

GREAT SOUTHERN DISTRICT THREATENED FLORA MANAGEMENT PROGRAM

**Annual Report
2006**

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For the Narrogin and Katanning Threatened Flora Recovery Teams



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SUMMARY 2006

- Many surveys were conducted in the Great Southern, particularly in the Avon Catchment region, with numerous long unsurveyed populations targeted.
- Seed was collected and stored at the Department's Threatened Flora Seed Centre (TFSC) for *Acacia deflexa*, *Acacia gemina*, *Andersonia bifida*, *Anigozanthos bicolor* subsp. *minor*, *Boronia capitata* subsp. *capitata*, *Chamelaucium croxfordiae*, *Darwinia carnea*, *Darwinia* sp. *Dryandra*, *Dryandra cynaroides*, *Dryandra ferruginea* subsp. *tutanningensis*, *Gastrolobium stipulare*, *Grevillea scapigera*, *Lysiosepalum aromaticum*, *Polianthion biloculare*, *Stenanthemum tridentatum*, *Stylidium coatesianum*, *Stylidium tenuicarpum*, *Thomasia montana* and *Trymalium monospermum*.
- Seed was collected and stored at the Botanic Gardens and Parks Authority (BGPA) for *Drakaea isolata*? and *Grevillea scapigera*.
- Numerous sites baited to control rabbit numbers where infestations are high or thought to be having an affect on the survival of populations and on natural recruitment.
- New populations were found for the following species: *Acacia grisea* A. *lanuginophylla*, *A. leptalea*, *Anigozanthos bicolor* subsp. *minor*, *Caladenia graniticola*, *Eleocharis keigheryi*, *Hakea aculeata*, *Gastrolobium tomentosum*, *Grevillea newbeyi*, *Hemigenia rigida*, *Regelia cymbifolia*, *Tetratheca aphylla* subsp. *megacarpa*, *Verticordia staminosa* var. *cylindracea*, *Xanthorrhoea brevistyla*. Extension of an *Eremophila subteretifolia*, *E. verticillata* and *Ptilotus fasciculatus* population.
- Rare flora markers were erected for a number of Priority and DRF populations that had not been previously marked. A number of markers were repositioned to incorporate extensions of populations or replaced with newer markers to improve visibility and protection.
- Draft Interim Recovery Plans (IRPs) were prepared for *Acacia auratiflora* (revised and updated), *Acacia insolita* subsp. *recurva*, *Acacia lanuginophylla*, *Acacia leptalea*, *Banksia cuneata*, *Bentleya spinescens*, *Caladenia melanema*, *Caladenia williamsiae*, *Conostylis rogeri* (revised and updated), *Conostylis seorsiflora* subsp. *trichophylla* (revised and updated), *Darwinia carnea* (revised and updated), *Dryandra ionthocarpa* subsp. *chrysophoenix*, *Grevillea dryandroides* subsp. *hirsuta*, *Grevillea involucrata*, *Grevillea scapigera* (revised and updated), *Rhizanthella gardneri* and *Roycea pycnophylloides* (revised and updated) by the Species and Communities Branch (SCB) with input from the District's Flora Conservation Officers.
- A poster was produced for *Caladenia williamsiae* and a flyer produced for *Adenanthos pungens* subsp. *effusus*. The *Drakaea isolata* flyer was sent in the local mail system at Nyabing and Pingrup, one response received.
- A booklet of the ex Katanning District's DRF was published and distributed to volunteers, Shires' landowners with rare flora, govt agencies, district staff, recovery team members and the general public. This booklet is for the purpose of educating staff, community members, volunteers and other agencies on what the plants look like and where they grow. The booklet is A5 size, glossy and spiral bound containing pictures and descriptions of each species.

Recovery Team

The primary focus of the Katanning and Narrogin Threatened Flora Recovery Teams is the recovery of threatened flora within the Great Southern District. The teams are structured to allow for the encouragement, promotion and participation of associated groups in the protection of ecosystems across the District. This is done by linking private landowners, community volunteer groups, landcare groups, community catchment groups, local government authorities and other government agencies to carry out recovery projects.

Members and observers of the teams represent specific groups or agencies, such as Shires, local volunteer groups or individuals, general community, landowners with rare flora on their properties, local botanists, the departments Science staff (Threatened Flora Seed Centre (TFSC), Species and Communities Branch (SCB) including Threatened Ecological Communities (TECs), Wildlife Branch, Science Division and district staff), other agencies directly involved in rare flora management such as the Botanic Gardens and Parks Authority (King's Park), the WA Threatened Species Network for WWF Australia, Western Power, Main Roads WA.

The Narrogin Recovery Team met in Narrogin on April 27th 2006 with the Flora Conservation Officer from Katanning also in attendance, where work carried out to date on DRF species was reviewed, the Katanning rare flora pictorial booklet distributed to members and brief presentations by Monica Batista on the TECs and PECs in the ex-Narrogin District, Cressida Wilson from the Roadside Conservation Committee, Peter Denton from Main Roads WA, Andrew Brown from SCB with a review of the status of IRPs for Narrogin DRF species.

The pending merge of the Katanning and Narrogin Districts in to the new Great Southern District on July 1st 2006 with the change of name to the Department of Environment and Conservation (DEC) was announced and discussed, including the new boundaries, district structure (e.g. Avon Catchment Council/NHT funded positions, Flora Conservation Officer changes) and the potential combining of the two recovery teams. No agreement was made on the future of the two Recovery Teams as to whether or not they should merge in to one team.

A date was not set for the next meeting, pending formal process for combining the two Recovery Teams. No additional meetings were held in 2006.

Staff and Funding

A permanent DEC funded Flora Conservation Officer position (salary only), situated at the Katanning Work Centre, and an Avon Catchment Council/NHT funded Flora Conservation Officer position situated in the District Office in Narrogin, manage and implement the recovery actions of the Great Southern District's rare flora management program.

The DEC Flora Conservation Officer manages the overall program and its implementation over the entire district, while the Avon Flora Conservation Officer implements the program for that part of the district and those species which fall within the Avon Catchment zone. A position was developed and funding sought for in 2006 for a South West Catchment Council (SWCC)/NHT funded position to assist with the implementation of recovery actions and rare flora protection in the SWCC area of the Great Southern District. This position is likely to commence in 2007.

The salary of the Avon and SWCC Flora Conservation Officers is provided by the respective Natural Resource Management (NRM) groups, with on-ground/implementation costs for all three positions also sourced from the respective NRM groups. These NHT funds run from 2006 to 2008.

OBJECTIVE

To implement recovery, research and management actions for Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) flora in DEC's Great Southern District. Assess the status, on a priority basis and if time permits, for approximately 360 other poorly known taxa (Priority Flora) in DEC's Great Southern District.

RECOVERY ACTIONS IMPLEMENTED DURING 2006

Critically Endangered Flora

In 2006, 18 species in the Great Southern District were ranked as Critically Endangered:

- *Adenanthos pungens* subsp. *effusus*
- *Caladenia graniticola*
- *Caladenia melanema*
- *Caladenia williamsiae*
- *Conostylis setigera* subsp. *dasys*
- *Darwinia carnea*
- *Drakaea isolata*
- *Dryandra ionthocarpa* subsp. *chrysophoenix*
- *Dryandra mucronulata* subsp. *retrorsa*
- *Eremophila nivea*
- *Eremophila subteretifolia*
- *Eremophila verticillata*
- *Grevillea scapigera*
- *Guichenotia seorsiflora*
- *Hemigenia ramosissima*
- *Rhizanthella gardneri*
- *Verticordia fimbrilepis* subsp. *fimbrilepis*
- *Verticordia staminosa* var. *erecta*

Adenanthos pungens* subsp. *effusus

Monitoring

Population 1 observed.

Public Awareness

An A5 flyer for postal mail-out produced.

Further Protection

Population 2 vested in Land for Wildlife.

Caladenia graniticola

Monitoring

Populations 1, 2, and 6 were surveyed for plant numbers, health and threats.

Detailed monitoring data collected from established monitoring plots at Population 1.

Further Survey

Searched for new populations on granite outcrops in the vicinity of known populations, with a new sub-population located at Pingaring (Population 6).

Rabbit Control

1080 oat baits were laid at Population 3, 5 and 6 to reduce rabbit numbers.

Caladenia melanema

Monitoring

Population observed but not formally surveyed for plant numbers; poor season.

Weed Control

Hand-pulling of thistles around orchid plants.

Review

Draft IRP prepared by SCB.

Caladenia williamsiae

Monitoring

All four subpopulations surveyed for plant numbers, health and threats.

Further Survey

Searched for new populations in similar habitat in bushland west of Brookton, Boyagin Nature Reserve and Pingeculling Nature Reserve, without success.

Poster

A poster was developed and printed for this species by the Great Southern District, and distributed to the local community, orchid groups, other volunteers and professionals to raise awareness of the species in the Brookton area.

Review

Draft IRP prepared by SCB.

Conostylis setigera subsp. dasys

No surveys were conducted in 2006.

Darwinia carnea

Monitoring

Population monitored six-monthly for plant numbers, health and threats. Fifty two seedlings of various size recorded.

Translocation

Six-monthly monitoring took place involving the recording of plant height and width, health, presence of flowers, as well as labelling and recording of measurements for naturally recruited seedlings at each site.

Planting of an additional 13 cloned plants at Population 6T carried out. Setting up and running of automatic watering system over summer months at both translocations – to assist in the survival of natural seedlings and recently planted clones.

Collection of fresh vegetative material from Population 1 to restock clone sources at the BGPA.

Seed Collection

Seed was collected from individual plants at Population 1 and translocation sites (5T, 6T) for storage at the Department's Threatened Flora Seed Centre.

Liaison

Ongoing liaison with landowner of Population 1 and the BGPA.

Rabbit Control

1080 oat baits were laid at Population 5T and 6T to reduce rabbit numbers outside of fenced area of translocation sites.

Review

IRP updated by SCB.

Drakaea isolata

Monitoring

Population surveyed for plant numbers, health and threats at known, marked locations within population. Additional unmarked plants searched for with limited success – four plants seen.

Protection from Grazing

Several patches of plants protected from grazing of flowers by kangaroos, with small cages placed over them.

Research

A UWA Phd student, in conjunction with the Botanic Garden and Parks Authority (BGPA), are working on the role of pollinators and Mycorrhiza in controlling rarity and speciation in Drakaea, including *D. isolata*. Leaf samples were collected for DNA extraction, as well as root collars to collect the symbiotic fungus, this will be used to germinate and cultivate plants of *D. isolata* plants at the BGPA.

Seed Collection

Seed collected by the BGPA for storage and research?

Public Awareness

The A5 flyer distributed to landholders through the local postal system in Nyabing and Pingrup to raise awareness and endeavour to locate new populations. One positive response received from a Lake Bryde farmer who'd seen hammer orchids on his property near a small lake; area underwater from flooding in 2006 at the time.

Plants shown to four local plant enthusiasts from Pingrup for their own awareness/interest and to aide in the endeavour of locating more plants or new populations.

Dryandra ionthocarpa subsp. chrysophoenix

Monitoring

All four populations surveyed for plant numbers, threats and health.

Rabbit Control

1080 oat baits were laid at Population 2 and 4 to reduce rabbit numbers.

Protection from Road Maintenance

Markers replaced at Population 4 to protect plants.

Review

Draft IRP prepared by SCB.

Dryandra mucronulata subsp. retrorsa

No surveys were conducted in 2006.

Eremophila nivea

No surveys were conducted in 2006.

Eremophila subteretifolia

Monitoring

Population 1, 2, 3, 4, 5 and 8 surveyed for plant numbers, health and threats, with a large extension of Population 1 recorded.

Eremophila verticillata

Monitoring

Population 1 and 2 surveyed for plant numbers, health and threats. An extension of Population 2 recorded, as a result of disturbance post-mining rehabilitation.

Grevillea scapigera

Monitoring

All populations were visited to check status and assess threats. Currently there are 4 mature plants occurring in the wild.

Investigated vegetation clearing at the road-verge Population 1B.

Rabbit Control

1080 oat baits were laid at Population 9 and 10 to reduce rabbit numbers.

Improve Genetic Diversity

Material was collected from a plant that was discovered in December 2005 at Population 9, and sent to the Botanic Gardens and Parks Authority for tissue culture. Seedlings produced were then planted into the translocation sites to improve the genetic mix.

Translocation

Monitored the three translocation sites; maintenance of sites including native pest control, weed control, maintaining fences and watering system, and repair of reticulation.

Seed Collection

Seed was collected from Population 8T for storage at the BGPA.

Protection from Road Maintenance

Rare flora markers were replaced at four road verge populations (Population 3A, 5, 7 and 10) to protect plants.

Public Awareness

Printed and distributed 30 more A2 copies of a large research poster for distribution to shires, community groups, landholders and other stakeholders to inform them about the project.

Review

IRP updated by SCB.

Guichenotia seorsiflora

Monitoring

All four populations surveyed for plant numbers, health and threats.

Further Survey

Searched for suitable habitat to locate new populations, three areas identified for further survey in 2007.

Protection from Road Maintenance

Rare flora markers were installed at Population 2 to protect plants.

Public Awareness

An article featuring this species was published in the local Merredin newspaper to raise awareness.

Hemigenia ramosissima

Monitoring

Population 1 and 2 observed but not surveyed, first in September when in early bud, healthy and green, then in November when had almost finished flowering and browning off.

Translocation

Translocation proposal developed in conjunction with Science Division and the BCI Project.

Cuttings collected from 25 plants (3 cuttings per plant) by the Flora Conservation Officer and sent to the BGPA for striking and growing on. Plants are growing very well with 134 plants currently available for planting in June 2007.

Dr Tania Jackson (Science Division) managed to germinate 18 plants from seed.

Mapping of potential, suitable or similar habitat using soil and vegetation parameters. Two sites were selected W and WNW of Katanning in similar habitat to the known population. Fencing and planting planned for early-mid 2007 at the first site, with the second site translocated in 2008.

Seed Collection

Extra sources of seed, for the translocation and for long-term storage at the TFSC, were not collected in the 2006 season due to poor seed set.

Rhizanthella gardneri

Monitoring

Population 1, 2 and 6 surveyed for plant numbers, health and threats.

Further Survey

Searched for new populations near Lake Grace in suitable habitat, including a Nature Reserve and on private property. No plants were located, too dry. Assistance from rare flora volunteers, the landowner and staff from BGPA, SCB and Phd student.

Rabbit Control

1080 oat baits were laid at Population 6 to reduce rabbit numbers.

Fire Management

A plan containing fire management strategies for Population 1, 2 and 6 was developed.

Research

Continued watering research site, assisted by the Shire of Corrigin. Assisted the University of Western Australia's Ecosystem Research Group and the BGPA with research activities. Collected genetic material for research.

Review

Draft IRP prepared by SCB.

Verticordia fimbrilepis subsp. fimbrilepis

Monitoring

No surveys were conducted in 2006.

Rabbit Control

1080 oat baits were laid at Population 4, 7A, 7B, 8E, 14A and 14B to reduce rabbit numbers.

Protection from Road Maintenance

Markers replaced at Population 4 to protect plants.

Verticordia staminosa var. erecta

Monitoring

Two known populations surveyed for plant numbers, health and threats.

Further Survey

Members of the Lakes District Regional Herbarium and Rare Flora Group searched some more granite outcrops near Lake King in the hope of finding new populations, however no new populations of var. *erecta* were located.

ENDANGERED FLORA

In 2006, 19 species in the Great Southern District were ranked as Endangered:

- *Acacia depressa*
- *Acacia insolita* subsp. *recurva*
- *Adenanthos pungens* subsp. *pungens*
- *Adenanthos velutinus*
- *Banksia cuneata*
- *Banksia oligantha*
- *Caladenia christeneae*
- *Caladenia dorrienii*
- *Conostylis drummondii*
- *Conostylis seorsiflora* subsp. *trichophylla*
- *Dryandra nivea* subsp. *uliginosa*
- *Goodenia integerrima*
- *Grevillea involucrata*
- *Hakea aculeata*
- *Jacksonia velveta*
- *Lasiopetalum rotundifolium*
- *Muehlenbeckia horrida* subsp. *abditata*
- *Ptilotus fasciculatus*
- *Thelymitra stellata*

Acacia depressa

No surveys were conducted in 2006.

Acacia insolita subsp. recurva

Monitoring

Population 1 and 2 surveyed for plant numbers, health and threats. Population boundaries mapped.

Further Survey

Searched for new populations without success.

Review

Draft IRP reviewed by Great Southern District Flora Conservation Officer.

Adenanthos pungens subsp. pungens

Monitoring

Plants in part of one population observed, populations not surveyed. Young plants in area of post-mining rehabilitation.

Public Awareness

Plants shown to four local plant enthusiasts from Pingrup for their own awareness/interest and to aid in the endeavour of locating new populations.

Adenanthos velutinus

Monitoring

Population 1 was surveyed for plant numbers, extent, health and threats. Population mapped.

Banksia cuneata

Monitoring

Population 3, 4, 5 and 11 surveyed for plant numbers, health and threats.

Rabbit Control

1080 oat baits were laid at Population 1T, 1, 4, 7, 8, 9, 10, 12A, 12B, and 12C to reduce rabbit numbers.

Protection from Road Maintenance

Markers replaced at Population 3, 4, 5 and 9.

Protection from Grazing

Fences maintained at Population 11.

Liaison

Liaised with Western Power contractor regarding proposed work (vegetation removal) and hygiene (relating to presence of *Phytophthora cinnamomi*) within Population 8C.

Disease

Soil samples collected from newly dead, young plants from Population 8C for testing to determine cause of death. *Phytophthora cinnamomi* confirmed to be present.

Review

The draft IRP reviewed by the Great Southern District Flora Conservation Officer.

Banksia oligantha

No surveys were conducted in 2006. Population 2 vested in Land for Wildlife.

Caladenia christineae

No surveys were conducted in 2006.

Caladenia dorrienii

No surveys were conducted in 2006.

Conostylis drummondii

No surveys were conducted in 2006.

Conostylis seorsiflora subsp. trichophylla

Monitoring

The site of Population 3 was searched but no plants found. Identity of voucher specimen held by Libby Mattiske needs confirming. Population 1 observed but not surveyed.

Note: Voucher specimens at the WA Herbarium for Population 2 have been re-determined by Mike Hislop and consequently changed to *Conostylis seorsiflora* subsp. Nyabing (A.M.Coates s.n.), Priority 2.

Liaison

Liaison with landowner regarding Population 3, notification.

Review

Draft IRP prepared by SCB.

Dryandra nivea subsp. uliginosa

No searches to confirm population were conducted in 2006.

Goodenia integerrima

Monitoring

All four populations surveyed for plant numbers, health and threats.

Grevillea involucrata

Monitoring

Population 1A, 1B, 2, 3A, 3B, 4, 5, 6A, 6B, 6C, 7, 9, 10, 13, 17, 18, 19, 20 and 21 surveyed for plant numbers, health, threats and presence of DRF markers.

Review

Draft IRP reviewed by Great Southern District Flora Conservation Officers.

Hakea aculeata

Monitoring

Population 18, 19, 21, 23, 26 and 27 were surveyed for plant numbers, health and threats.

Further Survey

Searched for new populations in suitable habitat, one new population located. Suitable habitat nearby identified for further survey.

Liaison

Liaised with private property owners with populations on their land.

Jacksonia velveta

No surveys were conducted in 2006.

Lasiopetalum rotundifolium

Monitoring

Population 2, 3A, 3C and 3D surveyed for plant numbers, health and threats.

Muehlenbeckia horrida subsp. abdita

No surveys were conducted in 2006.

Ptilotus fasciculatus

Monitoring

Population 3 surveyed for plant numbers, extent, health and threats. Population boundary mapped and new occurrences within the Kondinin Salt Marsh Nature Reserve recorded.

Thelymitra stellata

Monitoring

Population 16 surveyed for plant numbers, health and threats; too dry.

VULNERABLE FLORA

In 2006, 22 species in the Great Southern District were ranked as Vulnerable:

- *Acacia auratiflora*
- *Acacia brachypoda*
- *Acacia lanuginophylla*
- *Acacia leptalea*
- *Allocasuarina tortiramula*
- *Anigozanthos bicolor* subsp. *minor*
- *Boronia capitata* subsp. *capitata*
- *Calectasia pignattiana*
- *Conostylis rogeri*
- *Eleocharis keigheryi*
- *Gastrolobium lehmannii*
- *Grevillea dryandroides* subsp. *hirsuta*
- *Lechenaultia larinia*
- *Orthrosanthus muelleri*
- *Pultenaea pauciflora*
- *Roycea pycnophylloides*
- *Tetratheca aphylla* subsp. *megacarpa*
- *Thomasia montana*

- *Diuris drummondii*
- *Dryandra aurantia*
- *Tribonanthes purpurea*
- *Verticordia staminosa* var. *cylindracea*

Acacia auratiflora

Review

Revised IRP prepared by SCB.

Acacia brachypoda

No surveys were conducted in 2006.

Acacia lanuginophylla

Monitoring

Surveyed Population 1B, 2A, 2B, 2C, 5C, 5F, 6A, 6B, 6C, 6D, 7 and 8 for extent of populations, plant numbers and threats. Population 9 observed for health and grazing (not yet fenced), but not surveyed for plant numbers.

Further Survey

Searched in suitable habitat in the vicinity of other populations on private property and located a new population in remnant bush and a small population on a road verge, both in the vicinity of Population 6 and 7.

Liaison

Liaised with six landowners regarding the occurrence of the species on their properties in regard to the location and protection of the plants and possibility of fencing off from stock. Three were landholders notified of the presence of the species on their property in relation to Population 5F, 6B, 6C and 6D.

Review

Draft IRP reviewed by Great Southern District Flora Conservation Officers.

Protection from Road Maintenance

Marker moved to incorporate plant.

Acacia leptalea

Monitoring

Surveyed Population 3 and 4 for plant numbers, extent, health and threats.

Investigation of prescribed burn near Population 4, as to whether plants were affected or not.

Further Survey

Searched for new populations in Lake Magenta Nature Reserve, two new populations located (one being a large extension of Population 4).

Review

Draft IRP reviewed by Great Southern District Flora Conservation Officers.

Allocasuarina tortiramula

No surveys were conducted in 2006.

Anigozanthos bicolor subsp. minor

Monitoring

A new population, located by an adjacent landowner, was surveyed and mapped by the Great Southern District Flora Conservation Officer and members of the Lakes District Regional Herbarium and Rare Flora Group.

Seed Collection

Seed was collected by Anne Cochrane, for long-term storage at the TFSC.

Boronia capitata subsp. capitata

Monitoring

Population surveyed for plant numbers, health and threats. Full extent of population mapped.

Investigated track maintenance through *B. capitata* subsp. *capitata* populations.

Seed Collection

Seed was collected for long-term storage at the Department's Threatened Flora Seed Centre.

Protection from Road Maintenance

Installed rare flora markers on firebreaks to protect the plants from accidental destruction.

Calectasia pignattiana

No surveys were conducted in 2006.

Conostylis rogeri

Monitoring

All five populations surveyed for plant numbers, health, threats and extent. Species occurrence in both Nature Reserves mapped.

Review

Draft IRP prepared by SCB.

Diuris drummondii

Liaison

Jim Parry liaised with landowner adjacent to Population 16 regarding occurrence of plants on his property and for permission to survey area in 2007.

Dryandra aurantia

No surveys were conducted in 2006.

Eleocharis keigheryi

Monitoring

Population in Beaufort Bridge Nature Reserve observed (population isn't listed on DEFL, Greg Keighery specimen on FloraBase).

Further Survey

A new population located by Greg Keighery and Neil Gibson in a Water Reserve adjacent to Birdwood Nature Reserve identified, specimen found on FloraBase by Flora Conservation Officer.

Gastrolobium lehmannii

No surveys were conducted in 2006.

Grevillea dryandroides subsp. hirsuta

Protection from Road Maintenance

Rare flora markers were replaced on the road verges of Population 1A, 1B, 1C, 2A and 2B to protect plants.

Review

Draft IRP prepared by SCB.

Lechenaultia laricina

No surveys were conducted in 2006.

Orthrosanthus muelleri

No surveys were conducted in 2006.

Pultenaea pauciflora

No surveys were conducted in 2006.

Roycea pycnophylloides

Monitoring

Population 3 observed but not surveyed, plants flowering.

Review

Draft IRP reviewed by Great Southern District Flora Conservation Officers.

Tetratheca aphylla subsp. megacarpa

Monitoring

Population 3 (new population from recent voucher specimen) surveyed for numbers and extent.

Thomasia montana

Seed Collection

Seed was collected from various populations for storage at the Department's Threatened Flora Seed Centre.

Tribonanthes purpurea

Monitoring

Population 2 briefly surveyed for plant numbers, threats and health. A little early in season, plants in bud or only just starting to flower.

Liaison

Liaised and met onsite with landowner of Population 2, who showed the Flora Conservation Officers the location of the population.

Verticordia staminosa var. cylindracea

Monitoring

Population 5 surveyed for plant numbers, threats and health.

Liaison

Liaised and met onsite with landowner of Population 5, whom informed the Flora Conservation Officers of the occurrence of more plants on a granite outcrop to the south, also on his property (new population), to be surveyed in 2007.

Further Survey

Members of the Lakes District Regional Herbarium and Rare Flora Group searched some more granite outcrops near Lake King in the hope of finding new populations, one new population of var. *cylindracea* located in Lake King Nature Reserve.

PRIORITY FLORA

In 2006, 60 species in the Great Southern District were ranked as **Priority 1**. Surveys were conducted for the following:

<i>Hemigenia rigida</i>	
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One new population of *Hemigenia rigida* located.

In 2006, 100 species in the Great Southern District were ranked as **Priority 2**. Surveys were conducted on the following:

<i>Acacia gemina</i>	<i>Lysiosepalum aromaticum</i>
<i>Andersonia bifida</i>	<i>Stylidium coatesianum</i>
<i>Chamelaucium croxfordiae</i>	<i>Stylidium sejunctum</i>
<i>Dryandra ferruginea</i> subsp. <i>tutanningensis</i>	<i>Trymalium monospermum</i>
<i>Grevillea crowleyae</i>	

Seed was collected from *Acacia gemina*, *Andersonia bifida*, *Chamelaucium croxfordiae*, *Dryandra ferruginea* subsp. *tutanningensis*, *Lysiosepalum aromaticum*, *Stylidium*

coatesianum and *Trymalium monospermum* for storage at the Department's Threatened Flora Seed Centre.

Two populations of *Grevillea crowleyae* observed. The population of *Lysiosepalum aromaticum* monitored.

Relocated a population of *Stylidium sejunctum* based on a Herbarium voucher specimen and surveyed for plant numbers, health and threats.

In 2006, 127 species in the Great Southern District were ranked as **Priority 3**. Surveys were conducted on the following:

<i>Acacia deflexa</i>	<i>Tribonanthes minor</i>
<i>Grevillea newbeyi</i>	

Seed was collected from *Acacia deflexa* for storage at the Department's Threatened Flora Seed Centre.

One new population of *Grevillea newbeyi* located.

Relocated a population of *Tribonanthes minor* based on a Herbarium voucher specimen and surveyed for plant numbers, health and threats. Surveyed with assistance from four local plant enthusiasts and a rare flora volunteer from Pingrup.

In 2006, 74 species in the Great Southern District were ranked as **Priority 4**. Surveys were conducted on the following:

<i>Acacia grisea</i>	<i>Polianthion biloculare</i>
<i>Bentleya spinescens</i>	<i>Regelia cymbifolia</i>
<i>Darwinia</i> sp. <i>Dryandra</i>	<i>Stylidium tenuicarpum</i>
<i>Dryandra cynaroides</i>	<i>Stenanthemum tridentatum</i>
<i>Gastrolobium stipulare</i>	<i>Xanthorrhoea brevistyla</i>
<i>Gastrolobium tomentosum</i>	

Draft IRP of *Bentleya spinescens* reviewed by Great Southern District Flora Conservation Officer.

Seed was collected from *Dryandra cynaroides*, *Darwinia* sp. *Dryandra*, *Gastrolobium stipulare*, *Polianthion biloculare*, *Stylidium tenuicarpum* and *Stenanthemum tridentatum* for storage at the Department's Threatened Flora Seed Centre.

Located one new population of *Gastrolobium tomentosum*, one possible new population of *Xanthorrhoea brevistyla* and one of *Acacia grisea*.

One population of *Regelia cymbifolia* monitored, one new population located on private property.

Full and Interim Recovery Plans for the Great Southern District

In 2006 draft IRPs were prepared by SCB for *Acacia auratiflora* (revised and updated), *Acacia insolita* subsp. *recurva*, *Acacia lanuginophylla*, *Acacia leptalea*, *Banksia cuneata*, *Bentleya spinescens*, *Caladenia melanema*, *Caladenia williamsiae*, *Conostylis rogeri* (revised and updated), *Conostylis seorsiflora* subsp. *trichophylla* (revised and updated), *Darwinia carnea* (revised and updated), *Dryandra ionthocarpa* subsp. *chrysophoenix*, *Grevillea dryandroides* subsp. *hirsuta*, *Grevillea involucrata*, *Grevillea scapigera* (revised and updated), *Rhizanthella gardneri* and *Roycea pycnophylloides* (revised and updated).

Critically Endangered

Adenanthos pungens subsp. *effusus*, *Caladenia graniticola*, *Conostylis setigera* subsp. *dasy*, *Drakaea isolata*, *Dryandra mucronulata* subsp. *retrorsa*, *Eremophila nivea*, *Eremophila subteretifolia*, *Eremophila verticillata*, *Hemigenia ramosissima*, *Verticordia fimbriilepis* subsp. *fimbriilepis* and *Verticordia staminosa* subsp. *cylindracea* var. *erecta* have Interim Recovery Plans. An IRP is required for *Guichenotia seorsiflora*.

Endangered

Banksia oligantha, *Conostylis seorsiflora* subsp. *trichophylla* (old), *Goodenia integerrima* and *Muehlenbeckia horrida* subsp. *abdit* have Interim Recovery Plans.

Vulnerable

Acacia auratiflora (old), *Anigozanthos bicolor* subsp. *minor*, *Conostylis rogeri* (old), *Conostylis seorsiflora* subsp. *trichophylla* (old), *Orthrosanthus muelleri*, *Roycea pycnophylloides* (old) and *Verticordia staminosa* subsp. *cylindracea* var. *cylindracea* have Interim Recovery Plans.

No Full Recovery Plans exist for any of the Great Southern District's Declared Rare Flora.

Translocations

A translocation for *Hemigenia ramosissima* was initiated in 2006. Setting up of the first site and planting is due to take place in May-June 2007.

Six monthly monitoring of the two *Darwinia carnea* translocations continues, with varying degrees of natural recruitment from soil-stored seed observed at both sites. Further plantings of cloned plants reared by Botanic Gardens and Parks Authority occurred in June with summer watering of these plants and new seedlings occurring from November.

Education and Publicity

During 2006, the Great Southern District was involved in partnership with the local community groups, the Lakes District Regional Herbarium and Rare Flora Group, Men of the Trees, South Central Naturalists Club and a number of individual volunteers and flora enthusiasts.

The Newdegate Field Days were attended in September where a Rare Flora display was held. This showed the DRF in the district, pictures of rare plants and explained recovery actions and

the need to protect rare flora. It also involved discussions with members of the public and the distribution of species posters and the Katanning DRF booklet.

A poster was developed and printed for *Caladenia williamsiae* and a letter drop developed for *Adenanthos pungens* subsp. *effusus*.

Several media articles were printed in local newspapers and the Department's 'Conservation News' detailing species information and recovery actions, for example an article was written about *Guichenotia seorsiflora* to increase public awareness in an attempt to locate new populations.

Proposed major activities for the Recovery Team in 2007 include:

- Produce a poster and postal drop for *Adenanthos velutinus*, and a postal drop for *Lysiosepalum aromaticum* (Priority 2)
- Attempt to collect seed from *Grevillea involucrata*, *Tetratheca aphylla* subsp. *megacarpa*, *Conostylis setigera* subsp. *dasy*, *Acacia depressa* and *Hemigenia ramosissima* for long-term storage
- Develop fire management for plans for all CR species
- Review the ranking/status of a number of Priority species and make recommendations to the Threatened Species Scientific Committee
- Continue to undertake rabbit control at a number of populations
- Implement weed control at a number of sites
- Search for new populations of DRF
- Survey a number of DRF populations that have not been observed for some time
- Concentrate on surveys of a number of Priority species

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