

KATANNING DISTRICT THREATENED FLORA MANAGEMENT PROGRAM

Annual Report 2004

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For the Katanning District Threatened Flora Recovery Team



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SUMMARY 2004

- Several species were reviewed at the 2004 Threatened Species Scientific Committee (TSSC) meeting for changes to individual ranking/status: *Bentleya spinescens* downgraded to P4, *Eremophila veneta* downgraded to P4, *Acacia auratiflora* downgraded to VU, *Gastrolobium lehmannii* downgraded to VU, *Lechenaultia pulvinaris* downgraded to P4, *Caladenia melanema* upgraded to DRF- CR
- Seed was collected and stored at the Department's Threatened Flora Seed Centre (TFSC) for *Verticordia staminosa* subsp. *cylindracea* var. *cylindracea* (new population), *Adenanthos pungens* subsp. *pungens*, *Roycea pycnophylloides*, *Banksia oligantha* and *Goodenia integerrima*; as well as from the Priority taxa *Goodenia* sp. Lake King, *Pimelea halophila*, *Bentleya diminuta*, *Bossiaea cucullata*, *Daviesia lineata*, *Melaleuca sculponeata*, *Acacia undosa*, and *Gastrolobium ovalifolium*. Seed was collected by the Flora Conservation Officer from *Drakaea isolata* and *Caladenia melanema* for research and storage at the Botanic Gardens and Parks Authority (Kings Park)
- New populations:
 - (EN) – one population of *Goodenia integerrima*, one of *Centrolepis caespitosa*, one of *Acacia depressa*
 - (VU) – one population of *Verticordia staminosa* subsp. *cylindracea* var. *cylindracea*, one population of *Tribonanthes purpurea* and possibly one of *Diuris drummondii*
 - (Priority Flora) – 5 of *Persoonia brevihachis*, ~18 of *Grevillea newbeyi*, 5 of *Gastrolobium rigidum*, at least 3 of *Hakea brachyptera*, 7 of *Daviesia elongata* subsp. *implexa*, two of *Pimelea halophila*, 1 of *Acacia mutabilis* subsp. *incurva*, 3 of *Bossiaea divaricata*, 1 of *Grevillea prostrata*, 8 of *Daviesia uncinata*, 1 of *Eucalyptus microschemata*, and 1 of *Acacia brachyphylla* var. *recurvata*
- Rare flora markers erected for a number of Priority and DRF populations that had not been previously marked; all star picket markers delineating DRF populations replaced with the new standard Ezi-drive markers for safety reasons
- Interim Recovery Plans (IRP's) produced by WATSCU for *Anigozanthos bicolor* subsp. *minor*, *Banksia oligantha*, *Roycea pycnophylloides*, *Verticordia staminosa* subsp. *cylindracea* var. *cylindracea*. IRP's for *Conostylis seorsiflora* subsp. *trichophylla*, *C. rogeri* and *Acacia leptalea* are in draft. The *Adenanthos pungens* subsp. *effusus* and *Drakaea isolata* IRP's were updated. Funding to write and update these plans was provided by the Commonwealth for species listed under the Commonwealth EPBC Act.
- Posters produced by WATSCU for *Anigozanthos bicolor* subsp. *minor* and *Banksia oligantha*; *Caladenia drakeoides* poster updated
- The production of a booklet of the District's DRF initiated by the Flora Conservation Officer. This booklet will be for the purposes of educating staff, community members, volunteers and other agencies on what the plants look like and where they grow. The final version will be an A5 size glossy laminated, spiral bound booklet containing pictures and descriptions of each species
- Funds were provided to a landowner to fence a large remnant containing *Acacia lanuginophylla* on their property

- Genetic analysis of *Verticordia staminosa* subsp. *cylindracea* initiated to determine the genetic difference, if any, between the two varieties
- Nature Reserve files and Wildfire Suppression Maps updated with the locations of various populations of rare flora
- Katanning Herbarium specimens mounted and updated; Katanning District DRF database updated for various species, filing of species information

Recovery Team

The Katanning District Threatened Flora Recovery Team primary focus is the recovery of threatened flora within the Katanning District. The team is 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.

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

- 1) Wayne Cooper, Engineer/Manager of Works, representing the Shire of Woodanilling, with an interest and experience in protecting threatened flora in road reserves;
- 2) Mary Naisbitt, representing the Shire of Lake Grace, and also a rare flora volunteer;
- 3) Lucy Skipsey, representing the Shire of Kent, also rare flora volunteer with two species of threatened flora on their property;
- 4) Val Crowley represents the community and rare flora volunteer contribution of the western portion of the District, she is also a volunteer with the WA Herbarium and has extensive knowledge of the flora in the Shire of West Arthur and surrounds;
- 5) Anne Rick represents the community and rare flora volunteer contribution (coordinates the Newdegate Rare Flora Group), with extensive botanical knowledge of the eastern portion of the District. Anne also represents the interests of private landowners within the District having threatened flora occurring on their property;
- 6) Mal Graham also representing the community; former District Operations Officer with the Department and former Chair of this Recovery Team. Mal is currently working as a private environmental consultant within the Katanning District and has extensive knowledge of Wheatbelt flora and threatened flora management;
- 7) Anne Cochrane is Manager of the Department's Threatened Flora Seed Centre. Anne has extensive expertise in seed collection and research into germination of threatened flora in the District;
- 8) Andrew Brown, Coordinator (Threatened Flora) Western Australian Threatened Species and Communities Unit (WATSCU), a branch of the CALM's Nature Conservation Division;
- 9) Luke Sweedman and Amanda Shade represent the Botanic Gardens and Parks Authority (King's Park);

- 10) Kat Miller represents the WA Threatened Species Network for the World Wide Fund (WWF) for Nature, with interest in threatened flora management activities such as translocations and contact for possible funding of such projects;
- 11) Rosemarie Rees, Project Officer - Threatened Ecological Communities with the Western Australian Threatened Species and Communities Unit (WATSCU), a branch of CALM's Nature Conservation Division;
- 12) Carl Beck (Chairperson) represents the Katanning District of the Department of Conservation and Land Management, District Nature Conservation Officer;
- 13) Bethea Loudon (Convenor) also represents the Katanning District of the Department of Conservation and Land Management, but more specifically the conservation, implementation and recovery of the District's threatened flora in her role as Flora Conservation Officer.

Comment [AB1]: Kat or Kate?

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 the following 'observers' to whom a general/open invitation is extended to all meetings. These people represent the wider community and are involved in voluntary threatened flora work in the District:

- 1) Jan Smith, rare flora volunteer from the western portion of the District
- 2) Members of the Newdegate Rare Flora Group, including
 - Elsie Bishop - Sam Walsh - Rosemary Cugley
 - Annie Slarke - Meighan Stewart
 - Lyn Taylor - Judy Stewart
- 3) Jim Parry from Frankland, rare flora volunteer and orchid enthusiast
- 4) Chris Lewis, rare flora volunteer and Regional Herbarium volunteer from Kojonup

Other Technical advisers consulted as a matter of course during the recovery process and who are invited to attend meetings, but are not formally members due to work commitments, include:

- 1) Dr David Coates, Principal Research Scientist with the Department of Conservation and Land Management, based at the Kensington;
- 2) Dr Ken Atkins, Acting Manager Department's Wildlife Branch; and
- 3) Brett Beecham, Regional Ecologist for the Wheatbelt Region of the Department of Conservation and Land Management.

The Flora Conservation Officer is responsible for implementing recovery actions listed in Interim Recovery Plans and the Katanning District Threatened Flora Management Plan. The Recovery Team oversees these activities, and identifies and prioritises those species in urgent need of further research and recovery actions. The Flora Conservation Officer implements those actions listed by the Team, as well as liaises with researchers, district flora volunteers, other government departments, local government authorities and the public on matters relating to threatened flora management in the Katanning District.

The Recovery Team met at the Katanning District Office of CALM on the 1st December 2004, where works programs were discussed, work carried out to date reviewed, discussions on the production of a district rare flora pictorial booklet for community and staff education/reference, in-depth discussion regarding translocations in the district and a presentation on the South Coast Recovery and Threat Abatement Plan. New members/representatives were nominated and accepted.

Staff and Funding

A contract Conservation Officer position commenced in late May 1999 based at CALM's Katanning District Office. Up until May 2002, NHT Bushcare funding supported the position. NHT Endangered Species Program (ESP) provided funding for July 2002 to May 2003, with Biogene funding supporting the position in the interim.

The Department committed to full recurrent funding for this position in mid 2002 providing some funds to assist with the lapse between the ceasing of ESP funds in May 2003 and the start of the 2003/04 financial year. The Department is providing funds for salary, for the now full-time, permanent Flora Conservation Officer position as of 2003.

Funding received in 2003 for the 2003/04 financial year, to cover operational and running costs for the implementation of on-ground activities for threatened flora (\$27000 from the Avon Catchment Council, \$8000 from the South West Catchment Council, and \$6200 from WATSCU - to undertake surveys and field work to gather information for the preparation of IRP's) was carried over and fully utilised to the end of December 2004.

Several members of the community (non-departmental people) were employed during 2004 using some of the above funds to assist with rare flora surveys and searches for new populations.

OBJECTIVES

To implement recovery, research and management actions for Critically Endangered (CR), Endangered (EN) and Vulnerable (VU) flora in CALM's Katanning District. Assess the status, on a priority basis, if time permits, for approximately 240 other poorly known taxa (Priority Flora) in CALM's Katanning District.

Threat categories for Western Australian Threatened Taxa 2004, ranks 12 species within the district as Critically Endangered, 14 Endangered and 13 Vulnerable. (CALM – Official Flora Ranking List, August 2004).

CRITICALLY ENDANGERED FLORA

In 2004, twelve species in the Katanning District were ranked as Critically Endangered:

- *Adenanthos pungens* subsp. *effusus*
- *Caladenia drakeoides*
- *Caladenia hoffmanii* subsp. *graniticola*
- *Caladenia melanema*
- *Conostylis setigera* subsp. *dasys*
- *Drakaea isolata*
- *Dryandra mucronulata* subsp. *retrorsa*
- *Eremophila subteretifolia*
- *Eremophila verticillata*
- *Hemigenia ramosissima*
- *Verticordia fimbrialepis* subsp. *fimbrialepis*
- *Verticordia staminosa* subsp. *cylindracea* var. *erecta*

Implementation of recovery actions for these taxa is summarised below:

Adenanthos pungens* subsp. *effusus

Monitoring

Population 1 observed, survey of plant numbers initiated by Flora Conservation Officer, Reserves Officer and two American volunteers. Population 2 observed and partial counts conducted.

Liaison

Liaised with adjacent landowners/managers of Population 1 for permission to conduct aerial phosphite spraying.

Disease Control

Population 1 aerial sprayed with phosphite in April 2004.

Review

IRP updated by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Information Dissemination

The District Nature Conservation Officer wrote an article about the aerial spraying. This featured in the two local newspapers and the Department's 'Conservation News'.

Posters distributed at the Kojonup Wildflower show and Newdegate Field Days. A number of posters given to the CEO and Works Supervisor and several road maintenance workers of the Shire of Tambellup.

Caladenia drakeoides

No surveys were conducted in 2004.

Information Dissemination

A poster was updated by WATSCU for distribution to the community/public, volunteers, Shires and other agencies.

Caladenia hoffmanii subsp. graniticola (now formally published as Caladenia graniticola)

Monitoring

All three populations surveyed in October 2004. No plants were found at Population 4 (Lane Rock); no plants were found at Population 3 (Dragon Rock); and 36 plants at Population 5 (McDonald Rock).

Rabbit Control

Population 3 and 5 were baited with 1080 oats in February to reduce rabbit numbers. Very little to no rabbit activity was observed during the October surveys suggesting that rabbit numbers are extremely low in these areas as a result.

Information Dissemination

Posters distributed at the Kojonup Wildflower show and Newdegate Field Days to interested community members.

Caladenia melanema

Monitoring

Population 1 surveyed for plant numbers and threats.

Further Survey

A wider area of similar habitat around Population 1 searched with more plants located. Two small areas nearby of similar habitat briefly visited for potential new populations with out success.

Seed Collection

Several flowers were hand-pollinated and bagged in order to collect seed. Some naturally fertilised flowers/ovaries were also bagged. Fertilised ovaries were collected while still green and kept in water until they dried. Ovaries/seed were sent the Botanic Gardens and Parks Authority for the research studies and for genetic preservation.

Protection from Road Maintenance

Rare flora markers were erected on both sides of Rasmussen Road demarcating the extent of the population.

Review

Species upgraded from Priority 2 to Critically Endangered.

Conostylis setigera subsp. dasys

Further Survey

Located and surveyed an extension of Population 1C.

Liaison

Liaison with Main Roads WA (MRWA) regarding the removal of hazardous trees along the road verge of Population 1A.

Drakaea isolata

Monitoring

Existing sites monitored for plant numbers to note movement/changes and flowering status. More plants located and permanently marked for future monitoring.

Seed Collection

Six flowering plants were hand pollinated if not fertilised already (another two had self-pollinated already) and bagged. Seed was later collected once ovaries had ripened and dried. Only 2 flowers did not pollinate/were infertile. Ovaries/seed was sent to the Botanic Gardens and Parks Authority for the research studies and for genetic preservation.

Review

IRP updated by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Information Dissemination

Posters distributed at the Kojonup Wildflower show and Newdegate Field Days to interested community members.

Dryandra mucronulata subsp. retrorsa

Monitoring

Population 5 surveyed.

Protection from Road Maintenance

Rare flora markers were erected for Population 5.

Eremophila subteretifolia

Monitoring

Population 1, 2, 3 and 6 surveyed. A new plant was found growing in car park at Population 3 (methods are required to ensure its protection and survival).

Eremophila verticillata

Monitoring

Surveyed both populations (1 and 2) – a plant was found growing on the opposite side of the road to Population 1, it has obviously been there for years given its size. Number of live plants at Population 2 extremely low, population in late stages of senescence.

Research Trial

Trial plots examined for germination in November 2004, 3 germinants to 10cm high observed in Plot #5 (Treatment: natural seed bank/fire).

Protection from Road Maintenance

Rare flora markers were replaced for Population 1 (missing).

Information Dissemination

Posters distributed at the Kojonup Wildflower show and Newdegate Field Days to interested community members.

Hemigenia ramosissima

No surveys were conducted in 2004.

Verticordia fimbriolepis subsp. *fimbriolepis*

Further Survey

A new population was located on Albany Hwy south of Beaufort by Elizabeth George.

Monitoring

An attempt to relocate the above new population in early 2004 was unsuccessful. Flowering had well and truly finished and the area quite dry. Counted remaining live plants in trial translocation site.

Liaison

Liaised and met onsite with the Works Supervisor from the Shire of Woodanilling regarding the maintenance/reforming of the road shoulder and clearing of overhanging vegetation adjacent to plants at Population 1. Only one plant remains alive in the gutter on the south side of the road, plants in the northern gutter are all dead. The locations of all plants in the gutter, whether dead or alive, were marked with tape with the Works Supervisor to supervise the grading around each plant when the work carried out. A permit to take was granted in the case that soil-stored seed would be disturbed or destroyed.

Weed Control

Hand removal of Cape Tulip plant at Population 1.

Verticordia staminosa subsp. cylindracea var. erecta

Further Survey

Members of the Newdegate Rare Flora Volunteer Group searched several granite outcrops near Lake King in the hope of finding new populations, however no new populations of var. *erecta* were located.

Research

Genetic analysis was initiated in early 2004 by the Science Division under the supervision of Dr David Coates to determine if there is any genetic difference between the two varieties. No results are known as yet.

Information Dissemination

Posters distributed at the Kojonup Wildflower show and Newdegate Field Days to interested community members. Poster sent to interested landowner of a farm adjacent to a new population of var. *cylindracea* in Lake King Nature Reserve.

ENDANGERED FLORA

In 2004, fifteen species in the Katanning District, were ranked as Endangered:

- *Acacia depressa*
- *Adenanthos pungens* subsp. *pungens*
- *Adenanthos velutinus*
- *Anigozanthos bicolor* subsp. *minor*
- *Banksia oligantha*
- *Caladenia christeneae*
- *Caladenia dorrienii*
- *Centrolepis caespitosa*
- *Conostylis drummondii*
- *Conostylis seorsiflora* subsp. *trichophylla*
- *Goodenia integerrima*
- *Grevillea involucreta*
- *Jacksonia velveta*
- *Muehlenbeckia horrida* subsp. *abditata*
- *Thelymitra stellata*

Implementation of recovery actions for these taxa is summarised below:

Acacia depressa

Fire and Disturbance

Several plants in Population 2 and Site 11/2 were burnt during a wildfire in the Tarin Rock Nature Reserve in early December. Some plants were disturbed or destroyed during track construction to contain the fire or provide access. A new population was discovered and surveyed in the Nature Reserve in the process.

Liaison

Liaised with Western Power contractor regarding checking of vegetation clearance around dropout fuse poles near Population 2.

Adenanthos pungens subsp. pungens

Seed Collection

Seed was collected and seed traps removed February 2004 from Population 2 and 3.

Recruitment

Seedlings were observed to be growing adjacent to plants surrounded by seed traps and also on the edge of rehabilitated gypsum mine adjacent to Population 3.

Adenanthos velutinus

No surveys were conducted in 2004.

Anigozanthos bicolor subsp. minor

Review

- IRP written by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Information Dissemination

A poster was produced by WATSCU for distribution to the community/public, volunteers, Shires and other agencies. Some of these posters handed out to Rare Flora Volunteers, Recovery Team members and at the Kojonup Wildflower Show and the Newdegate Field Days to interested community members.

Banksia oligantha

Monitoring

Population 1 and 2 surveyed in full with assistance from the Narrogin Flora Conservation Officer.

Seed Collection

Seed was collected from Population 1 with assistance from the Narrogin Flora Conservation Officer.

Review

IRP written by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Information Dissemination

A poster was produced by WATSCU for distribution to the community/public, volunteers, Shires and other agencies. Some of these posters handed out to Rare Flora Volunteers, Recovery Team members and at the Kojonup Wildflower Show and the Newdegate Field Days to interested community members.

Information and photographs provided to Cas Liber (Banksia Study Group Leader, Association of Societies for Growing Australian Plants, NSW) for update of species information that he was writing.

Caladenia christineae

No surveys were conducted in 2004.

Caladenia dorrienii

Monitoring

Jim Parry, Rare Flora volunteer and avid orchid enthusiast from Frankland, observed Population 4.

Centrolepis caespitosa

Monitoring

Tried to relocate Population 7 on private property yet again with the assistance of botanist Libby Sandiford, several species of *Centrolepis* found but not *caespitosa*. Specimens were collected for lodging at the WA Herbarium to make sure.

Further Survey

Greg Keighery located a new population in the Beaufort River flats on Albany Highway in the Katanning District.

Review

Nominated by Albany District for downgrade from Endangered to Priority 4, for review at the 2005 TSSC meeting.

Conostylis drummondii

Monitoring

Population 7 surveyed thoroughly. Partially surveyed Population 1 and 6.

Liaison

Liaised and met onsite with the Works Supervisor from the Shire of Woodanilling regarding the closing down and re-instating of the Beaufort Rubbish Tip which is encircled by Population 7. A small number of plants that may have been affected by the filling in of the tip were marked with tape. A permit to take was granted in the case that these plants and any soil-stored seed would be disturbed or destroyed during the process.

Liaison with MRWA regarding the removal of hazardous trees along the road verge of Population 2A.

Conostylis seorsiflora subsp. *trichophylla*

No surveys were conducted in 2004.

Review

Draft IRP written by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Protection from Track Maintenance

Rare flora markers replaced with new standard of marker.

Goodenia integerrima

Monitoring

Population 3 was surveyed for numbers and extent.

Further Survey

A new population was located near Population 3.

Seed Collection

Seed collected by Anne Cochrane for storage and germination trials at the TFSC.

Grevillea involucrata

Monitoring

Populations 1A, 1B, 2, 3A, 4, 5, 6A, 6B, 6C, 8, 10, 11A, 11B, 12, 13, 16, 17, 18, 20, 21, 14, 15A, 15B and 23 surveyed and information collated ready for IRP to be written (proposed by WATSCU).

Relocated previously extinct Populations 5, 6A, and 6B while surveying some Priority species.

Protection from Road Maintenance

Rare flora markers were erected for the relocated, previously extinct populations.

Further Survey

Searched in a rehabilitated gravel pit on Newdegate-Pingrup Road with about 1-2 years regrowth on it without success.

Jacksonia velveta

Monitoring

Populations 2, 3A, and 5B were surveyed. An extension of 2A was found.

Weed Control

Hand weeded around two plants on fence line at Population 5B.

Protection from Road Maintenance

Repositioned rare flora markers on road verge of Population 5B to provide better protection to the plants and warning to operators of their location.

Muehlenbeckia horrida subsp. abdita

Monitoring

Six monthly monitoring of Population 1 and 2 (in June and December) continued with monitoring conducted with assistance from the Lake Bryde Recovery Catchment Officer and Assistant Catchment Officer in July and December – number of stems (living and dead) counted and canopy diameters measured in a number of existing plots.

Thelymitra stellata

No surveys were conducted in 2004.

VULNERABLE FLORA

In 2004, thirteen species in the Katanning District were ranked as vulnerable:

- *Acacia auratiflora*
- *Acacia lanuginophylla*
- *Acacia leptalea*
- *Allocasuarina tortiramula*
- *Calectasia pignattiana*
- *Conostylis rogeri*
- *Diuris drummondii*
- *Eleocharis keigheryi*
- *Gastrolobium lehmannii*
- *Orthrosanthus muelleri*
- *Roycea pycnophylloides*
- *Tribonanthes purpurea*
- *Verticordia staminosa* subsp. *cylindracea* var. *cylindracea*

Implementation of recovery actions for these taxa is summarised below:

Acacia auratiflora

Protection from Road Maintenance

Rare flora markers were erected at Population 12.

Review

Status of species reviewed at the March 2004 TSSC meeting. Taxon downgraded from Critically Endangered to Vulnerable.

Acacia lanuginophylla

Survey

With the assistance of a number of the Newdegate Rare Flora Volunteers and the landowner, a large population of this species was surveyed in its entirety on private property. This is a new population located during remnant vegetation surveys on private land under the Lake Bryde Recovery Catchment program.

Seed Collection

Seed collection was attempted by the Flora Conservation Officer and Anne Cochrane however pods had aborted or released seed earlier than expected.

Protection from Grazing

Funding provided to landowner to assist with the purchase and erection fencing around a large remnant containing a significant population of the species to protect it from grazing by sheep.

Acacia leptalea**Monitoring**

Population 2A/2C surveyed.

Protection from Road Maintenance

Rare flora markers were erected at Population 5B.

Review

Draft IRP written by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Allocasuarina tortiramula

No surveys were conducted in 2004.

Calectasia pignattiana

No surveys were conducted in 2004.

Conostylis rogeri**Monitoring**

Population 2 and 3 surveyed.

Review

Draft IRP written by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Diuris drummondii**Monitoring**

Jim Parry searched for plants at Population 1 without success.

Further Survey

Jim Parry believes he has found a new population on the fringes of a lake near Frankland but was unable to confirm it due to only one flowering specimen being present this season.

Mr Parry searched areas of Peringillup Nature Reserve based on a reported siting from former Land For Wildlife Officer, Mr Steve Newbey, without success. Mr Parry also searched a bush block containing damp pockets managed by the Waters and Rivers Commission, 6.5km WNW of Lake Nunijup on Stockyard Road without success.

Eleocharis keigheryi

No surveys were conducted in 2004.

Gastrolobium lehmannii

Liaison

On their request, the Flora Conservation Officer showed the CEO and Works Supervisor of the Shire of Tambellup Population 5 of this species that occurs adjacent to their gravel extraction site. Discussed the management and use of the site as well as the species background and management.

Monitoring

Population 5A and 5B surveyed.

Protection from Road Maintenance

Rare flora markers were erected at Population 3A.

Review

Downgraded from Endangered to Vulnerable following the 2004 TSSC meeting.

Orthrosanthus muelleri

No surveys were conducted in 2004.

Roycea pycnophylloides

Monitoring

Population 2A/2B observed and permanent habitat monitoring photographs taken.

Seed Collection

Attempts were made by the Flora Conservation Officer and Anne Cochrane to collect seed from Population 2A/2B in early February, tip collections contained fruit although it proved to be immature. Seed was collected by WATSCU contract officer.

Review

IRP written by WATSCU using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, edits made by Katanning District Flora Conservation Officer.

Protection from Road Maintenance

Replaced rare flora markers with new standard of marker at Population 2.

Tribonanthes purpurea

Further Survey

During searches for new populations *Verticordia staminosa* subsp. *cylindracea* var. *erecta* on granite outcrops in the Lake King area, the Newdegate Rare Flora Volunteers located a new population in Lake King Nature Reserve.

Information Dissemination

An article was written by the District Nature Conservation Officer outlining the discovery of the new population by the Newdegate Rare Flora Volunteer Group. This featured in the two local newspapers and the Department's 'Conservation News'.

Verticordia staminosa subsp. cylindracea var. cylindracea

Review

IRP written by WATSCU, edits made by Katanning District Flora Conservation Officer.

Research

Genetic analysis was initiated in early 2004 by the Science Division under the supervision of Dr David Coates to determine if there is any genetic difference between the two varieties. No results are known as yet.

Further Survey

During searches for new populations *Verticordia staminosa* subsp. *cylindracea* var. *erecta* on granite outcrops in the Lake King area, the Newdegate Rare Flora Volunteers located a new population of var. *cylindracea* in Lake King Nature Reserve.

Seed Collection

Seed was collected from the new population by the Flora Conservation Officer and Anne Cochrane. This seed was for long-term storage at the TFSC as well as for the genetic work being undertaken.

Information Dissemination

An article was written by the District Nature Conservation Officer outlining the discovery of the new population by the Newdegate Rare Flora Volunteer Group. This featured in the two local newspapers and the Department's 'Conservation News'.

PRIORITY FLORA

In 2004, 32 species in the Katanning District were ranked as Priority 1. Surveys were conducted for the following:

<i>Baeckea crispiflora</i> subsp. Ongerup	<i>Gastrolobium rotundifolium</i>
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The only population of *Baeckea crispiflora* subsp. Ongerup for the Katanning District was hopefully relocated; plants were not in flower.

Tried to relocate *Gastrolobium rotundifolium* near Highbury with the assistance of the Narrogin Flora Conservation Officer without success. Also searched in a Nature Reserve near Wagin for any signs of this *Gastrolobium* again without success.

In 2004, 72 species in the Katanning District were ranked as Priority 2. Surveys were conducted on the following:

<i>Acacia mutabilis</i> subsp. <i>incurva</i>	<i>Goodenia</i> sp. Lake King
<i>Bentleya diminuta</i>	<i>Pimelea halophila</i>
<i>Bossiaea cucullata</i>	<i>Velleia exigua</i>
<i>Dryandra foliosissima</i>	<i>Chordifex ornatus</i>
<i>Gastrolobium rigidum</i>	<i>Daviesia lineata</i>

Six known populations of *Acacia mutabilis* subsp. *incurva* were surveyed; one new population was located. Sarah Barrett has suggested that this species be upgraded to DRF following full survey of all known populations. DRF markers were erected for Population 2 on the Gnowangerup-Jerramungup Road. Liaised with Works Supervisor from the Shire of Gnowangerup regarding road grading/widening and maintenance of P Jones Road, permission to take required in the event that plants of this species were taken, damaged or disturbed in the process.

The Newdegate Rare Flora Volunteer Group visited the only population of *Bentleya diminuta* for the Katanning District, reference vouchers were collected and seed collected by Anne Cochrane.

Anne Cochrane collected seed from *Bossiaea cucullata*, *Daviesia lineata*, *Goodenia* sp. Lake King and *Pimelea halophila* populations.

Two new populations of *Pimelea halophila* located in Lake King Nature Reserve.

An extension of a population of *Dryandra foliosissima* in Tarin Rock Nature Reserve located. Liaison with Main Roads WA regarding rare flora markers for a population on the Dumbleyung-Lake Grace Road. Liaised with Western Power contractor regarding checking of vegetation clearance around dropout fuse poles near Population 5A.

Population 5 of *Gastrolobium rigidum* surveyed. Five new populations located SE and NE of Lake King during site inspections for vegetation clearing with the Shire of Lake Grace. Liaison with Main Roads WA regarding rare flora markers for a population on the Dumbleyung-Lake Grace Road.

A more extensive survey of the Katanning District's single population of *Velleia exigua* conducted. Photographs were taken of flowering plants.

Liaison with Main Roads WA regarding rare flora markers for a population of *Chordifex ornatus* on the Great Southern Highway.

In 2004, 90 species in the Katanning District were ranked as Priority 3. Surveys were conducted on the following:

<i>Acacia undosa</i>	<i>Acacia brachyphylla</i> var. <i>recurvata</i>
<i>Bossiaea divaricata</i>	<i>Grevillea newbeyi</i>
<i>Daviesia elongata</i> subsp. <i>implexa</i>	<i>Lechenaultia acutiloba</i>
<i>Daviesia uncinata</i>	<i>Melaleuca sculponeata</i>
<i>Hakea brachyptera</i>	<i>Persoonia brevirhachis</i>
<i>Eucalyptus microschemata</i>	<i>Acacia errabunda</i>

Searched for the population east of Pingrup of *Acacia undosa* (Site 144/1) without success in Lake Magenta Nature Reserve. Surveyed Site 144/2 and assisted Anne Cochrane with seed collection from this population.

Located 3 new populations of *Bossiaea divaricata*, two in Nature Reserves and one in a road reserve.

Located 7 new populations of *Daviesia elongata* subsp. *implexa*. Liaised with the Shire of Lake Grace and Newdegate Field Day Committee regarding the clearing of vegetation and taking of plants of this species for a proposed car park. Liaised with Wood and Grieve Engineers, the Water Authority and Opus International regarding the proposed laying down of a new pipeline in the Newdegate townsite in the vicinity of plants of this species.

Located 8 new, large populations of *Daviesia uncinata* – species appears relatively widespread and common on laterite.

Surveyed three known populations of *Hakea brachyptera*. Located (at least two maybe 3 or so more depending on determination of plant ID) new populations along road reserves and in a Nature Reserve.

Located a new population of *Eucalyptus microschemata* in a Nature Reserve.

Located a new population of what is hopefully *Acacia brachyphylla* var. *recurvata*.

Surveyed ~18 new populations of *Grevillea newbeyi* as well as some known populations that have not been surveyed since voucher specimens were collected many years ago.

Surveyed populations Site 56/3 and 56/4 of *Lechenaultia acutiloba*. Erected DRF markers for these populations.

Anne Cochrane collected seed from *Melaleuca sculponeata*.

Located and surveyed several new 5 populations of *Persoonia brevirhachis*. Liaised with the Shire of Lake Grace and Newdegate Field Day Committee regarding the clearing of vegetation and taking of plants of this species for a proposed car park.

Tried to relocate the population of *Acacia errabunda* east of Broomehill. Located 2 small populations within the townsite.

In 2004, 42 species in the Katanning District were ranked as Priority 4. Surveys were conducted on the following:

<i>Bentleya spinescens</i>	<i>Lechenaultia pulvinaris</i>
<i>Eremophila veneta</i>	<i>Caladenia integra</i>
<i>Gastrolobium ovalifolium</i>	<i>Grevillea prostrata</i>
<i>Grevillea aneura</i>	

Bentleya spinescens downgraded from Vulnerable to Priority 4 following the 2004 TSSC meeting. Rare flora markers erected for Population 12 and 13.

Eremophila veneta downgraded from Vulnerable to Priority 4 following the 2004 TSSC meeting.

Anne Cochrane collected seed from *Gastrolobium ovalifolium*.

Located a *Grevillea aneura* population east of Lake King during site inspections for vegetation clearing with the Shire of Lake Grace.

Lechenaultia pulvinaris downgraded from Vulnerable to Priority 4 following the 2004 TSSC meeting.

Jim Parry (rare flora volunteer) surveyed Populations 1, 2, 3, 7, 12, 13, 17 and the Sukey Hill population of *Caladenia integra*. The Flora Conservation Officer liaised with RoadCare regarding the trimming of overhanging tree limbs within 3m of road shoulder along the Arthur River-Wagin Road in the vicinity of Population 3. Liaised with various Western Power and telecommunication contractors on several occasions working on the new radio tower in the vicinity of the orchids at Mt Latham. Liaised with Western Power contractors regarding checking of vegetation clearance around dropout fuse pole also at Mt Latham.

Surveyed a number of known populations of *Grevillea prostrata* and located a new population.

Full and Interim Recovery Plans for the Katanning District

In 2004, using Funding provided by the Commonwealth for species listed under the Commonwealth EPBC Act, IRP's were written by WATSCU for *Anigozanthos bicolor* subsp. *minor* (Endangered), *Banksia oligantha* (Endangered), *Roycea pycnophylloides*, *Verticordia staminosa* subsp. *cylindracea* var. *cylindracea*. Draft IRP's were written for *Acacia leptalea* (Endangered), *Conostylis rogeri* (Endangered) and *Conostylis seorsiflora* subsp. *trichophylla* (Endangered). IRP's of *Adenanthos pungens* subsp. *effusus* and *Drakaea isolata* were updated.

Critically Endangered

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

Endangered

Anigozanthos bicolor subsp. *minor*, *Banksia oligantha*, *Centrolepis caespitosa*, *Conostylis seorsiflora* subsp. *trichophylla*, *Goodenia integerrima*, and *Muehlenbeckia horrida* subsp. *abdit*a have Interim Recovery Plans.

Vulnerable

Acacia auratiflora, *Orthrosanthus muelleri*, and *Roycea pycnophylloides* have Interim Recovery Plans.

No Full Recovery Plans exist for any of the Katanning District's Declare Rare Flora.

Translocations

No new translocations were initiated or developed in 2004.

Monitoring of the *Eremophila verticillata* continues for signs of germination. In November 2004, three seedlings were observed in one plot where fire was used on a natural soil seed-bank.

Education and Publicity

During 2004, the Katanning District was involved in a partnership with the local community group, the Newdegate Rare Flora Volunteers and a number of individual volunteers and flora enthusiasts.

Attended the Newdegate Field Days 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. Posters were also distributed at the Kojonup Wildflower Show and to various Shire workers throughout the year.

Several media articles were printed in local newspapers and the Department's 'Conservation News' detailing recovery actions and important finds.

Conclusion

The Katanning District Threatened Flora Management Program has been successfully implemented to date. Twenty Interim Recovery Plans have been completed since a Flora Conservation Officer began.

A 12-month, full time Conservation Officer position commenced in May 1999 based at CALM's Katanning District Office accessing funds for 3 years through the Natural Heritage Trust's Bushcare Program. This funding source ceased in May 2002. A successful application

to the Endangered Species Program provided funding from July 2002 to May 2003, with Biogene funds covering the lapse in between. These funds enabled the Recovery Team to implement recovery actions on plant taxa in most need of protection and recovery.

The Flora Conservation Officer position (salary only) is now permanently funded by the Department. Full position funding by NHT no longer occurs, however local Natural Resource Management groups (NRMs) offer funding to support on-ground operations and this is sought whenever available. This permanent funding of the salary for the position will ensure the recovery of the District's threatened flora will continue on a full-time basis, and enable more long term planning and approaches to managing threatened flora in the Katanning District.

The Katanning District Threatened Flora Recovery Team is working well and has members who realise the important role of community involvement and education, along with the importance of protecting rare flora.

Proposed major activities for the Recovery Team in 2005 include:

- Write or initiate an Interim Recovery Plan for *Caladenia melanema*
- Review the ranking/status of a number of Priority species and make recommendations to the Threatened Species Scientific Committee
- Undertake fieldwork – surveys and threat analysis – for 1 Endangered and 2 Vulnerable species for which WATSCU will be writing IRP's
- Implement weed and rabbit control at a number of populations
- Search for new populations of DRF
- Concentrate on surveys of a number of Priority species
- Review future funding requirements
- Review and re-assign priorities for the District Flora Management Plan

Bethea Loudon

Convenor/Flora Conservation Officer

Katanning District Threatened Flora Recovery Team/CALM Katanning District