

**Geraldton District Threatened Flora & Ecological Communities
Recovery Team**

Project no. 446

Annual Report

2001

by

A M Chant

for the Geraldton District Threatened Flora Recovery Team

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Department of Conservation and Land Management
Midwest Regional Headquarters
PO Box 72, Geraldton 6530

Summary

This report covers progress made in the implementation of the Threatened Flora Management Plan for CALM's Geraldton District, Project Number 446, and Recovery Plans for Critically Endangered Species and Threatened Ecological Communities, from January 2001 to January 2002.

There has been one meeting of the Recovery Team during the year and members have continued to contribute to survey work and recovery actions.

A large amount of productive fieldwork has been undertaken during the year. This has resulted in several species having improved conservation status and the rediscovery of three presumed extinct species in the District.

Promotion of Threatened Flora conservation within the community has continued, including a series of local newspaper articles and the production of a "Threatened Flora of the Midwest" bush book. A Landscape Magazine article on threatened flora recovery in the Midwest is also in progress and is intended for the autumn 2002 issue.

Wildlife Management Program No. 26 Declared Rare and Poorly Known Flora in the Geraldton District has been completed. This document has now been published and is being implemented.

Interim Recovery Plans or Draft Plans for the following have been produced and are being implemented, *Caladenia elegans* 2000 - 2003, *Pterostylis* sp Northampton 2000 - 2003, *Verticordia spicata* subsp *squamosa* 1999 - 2002, *Eucalyptus cuprea* 1999 - 2002, *Beyeria lepidopetala* 1999 - 2001, *Caladenia bryceana* subsp. *cracens* 1998 - 2001, *Eremophila viscida* 1997 - 2000, *Conostylis micrantha* 1996 - 1999, *Eremophila nivea* 1996 - 1999, *Leucopogon marginatus* 1998 - 2000, *Grevillea phanerophlebia* 2001 - 2004 and *Hypocalymma longifolium* 2001 - 2004, Acacia Rostelifera Low Forest with scattered *Eucalyptus camaldulensis* on Greenough River Alluvial Flats 1999 - 2002, Plant Assemblages of the Moonagin System 2001 - 2006, Plant Assemblages of the Billeranga System 2001 - 2006.

1. Formation of Recovery Team

1.1 The recovery team met once during the year, on 1st March 2002. The next meeting is scheduled for 28th March 2001.

Anthony Desmond	(Chair) CALM Regional Leader Nature Conservation
Sue Patrick	(Chief Investigator), CALM Science, WA Herbarium
Val English	CALM, WA Threatened Species and Communities Unit
Sheila Hamilton-Brown	CALM, WA Threatened Species and Communities Unit
Phil Roberts	CALM, District Wildlife Officer (Flora), Geraldton District
Alanna Chant	CALM, Conservation Officer (Flora), Geraldton District
Don Bellairs	CALM Volunteer, Wildflower Society, Kalbarri
Ian Hamilton	Main Roads WA, Roadside Management Officer, Geraldton Division
Meg Officer	Woolgorong Station, Murchison Field Herbarium
Robin Westlake	CALM Volunteer, Wildflower Society, Woorree Nursery, Geraldton

Anthony Desmond, Regional Leader Nature Conservation will replace Mike Meinema as the Chair.

The Recovery Team has agreed to incorporate Threatened Ecological Communities into its role. Sheila Hamilton-Brown, Project Officer with CALM's Threatened Species and Communities Unit working on Threatened Ecological Communities joined the Recovery Team in 2001. Robyn Stevens has been nominated to be a local representative to contribute on TEC's (Koolanooka, Moonagin and Billaranga Systems) in the District. Jenna Brooker is the local representative contributing to the management of the Greenough Flats TEC.

Graham Wilks of the Mullewa Shire Council has resigned from the Recovery Team because he felt he does not have sufficient time to contribute. A suitable replacement has not yet been determined.

Pat Fitzgerald has also resigned due to difficulty in attending meetings.

Other Volunteers are active in flora conservation and have been invited to attend Recovery Team Meetings, with the possibility of becoming members in the future. These include:

Josephine Docherty	Mullewa Wildflower Society
Irene Shepherd	CALM Volunteer, Northampton Herbarium Group
Anne Carr	CALM Volunteer, Mingenew Herbarium Group, soon to begin a collection for the Port Denison area.
Robyn Soullier	Mingenew Herbarium Group
Phil Docherty	CALM "Bushranger" group leader, Wildflower Society Eremophila Study Group
Jenna Brooker	Geraldton Herbarium Group

1.2 Major contributions from the Team during the year – Summary of Work Completed by Recovery Team Members.

Presumed Extinct Species

Three Presumed Extinct Species have been rediscovered in the District in the past year.

Stachystemon nematophorus

A recent specimen collected by Don & Barbara Bellairs (Recovery Team members) and an older collection by Andrew Brown and Steve Van Leeuwin, have been confirmed as this species. Articles promoting this rediscovery are to be published in March 2002. It is likely that at least two populations exist in the Kalbarri area. The Bellair's collection site has been surveyed and includes over 50 plants. The other collection site has been searched, however the area was too dry to recognise plants.

Further surveys are planned for later this year.

Ptilotus fasciculatus

Andrew Brown found a large population of this species on the Chapman Valley road near Yuna. The population has been surveyed and consists of over 1000 plants. Markers have been installed on the roadside.

The population occurs on a crown reserve and the management authority will need to be determined and notified. Other nearby areas of likely habitat for this species are planned to be surveyed later this year.

Gyrostemon reticulatus

Two populations of this species have been located near Tardan by Brother Van Veen of the Pallottine Mission (local flora and fauna enthusiast). The larger population occurs in remnant vegetation up slope of a drainage line on private property. Liaison with the property owner has occurred and markers have been installed on a track.

The property owner intends to fence the remnant and replant some of the cleared surrounding area. Adjoining paddocks are beginning to show signs of salinity and these measures will assist in abating the threat.

Further survey around Tardan is planned for later in the year, with assistance from local wildflower enthusiasts and the Tardan and Mullewa "Bushrangers". The species has been relisted as Vulnerable.

Critically Endangered Species

Beyeria lepidopetala

The collection site for this species was surveyed again in spring 2001, in an attempt to relocate the species, unfortunately this was not successful. Members searched for the species in likely locations during surveys in the Kalbarri area and are continuing to search opportunistically for the plant when in likely habitat.

Future plans for this species could include an article in the Kalbarri Newspaper during spring, encouraging local people to assist in rediscovering the species. It will also be necessary to search in newly burnt areas near Kalbarri. Some burning is planned for autumn 2002 around the Kalbarri town site. These areas will be surveyed for this species following regeneration of the vegetation.

Chorizema humile

Members are continuing to search opportunistically for this plant when in likely habitat. Unfortunately the species was not relocated in the District.

Posters of the species will continue to be distributed to the local community.

Caladenia elegans

All known populations of the species were monitored during flowering. The species was found to be in low numbers (possibly due to low rainfall). Survey of likely habitat resulted in discovery of one new population on private property. Property owners for new populations found this year and last year have now been notified. Weed treatment was carried out at populations 1 & 6. At population 1, work carried out to improve a drainage/erosion problem has been monitored and appears to have been successful. A gravel pit that was ripped as part of this work was planted with endemics in 2001 with groups of school children. Degraded areas within a Shire reserve, which contains population 6 were also planted with endemics by school children on Arbour Day. This reserve was also baited to control feral pigs and property owners are monitoring the level of pig activity.

Posters of the species are being distributed to the local community and this will continue throughout the next twelve months.

Further weed control and rehab planting will be required at both populations 1 & 6. No seedlings are currently available for this year however other sources will be investigated. Seed will be collected in summer 2002 to raise seedlings for planting in Autumn 2003.

There is also a need to determine any management requirements for the newly located populations.

Eremophila nivea

Known populations were monitored. Population 7a (Shire road verge) was found to be damaged by road maintenance and the matter is being dealt with by Wildlife Officer, Phil Roberts.

A Translocation has been implemented, which consisted of planting seedlings and direct seeding plots at West Perenjori NR and planting seedlings to restock population 7b on private property. The translocation sites have been monitored and all seedlings have since died. This is likely to be due to low rainfall and the seedlings being very small. Direct seeding plots have produced no seedlings to date. Trials are being carried out by Leonie Monks (WA Herbarium) to determine the best method for seed germination and soil depth for planting.

Further direct seeding and planting of seedlings is planned for autumn 2003, using those methods determined to be most effective by Leonie's research.

WWF funds have been gained to undertake habitat reconstruction work at population 7b this autumn. The project will involve weed control, fencing, smoke treatment and planting endemic seedlings. A group of ATCV volunteers will spend a week in early winter at the site. 3000 seedlings are being raised from seed collected on site.

Eremophila viscida

The Pindar population (thought to be extinct) was inspected with the possibility of undertaking disturbance trials to stimulate seed germination. It was discovered that there is one new seedling at the site, so no trials were carried out.

A new roadside population was located south of Mullewa and this site was subject to a disturbance trial project (burning, raking, smoke treatment) with a group of CALM "Bushrangers" from Mullewa. The trials are being monitored and no seedlings have been recorded to date. The "Bushrangers" also assisted in survey of remnant vegetation on adjoining private property and located a large population of this species. Phil Docherty ("Bushranger's" teacher) also located another new large population on Barnong Conservation Park. An article on project was published in the local paper.

The species is under threat from salinity and a Translocation Proposal is in progress. SAP money available will be used to purchase materials for the future translocation during 2002. Seed and cuttings will be collected to be raised for the translocation in 2003. Monitoring of populations and the disturbance trial will continue.

Eucalyptus cuprea

Known populations were monitored.

Some new populations require recording of GPS location during the next inspection. Posters of the species are continuing to be distributed to the local community.

Grevillea phanerophlebia

Both populations 1 & 2 have been monitored. Adult plants at population 1 have died due to drought and only 2 seedlings remain. Other possible plants occur in surrounding bushland at both populations, however their identity is uncertain and there appears to be hybridisation between *G biternata* and *G amplexans*. Confirmation of ID has made survey difficult. Material has been collected for Genetic work on the species which is likely to begin this year.

Following the results of Genetic work the need for implementing recovery actions will be determined and actions will be carried out accordingly.

***Pterostylis* sp Northampton**

All known populations were monitored during flowering and found to be in similar numbers as previous years. This species occurs with *Caladenia elegans* at all populations. At population 2 erosion control work was monitored and appears effective. Weed control and rehabilitation planting was carried out at populations 2 & 4. Survey located one new site on Private Property.

Further weed control and rehab planting will be required at both populations 2 & 4. No seedlings are currently available for planting this year however sources should be investigated. Seed should be collected in summer 2002 to raise seedlings for future planting.

Staff from the Botanic Gardens and Parks Authority have requested that seed be collected from this species.

Verticordia spicata* subsp. *squamosa

Known populations have been monitored and are in good condition. 4 new seedlings at population 4b are healthy and growing quickly. Smoke trial plots have been monitored and no new seedlings have been recorded to date.

A translocation has been implemented in cooperation with the Mingenew Herbarium Group. 8 plants were planted and fenced in remnant vegetation on private property and 4 direct seeding plots were fenced and seeded. Property owners watered plants during dry periods prior to a solar watering system being in place and operational. Monitoring has determined that all plants are surviving. There have been no recorded seedlings in the direct seeding plots to date.

Continued monitoring of the translocation is required. Another 20 plants are being raised, which will be available to plant out at the translocation site this winter. These will also require individual fencing and modifying the watering system to include new plants. A report to WWF is also required.

The four seedlings at population 4 will be monitored with the expectation that their rabbit proof fencing will require expansion.

Endangered Species

Caladenia bryceana* subsp. *cracens

A breach relating to road works, which cleared part of one population, did not result in a prosecution. Several populations were monitored and found in low numbers again due to low rainfall this year.

Further survey for this species is planned for 2002, including a trip to "Goat Hill" with recovery team members and National Park staff.

Caladenia hoffmanii* subsp. *hoffmanii

Several populations of this species were monitored, however low rainfall resulted in low orchid numbers and less time was allocated to survey. Feral pig control work has been ongoing and pig numbers at Oakajee NR are now very low.

Monitoring of populations is planned for this spring to determine the impact of the pigs on populations.

Caladenia wanosa

Kalbarri locations of this species were searched, however the species was not located, possibly due to low orchid numbers this year. Feral pig activity has degraded the species habitat. The Mullewa populations were monitored and a new population was located by the orchid society. This was surveyed and markers were installed.

Monitoring of Kalbarri populations is intended for this spring as these may be suffering by feral pig damage.

Daviesia speciosa

Known populations were monitored during flowering. A local newspaper article about the species was published. The article resulted in a property owner inviting survey of remnant vegetation (fenced and protected by a covenant) this resulted in a new population being located, and another on a nearby road verge. Markers were installed where required. Ongoing liaison with property owners and local government is occurring.

Populations will continue to be monitored and the species surveyed for opportunistically.

Drummondita ericoides

Populations have been monitored and found in good condition. Confirmation has been received of a new population located at Oakabella NR. Seed was collected from Moresby Populations and preparation of a Translocation Proposal has begun.

It is likely that the translocation planning will be carried out in 2002 and planting/direct seeding in 2003.

Eucalyptus beardiana

Northern populations have been monitored and liaison with property owners has continued. All populations appear in good condition. Areas nearby Mullewa were surveyed for new populations.

A population near Mullewa needs to be resurveyed and discussion with the property owner is required, regarding his suggestion to propagate and plant out more of the species onto properties.

Glyceria drummondii

Known populations have been monitored.

Populations will visit during flowering in 2002 to confirm that the scoops road population extends onto adjoining private property, following liaison with the property owner.

Grevillea murex

Known populations have been monitored. Markers are now in place at all populations.

The species will be surveyed for opportunistically during 2002.

Hypocalymma longifolium

Known populations have been monitored. The Murchison population has been resurveyed and found to be extensive. An interim recovery plan has been prepared and implementation has begun. There is a possibility that the species may be re-ranked following genetic work to determine if both populations are in fact the same species.

Weed control is required at population 1 and feral goats require monitoring at population 2. Further survey is planned for spring 2002 in conjunction with survey for other Kalbarri species.

Darwinia masonii

Known populations were resurveyed and threats monitored. Mining and goats were found to be significant threats. Further ridges of similar geological structure were surveyed with assistance from Landscape expeditions. Liaison with Agriculture WA regarding goat control at Ninghan station has occurred and control measures are being implemented.

Mining at the Mt Gibson ranges is imminent, and nomination of the species to be listed as critically endangered is planned.

Drakaea concolor ms

Known locations were monitored and the species was not located at some sites and found in very low numbers at other sites. This is likely to be due to low rainfall and feral pigs have impacted severely on Kalbarri populations. The problem has been discussed with National Park staff and planning for a coordinated approach to pig control in the Northampton – Kalbarri area is beginning.

A new population of this species on private property was recorded by a volunteer in 2000. The location was searched in 2001, however no plants were found. Approval from the property owner is required prior to further survey at this site. Kalbarri populations will require resurvey this spring.

Eremophila microtheca

Relisted as Priority 4.

Eucalyptus crucis subsp. praecipua

Known locations have been monitored and appear not to be at risk other than wildfire. Liaison with Agriculture WA staff and with property owners is continuing. There are plans to fence a large part of Ninghan Station to exclude goats and protect Warradaga Hill under Sect 16 of the CALM Act.

Station managers have applied for funds to fence a large area, which includes the species. Continued monitoring of the population in relation to feral goat activity is important.

Halosarcia bulbosa

The single known population was monitored and no threats are apparent. Pat Ryan has suggested a translocation of the species onto Lochada Station, which has been purchased by CALM, has areas of suitable habitat and is located approximately 25 km from the known population.

Lechenaultia chlorantha

Known populations were monitored. A new population was located near the Red Bluff population and property owners have been notified.

Further survey is planned for this spring to resurvey the population near Meanara Hill.

Leucopogon marginatus

Known populations have been monitored and appear in good condition. DRF markers have been installed where required.

The species will be surveyed for opportunistically during 2002.

Stylidium coroniforme

Known populations at Maya were monitored and found to be slowly declining (short lived disturbance opportunist). Survey for further populations in nearby areas has not located further populations. Liaison with railway contractors and railway maintenance work has been carried out and monitoring has determined that there has been no impact on the populations due to the work.

Further survey will be carried out during this species flowering period. Investigation and planning into the possibility of disturbance trials will begin in 2002.

Vulnerable Species

Conostylis dielsii subsp. *teres*

Several known populations were monitored. A new population on the Nangetty – Walkaway road has been confirmed, surveyed and DRF markers have been installed.

Further survey for this species will be carried out in the Burma Rd NR area, in conjunction with survey for *C micrantha* and *Leucopogon marginatus*, which occur in similar habitat.

Conostylis micrantha

Known populations have been monitored and found to be in similar condition to the previous year.

Further survey is intended during 2002.

Eucalyptus blaxellii

Several populations have been monitored. One new extensive population on private property has been located. Seed was collected from several populations in the Moresby ranges and this species may be included in a translocation with *Drummondita ericoides*. Consideration needs to be given to removing this species from the DRF list.

Eucalyptus synandra

Several populations have been monitored and found to be in good condition. New populations have been located on Mt Gibson Station and Karrara Stations.

Populations on Ludlow Rd near Morowa require markers. Pat Ryan has provided details of some locations he feels may contain this species, which will be search during the summer 2002/2003.

Wurmbea tubulosa

The condition of several known populations was monitored. Liaison with property owners has continued. Weed treatment trials a Greenough have been carried out.

Further consideration regarding removing this species from DRF listing is required.

Priority Species

Acacia unguicula

The species has been listed as DRF Critically Endangered. Populations all occur on the Mt Singleton Range on Ninghan Station and are threatened by feral goats. Liaison with Agriculture WA regarding goat control has resulted in planning toward resolving the problem. 3 populations were surveyed on Ninghan Station in August with assistance from Landscape Expeditioners.

Further survey and monitoring will be required during 2002.

Hybanthus cymulosus

The species has been recommended to be listed as DRF Endangered. Populations all occur on the Mt Gibson & Ninghan Stations and are threatened by feral goats. 4 populations were surveyed on Mt Gibson Station in August with assistance from Landscape Expeditioners.

Further survey and monitoring will be required in 2002.

Acacia imitans

The species has been recommended to be listed as DRF Endangered. Populations all occur on Ninghan and Mt Gibson Stations and are at risk from feral goats grazing. 5 populations were surveyed during August with assistance from Landscape expeditioners.

Further survey and monitoring for this in conjunction with the above two species will be carried out during 2002.

2 Confirmation of the conservation status of rare and poorly known flora thought to be endangered or critically endangered.

As a result of work on this project one other species in the District has also been recommended for listing as DRF, *Eremophila rostrata*. Two other taxa *Grevillea bracteosa* and *Schoenia filifolia* sbsp. *subulifolia* will also be recommended. Three others may be put forward if further work this year does not improve their conservation status. These are *Grevillea filifolia*, *Pityrodia axillaris* and *Verticordia dasystylis* subsp. *oestopioia*.

3 Threatened Ecological Communities

There have been four Threatened Ecological Communities identified in the Geraldton District to date, these include:

3.1 *Acacia rostellifera* thicket with scattered *Eucalyptus camaldulensis* on Greenough alluvial flats - Critically Endangered

A weed control project has been undertaken and monitored. Native Grasses have been sampled and identified.

3.2 Plant assemblages of the Koolanooka System, Plant assemblages of the Billeranga System and Plant assemblages of the Moonagin System – Vulnerable

Robyn Stevens has agreed to be the local representative and be involved with future work for these TEC's.

4 Reclassification

As a result of work in the Geraldton District

Presumed Extinct: The following have been relocated *Ptilotus faciculatus*, *Gyrostemon reticulatus*, *Stachystemon nematophorus*

Critical: The following were previously P1: *Acacia unguicula*, *Hybanthus cymulosus*, *Acacia imitans*, *Eremophila rostrate*.

5 Funding

Due to NHT applications for continuation of funding for the Conservation Officer position it is anticipated that current funds will be expended by October 2002.

CONCLUSIONS

Implementation of the Threatened Flora Management Plan for the CALM Geraldton District and Recovery Plans for Critically Endangered species and Threatened Ecological Communities has continued in 2001/2002.

The Recovery Team has met once during the year and members of the team have contributed to the work of survey and recovery actions.

A large amount of productive fieldwork has been undertaken during the year. This has resulted in several species having improved conservation status and the rediscovery of 3 presumed extinct species. Local Herbarium collections are in the process of being expanded.