
	Required Fence					
ROADSIDE MARK	-	1	-	•		
			Required	Replace Reposit	ion	
OTHER COMMEN	15 (include action ta	iken/required):				
Copy sent to (Bold ty	pe) Regional Office	e District Office	Other Specify:			
1	000		•			
Signed:	all.	Date: 29	9 December 1997			
1		Duto. E	December 1777			
Note: Marathan and	salantad aultania in		Alaba J Aug 1	6 4		
Note: More than one	selecieu criieria in i	iny section may be	uckea. Attach ma	p or jurther infor	mation to this fo	orm.
DI (	4 0 0					
Please return comple	ted torm to Execut	ive Director, CAI	M,. PO Box 104	,. COMO WA 61	152	
RECORDS: PLEAS	E FORWARD TO	<b>ADMINISTRATIV</b>	VE OFFICER, FI	LORA, WILDLII	FE BRANCH.	

## RARE FLORA REPORT FORM

TAXON Grevillea lullfit	zii	POPUL	ATION No			
(Bold Type) DRF		rity Species		Partial Survey		New Population
FROM: G S Durell & L.				SURVEY DA	TE: <u>5/11/97</u>	
REGION: Wheatbelt	DISTRICT:Narr		Kondinin Kondinin			
File Ref: Map/Si	te Ket.:	Reserve	No <u></u>			
LAND STATUS: (Bold	typed) Nature R	eserve Private	Gravel Res. MRI	D Grave	l Res. Shire	
Nationa			ge MRD Rd. ver			Rail Reserve
Other S	Shire Res. Water Re		Specify: Mining	-		
LOCATION: Near Digg	ger Rock.					
LATITUDE. 230 44	' 44 "S LONGI"	FITDE: 1100 40 '	22 ""E C D C	HEED, V ASDE	CT: northerly	
LATITUDE: 32 <u>° 44</u>	44 5 LONGI	1 ODE: <u>119° 49</u>	<u> </u>	USED: I ASFE	C1: normerty	
(Bold type)						
LANDFORM: Low ris	se grading into a F	Iilltop				
ROCK TYPE:	Other: lateritic gra	avel				
ROCKFORM:		Boulder	Fluviatile Grav	el	Concretional G	ravei
SOIL TYPE:		Loam	Clay	Peat	Gravel	
SOIL COLOUR:		Brown	Yellow	White	Grey	
SOIL CONDITION:		Moist Dry	Saline Other:			
VEGETATION CLASS	HEICATION (Musi	r'e). Low woodla	nd A of Fucalint	us arounhaa oy	er thicket of Alloca	isuarina campestr
and Melaleuca uncinata	IFICATION (Mul	is). Low woodia	ing A of Eucutypi	us urgypneu. ov	et injeket of Anoce	<u>ыманна сатрем</u>
and menticucu uncinara						
ASSOCIATED SPECIE	S: Melaleuca sp.,	Gastrolobium sp.	. Hakea francisia	ına.		
No. of PLANTS: Scatte	ered Mature:	Seedlings:	_ Dead: Ac	tual /Estimate	Area Occupied:	
REPRODUCTIVE STA	TE:(Bold type) Fl	ower bud	Flower Immat	. fruit Fruit	Cl Fruit Dehisced	Vegetative
POLLINATORS:		Honey bees	Other insects	Birds Mam		8
Other observations:		,				
CONDITION OF BODI	III ATYONA/Dalak	yra) Ylaalthy	y Madamata	Door Distri	rbed Comment <u>:</u>	
CONDITION OF POPU	JLATION:(Boid t	ype) neatti	y Moderate	Poor Distu	roed Comment	
POTENTIALTHREAT	S: (Bold type)	Firebreaks	Mining Recrea	tional activities	Roadworks	Grazing
	Weeds Disease	Prescribed Burni	ng Other	Comment:		
(Bold type)						
FIRE HISTORY: not k				n Winter Sprin	ng	
<b>VOUCHER SPECIME</b>		WA Herb, Othe				
ATTACHED: Map	Mudmap	Illustration	Photo Field N			
	equired Fenced	Require		e/Repair		
ROADSIDE MARKER		quired Present	Required	Replace Repo	sition	
OTHER COMMENTS	(include action take	en/required):				
Copy sent to (Bold type	e) Regional Office	District Office	Other Specify:			
	~`					
Signed:	L. U.	Date: 2	9 December 1997	•		
Note: More than one sei	lected criteria in an	y section may be	ticked. Attach m	ap or further inj	formation to this fo	rm.
Please return complete	d form to Executiv	e Director. CAI	LM PO Box 10	4 COMO WA	6152	

TAXON <u>Greville</u>	ea lullfitz	ii			РОРИ	LATION	No					
(Bold Type)	DRF		Pri	ority Sp	ecies			Partial 5	Survey F	ull Survey	1	New Population
FROM: G S Dur	ell & L. S	Silvester	TITLE:	Ops. Of	ficer and	Wildlife	Officer.	SURVE	EV DATE	• 5/11/0		New Population
REGION: Whea	atbelt	DISTRI	- CT:Nar	rogin	SHIRE	: Konc	linin	BOILT	DALL	. <u> </u>	_	
File Ref:	Map/Sit				Reserve		<u> </u>					
LAND STATUS			Nature I		Private	Gravel	Res. MR	D	Gravel F	Res. Shire		
	National		Pastoral		Rd. Ver	ge MRD	Rd. ver	ge Shire	State Fo	rest V	/CL	Rail Reserve
	Other Sh	nire Res.	Water R	eserve	Other	Specify	: Mining	g lease als	<u>so</u>			
LOCATION: No	ear Digge	er Rock.										
LATITUDE:	32 <u>° 44</u> ,	40 "S	LONGI	TUDE:_	119° 49 '	<b>42"</b> "E	G.P.S.	USED: Y	' ASPEC'	Γ: <u>northe</u> ι	·lv	
											J.	
(Bold type)												
LANDFORM:	Low rise	e grading	g into a F	Hilltop								
ROCK TYPE:		Other: <u>la</u>	teritic ar	21/21								
ROCKFORM:		Sheet	_	<u>aver</u> Boulder		Fluviot	ilo Cuori	-1		<b>~</b>	1.0	
SOIL TYPE:		Sand		Loam			ile Grav			Concretion	onal Gr	avel
SOIL COLOUR		Red		Brown		Clay		Peat		Gravel		
SOIL CONDITI		Inundate		Moist	Dev	Yellow Saline		White		Grey		
001.2111	0111	mundan	Ju	MIOISE	Diy	Same	Other:					
VEGETATION Hakea francisian	CLASSI <u>a</u>	FICATIO	ON (Mui	r's): <u>Ver</u>	y open tr	ee malle	e of Euco	alyptus sp	over scr	ub of <i>Mela</i>	aleuca	uncinata and
100000												
ASSOCIATED S	SPECIES	S: <u>Melale</u>	euca sp.,	<u>Calothan</u>	nnus sp.							
No. of PLANTS:	Scatter	ed Mat	ure:	Seedli	ngs:	_ Dead:_	Ac	tual /Estir	mate	Area Occi	ıpied:	
REPRODUCTIV	Æ STAT	E·(Rold	tuna) El	ower huc		Flores	Immat.	S:4	F	E ADI		W.F.
POLLINATORS		Native be		Honey b							isced	Vegetative
Other observation		TVALIVE D	ccs	Honey 6	ees	Other in	isects	Birds	Mamma	is		
	i wan											
CONDITION O	F POPUI	LATION	:(Bold ty	ype)	Healthy	Moderat	te	Poor	Disturbe	d Commer	ıt <u>:</u>	
POTENTIALTH	IREATS:	(Bold ty	pe)	Firebrea	ks	Mining	Recreat	ional acti	vities	Roadwork	.s	Grazing
(Bold type)		Weeds	Disease	Prescrib	ed Burnii	ng	Other	Comme	nt <u>:</u>			
FIRE HISTORY	': not kno	own	Burnt in	10	Summer		Autum	Winter	Carina			
<b>VOUCHER SPE</b>			Herb		rb. Othe		Autung	i willer	Spring			
		Mudma		Illustrati		Photo	Field No	otes				
	Not Requ	-	Fenced	masuun	Required		Replace					
ROADSIDE MA			Not Req	uirod	Present		жеріасе	-	D			
OTHER COMM				n/require	ed):	Require	,l	Кергасе	Repositio	on		
Copy sent to (Bo	ld type)	Regional	Office	District	Office	Other S	pecify <u>:</u>					
Come de	()	(1										
Signed:		9			Date: 29	Decemb	er 1997					
Note: More than	one selec	ted criter	ia in an	v section	may ho s	icked A	tach wa	n an firmt	an infa	endine de di	lia for	
			411)	Jeenon	may be t	инен. АІ	шен та	p or jurth	ier injorn	iaiion to ti	us Jorn	7.
Please return cor	npleted f	orm to E	ecutive	e Directo	r. CAL	M, PO	Box 104.	, COMO	) WA 615	52		
RECORDS: PLE	EASE FO	RWARI	TO AI	MINIS'	ΓRAΤΙV	E OFFI	CER, FI	ORA, W	/ILDLIF	E BRANC	H.	

RARE FLORA REPORT FORM

TAXON Grevillea lullfitzii POPULATION No	
(Bold Type) DRF Priority Species Pr 1 Partial Survey Full Survey New Popul	ation
FROM: G S Durell & L. Silvester_TITLE: Ops. Officer and Wildlife Officer SURVEY DATE: 5/11/97	
REGION: Wheatbelt DISTRICT:Narrogin SHIRE: Kondinin	
File Ref: Map/Site Ref.: Reserve No	
LAND STATUS: (Bold typed) Nature Reserve Private Gravel Res. MRD Gravel Res. Shire	
National Park Pastoral Lease Rd. Verge MRD Rd. verge Shire State Forest VCL Rail Reserv	⁄e
Other Shire Res. Water Reserve Other Specify: Mining lease also	
LOCATION: Near Digger Rock.	
LATITUDE: 32° 43 ' 22 "S LONGITUDE: 119° 48 ' 36" E G.P.S. USED: Y ASPECT: northerly	
(Bold type)	
LANDFORM: Low rise grading into a Hilltop	
ROCK TYPE: Other: lateritic gravel	
ROCKFORM: Sheet Boulder Fluviatile Gravel Concretional Gravel	
SOIL TYPE: Sand Loam Clay Peat Gravel	
SOIL COLOUR: Red Brown Yellow White Grey	
SOIL CONDITION: Inundated Moist Dry Saline Other:	
VEGETATION CLASSIFICATION (Muir's): Scrub of Melaleuca uncinata and Hakea francisiana	
ASSOCIATED SPECIES: Melaleuca sp., Dryandra sp., Calothamnus sp.	
Mendencu sp., Diyununu sp., Cutomumus sp.	
No. of PLANTS: Scattered Mature: Seedlings: Dead: Actual /Estimate Area Occupied:	
REPRODUCTIVE STATE: (Bold type) Flower bud Flower Immat. fruit Fruit Cl Fruit Dehisced Vegetative	
POLLINATORS: Native bees Honey bees Other insects Birds Mammals	
Other observations:	
CONDITION OF POPULATION:(Bold type) Healthy Moderate Poor Disturbed Comment:	
POTENTIALTHREATS: (Bold type) Firebreaks Mining Recreational activities Roadworks Grazing	
Weeds Disease Prescribed Burning Other Comment: This population is within 50 metr	es of
<u>open cut mining area.</u> (Bold type)	
FIRE HISTORY: not known Burnt in 19 Summer Autumn Winter Spring	
VOUCHER SPECIMEN: District Herb WA Herb. Other _	
ATTACHED: Map Mudmap Illustration Photo Field Notes	
FENCING: Not Required Fenced Required Replace/Repair	
ROADSIDE MARKERS: Not Required Present Required Replace Reposition	
OTHER COMMENTS (include action taken/required):	
Copy sent to (Bold type) Regional Office District Office Other Specify:	
Signed: Date: 29 December 1997	
Note: More than one selected criteria in any section may be ticked. Attach map or further information to this form.	

Please return completed form to Executive Director. CALM,. PO Box 104,. COMO WA 6152

TAXON <u>Grevillea lullfitzii</u>	POPULATION No		
(Bold Type) DRF Priority		al Survey Full Survey	w Population
FROM: G S Durell & L. Silvester_TITLE: Ops	Officer and Wildlife Officer SUR	VEV DATE: 5/11/97	n i oparation
REGION: Wheatbelt DISTRICT: Narrogin	SHIRE: Kondinin	<u> </u>	
File Ref: Map/Site Ref.:	Reserve No		
· ·			
LAND STATUS: (Bold typed) Nature Reser	ve Private Gravel Res. MRD	Gravel Res. Shire	
National Park Pastoral Leas			1 D
Other Shire Res. Water Reserv			l Reserve
o that differ these with the test was a	c Other Specify. Willing lease	<u> </u>	
LOCATION: Near Digger Rock.			
LATITUDE: 32° 43 ' 39 "S LONGITUD	E: <u>119° 48 ' 44"</u> "E G.P.S. USED	: Υ ASPECT: northerly	
(Bold type)			
LANDFORM: Low rise grading into a Hillto			
EATOFORM. Low rise grading into a Hinto	P		
ROCK TYPE: Other: Iron			
DO CITYON -	stone		
ROCKFORM: Sheet Boul	OIMICI	Concretional Grave	
SOIL TYPE: Sand Loan		Gravel	
SOIL COLOUR: Red Brow		e Grey	
SOIL CONDITION: Inundated Mois	t Dry Saline Other:		
VEGETATION CLASSIFICATION (Muir's):	ery open scrub mallee over low hea	th C.	
ASSOCIATED SPECIES: Grevillea insignis su	bsp. ellottii (Priority 3)		
	· · · · · · · · · · · · · · · · · · ·		
No. of PLANTS: Scattered Mature: Se	edlings: Dead: Actual /E	stimate Area Occupied:	
REPRODUCTIVE STATE:(Bold type) Flower	bud Flower Immat. fruit	Fruit Cl Fruit Dehisced Veg	etative
POLLINATORS: Native bees Hone	ey bees Other insects Birds		,
Other observations:			
CONDITION OF POPULATION: (Bold type)	Healthy Moderate Poor	Disturbed Comment:	
(JF-)		Distarted Comment.	
POTENTIALTHREATS: (Bold type) Firely	reaks Mining Recreational a	ctivities Roadworks Gra	rin a
Weeds Disease Preso			zing
(Bold type)	ribed Burning Other Comr	пені	
FIRE HISTORY: not known Burnt in 19_	Summer Autumn Wint		
		er Spring	
	Herb Other _		
1	ration Photo Field Notes		
roncou	Required Replace/Repai		
1		ce Reposition	
OTHER COMMENTS (include action taken/req	uired):		
Copy sent to (Bold type) Regional Office Dist	rict Office Other Specify:		
110 (1			
Signed: JS U U	Date: 29 December 1997		
Note: More than one selected criteria in any sect	ion may be ticked. Attach map or fu	rther information to this form.	
Please return completed form to Executive Dir	ector. CALM, PO Box 104., CO	MO WA 6152	
RECORDS: PLEASE FORWARD TO ADMIN	ISTRATIVE OFFICER FLORA	WILDLIFE BRANCH	

TAXON Greville	a lullfitzii	,		POPUL	ATION	No				-
(Bold Type)	DRF	Pri	ority Spe	cies		Pr 1_	Partial S	Survey Fi	ıll Survey	(New Population
FROM: GS Dure	ell & L. Silve	ster_TITLE:	Ops. Off	cer and	Wildlife	Officer	SURVE	Y DATE	: <u>5/11/97</u>	
REGION: Whea	tbelt DIS	TRICT:Nar	rogin	SHIRE	Kond	<u>inin</u>				
File Ref:	Map/Site Ref			Reserve	No <u></u>					
LAND STATUS	: (Bold typed	) Nature I	Reserve	Private	Gravel I	Res. MRI	D	Gravel F	Res. Shire	
	National Parl	•						State Fo		Rail Reserve
	Other Shire I				_		lease als		, , , ,	710001
LOCATION: Ne	ear Digger Ro	ock.								
LATITUDE:	320 42 1 22 1	'S LONGI	TUDE: 1	10° 47 '	57""F	GPSI	USED: V	ASPEC	T: northerly	
EATTIODE.	JL <u>4L                                   </u>	<u>D</u> LONG	.1 ODE- <u>.1</u>	17 71	<u> </u>	Gig ioi	OGED. I	ASIEC	1. Hortherry	
(Bold type)										
LANDFORM:	Low rise gra	ding into a l	Hilltop							
ROCK TYPE:	Oth	er:	Lateritic	gravel						
ROCKFORM:	She	et	Boulder	ŭ	Fluviati	ile Grave	el		Concretional C	Gravel
SOIL TYPE:	San	d	Loam		Clay		Peat		Gravel	
SOIL COLOUR	: Red		Brown		Yellow		White		Grey	
SOIL CONDITI		ndated	Moist	Dry	Saline				,	
VEGETATION :	CI ASSIEIC	ATION (Ma	irlo): Vars	onen tr	aa mallaa	over thi	aket of I	entoenerm	aura	
EGETATION	CLASSIFIC.	ATTON (Mu	ii s). Very	open ire	e manec	OVEL THE	CKCLOLL	ершѕрет	iuiii.	
ASSOCIATED S	SPECIES: Let	otospermum s	sp., Melal	гиса ипс	inata, H	akea sp.,	Isopogoi	n sp., Hak	ea sp., gastrolob	nium spinosum.
No. of PLANTS:	Scattered	Mature:	Seedlii	ıgs:	_ Dead:_	Ac	tual /Esti	mate	Area Occupied:	
REPRODUCTIV	VE STATE:(	Bold type) F	lower bud		Flower	Immat.	fruit	Fruit Cl	Fruit Dehisced	Vegetative
POLLINATORS	S: Nat	ive bees	Honey b	ees	Other in	sects	Birds	Mamm	als	
Other observation	ns <u>:</u>									
CONDITION O	F POPULAT	TION:(Bold 1	type)	Healthy	y Modera	te	Poor	Disturbe	ed Comment <u>:</u>	
POTENTIALTE	IREATS: (B	old type)	Firebrea	ks	Mining	Recreat	ional act	ivities	Roadworks	Grazing
		eds Disease				Other				S
(Bold type)										
FIRE HISTORY			_	Summe		Autumi	n Winter	Spring		
VOUCHER SPE			WA He		er _					
ATTACHED:	Map Mu	dmap	Illustrati	on	Photo	Field N	otes			
FENCING:	Not Require	ed Fenced		Require	d	Replace	e/Repair			
ROADSIDE MA	ARKERS:	Not Re	quired	Present	Require	:d	Replace	e Reposit	ion	
OTHER COMM	IENTS (inclu	ide action tak	en/require	ed):						
Copy sent to (Bo	old tyne) Reg	rional Office	District	Office	Other S	Specify:				
				·	~ mm+1 ~	- for early 7				
Signed:	15 Ja	.Cl.		Date: 29	9 Deceml	ber 1997				
37 . 36 .4		.,								
Note: More than	one selected	criteria in ai	iy section	may be	ticked. A	ttach ma	ip or furi	iner infor	mation to this fo	orm.
Please return co	mpleted forr	n to Executi	ve Directo	or. CAI	M, PO	Box 104	,. COM	O WA 6	152	
RECORDS: PL										

#### RARE FLORA REPORT FORM

TAXON Greville	ea lullfitzii		_POPUL	ATION N	Vo				
(Bold Type)	DRF	Priority Sp					Survey Full		(New Population
FROM: G S Du	rell & L. Silvester	TITLE: Ops. O:	fficer and	Wildlife C	Officer	SURVE	Y DATE:	5/11/97	
REGION: Whe	atbelt DISTR	ICT:Narrogin	SHIRE	: Kondi	nin				
File Ref:	Map/Site Ref.:		Reserve	No.					
LAND STATUS	S: (Bold typed) National Park Other Shire Res.	Pastoral Lease			Rd. ver	ge Shire	Gravel Re State Fore		Rail Reserve
LOCATION: N	ear Digger Rock.								
LATITUDE:	32 <u>° 41 ' 59 "S</u>	LONGITUDE:	119° 48 '	<b>20"</b> "E	G.P.S.	USED: Y	ASPECT:	northerly	
(Pald type)									
(Bold type) LANDFORM:	Low rise gradin	g into a Hilltop							
ROCK TYPE:	Other:	Lateri	tic gravel						
ROCKFORM:	Sheet	Boulde	r	Fluviatil	e Grav	el	C	Concretional G	Fravel
SOIL TYPE:	Sand	Loam		Clay		Peat	G	ravel	
SOIL COLOUR	R: Red	Brown	1	Yellow		White	C	rey	
SOIL CONDIT	ION: Inunda	ted Moist	Dry	Saline	Other:				
VEGETATION	CLASSIFICAT	ION (Muir's): Ve	ry open tr	ee mallee	over thi	cket of N	felaleuca.		
ASSOCIATED	SPECIES: Melai	euca uncinata. Al	llocasuari	na sv Ha	kea sp	Isopogo	n sp., <u>Hake</u> a	n sp., gastrolob	o <u>ium spinosum.</u>
	: Scattered Ma							rea Occupied:	
NO. OF PEANIS	:_Scattered_wr	ture: seed	nings	_ Dead	_ AC	tuai / Esti	IIIaic P	rica Occupica.	
REPRODUCTI POLLINATOR	VE STATE:(Bol S: Native			Flower Other ins		. fruit Birds	Fruit Cl ! Mammals	Fruit Dehisced	Vegetative
Other observation		dees Honey	occs	Oulci in	sccis	Dires	IAIGIIIIIIGI.	•	
Ollier Observatio	,113 <u>.</u>								
CONDITION C	F POPULATIO	N:(Bold type)	Health	y Moderat	e	Poor	Disturbed	Comment:	
	HREATS: (Bold Weeds							Roadworks	Grazing
(Bold type)									
FIRE HISTOR	Y: not known	Burnt in 19_	Summe	er	Autum	n Winter	r Spring		
<b>VOUCHER SP</b>	ECIMEN: Distric	ct Herb WA I	Ierb. Oth	er _					
ATTACHED:	Map Mudm	ap Illustra	ation	Photo	Field N	lotes			
FENCING:	Not Required	Fenced	Require	ed	Replac	e/Repair			
ROADSIDE MOTHER COMP	ARKERS: MENTS (include			Required	i	Replac	e Repositio	n	
Conv sent to (B	sold type) Region	al Office Distri	ct Office	Other S	necify				
sent to (x	to Co	011.00			F				
Signed:	65 Q U		Date: 2	9 Decemb	er 1997				
Note: More tha	n one selected cri	teria in any sectio	on may be	ticked. A	ttach m	ap or fur	ther inform	ation to this fo	orm.
Please return c	ompleted form to	Executive Dire	ctor. CA	LM, PO	Box 10	4,. COM	IO WA 615	52	

TAXON Grevillea lullf	itzii	POPUI	LATION No			
(Bold Type) DR	F Pr	iority Species	Pr 1_	Partial Survey	Full Survey	New Population
FROM: G S Durell & I	Silvester_TITLE	: Ops. Officer and	Wildlife Officer	SURVEY DA	TE: <u>5/11/97</u>	
<b>REGION:</b> Wheatbelt	DISTRICT:Nat	rrogin SHIRE	: Kondinin			
File Ref: Map/S	Site Ref.:	Reserve	e No <u></u>			
LAND STATUS: (Bold			Gravel Res. MR		el Res. Shire	
	nal Park Pastora		ge MRD Rd. ver	ge Shire State	Forest VCL	Rail Reserve
Other	Shire Res. Water I	Reserve Other	Specify: Mining	g lease also		
LOCATION, Non-Die	naan Daak					
LOCATION: Near Dig	ger Rock.					
LATITUDE: 32°41	1 ' 47 "S LONG	ITUDE: 119° 47	<u>' 20"</u> "E G.P.S.	USED: Y ASP	ECT: northerly	
(Pald type)						
(Bold type)		TT'11:				
LANDFORM: Low I	ise grading into a	Hilltop				
ROCK TYPE:	Other:	Lateritic gravel	and ironstone			
ROCKFORM:	Sheet	Boulder	Fluviatile Grav	el	Concretional C	Gravel
SOIL TYPE:	Sand	Loam	Clay	Peat	Gravel	J1 4 7 C1
SOIL COLOUR:	Red	Brown	Yellow	White	Grey	
SOIL CONDITION:	Inundated	Moist Dry	Saline Other:		Gicy	
ook condition.	mundated	Wioist Diy	Samie Oner.			
VEGETATION CLAS	SIFICATION (MI	iir's): Onen low w	oodland A of Fuc	alvntus sn. over	thicket of Dryandr	a
, DODINITION OBNIE	01110111011 (1111	s). opon 1011 11	oodiana 71 of Eac.	arypias sp. 6761	mokot of Dijandi	*
ASSOCIATED SPECI	ES: Melaleuca sp.	Callitris sp., Bani	ksia sphaerocarpa	subsp. dolicho	styla. Isopogon Ca	ilothamnus sp.
	p,		<del>ши эрнионосигра</del>	. засор. пололо	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	in the second se
No. of PLANTS: Scat	tered Mature:	Seedlings:	Dead: Ac	ctual /Estimate	Area Occupied	
REPRODUCTIVE ST	ATE:(Bold type) F	lower bud	Flower Immat	. fruit Fruit	Cl Fruit Dehisced	Vegetative
POLLINATORS:		Honey bees	Other insects		nmals	
Other observations:		,				
_						
CONDITION OF POR	ULATION:(Bold	type) Health	y Moderate	Poor Distr	urbed Comment:	
POTENTIALTHREA	TS: (Bold type)	Firebreaks	Mining Recrea	tional activities	Roadworks	Grazing
	Weeds Disease	Prescribed Burn	ing Other	Comment		
(Bold type)						
FIRE HISTORY: not	known Burnt i	n 19_ Summe	er Autum	n Winter Spri	ing	
<b>VOUCHER SPECIMI</b>	EN: District Herb	WA Herb. Oth	er _			
ATTACHED: Map	Mudmap	Illustration	Photo Field N	Votes		
FENCING: Not F	Required Fenced	Require	ed Replac	e/Repair		
ROADSIDE MARKE	RS: Not Re		Required	Replace Repo	osition	
OTHER COMMENTS	S (include action tal	ken/required):	·			
		ì				
Copy sent to (Bold typ	e) Regional Office	District Office	Other Specify:			
10	0 11					
Signed: 48	U U	Date: 2	9 December 1997	7		
Note: More than one se	elected criteria in a	ny section may be	ticked. Attach m	ap or further in	formation to this fo	orm.
Please return complet	ed form to Executi	ve Director. CA	LM,. PO Box 10-	4,. COMO WA	A 6152	
RECORDS: PLEASE	FORWARD TO A	ADMINISTRATI	VE OFFICER, F	LORA, WILD	LIFE BRANCH.	

# DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT RARE FLORA REPORT FORM

'AXON <u><i>Grevill</i></u> Bold Type)	<i>ea tulijuzu</i> DRF	Priority Sp		ATION N		Partial S	Survey Fu	Il Survey	New Population
	rell & L. Silvester			Wildlife C			-		
EGION: Whe		ICT:Narrogin		Kondii					
ile Ref:	Map/Site Ref.:		Reserve						
	1								
AND STATUS	S: (Bold typed)	Nature Reserve	Private	Gravel Re	es. MRI	)	Gravel R	les. Shire	
	National Park	Pastoral Lease	Rd. Ver	ge MRD	Rd. verg	ge Shire	State For	rest VCL	Rail Reserve
	Other Shire Res.	Water Reserve	Other	Specify:	Mining	lease als	<u>so</u>		
OCATION: N	lear Digger Rock.								
ATITUDE:	32 <u>° 41 ' 41 "S</u>	LONGITUDE:	119° 45 '	57""E	G.P.S. U	JSED: Y	ASPEC"	T: <u>northerly</u>	
Bold type)									
ANDFORM:	Low rise gradin	g into a Hilltop							
ROCK TYPE:	Other:	Laterit	ic gravel						
OCKFORM:		Boulde	•	Fluviatil	e Grave	el.		Concretional G	ravel
OIL TYPE:	Sand	Loam		Clay		Peat		Gravel	
OIL COLOU		Brown		Yellow		White		Grey	
OIL CONDIT		ted Moist	Dry		Other:			Ť	
ÆGETATION	CLASSIFICAT	ION (Muir's): Op	en low wo	odland A	of Euca	lyptus sp	o. over thi	cket of Melaleuc	a uncinata
	CDD CVIIC C III								
ASSOCIATED	SPECIES: Callit	ris sp., Hakea frai	<u>ncisiana.</u>						
In of DI ANTS	S: Scattered Ma	sture Seed	linas:	Dead	Λ α	tual /Esti	mate	Area Occupied:	
W. OI FLANTS	s: Scattered with	nure seed	iiigs	_ Dead	^_	tuai / Esti	illate	Area Occupied.	
REPRODUCTI	(VE STATE:(Bol	d type) Flower bi	ıd	Flower	Immat.	fruit	Fruit Ci	Fruit Dehisced	Vegetative
POLLINATOR				Other ins		Birds	Mamma		
Other observation									
	•								
CONDITION (	OF POPULATIO	N:(Bold type)	Health	y Moderate	e	Poor	Disturbe	ed Comment <u>:</u>	
								D 1 1	
POTENTIALT	HREATS: (Bold			Mining				Roadworks	Grazing
MCVIC.	Weeds	Disease Prescri	bed Burn	ing	Other	Comme	ent		
Bold type)	37 41	D 41 10	C			3371			
	Y: not known	Burnt in 19_	Summe		Autumi	ı winte	r Spring		
	PECIMEN: Distric		Ierb. Oth		Diala N				
ATTACHED:	•	-	Require		Field N				
FENCING: ROADSIDE M	Not Required	Fenced Not Required	_	eu Requirec	-	Poples	e Reposit	ion	
	MENTS (include	-		Kequire	1	Kepiac	e Keposii	IOX	
OTHER CON	MEMORIA (Include	action taken/requ	ncu).						
Copy sent to (I	Bold type) Region	al Office Distri	ct Office	Other S	pecify:				
CONTRACTOR OF THE PARTY OF THE	nO 1	- 1			. ,,				
Signed:	1800	l.	Date: 2	9 Decemb	er 1997				
	1								
Note: More tha	n one selected cri	teria in <mark>an</mark> y sectio	on may be	ticked. At	tach me	ip or fur	ther infor	mation to this fo	orm.
Please return c	completed form to	Executive Direct	rtor CAl	$\mathbf{M}$ $\mathbf{P}\mathbf{O}$	Roy 104	1 CON	10 WA 6	157	

TAXON <u>Grevillea lullf</u>	itzii	POPUL	LATION No			
(Bold Type) DRJ	? Pri	ority Species		_ Partial Survey		New Population
FROM: G S Durell & L					TE: <u>5/11/97</u>	
REGION: Wheatbelt	DISTRICT:Na	•	: Ravensthorp	<u>e</u>		
File Ref: Map/S	Site Ref.:	Reserve	: No <u></u>			
AND STATIS, (Dald	ternod) National	Dagamus Daireats	C1 D MD	D C	1 D Chi	
LAND STATUS: (Bold					vel Res. Shire	Dail Daggere
	Shire Res. Water F		ge MRD Rd. ver Specify:	ge Shire State	rorest VCL	Rail Reserve
Ouler	onne ices. Water i	Ceserve Outer	specify.			
LOCATION: Hatter H	iII					
LATITUDE: 32 <u>° 49</u>	' 26 "S LONG	ITUDE: <u>119° 58 '</u>	41""E G.P.S.	USED: Y ASP	ECT: northerly	
Bold type)						
LANDFORM: Hillto						
EALUDI ORUM. IIIIIO	P					
ROCK TYPE:	Other:	Lateritic gravel				
ROCKFORM:	Sheet	Boulder	Fluviatile Grav	el	Concretional G	ravel
SOIL TYPE:	Sand	Loam	Clay	Peat	Gravel	
SOIL COLOUR:	Red	Brown	Yellow	White	Grey	
SOIL CONDITION:	Inundated	Moist Dry	Saline Other:			
I DODO LOTO LOTO LO	~~~~					
VEGETATION CLAS	SIFICATION (Mu	ur's): Low thicket				
ASSOCIATED SPECI	FÇ.					
ADSOCIATED STECT	E35.					
No. of PLANTS: Nil f	ound Mature:	Seedlings:	Dead: Ac	tual /Estimate	Area Occupied:	
REPRODUCTIVE ST.	ATE:(Bold type) F	lower bud	Flower Immat	. fruit Fruit	t Cl Fruit Dehisced	Vegetative
POLLINATORS:	Native bees	Honey bees	Other insects	Birds Mar	nmals	
Other observations:						
COMPLETION OF BOD	TH ATTON ON AL	YY 141	3.5.1	D	1 10	
CONDITION OF POP	ULATION:(Boid	type) Healthy	y Moderate	Poor Dist	urbed Comment:	
POTENTIALTHREAT	TS: (Bold type)	Firebreaks	Mining Recrea	tional activities	Roadworks	Grazing
		Prescribed Burni	_		TOWN OTTES	Grazing
(Bold type)						
FIRE HISTORY: not	known Burnt is	n 19_ Summe	r Autum	n Winter Spr	ing	
VOUCHER SPECIME	EN: District Herb	WA Herb. Othe	r _		_	
ATTACHED: Map	Mudmap	Illustration	Photo Field N	Votes		
	tequired Fenced	-	ed Replac	e/Repair		
ROADSIDE MARKEI			Required	Replace Rep	osition	
OTHER COMMENTS	S (include action tal	ren/required):				
Copy sent to (Bold typ	a) Panional Office	District Office	Other Carrie			
copy sent to (note typ	C C C		2 2			
Signed:	V U.	Date: 2	9 December 1997	Š.		
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Note: More than one se	elected criteria in a	ny section may be	ticked. Attach mi	ap or further in	formation to this fo	rm.
Please return complete	-				A 6152	
BECODES, DIFACE	FORWARD TO	TAR STRUCTURE A COURT	TWO CLASSICS CARRESTS WA	T (37) 1 33/17 T)	T PERSON STATE A BARRIER	

PODLIY ATION No.
TAXON Grevillea lullfitzii  POPULATION No  Proprity Species  Pr 1 Partial Survey Full Survey  New Population
FROM: GS Durell & L. Silvester_TITLE: Ops. Officer and Wildlife Officer SURVEY DATE: 5/11/97
REGION: Wheatbelt DISTRICT:Narrogin SHIRE: Kondinin
File Ref.: Reserve No
National Park Other Shire Reserve Other Shire Reserve Other Specify:  Nature Reserve Private Gravel Res. MRD Gravel Res. Shire  Rd. Verge MRD Rd. verge Shire State Forest VCL Rail Reserve Other Specify:
LOCATION: Hatter Hill
LATITUDE: 32° 43 ' 47 "S LONGITUDE: 119° 49 '49" "E G.P.S. USED: Y ASPECT: northerly
[Bold type) LANDFORM: Low rise grading to Hilltop
ROCK TYPE: Other: Lateritic gravel
ROCKFORM: Sheet Boulder Fluviatile Gravel Concretional Gravel
SOIL TYPE: Sand Loam Clay Peat Gravel
SOIL COLOUR: Red Brown Yellow White Grey
SOIL CONDITION: Inundated Moist Dry Saline Other:
VEGETATION CLASSIFICATION (Muir's): Very open scrub mallee over Heath B
ASSOCIATED SPECIES:
No. of PLANTS: Scattered Mature: Seedlings: Dead: Actual /Estimate Area Occupied:
REPRODUCTIVE STATE: (Bold type) Flower bud POLLINATORS: Native bees Honey bees Other observations:  Native bees Honey bees Other insects Birds Mammals  Native bees Honey bees Other observations:
CONDITION OF POPULATION:(Bold type) Healthy Moderate Poor Disturbed Comment:
POTENTIALTHREATS: (Bold type) Firebreaks Mining Recreational activities Roadworks Grazing  Weeds Disease Prescribed Burning Other Comment Mining lease also.
(Bold type)
FIRE HISTORY: not known Burnt in 1980's_ Summer Autumn Winter Spring
VOUCHER SPECIMEN: District Herb WA Herb. Other _
ATTACHED: Map Mudmap Illustration Photo Field Notes
FENCING: Not Required Fenced Required Replace/Repair
ROADSIDE MARKERS: Not Required Present Required Replace Reposition
OTHER COMMENTS (include action taken/required): Population regenerating after fire.
Copy sent to (Bold type) Regional Office District Office Other Specify:
Signed: Date: 29 December 1997
Note: More than one selected criteria in any section may be ticked. Attach map or further information to this form.
Please return completed form to Executive Director. CALM,. PO Box 104,. COMO WA 6152
RECORDS: PLEASE FORWARD TO ADMINISTRATIVE OFFICER, FLORA, WILDLIFE BRANCH.

