

**Swan Region Threatened Flora and Communities Recovery Team  
Annual Report – January 2006 to January 2007**

Vanessa Clarke, Regional Conservation Officer  
For the Swan Region Threatened Flora and Communities Recovery Team



Greater Brixton Street, Boundary Road Kenwick (*Calytrix breviseta* subsp. *breviseta* DRF population). V. Clarke

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## INTRODUCTION

The Swan Region Recovery Team met twice within the last year, on 31 January 2006 and 2007. Current membership is listed below but has been listed by the Recovery Team as an Action Item to be reviewed and updated. It is also the intention of the team to invite a number of attendees who represent interest groups, LGAs and other organisations who deal with threatened flora and communities.

### Current membership:

NAME	TITLE	COMMENT
David Mitchell (Chair)	Regional Leader, Nature Conservation Swan Region, CALM	
Dr Neil Gibson	Senior Research Scientist, Woodvale, CALM	To be reviewed
Dr Ken Atkins	A/Manager, Species & Communities Branch, CALM	
Dr Andrew Batty	Research Scientist, BGPA	Kingsley Dixon to be rep for BGPA
Val English	A/Principal Ecologist, Species & Communities Branch, CALM	
Leigh Sage	Conservation Officer, Swan Coastal CALM	To be amended to Conservation Officer, Swan Coastal District (Flora and TECs)
Stefan de Haan	District Leader Nature Conservation Perth Hills District, CALM	
Kat Miller	WA Coordinator, Threatened Species Network, WWF	To be updated
Wayne van Lieven	Environmental Coordinator, City of Gosnells	

### Additions and invitees (non members):

NAME	TITLE	COMMENT
Ian Abbott	DEC Research Scientist	Invitee
Mark Garkaklis	Regional Ecologist	To be added as a member
Andrew Brown	Coordinator (Threatened Flora) Species and Communities Branch	To be added as a member
Vanessa Clarke	Regional Conservation Officer	To be added as Conservation Officer, Swan Region
Myles Mulvay	Conservation Officer	To be added as Conservation Officer, Perth Hills District
Gillian Stack	Species and Communities Branch	NHT project – invitee
Fred Hort	Volunteer	Invitee

Boyd Wykes	Dept of Defence	Invitee
Cleve Etherington	Dept of Defence	Invitee
Peter Swanson	Main Roads	Invitee
Paul Delestang	Swan Catchment Council	Invitee
Grant Mackinnon	City of Swan	Invitee
Karen Britza	Shire of Kalamunda	Invitee
(Representative)	Wildflower Society	Invitee
(Representative)	WA Native Orchid Study Group	Invitee

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The Swan Region contains 315 threatened plant taxa, 58 of which are DRF and 19 of these Critically Endangered. Works undertaken are generally prioritised according to State listings.

### Threatened Flora and Ecological Communities for Swan Region

#### DECLARED RARE PRIORITY CODES TOTAL NO. OF FLORA TAXA

##### REGION R X 1 234

Kimberley 4 0 51 43 35 5	138
Pilbara 2 0 41 3455 7	139
Goldfields 15 0 90 41 65 20	231
Midwest 114 1 194 171 239 74 793	
<b>Swan 58 0 42 54 8477 315</b>	
South West 46 Warren 21 Wheatbelt 116	
South Coast 93 Unknown	
STATE* 378 14 615 634 654 331 2626	

### State and Federal DRF listings:

Species	WA IUCN EPBC	
	Rank	Rank
1 23 33 66 49 218 0 15 47 51 37 171 4 120 140 178 85 643 5 112 196 188 141 735 32---5 <i>Caladenia huegelii</i>	CR	E*
<i>Calytrix breviseta</i> subsp. <i>breviseta</i>	CR	E*
<i>Drakaea elastica</i>	CR	E*
<i>Epiblema grandiflorum</i> var. <i>cyaneum</i> ms	CR	E*
<i>Eucalyptus balanites</i> x	CR	E*
<i>Grevillea althoferorum</i>	CR	E*
<i>Grevillea curviloba</i> subsp. <i>curviloba</i>	CR	E*
<i>Hemiandra rutilans</i>	CR	E*

<i>Hydatella leptogyne</i>	CR	CR
<i>Lasiopetalum pterocarpum</i> ms	CR	E*
<i>Marianthus paralius</i>	CR	*
<i>Paracaleana dixonii</i> ms	CR	E*
<i>Stylidium semaphorum</i>	CR	*
<i>Synaphea</i> sp. Fairbridge Farm (D Papenfus 696)	CR	*
<i>Synaphea</i> sp. Pinjarra (R Davis 6578)	CR	*
<i>Synaphea stenoloba</i>	CR	*
<i>Thelymitra dedmaniarum</i>	CR	E*
<i>Verticordia fimbrialepis</i> subsp. <i>fimbrialepis</i>	CR	E*
<i>Verticordia plumosa</i> var. <i>ananeotes</i>	CR	E*
TOTAL	19	
<i>Acacia chapmanii</i> subsp. <i>australis</i>	E	E
<i>Caladenia dorrienii</i>	E	E
<i>Chorizema varium</i>	E	E
<i>Conospermum densiflorum</i> subsp. <i>unicephalatum</i>	E	E
<i>Darwinia acerosa</i>	E	E
<i>Darwinia apiculata</i>	E	E
<i>Darwinia foetida</i> ms	E	*
<i>Diuris purdiei</i>	E	E
<i>Drakaea micrantha</i> ms	E	V*
<i>Grevillea bracteosa</i>	E	*
<i>Grevillea curviloba</i> subsp. <i>incurva</i>	E	E
<i>Lepidosperma rostratum</i>	E	E
<i>Macarthuria keigheryi</i>	E	E
<i>Spirogardnera rubescens</i>	E	E
<i>Thelymitra stellata</i>	E	E
<i>Verticordia plumosa</i> var. <i>pleiobotrya</i>	E	E
TOTAL	16	
<i>Acacia anomala</i>	V	V
<i>Acacia aphylla</i>	V	V
<i>Acacia brachypoda</i>	V	E*
<i>Andersonia gracilis</i>	V	E*
<i>Anthocercis gracilis</i>	V	V
<i>Asterolasia nivea</i>	V	V
<i>Chamelaucium lullfitzii</i> ms	V	E*
<i>Conospermum undulatum</i>	V	V
<i>Diuris drummondii</i>	V	V
<i>Diuris micrantha</i>	V	V
<i>Dryandra aurantia</i>	V	E*
<i>Dryandra mimica</i>	V	E*
<i>Eleocharis keigheryi</i>	V	V
<i>Eucalyptus argutifolia</i>	V	V
<i>Frankenia conferta</i>	V	X*
<i>Grevillea flexuosa</i>	V	V
<i>Hydatella dioica</i>	V	E*
<i>Lechenaultia loricata</i>	V	E*
<i>Ptychosema pusillum</i>	V	V
<i>Pultenaea pauciflora</i>	V	V
<i>Tetraria australiensis</i>	V	V

<i>Thomasia glabripetala</i>	V	V
<i>Tribonanthes purpurea</i>	V	V
TOTAL	35	
<b>GRAND TOTAL</b>	<b>58</b>	

The Swan Region contains 21 threatened ecological communities, nine of which are Critically Endangered. Recovery actions undertaken are generally prioritised according to State rankings.

### State and Federal TEC listings:

Community	WA IUCN Rank	EPBC Rank
Stromatolite like freshwater microbialite community of coastal brackish lakes	CR	EN
Stromatolite like microbialite community of coastal freshwater lakes	CR	EN
Communities of Tumulus Springs (Organic Mound Springs, Swan Coastal Plain)	CR	EN
Perth to Gingin Ironstone Association	CR	EN
Aquatic Root Mat Community Number 1 of Caves of the Swan Coastal Plain	CR	EN
<i>Eucalyptus calophylla</i> - <i>Kingia australis</i> woodlands on heavy soils, Swan Coastal Plain	CR	EN
<i>Eucalyptus calophylla</i> - <i>Xanthorrhoea preissii</i> woodlands and shrublands, Swan Coastal Plain	CR	EN
Sedgeland in Holocene dune swales	CR	EN
Shrublands and woodlands of the eastern side of the Swan Coastal Plain	CR	EN
Shrublands and woodlands on Muchea Limestone	EN	EN
Southern wet shrublands, Swan Coastal Plain	EN	
Shrublands on dry clay flats	EN	
<i>Banksia attenuata</i> woodland over species rich dense shrublands	EN	
<i>Banksia attenuata</i> and/or <i>Eucalyptus marginata</i> woodlands of the eastern side of the SCP	EN	
<i>Melaleuca huegelii</i> - <i>Melaleuca acerosa</i> (currently <i>M. systema</i> ) shrublands on limestone ridges (Gibson et al. 1994 type 26a)	EN	
<i>Eucalyptus calophylla</i> - <i>Eucalyptus marginata</i> woodlands on sandy clay soils of the southern SCP	V	
Herb rich saline shrublands in clay pans	V	
Herb rich shrublands in clay pans	V	
Dense shrublands on clay flats	V	
Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain	V	
<i>Callitris preissii</i> (or <i>Melaleuca lanceolata</i> ) forests and woodlands, Swan Coastal Plain	V	

### Recovery Plans Held for Swan Region:

No.	Name of Plan (Flora)	Currency
16	Swamp Starflower <i>Calytrix breviseta</i>	1996-1999
27	Gingin Wax, <i>Chamelaucium</i> sp. Gingin	1999-2002
35	Winged-fruited Lasiopetalum, <i>Lasiopetalum pterocarpum</i> ms	1999-2002
42	Split-leaved Grevillea, <i>Grevillea althoferorum</i>	1999-2002
45	Cinnamon Sun Orchid, <i>Thelymitra manginii</i> ms.	1999-2002
62	Dwellingup synaphea, <i>Synaphea stenoloba</i>	2000-2003
67	Narrow Curved-leaf Grevillea, <i>Grevillea curviloba</i> subsp. <i>incurva</i>	2000-2003
69	Blue Babe-in-the-cradle Orchid, <i>Epiblema grandiflorum</i> var. <i>cyaneum</i> ms	2000-2003
72	Curved-leaf Grevillea, <i>Grevillea curviloba</i> subsp. <i>curviloba</i>	2000-2003
118	Club-Leafed synaphea, <i>Synaphea</i> sp. Pinjarra	2002-2007
129	Split-leaved Grevillea, <i>Grevillea althoferorum</i>	2003-2008

134	Wing-fruited Lasiopetalum, <i>Lasiopetalum pterocarpum</i> Ms	2003-2008
140	Gingin Wax, <i>Chamelaucium</i> sp. Gingin <b>updated</b>	2003-2008
143	Narrow-petalled Featherflower, <i>Verticordia plumosa</i> var. <i>pleiobotrya</i>	2003-2008
159	Matted Centrolepis, <i>Centrolepis caespitosa</i>	2004-2008
162	One-headed Smokebush, <i>Conospermum densiflorum</i> subsp. <i>unicephalatum</i>	2004-2009
180	Swamp Starflower, <i>Calytrix breviseta</i> <b>updated</b>	2004-2009
181	Blue Babe in-the-cradle Orchid, <i>Epiblema grandiflorum</i> var. <i>cyaneum</i> <b>updated</b>	2004-2009
182	Cadda Road Mallee, <i>Eucalyptus balanites</i>	2004-2009

<b>Name of Plan (TECs)</b>		
56	Community of Tumulus Springs (organic mound springs) of the Swan Coastal Plain	2000-2003
57	Shrublands and Woodlands on Muchea Limestone	2000-2003
58	Eastern Shrublands and Woodlands (Swan Coastal Plain community 20c)	2000-2003
59	<i>Corymbia calophylla</i> - <i>Kingia australis</i> Woodlands on heavy soil (Swan Coastal Plain Community type 3a -Gibson <i>et al.</i> 1994)	2000-2003
60	<i>Corymbia calophylla</i> - <i>Xanthorrhoea preissii</i> Woodlands and Shrublands (Swan Coastal Plain Community type 3c -Gibson <i>et al.</i> 1994)	2000-2003
61	Shrublands and Woodlands on Perth to Gingin ironstone	2000-2003
74	Aquatic Root Mat Community of Caves of the Swan Coastal Plain	2000-2003
110	Sedgeland in Holocene Dune Swales	2002-2007
117	Aquatic root mat communities of caves of the Swan Coastal Plain the Crystal Cave Cragonyctoid IRP	2002-2007
122	Thrombolite Community of Coastal Freshwater Lakes (Lake Richmond) (Coastal freshwater lakes)	2002-2007
122	Thrombolitic aragonite community formed by biologically influenced precipitation of a mineral phase) Interim Recovery Plan	2002-2007
153	Thrombolite (Stromatolite-like Microbialite) Community of a Coastal Brackish Lake (Lake Clifton)	2004-2009
193	<i>Melaleuca huegelii</i> – <i>Melaleuca systena</i> shrublands of limestone ridges (Swan Coastal Plain Community type 26a -Gibson <i>et al.</i> 1994)	2004-2009
197	Shrublands and Woodlands on Perth to Gingin Ironstone <b>updated</b>	2005-2010
193	<i>Melaleuca huegelii</i> – <i>Melaleuca systena</i> shrublands of limestone ridges (Swan Coastal Plain Community type 26a -Gibson <i>et al.</i> 1994)	2004-2009
197	Shrublands and Woodlands on Perth to Gingin Ironstone <b>updated</b>	2005-2010
198	Assemblages of Organic Mound (Tumulus) Springs of the Swan Coastal Plain <b>updated</b>	2006-2010
230	Shrublands and Woodlands on the Eastern Side of the Swan Coastal Plain (Community Type 20C) <b>updated</b>	2006-2011

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## SUMMARY OF RECOVERY ACTIONS

### THREATENED SPECIES



## Survey and monitoring

### Critically Endangered

□. • *Caladenia huegelii* Continuation of the survey program for this species, this year targeting DEC estate in the Wandu to Mandurah vicinity. In total 17 sites were surveyed. One new population discovered on DEC estate and an extension to the Kooljerrenup population was recorded. Some small populations were reported from private properties but are yet to be surveyed (Coordinated by

□. V. Clarke; surveyed by N. Willers, G. Stack, M. Hoskins, A. Wright, V. Clarke, A. Williams, G. Owen, CVA volunteers, WANOSG and numerous Mandurah locals and other volunteers (60 in total).

□. • *Calytrix breviseta* subsp. *breviseta* -Monitoring of all subpopulations with DGPS. Investigated potential sites for translocation that is being BCI funded. Two sites selected, collected seed from population 2 and assisted with writing of the Translocation Proposal (V. Clarke). Translocation is aimed at winter this year. Letters were sent to private property owners to request access to survey for this and other species but response was very poor with very few properties surveyed and no additional populations were found

□. (V. Clarke).

. • *Eucalyptus balanites* The only population was monitored to check plant health (V. Clarke & M. Hoskins).

. • *Thelymitra dedmaniarum* (formerly *manginiorum*) Monitoring of populations on pp (John Mangini) and tried to record new subpopulations on the same property. Efforts were hampered by dry year, causing early flowering and possible reduced numbers of plants (V. Clarke, M. Mulvay, A. Reaveley, Fred & Jean Hort, members of Native Orchid Study Group). A significant new subpopulation was located within FR Berry Reserve (V. Clarke, M. Mulvay, A. Reaveley, Fred & Jean Hort). Other areas of this reserve was surveyed for potential for this species but it was too late in the season to detect plants (V. Clarke, N. Swarts).

. • *Lasiopetalum pterocarpum* Monitoring undertaken post translocation (V. Clarke & M. Mulvay).

. • *Marianthus paralius* (*Billardiera* sp. Seabird) The population located south of Burns Beach was monitored at the end of October 2006 (M. Hoskins & J. Maguire). Nine plants were located in this survey in contrast to 15 recorded in the Spring of 2005 by a consultant.

. • *Grevillea althoferorum* Monitoring of the only known population in the Swan Region at Bullsbrook Nature Reserve (M. Hoskins, A. Williams & G. Owen). Plant numbers were stable compared to when the population was last surveyed in 1999.

### Endangered

. • *Drakaea elastica* Continuation of surveys to relocate populations that have not been surveyed since the 1980/90's (G. Stack, V. Clarke). Three new populations found in Swan Region (two surveyed by V. Clarke (Stake Hill Rd) and third by consultants engaged by Main Roads (Paganoni)).

. • *Diuris purdiei* The Moore River National Park fire (summer 2006) area was considered possible habitat for this species. Two days were spent assessing habitat for potential new populations, followed by 2 days of survey with the WA Orchid Society, searching the most likely areas. Unfortunately no new populations were discovered (surveyed by G. Stack, M. Hoskins, volunteers).

. • *Macarthuria keigheryi* Attempts to monitor Dundas Rd and Queens Park populations but no plants were able to be found (M. Hoskins, V. Clarke, F. Felton). It would appear that population has senesced due to time elapsed since fire. An experimental control burn is proposed for 2007.

- . • *Spirogardnera rubescens* Funding received from SCB to undertake survey for this taxon (surveyed by consultants, supervised by A. Reaveley).
- . • *Darwinia apiculata* DGPS monitoring of known population which was proposed for clearing for housing (V. Clarke & M. Mulvay). Provided advice to SCB on an application to take the population (V. Clarke).
- . • *Darwinia foetida* Muchea Nature Reserve population was monitored post-burn (A. Williams & G. Owen). Significant germination was observed.
- . • *Chorizema varium* Populations 3A, 3B, 1A, 1B, 1C and 1D were monitored (F. Felton, A. Williams and G. Owen) to check plant health. Significant numbers of plants were recorded. The populations were noted to be in a healthy state.
- . • *Caladenia dorrienii* Attempted monitoring of Flint Block population but not relocated (A. Reaveley & M. Mulvay).

### Vulnerable

- . • *Acacia brachypoda* Monitoring of only known population and survey of adjacent pp with no new plants found (V. Clarke & A. Reaveley).
- . • *Andersonia gracilis* Monitoring of the only known population in the Swan Region at Yule Brook Reserve on UWA land (F. Felton & A. Williams) to check plant health. The spring survey recorded an extra plant compared to the previous survey in 2002.
- . • *Conospermum undulatum* Regional and District staff monitored 35 subpopulations that had not been monitored for 10 or more years. 4 small new populations found. Areas within Perth Airport still need to be monitored and new areas surveyed. Some subpopulations are still requiring monitoring. (Coordinated by V. Clarke; surveyed by V. Clarke, C. Douglas, A. Williams, G. Owens, M. Hoskins, M. Mulvay, J. Maguire).
- . • *Diuris drummondii* New population found on private property (Gingin Headwaters) possibly first collected by James Drummond in 1839 (V. Clarke, M. Hoskins & L. Sage).
- . • *Dryandra aurantia* Surveyed Water Corp block adjacent to known population but habitat found to be slightly different and no plants found (V. Clarke & A. Reaveley); monitored post-autumn burn with prolific regeneration from underground rhizomes (A. Reaveley & M. Mulvay).
- . • *Grevillea flexuosa* Attempted monitoring in Monadnocks Conservation Park. No population was found and this is now presumed to be a non-existent population (A. Reaveley & V. Clarke).
- . • *Lechenaultia laricina* monitored post autumn burn with regeneration from both soil-stored seed and resprouting of burnt mature plants noted (A. Reaveley & M. Mulvay).

### Priority Taxa

- . • *Hypocalymma sylvestre* (P1) -This species that was found on private property in 1998 and has never been recorded elsewhere. The property owners were contacted to monitor the population but the property had since changed hands. The new owners were unaware of any significant plants on their property and use the block for horse agistment. They did not want to have anyone visit their property during spring. A visit arranged for November had to be cancelled unfortunately. Two adjacent properties with similar soils & topography were surveyed with the respective property owner's assistance. Both properties were found to have large populations of this species. Additionally, both owners are keen to preserve the populations, although one owner grazed sheep and has indicated that he cannot afford to fence the area off. It was possible to view the original population from both properties and the plants appear to be in ok condition (Survey

and liaison V. Clarke). The known population should be visited in 2007. This species is a candidate for DRF – it is unlikely to be found elsewhere given the level of clearing on this soils type in the area.

- *Calectasia* sp. Pinjar (P1) The taxon was nominated for DRF but was not accepted due to lack of survey. District officers therefore surveyed for, and discovered an additional eight plants (Survey by M. Hoskins, F. Felton, A. Williams, G. Owen, CVA volunteers). Further survey is planned for this species again in spring.
- *Lasiopetalum exiguum* (P1) Monitored Wearne Block in October 2006 after being burnt in an Autumn 2005 prescribed burn. The population is regenerating well (A. Reaveley & M. Mulvay).
- *Diplolaena andrewsii* (P2) This taxon was known from only two populations, one of which was completely burnt out in John Forrest NP and was not refound in years following. Private properties around Gidgegannup were surveyed to try and discover additional populations. Only one small new population was found (survey V. Clarke). However, Fred and Jean Hort were able to re-find the John Forrest population, which had recovered well from the fire and subsequently found additional subpopulations in the vicinity of the known population.
- *Adenanthos cygnorum* subsp. *chamaephyton* (P3) visit with Peter Swanson of Main Roads. The visit revealed that roads works had removed this population in line with a permit issued by the Department. One plant was found and the road verge requires a further survey to establish if more of this population remains (M. Mulvay).



Photo: Survey volunteers at Banksia Nature Reserve for *Caladenia huegelii*. V. Clarke

## THREATENED ECOLOGICAL COMMUNITIES

All works for TECs were undertaken by staff from Swan Coastal District (M. Hoskins, F. Felton, A. Williams, G. Owen) through NHT funding provided through the Swan and Southwest Catchment Councils:

- Inferred TEC Sites -Installed 10x10m plots in inferred TEC occurrences comprising Swan Coastal Plain floristic community types 3a, 3c, 2, 20a, 20b. Each plot was scored (i.e. surveyed) 3 times during spring (Funded by SCC and SWCC).
- Existing TEC Plots -Nine existing plots were relocated in Swan Coastal Plain

floristic community types 3a and 3c (Funded by SCC and SWCC)

- Burn Trials -A burn trial was set up in Swan Coastal Plain floristic community type 26a at Wabbling Hill. Six plots were installed within the boundary of a planned prescribed burn before the burn was undertaken in October 2006. Each plot will be monitored regularly to observe how this community type recovers from being burnt under prescribed conditions (Funded by SCC)

- Neaves Rd Nature Reserve Water Monitoring -Water monitoring at the Organic Mound Spring on Neaves Rd Nature Reserve has continued. Sam Burton (consultant Hydrologist) has submitted a report on his preliminary findings (Funded By SCC)

- Caves Recovery Project -Rewatering project -Following an iron precipitation problem a filtration unit is being installed to treat the raw bore water before it is delivered into the caves (Funded by DEC)

- Root mat monitoring is being undertaken on a 6 monthly basis (Funded by DEC and SCC)

- Monitoring of cave water levels has continued on a weekly basis (Funded by DEC and SCC)

- Weed Control -Weed control has been undertaken at the following sites: Talbot Road Bushland Conservation Area, Brixton St Nature Reserve (NR), Lambert Lane NR, Lambkin NR, Roman Rd NR, Lake Clifton, Port Kennedy Scientific Park (Funded by SWCC and SCC)

- Planting -Planting has been undertaken at Ellenbrook Nature Reserve and Talbot Road Bushland Conservation Area (Funded by SCC)

- Access Control -Supplied fencing material for fence repairs on Bakewell Drive dune swales occurrences (Funded by SWCC)

- Fencing -Installed a fence along the length of Lodge Drive at IP14 containing the sedgelands community to restrict access and rubbish dumping; fenced around Duckpond TEC occurrences on Mundijong Rd (Funded by SWCC); and supplied funding to erect a gate and fencing at Fletcher Park TEC occurrence (Funded by SCC)

- Repaired a boardwalk at Lake Clifton that was damaged during a fire. The boardwalk provides access control and interpretive signage (Funded by SWCC)

- Hygiene Management -Erected signage at Lambert Lane (Funded by SWCC)

- Lake Clifton -Commissioned a botanical survey and erected TEC signage at Lake Clifton (Funded by SWCC)

- Water Monitoring -Water monitoring is undertaken throughout the district at Western Swamp Tortoise sites and Forestdale Lake Nature Reserve. Many of these water monitoring sites coincide with TECs and DRF.

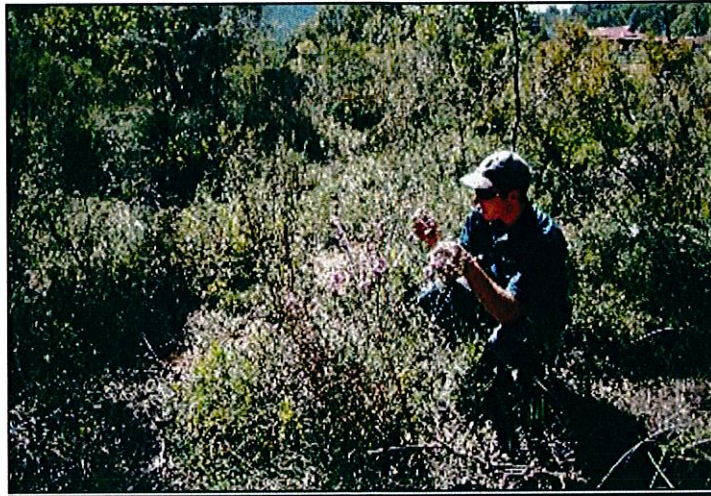


PHOTO A



PHOTO B

A -Adam Williams of the Swan Coastal District surveying a 10x10m plot in an inferred occurrence of the floristic community type known as *Corymbia calophylla* – *Xanthorrhoea preissii* woodlands and shrublands.

B -Yanchep Caves Recovery project filtration trial. Photos M. Hoskins.

## RESEARCH

### Burn Trials

***Darwinia foetida*** A burn trial was set up at Muchea NR in October 2005. Preliminary monitoring results have shown significant germination within the burnt population but no resprouting has been observed (L. Sage, M. Hoskins, A. Williams). (Funded by SCC).

***Grevillea curviloba* subsp *incurva*** A burn trial was set up at Muchea NR in October 2005. Significant resprouting has been observed in the burnt population but no germination has occurred (L. Sage, M. Hoskins, A. Williams). (Funded By SCC).

***Lasiopetalum pterocarpum*** A burn trial was set up in Serpentine NP in October 2006. Six 5x5m plots were installed in the vicinity of a known population, three of which were burnt. At this stage no germination or resprouting has been observed. Anecdotal evidence suggests that germination may not occur until 3 years post fire (organised and undertaken by SC District and attended by regional and district staff) (Funded By SWCC).

***Synaphea* sp. *Pinjarra*** A disturbance trial was undertaken in October 2006. Three sets of three 3x3m plots were installed within a known population. In each set one plot was burnt, one was disturbed using a mattock and one was left as a control. Significant germination has been observed in the burnt plots and resprouting has been observed in both the burnt and mattocked plots (organised & undertaken by SC District staff). (Funded By SWCC).

***Grevillea flexuosa*** Rugged Hills Nature Reserve population was monitored in November (M. Mulvay) following a 2006 autumn burn. This showed that whilst few seedlings were present in the burn plots a large number of seedlings were present in burnt areas where mature plants had existed previously. Further surveys will be undertaken in 2007 and

seedlings grown out using seed collected will be planted in 2008.

All of these trials will continue to be monitored.



Photo A



Photo B

A – Burn trial at Serpentine National Park for *Lasiopetalum pterocarpum* B – Post-burn plot fenced to prevent kangaroos from grazing new growth. Photos M. Hoskins.

### Species Research

- ***Goodenia arthrotricha*** Brian Vincent has completed a study on the conservation biology of the species (Funded By TiWest). Based on this work Melissa Hoskins and Leigh Sage have submitted a nomination for this species to be considered as DRF.
- ***Lasiopetalum pterocarpum*** Carol Wilkins (consultant) was commissioned to undertake a conservation biology study. This report has recently been received by the district and will be distributed in the near future (Funded by SWCC).
- ***Synaphea* sp. Pinjarra** Ryonan Butcher was engaged to undertake a conservation biology study. This report has recently been received by the district and will be distributed in the near future (Funded By SWCC).

### Translocations

- ***Lasiopetalum pterocarpum*** Translocation Proposal written (V. Clarke) based on the previous TP with a new site being selected for half of the seedlings and the other half being used to supplement the previous translocation – 78 seedlings planted (V. Clarke, V. English, A. Brown, J. Pryde, M. Mulvay and LCDC volunteer). After 6 months the plants were monitored (V. Clarke & M. Mulvay). No losses had occurred and plants at both sites showed good vigour and health despite a very dry winter.
- ***Darwinea carnea*** Translocation Proposal written by SCB (G. Stack) with 400 seedlings planted in Udumung Nature Reserve in October 2006. Staff from various work centres including Perth Hills, Swan Coastal, the Species and Communities Branch and the Avon Mortlock District assisted.

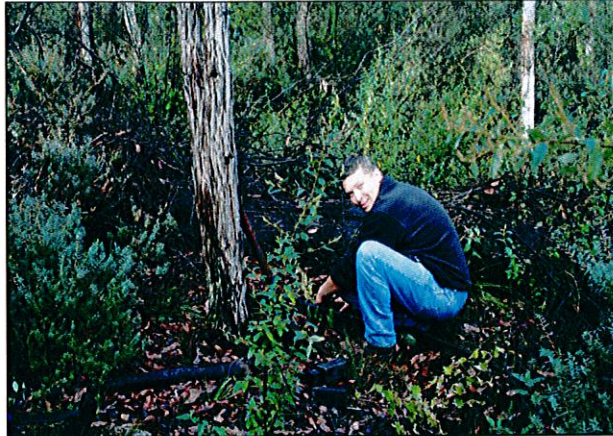


Photo A Serpentine-Jarrahdale LCDC volunteer assisting with *Lasiopetalum pterocarpum* translocation at Serpentine National Park. V. Clarke

### Interim Recovery Plans (IRPs)

- . • Two IRPs have been written by Swan Region and have been submitted as final drafts, (*Darwinia apiculata* and *Macarthuria keigheryi*)
- . • *Conospermum undulatum* plan was developed in conjunction with Species & Communities Branch. The region has provided final comments.
- . • An IRP is being developed for *Caladenia huegelii* by Species & Communities Branch and Swan Region.

### Publications and Media

- . • Two articles written about the 2006 'Huegelii Hunt' and published in local Mandurah newspapers. Dozens of phone calls relating to possible orchid populations and volunteers enlisting occurred in response.
- . • Two articles published in WATSNU, prior to and after the surveys.
- . • WA Herbarium, through Florabase, promoting *Caladenia huegelii* as "Plant of the Week" to promote the survey program.
- . • Helpdesk intranet bulletin released to seek volunteers for surveys from all DEC staff.
- . • Letters were sent to the Wildflower Society and the various orchid groups informing them of the 'Huegelii Hunt' and inviting their involvement.

### Liaison

Ongoing liaison regarding threatened flora issues with Shires, Main Roads WA, Western Power, Westralia Airports, Botanical Gardens & Parks Authority, Fire and Emergency Services, WestNet Rail through both region and district Conservation Officers.

### Volunteers

Fred Hort – lodged his report on work undertaken from 1 May 2005 to 10 January 2007 and included reports on:

- . • 63 Taxa – 7 rare and 56 priority.
- . • 207 populations – 18 rare and 189 priority.
- . • 191 new populations – 178 for Swan Region and 13 for Midwest Region.

- .
  - 15 resurveys for Swan – possibly 1 for Narrogin.
  - A total of 150326 individual plants. This included 7 new taxa for Swan Region:
    - . • *Andersonia audax* Lemson ms P1, Wandering.
    - . • *Commersonia* sp. Bindoon (C F Wilkins 2155 & F & J Hort) P1, Wattening.
    - . • *Lechenaultia hortii* L W Sage ms P2, Talbot Brook & Wandering.
    - . • *Lechenaultia magnifica* L W Sage ms P1, Calingiri, Bolgart, Wattening, Chittering.
    - . • *Leucopogon* sp. Bindoon (F Hort 2766) P2, Toodyay West.
    - . • *Petrophile filifolia* subsp. *laxa* Rye and Hislop P2, Armadale, Wandering.
    - . • *Stylidium leptocalyx* Sond. P4, Dale West, Talbot Brook -previously collected by J Drummond in 1800s. Over 60 volunteers were involved in the 2006 *Caladenia huegelii* and *Diuris purdiei* surveys.

### NHT funded projects

- .
  - NHT funding for a ‘Critical species implementation project’ - \$100,000 for 2 years. Survey, monitoring works have been on-going with a designated Project Officer only recently appointed, works on-going.
  - NHT funding for a ‘Predictive Mapping project’. This was to create a GIS system that allows those assessing development/planning applications to determine the environmental values of any given area. This is specifically to assist in determining if threatened species occur, or have the potential to occur in an area. The Region was successful in securing \$160,000 for 1 year to begin development of this system.

### Other works

- .
  - DoE/DEC Ellam Street vegetation clearing assessment staff were involved in site visits to assess flora and vegetation at a site proposed for clearing (V. Clarke); and to survey a TEC (M. Hoskins).
  - Coordinated site visits with Peter Swanson from Main Roads to determine where to place DRF markers for all populations of DRF, Priority species and TECs in Main Roads road reserves in Swan Region (V. Clarke). District Cons. Officers undertook the site visits (M. Hoskins & M. Mulvay).
  - Review prescribed burns containing DRF and request Permit to Take for DRF-*Asterolasia nivea*, *Acacia aphylla*, *Acacia anomala*, *Anthocercis gracilis*, *Dryandra aurantia*, *Lechenaultia laricina*, *Grevillea flexuosa* (M. Mulvay & A. Reaveley).
  - Advice provided regarding clearing and development applications involving populations of a range of DRF species (District and Regional staff).
  - DRF surveys for recreation sites and for FPC (M. Mulvay and A. Reaveley).
  - Funding received through SCB to engage a consultant to survey for and monitor *Spirogardnera rubescens*. All 9 known populations were resurveyed and searches for new populations of the species were undertaken. 11 new populations were located (Coordinated by A. Reaveley).
  - Funding from Species and Communities Branch was received to undertake weed control in Fletcher Park post fire – contains an occurrence of TEC community type 3c and DRF *Diuris purdiei* (supervised by V. Clarke).
  - Through funds provided by Tiwest the Swan Coastal District employed a consultant to undertake a flora and vegetation survey of the Fynes Nature Reserve and Part Lot



50, the portion of land currently in the process of being purchased by the DEC (coordinated by M. Hoskins).



Photo: Death of Watsonia post weed spraying at Fletcher Park for DRF and TEC conservation. Photo V. Clarke