Annual Recovery Team Report February 2006

Albany District Rare Flora Recovery Team

The Albany District Rare Flora Recovery team met twice in 2005 on 31/5/05 and 25/11/05, field trips were incorporated into both meetings. Current membership is listed in Table 1.

Table 1.

NAME	TITLE
Andrew Brown	Coordinator (Flora), Species and Communities Branch
Dave Coates	Principle Research Scientist, CALM Kensington
Sarah Comer (Chair)	Ecologist, CALM Albany
Sarah Barrett	Threatened Flora Officer, CALM Albany
Sue Oborne	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
Margaret Pieroni	Wildflower Society, Community Representative
Greg Freebury	CALM Environmental Officer, Albany
Malcom Grant	CALM Environmental Officer Ravensthorpe

Currently 75 species are listed as threatened, of these 18 are ranked critically endangered. This recovery team also covers issues relating to TECs outside the Stirling Range National Park.

Recovery Plans: Interim Recovery plans were completed for 13 species in 2005 (*Dryandra montana, Dryandra ionthocarpa, Lambertia fairallii, Banksia brownii* (Critically endangered), *Chordifex abortivus, Darwinia collina, Darwinia wittwerorum, Conostylis misera, Daviesia megacalyx, Acacia rhamphophylla, Marianthus mollis* (Endangered), *Adenanthos cunninghamii* and *Eucalyptus bennettiae* (P4)).

Summary of Recovery Actions

Survey and monitoring: One hundred and thirty-one species of threatened (45 species) and priority (86 species) flora were surveyed or monitored in 2005 (283 site visits). One hundred and two new populations or sub-populations of flora were located of which ten were threatened species. In addition five sub-populations of threatened flora were located and two populations extended. Threatened species for which new populations were located included *Banksia brownii* (CR), *Darwinia wittwerorum, Caladenia*

christineae, Hibbertia priceana and *Dryandra psuedoplumosa* (EN), *Acacia trulliformis, Marianthus mollis* and *Chordifex abortivus* (VU).

Phosphite application: Phosphite was applied to 164 ha of *Phytophthora cinnamomi*-affected vegetation targeting threatened flora populations (this also includes occurrences of Montane TECs). Critically endangered threatened flora sprayed in autumn 2005 were *Banksia brownii, Lambertia fairallii, Dryandra anatona, 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 and *Sphenotoma drummondii.* Monitoring of phosphite applications is ongoing. Overall the results of phosphite application continue promising. However, at some sites disease control has been less effective. Further research and monitoring is required.

Translocations
Seed orchard (*Dryandra montana, Persoonia micranthera, Leucopogon gnaphalioides*):
Dryandra montana:
104 individuals were planted from 2003-2005, 91 live plants survived in January 2006, this doubles the *in situ* population of 46 mature plants. Four individuals are reproductive, the juvenile period for this species in its natural habitat is more than nine years.
Persoonia micranthera:
99 individuals were planted from cuttings June 2005, 94 were alive January 2006 with growth comparable with that of some 10-year-old plants *in situ.*
Leucopogon gnaphalioides:
71 individuals were planted June 2005 from cuttings, 69 were alive January 2006, 24 plants had flowered.
Further plantings of *Dryandra ionthocarpa* were undertaken autumn 2005.
The *Lambertia orbifolia* ssp *orbifolia* translocation continues successful.
A translocation proposal for *Dryandra anatona* (CR) is currently being written.
Survey for translocation sites for CR taxa *Calectasia cyanea, Banksia brownii* and *Lambertia orbifolia* (second translocation) is underway.

Other:
Mining: Assessment of potential impacts to threatened and priority flora continues in relation to approved and proposed mining projects at Bandalup Hill (Ravensthorpe Nickel), Kundip (Tectonics Resources) and Wellstead (Grange Resources). A UWA PhD project with local involvement commenced investigating the reproductive ecology of key species on Bandalup Hill including threatened flora.
Fencing: Fencing of a new population of *Dryandra psuedoplumosa* on private property was completed July 2005.
Seed collection: ongoing in conjunction with TFSC
Review of status of threatened and priority flora, additions to Priority list: ongoing
Communication:
ABC regional radio: interview re translocations and seed orchard June 2005
Landscope article: "The feather-leaved banksia (*Banksia brownii*)" autumn 2005, A. Cochrane, S. Barrett and S. Gilfillan
Presentation to Ravensthorpe Shire re rare flora and road verge management July 2005

Threatened species day community field trip for *Calectasia cyanea* (CR).
TECs: Two TECs were added to Priority list (Melaleuca sp Kundip, Heath on Komatiite)

Overall progress with the implementation of recovery actions:
In general, all priority recovery actions are being implemented while research-orientated actions tend to be outstanding.

Assessment of progress towards meeting criteria for success or failure:
Using a general criteria for success as there are more than 20 IRPs in existence - ('The number of populations and individuals within populations remains stable or increases over the five years of the plan') - there has been no significant decline in the numbers of individuals or populations for the majority of flora species covered by IRPs with the exception of certain populations of Critically Endangered species highly susceptible to *Phytophthora cinnamomi*, in particular: *Banksia brownii*, *Lambertia fairallii* and *Dryandra anatona*.

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Montane TECs Recovery Team
The Eastern Stirling Montane TEC Recovery Team met once 6/12/05, this team also co-ordinates recovery actions for the 'Montane Mallee of the Stirling Range' TEC (Endangered) and the newly listed Coyanerup Wetland TEC. Team membership is given in Table 2.

Table 2

Name	TITLE
Andrew Brown	Coordinator (Flora), Species and Communities Branch
Sarah Comer (Chair)	District ecologist, CALM, Albany
Sarah Barrett	Threatened Flora Officer
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 Recreation

Recovery Plans
An Interim Recovery Plan for the "Montane mallee thicket of the Stirling Range" was completed. There is no IRP for the Coyanerup Wetland TEC.

Summary of Recovery Actions
Phosphite was applied to key occurrences of both the Montane thicket and Montane mallee-thicket TEC in autumn 2005. However, due to adverse weather conditions in autumn several sites only received one of two prescribed sprays.
Monitoring of all phosphite targets continues annually in the form of monitoring of quadrats or individual plants or rate of spread trials.
Aerial photography was completed for dieback interpretation and monitoring.
Baseline flora quadrats were completed for two occurrences of the Montane mallee TEC.
A Murdoch honours research project into the interaction of fire and *P. cinnamomi* commenced with local supervision and included sites in the Montane mallee TEC.
Prescribed burning was implemented as per fire management strategy to protect TECs.
Ridge walk recreational impacts were mapped using GIS.
Seed collection in Montane mallee TEC continued.
The Stirling Range Flora Bush Book was released.
A paper on "Mountain Flora and Plant Communities of the South Coast" at the biennial Australian Plants conference in Perth in October was presented.
Articles referencing the Montane TECs appeared in Landscope and "Australasian Plant Conservation".

Overall progress with the implementation of recovery actions:
Eastern Stirling Range Montane Heath and Thicket TEC:

All recovery actions have been commenced, completed or are on going with the exception of rabbit control measures which are currently being investigated.

Montane mallee thicket of the Stirling Range:

Priority recovery actions have been commenced or are being implemented however research orientated actions are outstanding.

Assessment of progress towards meeting criteria for success or failure

Eastern Stirling Range Montane Heath and Thicket TEC:

Criteria for success:

- Maintenance of the diversity and composition of native species in those areas of the community that are relatively intact in terms of species diversity and composition.

- Reduction in the impact of *Phytophthora cinnamomi* on the community as measured by improved survival of *Phytophthora cinnamomi* susceptible taxa in infected areas.

Progress: Satisfactory, there has been no significant decline in 2005 in species diversity and composition in priority occurrences of the TEC.
There has been no significant decline in key susceptible taxa including the four CR taxa which occur primarily within this community (*Dryandra montana, Andersonia axilliflora, Leucopogon gnaphalioides* and *Persoonia micranthera*) with the exception of a somewhat greater decline in adult plants of *P. micranthera* in two populations compared with the previous year.
Phosphite application is considered to have enhanced survival and reduced rates of decline in the presence of *Phytophthora cinnamomi*.

Montane mallee thicket of the Stirling Range:

Criteria for success:

- Maintenance of the richness and composition of native species in those occurrences of the community that are intact or relatively intact in terms of structure, species richness and composition.

- Reduction in the impact of *Phytophthora cinnamomi* on the community as measured by improved survival of *Phytophthora cinnamomi* susceptible taxa in infected areas or a reduction in the rate of spread of dieback fronts into disease-free areas.

Progress:
Difficult to evaluate, phosphite application only commenced to several key targets in autumn 2005 and these were only part-sprayed due to autumn weather conditions. Aerial photography has been completed for key targets for long-term monitoring. With no

‘controls’ it is difficult to fully evaluate the effectiveness of phosphite however new rate of spread trials at several new targets will assist in future monitoring.
The control of the spread of spot infestations of *P. cinnamomi* on steep hill slopes in a highly susceptible community is extremely challenging.
However, overall there has been no major deterioration at sites currently infested or introductions of *P. cinnamomi* to currently healthy sites.