

**Albany District Rare Flora Recovery Team
Eastern Stirling Range Montane Heath & Thicket
Recovery Team**

Annual Report 2004

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For the Albany District Rare Flora Recovery Team
Eastern Stirling Range Montane Heath & Thicket Recovery Team**

**Department of Conservation and Land Management
Albany**

The Albany District Rare Flora Recovery team met twice in 2004 on 7/4/04 and 3/12/04, field trips were incorporated into both meetings.

Summary of Recovery Actions / Issues

Survey and monitoring

One hundred and nineteen species of threatened (42 species) and priority (72 species) flora were surveyed or monitored in 2004 (approximately 315 population / site visits). Of these, 15 were CR taxa that were visited once to twice annually (80 site visits). Twenty-two new populations or sub-populations were located of threatened taxa (13 species) and 103 populations of priority taxa. These included new populations of the threatened species *Eremophila subteretifolia* at Lake Chidnup (Cr), *Drakaea confluens* (Cr) northwest Stirling Range National Park, *Tribonanthes purpurea* (Vu) Camel Lake NR, *Chamelaucium* sp Hamersley east of Hopetoun, *Orthrosanthos muelleri* Kamballup, *Darwinia wittwerorum* Hosteller Hills, *Lambertia fairallii* and *Banksia brownii* Yungemere Peak, *Conostylis misera* Stirling Range west of Chester Pass, *Laxmannia jamesii* Gull Rock, *Dryandra psuedoplumosa* private property, *Chordifex abortivus* City of Albany Reserve.

Fencing for new populations of *O. muelleri* was completed spring 2004 as well as fencing to link a roadside population of *Lambertia orbifolia* with remnant vegetation.

Survey for Priority 1 and 2 taxa is ongoing, *Grevillea pieroniae*, a Stirling Range endemic, was surveyed spring 2004.

Phosphite application

Phosphite was applied to 167 ha of *Phytophthora cinnamomi*-affected vegetation targeting threatened flora populations many of which were in either the Eastern Stirling Range Montane Thicket TEC or Montane Mallee Thicket TEC. Critically endangered (CR) threatened flora sprayed in autumn 2005 were *Banksia brownii*, *Isopogon uncinatus*, *Dryandra anatonata*, *Dryandra montana*, *Andersonia axilliflora*, *Daviesia glossosema*, *D. pseudaphylla*, *Leucopogon gnaphalioides* and *Persoonia micranthera*. Other threatened taxa sprayed were *Daviesia obovata*, *Darwinia oxylepis*, *D. collina*, *D. squarrosa*, *Darwinia* sp Stirling, *Lambertia fairallii* and *Sphenotoma drummondii*. Monitoring of phosphite applications is ongoing. Overall the results of phosphite application continue promising e.g. the Bluff Knoll summit area where deaths of susceptible species due to *P. cinnamomi* are less than at the outset of the program in 1997. However, disease control appears to have been less effective at some sites such as certain *Banksia brownii* populations and occurrences of the Montane Mallee Thicket TEC. Further research and monitoring is required.

TECs

Occurrences of the Montane Mallee Thicket TEC have been mapped and new occurrences surveyed and assessed. A draft IRP for Montane mallee TEC has been completed. Of concern is the location of spot *P. cinnamomi* infestations in occurrences previously considered disease-free.

Aerial photography is being undertaken for monitoring purposes.

A fire management strategy for the Stirling Range National Park has been completed. An assessment of lowland plant communities in spring 2004 identified a range of key serotinous and non-serotinous fire sensitive species for which no information on juvenile period is available locally.

Vertebrate grazing remains an ongoing concern in the Montane Thicket TEC.

A site visit with Regional manager John Watson to discuss the impact of recreation on the Montane Thicket TEC was conducted August 2004, and the Eastern Peaks Ridge walk was assessed by Ranger Staff September 2004. Appropriate signage including interpretative signage is required to be installed to manage trampling impacts.

The Cayanerup Wetland Suite in the Stirling Range National Park has been nominated as a TEC.

Current membership is listed in Table 1.

Table 1.

NAME	TITLE
Andrew Brown	Scientific Advisor (Flora), Threatened Species Unit
Dave Coates	Principle Research Scientist, Herbarium, CALM
Sarah Comer (Chair)	Ecologist, CALM Albany
Sarah Barrett	Threatened Flora Officer CALM Albany
Sue Osborne	Community Representative, Ongerup, WFS
Linda Strahan	Community Representative, Ongerup
Merle Bennett	Community Representative, WFS Ravensthorpe
Barbara Miller	Community Representative, Bremer Bay
Libby Sandiford	Albany Wildflower Society Representative
Anne Cochrane	WA Threatened Flora Seed Centre
Wendy Bradshaw	Bushcare Support Officer
Sylvia Leighton	Land for Wildlife Officer
Ann Burchell	Community Rep Porongorup Herbarium
Elsie Baesjou	Friends of the Stirling Range NP
Lawrie Anderson	Wildlife Office (Flora), CALM Albany
Greg Freebury	CALM Environmental Officer, Albany
Malcom Grant	CALM Environmental Officer Ravensthorpe

The Eastern Stirling Montane TEC Recovery Team met once 25/8/04, this team also co-ordinates recovery actions for the 'Montane Mallee of the Stirling Range' TEC (Endangered). Team membership is given in Table 2.

Table 2

Name	TITLE
Andrew Brown	Scientific Advisor (Flora), Threatened Species Unit
Sarah Comer (Chair)	Ecologist, CALM Albany
Sarah Barrett	Threatened Flora Officer, CALM Albany
Russell Smith	Phosphite Program Coordinator
Geoff Harnett	RIC SRNP
Dave McNamara	Community Representative, Greenskills
Joan Finlay	Albany Bushwalkers Group
Colin Yates	Plant Ecologist, CALM Science
Greg Freebury	CALM Environmental Officer, Albany
Martin Lloyd	Regional Leader Parks and Visitor Services, CALM SCR

Research studies

A report for the Landscape visa funded study of seedbanks, disturbance, recruitment and seedling survival of *Dryandra ionthocarpa* was completed. Monitoring was ongoing in 2004 (as well as for a previous disturbance study of *Grevillea maxwellii*). A significant finding was a second season's germination spring 2004 for *D. ionthocarpa*. Seedling survival through drought conditions January 2005 has been poor.

Eastern Stirling Montane Thicket TEC: The 'Fire ecology and impact of grazing' research project continued in 2004, monitoring was conducted autumn and spring. The fire history of the TEC has been mapped delineating area burnt in fires in 1972, 1991 and 2000.

Translocations

Seed orchard for *Dryandra montana* (CR): In June 2004 final plantings of 83 plants were completed and all plants caged. In December 2004 plants were monitored and all appeared healthy. Despite significant invertebrate grazing and drought conditions in January 2005, mortality levels are low to date.

Translocation proposals for seed orchards have been written and submitted for two more species from the Montane Thicket TEC: *Persoonia micranthera* and *Leucopogon gnaphalioides*. Additional cutting material was collected from these species June 2004 to supplement existing material at Kings Park (no seed collections exist for these species).

Further plantings of *Dryandra ionthocarpa* are to be undertaken autumn 2005 as survival of translocated plants has been poor to date.

The *Lambertia orbifolia* ssp *orbifolia* translocation continues successful despite some mortality due to aerial canker summer 2004. Additional monitoring to compare the population dynamics of translocated versus natural populations is planned.

Other CR taxa threatened by *P. cinnamomi* under consideration for translocation are *Banksia brownii*, *Daviesia glossosema* and *D. pseudaphylla*. Survey for suitable sites commenced spring 2004.

IRPs

Two flora IRPs were completed and endorsed for (*Villarsia calthifolia*, *Centrolepis caespitosa* EN). Additional survey for *V. calthifolia* has located 2 new populations; post-fire recruitment has been considerable in populations burnt 2003. *C. caespitosa* has been recommended for a change of status to P4.

A new project funded by NHT to write IRPs for 12 species commenced mid-year and a project officer has been employed locally. Drafts for six species were completed by December 2004.

Other

The Ravensthorpe Nickel Operation (BHP Billiton) at Bandalup Hill was visited 25/4/04 to get a further overview of flora issues with Geoff Cockerton Botanical Consultant (Landcare Services). Twenty-two priority taxa and 10 previously unknown species have been recorded from with RNP tenements. G. Cockerton also gave a comprehensive presentation on the significance of the flora to the Recovery team Dec 2004. Five of these species have been submitted for nomination as DRF following regional surveys by consultants. A further two species from the Ravensthorpe range / Bandalup Corridor have been nominated as Priority taxa.

Five remnants on private property under consideration for land purchase were assessed in conjunction with CALM Officer Lawrie Anderson.

Communication

Bushbook for Stirling Range Flora featuring many endemic and priority taxa was completed with Anne Cochrane.

Landscape article: "Albany Woollybush – a rare hybrid beauty". Autumn 2004, A. Cochrane, S. Barrett, M. Byrne

Paper on 'Seed and seedling ecology of three critically endangered species', presented to an international seed ecology conference May 2004.

Presentation on 'South coast WA flora threatened by *P. cinnamomi*' for Kew Millennium seed bank staff May 2004.

Journal article:

Barrett SR, Shearer BL, Hardy GESTJ (2004). Phytotoxicity in relation to *in planta* concentration of the fungicide phosphite in nine Western Australian native species *Australasian Plant Pathology* **33**, 511-528

Liaison

Ongoing liaison regarding threatened flora issues with Shires, Main Roads WA, Western Power, Fire and Emergency Services.