

NARROGIN DISTRICT THREATENED FLORA MANAGEMENT PROGRAM

Annual Report
2003

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For the Narrogin District Threatened Flora Recovery Team



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SUMMARY 2003

Threatened Flora recovery within the Narrogin District is a collaborative project between the Department of Conservation and Land Management (CALM), the Commonwealth Department of Environment and Heritage (through the NHT program) the Avon Catchment Council (ACC), the Southwest Catchment Council (SWCC), the Botanic Gardens and Parks Authority (BGPA) and the community.

CALM supports the program by providing both direct and indirect funding, including the full time employment of a Conservation Officer. \$35 500 funding has been received from the Avon and Southwest Catchment Councils through NHT 2 and allocated to on-ground recovery actions. Funding has also been obtained from NHT for the development of Interim Recovery plans for several Narrogin District threatened plant species. The BGPA has provided direct costs to the program for two species recovery projects. The community has provided significant in-kind volunteer support to implement many of the recovery actions.

CALM's Narrogin District manages seven Critically Endangered flora (CE), fourteen Endangered flora (E) and twenty Vulnerable Flora (V) flora. All are Declared as Rare Flora under the *Wildlife Conservation Act* (1950). In addition, 205 flora species are listed for the Narrogin District on CALM's Priority Flora List. Many of these require additional monitoring and survey to determine their threatened status.

Highlights of the program for 2003 are:

- Continued translocation of *Grevillea scapigera* (CR) with the Hartley's site being enlarged to 0.2ha, deep ripped and fenced with rabbit exclusion fencing. 1,130 plants were planted over two days by Botanic Gardens and Parks Authority (BGPA) staff, CALM staff and community members from the Corrigin LCC. Additional plantings were made at the Bullaring site (106 plants) and the Airstrip site (371 plants). BGPA staff conducted herbicide trials and the information gathered will assist this season's weed control program at the translocation sites. Weeds such as **Romulea rosea*, **Arcotheca calendula* and **Gynandris setifolia* will be controlled.
- A new population of *Grevillea scapigera* (one plant) was discovered by CALM staff near the existing population 2.
- The translocation of *Symonanthus bancroftii* (CR) into two secure sites continued in partnership with the Bruce Rock Land Care District Committee and Botanic Gardens and Parks Authority (BGPA). In accordance with the approved Translocation Proposal, 57 plants were planted at Nangeen Nature Reserve No. 23187 and 119 plants were planted at Ardath (near Bruce Rock).
- Two new populations of *Verticordia staminosa* subsp. *cylindrata* var. *cylindrata* (VU) were discovered in the eastern portion of the Kulin Shire, one near Pingaring and one in Reserve A 29576.
- One new population of *Pityrodia scabra* (VU) was discovered in the Middle Ironcap area (eastern portion of the Kondinin Shire) in a mining rehabilitation area (waiting on confirmation from the WA Herbarium).
- Mattiske Consulting PTY LTD discovered a population of *Ptilotus fasciculatus* (EN) and several Priority Species at Seagroatt Nature Reserve A 25062, in the Shire of Bruce Rock, during a vegetation mapping project for the area.

- Diana Papenfus, a contract botanist, located four populations of *Roycea pycnophylloides* (VU) one population each on Reserve 27639, Lake Gounter Nature Reserve A 21253, Kwolyin Nature Reserve A 30969 and private property. New populations of *Ptilotus fasciculatus* were located on Kwolyin Nature Reserve A 30969, Kondinin Salt Marsh Nature Reserve C 26905 (a nominated potential Recovery Catchment) and one on private property. One population of *Frankenia parvula* (VU) was located on Kwolyin Nature Reserve A 30969.
- Three species of flora were added to the Narrogin District Declared Rare Flora List. These are: *Stylidium coroniforme* (EN), *Pityrodia scabra* (VU), (waiting on confirmation from the WA Herbarium) and *Frankenia parvula* (VU).
- Two new populations of *Caladenia williamsiea* (recommended CR - current P2) were discovered in Weam Nature Reserve Number 29322 in the Shire of Brookton. This survey work involved CALM staff from Swan Region, Mundaring and Narrogin District and flora volunteers from Perth, Brookton and Narrogin.
- Fourteen species were added to the Narrogin District Declared Priority Flora List, these being: *Dicrastylis capitellata* (P1), *Gnephosis intonsa* (P1), *Scaevola tortuosa* (P1), *Stenanthemum liberum* (P1), *Thryptomene salina* (P1), *Opercularia rubioides* (P2), *Guichenotia asteriskos* (P2), *Comesperma calcicola* (P3), *Daviesia tortuosa* (P3), *Boronia penicillata* (P3), *Calothamnus affinis* (P3), *Hopkinsia anoectocolea* (P3), *Dryandra porrecta* (P4) and *Eucalyptus rugulata* (P4).

1. Objective

The objective of the Department of Conservation and Land Management's Conserving Biodiversity Output is: "To protect and where possible, restore Western Australia's natural biodiversity."

Strategy 1.4 of CALM's Corporate Plan 2002-2005 is to "Recover threatened flora, fauna and ecological communities." This provides a broad guideline for the Recovery team to determine how to best recover threatened species in the Narrogin District.

Based on these overarching statements The Narrogin District Threatened Flora Management Program aims to:

- ensure through the implementation of recovery actions¹ the continued survival in the wild of populations of threatened flora species and other plants in need of special protection and their associated habitat;
- implement recovery, research and management actions for Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) flora in the Department's Narrogin District;
- assess the status of approximately 150 other poorly known species in the Department's Narrogin District, many of which, may warrant ranking as CR and EN but require further survey;
- implement, under a community based Flora Recovery Team, recovery actions listed in the Narrogin District Wildlife Management Program, Recovery Plans and Interim Recovery plans, and
- promote within the Narrogin District, at the community level, the protection and conservation of the District's remaining biodiversity. This includes the protection of threatened flora and the protection and care of remnant vegetation, on farms and land reserved in government and local government agencies whose primary functions are non-conservation based.

2. Recovery Team

The Narrogin District Threatened Flora Recovery Teams primary focus is the recovery of threatened flora within the Narrogin District. The team is structured to allow for the encouragement, promotion and participation of associated government, community and other 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.

¹ The 'recovery process' provides the overall framework for the conservation of threatened species and communities. It can be summarised as:

1. review the conservation status of all species and ecological communities,
2. prepare conservation priority lists of threatened species and ecological communities,
3. where insufficient information exists to prescribe conservation actions, conduct the necessary research,
4. produce costed Recovery Plans, and
5. for each Recovery Plan, obtain funding, implement, and monitor and review implementation.

The following are members of the Narrogin District Threatened Flora Recovery Team and represent specific groups or agencies:

- 1) Janette Dellabona representing roadside conservation interests of Main Roads WA and local government,
- 2) Robyn Campbell represents central portion of the District in respect to Land Conservation District Committee's,
- 3) Gwen Gath represents the South Central Naturalist Club,
- 4) Raquel Carter represents World Wide Fund for Nature Australia,
- 5) Jeanette Buegge and Mark Brown represent the northern portion of the District in respect to Land Conservation District Committee's,
- 6) Bob Dixon and Eric Bunn represent Botanic Gardens and Parks Authority,
- 7) Barbara Black represents the 14 Local Government authorities within the Narrogin District,
- 8) Judy Williams represents the Wildflower Society and the Western Land Conservation District Committee's,
- 9) John Simpson represents the interests of private landowners within the District,
- 10) Bruce McLaren represents the interests of Environment Australia,
- 11) Greg Durell (Chairperson) represents the Narrogin District of the Department of Conservation and Land Management and other controlling government agencies.

The participation of community groups, private land holders, local government agencies and government land managers is essential to ensure the protection of threatened species and the maintenance of biological diversity. The recovery team is structured to enhance the process of regional land recovery through broad community representation.

The Recovery Team also comprises of the following professional advisers:

- 1) Dr Kingsley Dixon, Director of Divisional Plant Science Kings Park and Botanic Gardens; and
- 2) Mr Andrew Brown, Coordinator (Flora) Western Australian Threatened Species and Communities Unit, C/- CALM WATSCU, Woodvale;

Other Technical advisers consulted as a matter of course during the recovery process include:

- 1) Dr David Coates, Senior Principal Research Scientist (Genetics) W.A. Herbarium;
- 2) Dr Ken Atkins, Principal Botanist Nature Conservation Section, CALM Como;
- 3) Mr Brett Beecham, Regional Ecologist, CALM Wheatbelt Region; and
- 4) Ms Sue Patrick, Senior Research Scientist W.A. Herbarium.

The Conservation Officer is responsible for coordinating and implementing recovery actions listed in Recovery and Interim Recovery Plans and the Narrogin District Threatened Flora Management Plan. The Recovery Team assigns priorities for proposed recovery.

The Recovery Team meets twice yearly. In 2003 the team met at the WA Herbarium on the 14 May 2003, where recovery projects were discussed. Dr Neville Marchant showed the team members through the herbarium. Alex Chapman provided the Recovery Team an exclusive look at the new Florabase 2 program. The second meeting for 2003 was held on the 22 October 2003 at the Conservation and Land Management (CALM) Narrogin District Office and team members were later shown the natural population of *Darwinia carnea* (CR) and also one of the successful translocation sites developed for this species.

3. Staff and Funding

From mid November 1997 – 2003 the Conservation Officer position existed for several years on a ~~12-month~~ 12-month contract basis based at CALM's Narrogin District Office. External funding for the position ceased in late 2002. Subsequent to the conclusion of these funds the Department endorsed the allocation of salaries for full time funding on a permanent basis for this position. This commenced in the 2003-04 financial year.

Applications for on-ground support funding through the *Natural Heritage Trust/National Action Plan for Salinity and Water Quality Investment Proposal for Interim Regional Funding* to Avon Catchment Council and the South West Catchment Council were approved in 2003. These projects provide funding for the implementation of on-ground recovery actions.

4. Threatened Flora Status for the Narrogin District

The Narrogin District supports seven species Critically Endangered Flora, fourteen Endangered Flora and twenty Vulnerable Flora. All are Declared as Rare Flora under the *Wildlife Conservation Act* (1950).

205 species are also on CALM's Priority Flora List. Many of these species require significant research to determine their rarity.

The Recovery Team's priorities for 2003 were based primarily on the implementation of recovery actions identified for CE and E flora. The four highest priority threatened species for the district are summarised in Table One below.

Table 1. Priority threatened species for the Narrogin District.

| Species | Ranking | Status |
|-------------------------------|---------|---|
| <i>Symonanthus bancroftii</i> | CE | One known plant to exist in the wild. Translocation success requires further research to achieve desirable success rates. |
| <i>Rhizanthella gardneri</i> | CE | No plants located in 2003 in the NGN District. Significant research programs required. |
| <i>Grevillea scapigera</i> | CE | Wild plants number only a few. Three translocated populations established in natural species range |
| <i>Darwinia carnea</i> | CE | A single known NGN wild population exists of approximately 20 plants. Two translocation sites established in more secure sites. |

Table 2: Recovery Team Priorities for (CE) Flora describing the status of recovery actions in 2003.

| Species | Recovery Actions | Status |
|---|--|--|
| <i>Caladenia hoffmanii</i> subsp. <i>graniticola</i> | Information dissemination Monitoring Survey Weed control Rabbit control Fencing Research | Completed Completed Partially completed/ongoing Not implemented Not implemented Not implemented Commence in 2004/05 |
| <i>Darwinia carnea</i> | Rabbit control Translocation Genetic analysis Monitoring | Completed Completed. Monitoring to continue Taxonomy in 2004 Complete in 2004 |
| <i>Eremophila verticillata</i> | Survey | Completed |
| <i>Grevillea scapigera</i> | Monitoring Further translocation Weed control ex-situ conservation | Partially completed Work continued at three sites Completed as part of research program BGPA maintained clonal material |
| <i>Rhizanthella gardneri</i> | Information dissemination Habitat Rehabilitation Research Monitoring Survey | Partially completed Commence in 2004 Ex situ cultivation undertaken at KPBG Completed Undertaken |
| <i>Symonanthus bancroftii</i> | Monitoring Further translocation Survey Research | Completed Undertaken Undertaken at selected sites Partial completion by BGPA |
| <i>Verticordia fimbrialepis</i> subsp. <i>fimbrialepis</i> | Information dissemination Monitoring Survey Ex situ conservation Fire management Rabbit control Disease management | Partial completion Not completed Opportunistic survey Seed collection in 2004 Not completed Programmed for 2004 Guidelines to be developed in 2004 |

5. Endangered Flora

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A brief summary of the work undertaken to implement identified recovery actions for each species is described below:

5.1 *Caladenia hoffmanii* subsp. *graniticola*

Information dissemination

Information posters prepared by the Department were distributed to the Pingaring Golf Course and Pingaring Community Store.

The Narrogin and Katanning District Threatened Flora Recovery Teams (K Kershaw, B Loudon, B Beecham, G Durell and A Brown) prepared an Interim Recovery Plan for this subspecies. This was approved in June 2003.

Monitoring

All known populations (1-5) were monitored. Populations 1 and 2 in the Narrogin District had 131 and 57 plants respectively and Populations 3, 4 and 5 in the Katanning District had 2, 0 and 53 plants respectively.

Monitoring plots that were established at Population 1 were monitored.

Further surveys

Three granite complexes in Dragon Rocks Nature Reserve and three granite complexes in Reserve 29576 were surveyed, with no new populations being found.

Research

A project called "*Rescuing Critically Endangered Wheatbelt Orchids*" is externally funded. A student based with the University of Western Australia and Botanic Gardens and Parks Authority has commenced a pollination biology study. The recovery team will coordinate this project during 2004.

5.2 Darwinia carnea**Rabbit control**

Rabbit control was carried out at Population No. 1 and the 2 translocation sites.

Genetic analysis

The genetic comparison between the populations near Narrogin with the Mogumber Populations is still needed, but funding priorities constrain this project being completed.

Monitoring

No actions were undertaken in 2003.

Translocation

No actions were undertaken in 2003.

5.3 Eremophila verticillata

No extant populations are currently known to exist in the Narrogin District. The area where the previously known population existed was cleared prior to the species being gazetted.

Information dissemination

Information posters prepared by the Department were distributed to the current owners of the property where the known population in the Narrogin District is extinct.

5.4 Grevillea scapigera**Monitoring**

Populations 1, 2 & 5 were monitored in 2003.

Further surveys

A new population consisting of one plant of *Grevillea scapigera* (CR) was found by Howard Robinson (CALM Pingelly), near population 2.

Research Trials.

The Botanic Gardens and Parks Authority (BGPA) continue to undertake research studies and augment numbers at the Corrigin Airstrip and Bullaring Translocation sites. BGPA staff have conducted herbicide trials with the information gathered to assist with this seasons weed control program at these translocation sites and control weeds such as **Romulea rosea*, **Arcotheca calendula* and **Gynandris setifolia*.

Translocation

The translocation program for *Grevillea scapigera* continued with the Hartley's site being enlarged to 0.2ha, deep ripped and fenced with rabbit exclusion fencing. 1130 plants were planted over two days with Botanic Gardens and Parks Authority (BGPA) staff, CALM staff and community members from the Corrigin LCC. Additional planting's occurred with 106 plants planted at the Bullaring site and 371 plants planted at the Airstrip site.

Information dissemination

A review of the existing Draft Recovery Plan was completed and endorsed in 2003. A revision of Recovery Plan is currently in progress.

5.5 Rhizanthella gardneri**Information dissemination**

A Brown of WATSCU and A Batty, M Brundrett, and K Dixon of The Botanic Garden and Parks Authority prepared an Interim Recovery Plan for this species. This was approved in June 2003.

This project called "Rescuing Critically Endangered Wheatbelt Orchids" is now approved. *R. gardneri* is one of five critically endangered orchids targeted for this study. The project incorporates both operational and scientific investigations. The Department of CALM and BGPA staff have already held preliminary meetings to discuss project coordination and development. Approval for specific rehabilitation investigations to be used has been sought. An on site meeting planned for February 2004 will establish areas to undertake different rehabilitation treatments.

Monitoring

All three populations were monitored in 2003 by staff from WATSCU, BGPA and community members of the Narrogin District Threatened Flora Recovery Team. No plants were found.

Further surveys

Two days of survey were conducted in the Babakin/Corrigin area. Staff from WATSCU, BGPA and community members of the Narrogin District Threatened Flora Recovery Team, were involved. No plants were found.

5.6 Symonanthus bancroftii**Monitoring**

Population 1 was monitored in 2003. One plant is known to exist in the wild.

Translocation

The translocation of *Symonanthus bancroftii* into two secure sites continued in partnership with the Bruce Rock Land Care District Committee and BGPA. 57 seedlings were planted at

Nangeen Nature Reserve and 119 seedlings were planted at the Ardath site. Monitoring of these sites is on-going with further research needed to improve establishment techniques.

Research

Cross-pollination studies are currently been conducted at the Botanic Garden and Parks Authority with male and female plants grown from clonal material.

5.7 *Verticordia fimbrialepis* subsp. *fimbrialepis*

Information dissemination

Colin Yates from the WA Herbarium has been working on the population biology of this subspecies for the last four years. Currently the work is with referees for final editing and will be made available when published.

Further surveys

Elizabeth George has found a new population along the Albany Hwy (waiting on confirmation from the WA Herbarium and exact locality information).

6. Endangered Flora

In 2003 fourteen species, with populations in the Narrogin District were ranked as Endangered:

| | |
|--|---|
| <i>Acacia insolita</i> subsp. <i>recurva</i> ms | <i>Grevillea involucreata</i> |
| <i>Banksia cuneata</i> | <i>Hakea aculeata</i> |
| <i>Banksia oligantha</i> | <i>Jacksonia</i> sp. <i>Quairading</i> ms |
| <i>Conostylis seorsiflora</i> subsp. <i>trichophylla</i> | <i>Lasiopetalum rotundifolium</i> |
| <i>Dryandra ionthocarpa</i> | <i>Ptilotus fasciculatus</i> |
| <i>Dryandra nivea</i> subsp. <i>uliginosa</i> | <i>Stylidium coroniforme</i> |
| <i>Grevillea dryandroides</i> subsp. <i>hirsuta</i> | <i>Thelymitra stellata</i> |

Priorities for the implementation of recovery actions for each species are ranked on a basis of maintaining or improving their status in the wild. For example, *Banksia cuneata* requires significant management at the local level to maintain population numbers at existing levels whereas *Thelymitra stellata* will only require minimal direct management at the local level.

A summary of actions implemented is described below:

6.1 *Acacia insolita* subsp. *recurva* ms

No actions undertaken in 2003. An IRP is proposed in 2004/05.

6.2 *Banksia cuneata*

Translocation

Infilling of seedlings continued at the Stacey's translocation site with the watering and in filling of associated vegetation species.

Monitoring

Monitoring of three randomly placed 10 metre square quadrats, which were established during September 1996 at population number 3 at the Quairading Common reserve, in response to a wildfire killing all *Banksia cuneata* plants in the previous January continued. Quadrats are monitored each spring, to compare survival and growth trends with the co-

occurring *Banksia prionotes* (Acorn Banksia). Recent monitoring shows ~~that~~ a high proportion of *B. cuneata* is flowering, six years following the fire, and setting seed. Survival of individual *B. cuneata* plants is beginning to plateau to a few individuals per quadrat.

Populations 3, 4, 5, 8, 9 and 11 were monitored in the Narrogin District in 2003.

Information dissemination

Negotiation continues with relevant stakeholders to have the Quairading Common reserves as vested as a nature reserve to ensure adequate protection of this species.

Agreement is being sought to survey and provide landowner advice to manage a recent discovery on private property in the Cuballing Shire.

Future Research

The challenge to ensure extant populations of *B. cuneata* to occur into the future is to undertake research to develop suitable techniques using natural processes such as fire as a tool for periodic regeneration. This is the case for most of the larger remnant based populations where the absence of periodic fire is causing a decline in populations.

6.3 *Banksia oligantha*

Information dissemination

The Western Australian Threatened Species and Communities Unit are preparing an Interim Recovery Plan for this species.

Monitoring and survey are proposed in 2004 to provide information for the development of this IRP.

6.4 *Conostylis seorsiflora* subsp. *trichophylla*

No actions were undertaken in 2003.

6.5 *Dryandra ionthocarpa*

Information dissemination

A manuscript name has been prepared by A George to distinguish the Jingaring and Kamallup populations. The Jingaring populations in the Narrogin District is under the manuscript name *Dryandra ionthocarpa* subsp. *chrysophoenix* ms.

6.6 *Dryandra nivea* subsp. *uliginosa*

Further surveys

Surveys were conducted in Weam Nature Reserve 29322 (Shire of Brookton) to rediscover the population identified from a specimen collected over twenty years ago and lodged with the WA Herbarium. This survey work was a collaborative effort involving CALM staff from Swan Region, Mundaring and Narrogin District and flora volunteers from Perth, Brookton and Narrogin. Initial identification from the WA Herbarium shows the subspecies collected on this survey to be *D. nivea* subsp. *nivea*. WA Herbarium staff are unable to find the original specimen to confirm its identification.

6.7 *Grevillea dryandroides* subsp. *hirsuta*

No actions were undertaken in 2003.

6.8 *Grevillea involucrata*

No actions were undertaken in 2003.

6.9 *Hakea aculeata*

No actions were undertaken in 2003.

6.10 *Jacksonia* sp. *Quairading* ms

Information dissemination

A "Permit to Take" was prepared and approved for Departmental staff for the rehabilitation of disused sandpits in the Quairading Rifle Range Reserve 13002. Being a disturbance opportunist it is anticipated rehabilitation will enhance plant numbers within the rehabilitated area.

6.11 *Lasiopetalum rotundifolium*

Information dissemination

A ~~200-hectare~~200-hectare prescribed burn with a conservation objective was undertaken by CALM in Autumn 2003 at Boyagin Reserve 11144 (Shire of Pingelly).

Under condition 8.9. of DRF Permit No. 37/2001 a post fire monitoring of this species was required. This was the final monitoring of this site under the permit requirements and monitoring information was submitted to the Department's Wildlife Branch.

Post fire monitoring will continue to determine regeneration success and species diversity and structure.

Monitoring

Post fire monitoring was conducted for the Boyagin Nature Reserve burn area in spring 2003. 27 seedlings were located.

6.12 *Ptilotus fasciculatus*

Further surveys

Contract botanists from Mattiske Consulting found a population of approximately 100 plants on Seagroatt Nature Reserve A 25062.

Contract botanist Diana Papenfus discovered three populations, one on Kwolyin Nature Reserve A 30969 (1000+ plants), one on Kondinin Salt Marsh Nature Reserve C 26905 (many plants) and one on private property (100's).

This species occurs on isolated sand dunes associated with drainage lines in valley floors throughout the eastern wheatbelt. The future status of this species may require an assessment based on the hydrological impacts being the main threat.

6.13 *Stylidium coroniforme*

Information dissemination

This species is a new addition to the Narrogin District's list following the submission of a specimen from the Mawson area (Shire of Quairading) to the WA Herbarium.

6.14 *Thelymitra stellata*

No actions were undertaken in 2003.

7. **Vulnerable Flora**

Twenty species, with populations in the Narrogin District were ranked as vulnerable:

| | |
|--|--|
| <i>Acacia brachypoda</i> | <i>Eremophila veneta</i> ms |
| <i>Acacia lanuginophylla</i> | <i>Eucalyptus steedmanii</i> |
| <i>Allocasuarina fibrosa</i> | <i>Frankenia parvula</i> |
| <i>Allocasuarina tortiramula</i> | <i>Lechenaultia laricina</i> |
| <i>Banksia sphaerocarpa</i> var. <i>dolichostyla</i> | <i>Lechenaultia pulvinaris</i> |
| <i>Boronia capitata</i> subsp. <i>capitata</i> | <i>Pityrodia scabra</i> |
| <i>Boronia revoluta</i> | <i>Pultenaea pauciflora</i> |
| <i>Calectasia pigmatiana</i> | <i>Roycea pycnophylloides</i> |
| <i>Conostylis rogeri</i> | <i>Thomasia montana</i> |
| <i>Eleocharis keigheryi</i> | <i>Verticordia staminosa</i> subsp. <i>cylindrata</i> var. <i>cylindrata</i> |

As for Section 6, Priorities for the implementation recovery actions for each Vulnerable ranked species is based maintaining or improving their status in the wild. In most cases surveys and monitoring are the main recovery actions undertaken.

A summary of actions during 2003 for each species is described below:

7.1 *Acacia brachypoda*

Information dissemination

Under condition 8.9. of DRF Permit No. 100/2002, monitoring for seedling recruitment after railway maintenance activities by Westrail was required. 11 seedlings were found. Monitoring information was submitted to the Department's Wildlife Branch.

Monitoring

Population 2B and 2D were monitored in 2003.

7.2 *Acacia lanuginophylla*

Monitoring

Population 3 was monitored in 2003.

7.3 *Allocasuarina fibrosa*

No actions were conducted in 2003.

7.4 *Allocasuarina tortiramula*

No actions were conducted in 2003.

7.5 *Banksia sphaerocarpa* var. *dolichostyla*

Information dissemination

Information was provided to the Department of Industry and Resources on the possible impacts of drilling and costeaning works at South Ironcap by TW Mining Services, mining lease E77/997 on nearby populations.

7.6 *Boronia capitata* subsp. *capitata*

No actions were conducted in 2003.

7.7 *Boronia revoluta*

Information dissemination

As for 7.5 above.

7.8 *Calectasia pignattiana*

Information dissemination

Staff from the Department's Wellington District provided information on a potential population located within the Narrogin District. This information requires follow up.

7.9 *Conostylis rogeri*

Monitoring

The rehabilitated sandpit at Hopkins Nature Reserve was monitored for survival of 6 plants, which were replanted in 2001, after rehabilitation works had been completed. 1 plant survived and flowered last season.

7.10 *Eleocharis keigheryi*

No actions were conducted in 2003.

7.11 *Eremophila veneta* ms (Proposed for de-listing)

Information dissemination

A "permit to take" was prepared for Main Roads WA to conduct road-widening activities at Population 9, and submitted to the Department's Wildlife Branch.

7.12 *Eucalyptus steedmanii*

No actions were conducted in 2003.

7.13 *Frankenia parvula*

Further surveys

Contract botanist Diana Papenfus located one population consisting of 46 plants on Kwolyin Nature Reserve A 30969.

Information dissemination

This species is a new addition to the Narrogin District's list following the discovery of a population by contract botanist Diana Papenfus (waiting on confirmation from the WA Herbarium).

7.14 Lechenaultia laricina

No actions were conducted in 2003.

7.15 Lechenaultia pulvinaris (Proposed de-listing)

Information dissemination

A flora nomination has been submitted to the Threatened Species Scientific Committee to have this species down listed to a Priority 4 by the Katanning District Threatened Flora Recovery Team.

7.16 Pityrodia scabra

Information dissemination

This species is a new addition to the Narrogin District's list following the discovery of one plant in a mining rehabilitation area of the Middle Ironcap area (waiting on confirmation from the WA Herbarium).

7.17 Pultenaea pauciflora

Monitoring

Population 1B was monitored in 2003.

Information dissemination

A "permit to take" was prepared for Main Roads WA to conduct road-widening activities at Population 1B, and submitted to the Departments Wildlife Branch.

Genetic analysis

The genetic comparison between the populations near Narrogin with the more extensive Lupton's Conservation Park Populations is still needed however funding priorities constrains this project being completed.

7.18 Roycea pycnophylloides

Further surveys

Diana Papenfus discovered four populations of *Roycea pycnophylloides* (VU) one on Reserve 27639 (700+ plants), one on Lake Gounter Nature Reserve A 21253 (3,000+ plants), one on Kwolyin Nature Reserve A 30969 (300+ plants) and one on private property (900+ plants).

7.19 Thomasia montana

Monitoring

As for section Section 6.11 above.

The monitoring showed that the fire took only one plant and at this stage no seedlings have germinated post fire.

7.20 Verticordia staminosa subsp. cylindraceae var. cylindraceae

Information dissemination

The Western Australian Threatened Species and Communities Unit are preparing an Interim Recovery Plan for this species.

Monitoring

Both Narrogin District populations were monitored through 2003. Population 2 at Pingaring Rock has 36 plants and Population 7 on Nature Reserve 25248 has 206 plants.

Further surveys

Two new populations were discovered. One at Pingaring Rock consisting of 1 plant and one in Reserve A 29576 consisting of 46 plants. Both populations were found whilst conducting surveys for *Caladenia hoffmanii* subsp. *granticola* (DRF) in a collaborative survey project with CALM Katanning.

8. Priority Flora Species

Surveys to verify rarity and distribution is the basis for most work undertaken on species listed on the Department's Priority Flora List. These surveys are largely opportunistic except where specific projects are approved to survey for specific species. These are usually Priority 1 and 2 species though to be significantly rare to progress an application to Declared Rare Status. Information gathered during the survey is used to prepare any application.

8.1 Priority 1 species

In 2003, 31 species, with populations in the Narrogin District were ranked as Priority 1. Surveys were conducted for the following:

| | |
|---------------------------|------------------------------------|
| <i>Gastrolobium tenue</i> | <i>Psuedactinia</i> sp. Bruce Rock |
|---------------------------|------------------------------------|

8.2 Priority 2 species

In 2003, 56 species, with populations in the Narrogin District were ranked as Priority 2. Surveys were conducted on the following:

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| <i>Andersonia carinata</i> | <i>Eucalyptus sparsicoma</i> |
| <i>Caladenia williamsiae</i> | |

8.3 Priority 3 species

In 2003, 72 species, with populations in the Narrogin District were ranked as Priority 3. Surveys were conducted for the following:

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| <i>Beaufortia</i> sp. Column | <i>Isoetes brevicula</i> |
| <i>Dryandra fasciculata</i> | <i>Microcorys cephalantha</i> |
| <i>Eucalyptus mimica</i> subsp. <i>continens</i> | <i>Verticordia huegelii</i> var. <i>tridens</i> |
| <i>Anigozanthos bicolor</i> subsp. <i>exstans</i> | |

8.4 Priority 4 species

In 2003, 46 species, with populations in the Narrogin District were ranked as Priority 4. Surveys were conducted for the following:

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| <i>Dryandra cynaroides</i> | <i>Gonocarpus intricatus</i> |
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9. Recovery Plan and Interim Recovery Plan status for the Narrogin District species.

Banksia cuneata and *Grevillea scapigera* have Recovery Plans (unpublished). The Recovery Plan for *G. scapigera* will be updated in 2004.

The Recovery Team completed a review of the Recovery Plan for *Grevillea scapigera*. The Department in 2003 endorsed this review.

Interim Recovery Plans are published for *Darwinia carnea* and *Eremophila veneta* ms. The *Darwinia carnea* plan ~~will~~[is](#) scheduled for review.

Interim Recovery Plans are being prepared by the Western Australian Threatened Species and Communities Unit for the following species by *Acacia insolita* subsp. *recurva* (funding obtained for preparation), *Banksia oligantha* (in preparation), *Conostylis seorsiflora* subsp. *trichophylla* (funding obtained for preparation), *Grevillea scapigera* (in preparation), *Roycea pycnophylloides* (in draft), *Verticordia fimbrialepis* subsp. *fimbrialepis* (in draft) and *Verticordia staminosa* subsp. *cylindrata* var. *cylindrata* (in preparation).

The Narrogin District Threatened Flora Recovery Team completed approved Interim Recovery Plans in 2003 for *Symonanthus bancroftii* and *Caladenia hoffmanii* subsp. *graniticola*.

10. Translocations

Four species translocation projects are being carried out by the Recovery Team. These are *Banksia cuneata*, *Darwinia carnea*, *Grevillea scapigera* and *Symonanthus bancroftii*.

10.1 *Grevillea scapigera*

The translocation of *Grevillea scapigera* continued at the translocation site at Bullaring. Planting's began in 2000 and a water tank has been established for summer watering.

The translocation of *Grevillea scapigera* (CR) continued with the Hartley's site being enlarged to 0.2ha, deep ripped and fenced with rabbit exclusion fencing. 1130 plants were planted over two days with Botanic Gardens and Parks Authority (BGPA) staff, CALM staff and community members from the Corrigin LCC.

Additional planting's occurred with 106 plants planted at the Bullaring site and 371 plants planted at the Airstrip site.

10.2 *Darwinia carnea*

The establishment of two populations of *Darwinia carnea* on crown land commenced in 1998. Monitoring results continues at these sites.

A progress report for this translocation will be completed in 2004/05.

The latest monitoring information for the translocation are:

Survival

Shire Reserve survival rate = 39% survival of 1st and 2nd planting's, 70% survival including 3rd lot of planting's.

Penny Block survival rate = 69% survival of 1st and 2nd planting's, 77% survival including 3rd lot of planting's.

Seed Collection viability from translocated plants (information 10/12/02 by Anne Cochrane).

Shire Reserve - 556 seed collected, 149 good seed, 13.2 % viable.

Penny Block - 770 seed collected, 216 good seed, 3.6% viable.

10.3 *Symonanthus bancroftii*

The translocation of *Symonanthus bancroftii* into two secure sites commenced in 2002 in partnership with the Bruce Rock Land Care District Committee and Botanic Gardens and Parks Authority. 57 plants were planted at Nangeen Nature Reserve and 119 plants were planted at the Ardath site on the 9th May 2003.

Present numbers at September 2003 are: Surviving numbers at both translocation sites are:

Ardath

- Sb1 (male) 19 plants surviving (32% compared to 11%, same time last year).
 - Sb2 (female) 31 plants surviving (52% compared to 34%, same time last year).
- (+ 130 plants were planted at the Ardath site in 2002).

Nangeen Nature Reserve

- Sb1 (male) 1 plant surviving (3 % compared to 16%, same time last year).
 - Sb3 (female) 6 plants surviving (24% compared to 40%, same time last year).
- (+ 450 plants were planted at Nangeen site in 2002).

A few female plants have set seed in 2003 at both sites but only one or two fruits.

Initial survival results are poor. The Recovery team is investigating causes for deaths and investigating other options such as ground preparation, seedling quality and container types to address the poor survival issue.

10.4 *Banksia cuneata*

The translocation of *Banksia cuneata* continued at the site at Stacey's. 143 plants were recorded in this site in 2002. 120 plants were planted in 2003 in the translocation site.

The translocation site on Reserve 12397 was monitored in 2003. 43 plants and 12 seedlings were recorded.

Monitoring of the sites will be completed in 2004.

11. Education, Publicity and Sponsorship

The following publicity through media coverage was presented specifically for the *Symonanthus bancroftii* project.

- Western Australian Environment Awards 2003, Winners Book, Bruce Rock - Wheatbelt Regional Winner.

- ABC radio - Geraldton, Community Conservation Grants, 2nd April 2003.
- Bruce Rock Amphitheatre Promotional flyer - 2003.
- The Rock Review, 12th May 2003, "Landcare Larrikins".
- The Rock Review, 20th October 2003, "Landcare Larrikins".
- The Bruce Rock Shire Website, - environment.
http://users.bigpond.com/windell1/bruce_rock_001.htm

A draft media release publicising CALM's Wheatbelt Region's flora recovery programs is yet to be approved for release.

12. Conclusion

The Narrogin District Threatened Flora Management Program to recover threatened flora within the Narrogin District continues to be an important program for species (populations) based recovery.

The program focuses on seven species ranked as Critically Endangered with one species, *Symonanthus bancroftii* (Bancroft's Symonanthus), an extremely rare species with only 1 plant known to exist in the wild. *Grevillea scapigera* (Corrigin Grevillea) and *Rhizanthella gardneri* (Underground Orchid) are also known to be extremely rare with only several individuals known to exist in wild populations.

Through successful species research and collaborative translocations with the Kings Park and Botanic Gardens Authority, CALM and the community, *G. scapigera* now exists in the wild predominantly because of human intervention in cultivating and establishing seedlings.

The commitment of a full time permanent Flora Conservation Officer will ensure the recovery program continues. Successful applications for external funding to NHT to meet annual operational expenses and submitted through regional Catchment Councils will ensure on-ground recovery actions are implemented and local community involved.

By working with the local community members and groups the Narrogin District Threatened Flora Recovery Team implements a well-developed recovery program for the long-term recovery of threatened species over a large, sparsely populated area. Developing links and good relationships with local government authorities, other land management agencies, landowners, and other community based environment programs significantly contributes towards the success of the recovery program.

Proposed major activities for the Recovery Team in 2004 include:

- Continuing the Translocation Project for *Symonanthus bancrofti*.
- Assessing *Darwinia carnea* translocation project.
- Undertaking habitat rehabilitation for *Rhizanthella gardneri*.
- Assessing fire response quadrats for *Banksia cuneata*.
- Reviewing and re-assigning priorities for the District Flora Management Plan.
- Undertaking research on the sustainability of *Grevillea scapigera* translocation sites.
- Investigating methodologies to recover *Rhizanthella gardneri*.
- Reviewing the *G. scapigera* Recovery Plan.
- Securing external funding for implementing projects for threatened flora.

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|---|-----------------------------------|
| Greg Durell | Kim Kershaw |
| Chairperson | Conservation Officer |
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