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**The Newsletter of the Western Australian Threatened Species & Communities Unit**

## Presumed Extinct Flora *Gyrostemon reticulatus* Rediscovery ~ Alanna Chant

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**This Spring Brother Van Veen was able to relocate the plants and took Val English and Andrew Brown from WATSCU and Alanna Chant from the Geraldton District to show them his discovery.**

*C.A. Gardner first collected Gyrostemon reticulatus near Cannan, in 1933.* Until very recently, it had not been collected since 1938, and was known from a few specimens. The species had therefore been listed as Presumed Extinct for many years, until its rediscovery by Brother Van Veen from the Pallattine Mission at Tardun. Brother Van Veen collected a specimen of the *Gyrostemon* in 1990, which was not confirmed to be this species until March 2000. When Brother Van Veen first found the species there were only a few of the plants present, and these were at least 10 years old but still flowering and fruiting. In July 2000 one of the locations had been burnt and the plants could not be found. This Spring Brother Van Veen was able to relocate the plants and took Val English and Andrew Brown from WATSCU and Alanna Chant from the Geraldton District to show them his discovery.

During this recent inspection it was discovered that there are now over 500 plants of the species in the area that are regenerating

after the fire and two larger plants at a location nearby where the soil had been highly disturbed several years ago. This shows that the species is likely to be a disturbance opportunist, and that fire or soil movement stimulates germination. It was also noticed that there are separate male and female plants and that the plants reproduce from seed and possibly resprout after fire. The plants seem to reach maturity and flower within one year and senescence is reached following at least ten or more years.

*Gyrostemon reticulatus* is a shrub to 1m tall with crowded linear leaves 11-35mm long. It grows in very dense shrubland with several *Melaleuca* species, *Acacia accuminata*, and *Allocasuarina campestris*, on yel-

*Gyrostemon reticulatus*

Photos: Val English

low-brown sandy slopes.

The species will now be listed as Declared Rare Flora and its regeneration following the fire will require periodic monitoring, particularly in relation to seedling survival over dry periods. The plants are currently in flower and collection of seed from the plants following flowering will also further protect the long term survival of the species.

**Alanna is the Conservation Officer for Geraldton District based at the Department's Geraldton office and can be contacted on (08) 9921 5955 or email [alannac@calm.wa](mailto:alannac@calm.wa).**

## Green Corps helping to conserve Threatened Ecological Communities ~ Robyn Phillimore

*Previously*, an article appeared in *WATSNU* (Vol 6, issue 2, pg 10) about the development of a new Green Corps project set to run from December 1999 to May 2000. It involved the Department of Conservation and Land Management (the Department), World Wide Fund for Nature (WWF), and Australian Trust for Conservation Volunteers (ATCV), working alongside local government and friends groups.

The project has helped to implement recovery actions for 11 Critically Endangered TEC's and two Endangered TEC's, most of which are located on the Swan Coastal Plain (SCP). Twelve of these TEC's have Interim Recovery Plans in place already. The Tec's covered by the project are as follows:

- Shrublands on southern Swan Coastal Plain ironstones (SCP 10b)
- Sedgeland in Holocene dune swales of the southern Swan Coastal Plain (SCP 19)
- Stomatolite-like microbialite community depend-

ent on fresh ground water of coastal brackish lakes (Lake Clifton, Yalgorup)

- Stomatolite-like microbialite community of coastal freshwater lakes; Lake Richmond, Rockingham
- Communities of Tumulus Springs (Organic Mound Springs, SCP)
- Shrublands and woodlands of the eastern side of the SCP (SCP 20c)
- Perth to Gingin ironstone association
- *Eucalyptus calophylla* – *Kingia australis* woodlands on heavy soils (SCP 3a)
- *Eucalyptus calophylla* – *Xanthorrhoea preissii* woodlands and shrublands (SCP 3c)
- Aquatic root mat community number 1 of caves of the SCP (Yanchep caves)
- Aquatic root mat community number 1-4 of caves of the Leeuwin Naturaliste Ridge
- Shrublands and woodlands on Muchea limestone (Endangered)
- Scott River ironstone heaths (Endangered)

### Perth to Gingin ironstone association

*Melaleuca huegelii* and *M. lanceolata* seed was collected from the site for future rehabilitation. A depth gauge was also installed at the site.

### Shrublands and woodlands on Muchea limestone

Seed was collected at the Bootine Road Nature Reserve from *Melaleuca teretifolia*, *M. huegelii*, *M. systema*, *Acacia saligna* and *Casuarina obesa* for future rehabilitation. A depth gauge was also installed on site. Weed control was undertaken and included wiping of Arum lily (*Zantedeschia aethiopica*) and dock (*Rumex* sp.), and cutting of Japanese pepper (*Schinus terebinthifolia*) and typha.

### Communities of Tumulus Springs (Organic Mound Springs SCP)

The Green Corps team worked for 10 days at a mound springs site on Faull Street Muchea. River gums (*Eucalyptus camaldulensis*) are a major weed at the site. Many of the trees were growing on the mounds, and once they reached maturity had the potential to dry out the springs. Several hundred saplings were therefore cut out and the trunks poisoned. Budding club-rush (*Isolepis prolifera*) is also a major weed at the site and was handpulled.

### Stomatolite-like microbialite community of coastal freshwater lakes; Lake Richmond, Rockingham

Weed control was undertaken on the margins of Lake Richmond. The Green Corps team repaired the boardwalk so that visitors could get a close-up view without crushing the

The project has now been completed with some of the work undertaken listed below.



Green Corps volunteers working at Point Becher

thrombolites. The team also assisted in the construction of an environment centre.

### **Sedgeland in Holocene dune swales of the southern Swan Coastal Plain (SCP 19)**

The Green Corps team spent several weeks at Point Becher brushing a major foredune blowout, removing old fences, rolling up wire and brushing along tracks for dune stabilisation.

### **Shrublands and woodlands of the eastern side of the SCP (SCP 20c)**

Seed from *Kennedia prostrata*, *Hakea trifurcata*, *Anigozanthus manglesii*, *Eucalyptus todtiana*, *Gompholobium* sp. and *Eucalyptus calophylla* was collected at Talbot Road reserve. Control of watsonia by wiping, manual removal of tree lucerne (*Chamaecytisus palmensis*), introduced *Acacia* sp. and Patersons Curse (*Echium plantagineum*) was undertaken. Excessive tracks were closed and rehabilitated by spraying with smoke water, and tree lucerne placed on tracks to discourage access. Rubbish found in the reserve was also removed.

### ***Eucalyptus calophylla* – *Kingia australis* woodlands on heavy soils (SCP 3a)**

“Lambert Lane” reserve has just been transferred to the Conservation Commission and is being managed by the Department. To prevent disturbance to the TEC by road maintenance, yellow hockey stick markers were

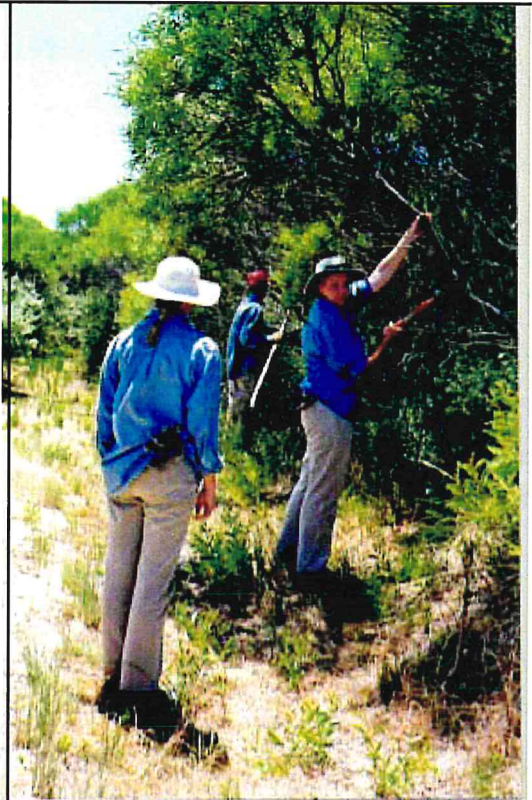
placed on the road reserve. Veldt grass (*Ehrharta brevifolia*) culms were cut out with knives, and tree lucerne was removed and placed on the tracks to discourage access. Bollards were placed along the railway line to restrict access. Around 2500 kilograms of rubbish, including car bodies, was removed from the reserve. Seed was collected from *Allocasuarina humilis*, *Gompholobium marginatum*, *Acacia pulchella*, *A. drewiana*, *Mesomelaena tetragona*, *Hakea prostrata*, *Neurachne alopecuroidea*, *Kennedia prostrata*, *Eucalyptus lane-poolei* and *Nemcia capitatum* for future rehabilitation.

Mundijong Road- watsonia control was undertaken and 2500 seedlings were planted by the Green Corps team. An information bay was also developed for the site.

### ***Eucalyptus calophylla* – *Xanthorrhoea preissii* woodlands and shrublands (SCP 3c)**

The Green Corps team collected seed at Ellenbrook Nature Reserve from numerous species including *Melaleuca lateritia*, *Calothamnus quadrifidus* and *Acacia saligna*. Hand pulling of watsonia and spraying of grassy weeds was also undertaken. Around 1600 seedlings were planted on site and 50 sedges were transplanted to wetlands around the reserve.

The work undertaken by the Green Corps team has provided a strong baseline for continual recovery work and



**Green Corps volunteers hard at work**

monitoring of Threatened Ecological Communities on the Swan Coastal Plain. It has complemented neatly the three year Department of Conservation and Land Management–Bushcare project: “Implementing Interim Recovery Actions for Critically Endangered Ecological Communities on the Swan Coastal Plain” as well as providing an important link with community groups.

The three year project referred to above funded by Natural Heritage Trust (NHT), is now in its final year. Robyn Phillimore is the current project officer carrying on from Alex Agafonoff who worked on the initial two years of the project.

**For further information on any of these projects contact Robyn on (08) 9405 5165 or email: [robynp@calm.wa.gov.au](mailto:robynp@calm.wa.gov.au)**

## Statewide threatened ecological communities ~ Sally Black

*The three year project entitled 'Conserving threatened ecological communities (TECs), especially outside the Southwest Botanical Province',* assisted by NHT funding, is in its final financial year. This project is identifying and seeking ways to conserve TECs throughout Western Australia, especially in the rangelands, and I am the Project Officer.

In the 6 months since the last issue of *WATSNU*, 10 rangeland communities have been formally assessed (or reassessed) by the WA Threatened Ecological Communities Scientific Committee, 2 as Endangered, 6 as Vulnerable and 2 as Priority Ecological Communities. The process of identifying other possible TECs and collating sufficient data to permit their formal assessment is ongoing.

Eight weeks were spent conducting field work in the Midwest and Kimberley Regions, in the following Bioregions: Carnarvon Basin, Gascoyne, Murchison, Dampierland, Great Sandy Desert, Central Kimberley, North Kimberley, and Victoria-Bonaparte. This involved survey of occurrences and possible occurrences of TECs, and other communities awaiting formal assessment, as well as onsite liaison with land managers and other interested parties to

discuss and encourage conservation management. For example, together with the West Kimberley's Conservation Officer (Tim Willing) and the president of the Broome Botanical Society (David Dureau), 13 aboriginal communities and outstations, 2 mound spring wetland complexes, and 13 occurrences of the TEC 'vine thickets on the coastal dunes' (identified from colour aerial photographs) were visited on Dampier Peninsula north of Broome. Liaison involved information exchange with the locals, and copies of the book 'Broome and Beyond' were distributed to support the interest of people from numerous outstations.

As part of the same expedition, and as a follow up to the 1999 Walyarta Survey, the trio team also visited Anna Plains Station, locating and investigating two previously undocumented occurrences of organic mound springs along with several other springs in the Mandora Marsh system, documenting more inland occurrences of the mangrove *Avicennia marina*, and collecting samples of an undescribed taxon of goby fish from a hypersaline pool in Salt Creek.

Together with a volunteer, and with the assistance of District staff of the Department of Agriculture, I also investigated occurrences of coolabah-lignum swamps

and other claypan plant communities assemblages in the Gascoyne and Murchison. This community, the coolabah-lignum swamps assemblage is on the list of possible TECs and the variation in its floristic composition between regions requires clarification.

On Carlton Hill Station in the East Kimberley, unsurveyed wetlands identified from topographic maps as potential occurrences of a possible TEC were investigated, with the help of another volunteer. The journey extended into the North Kimberley where discussions were held with pastoralists regarding the project and the conservation management of organic mound springs and rainforest soaks (*see photograph Pg 5*), which were assessed as TECs earlier this year. The known occurrences of these communities were revisited for the purposes of monitoring, and 7 newly identified occurrences were surveyed for the first time. Pastoralists were generous with their time (in late October this was more feasible than during the peak tourist season), provided valuable assistance by locating additional occurrences of these TECs, and were genuinely interested in implementing management actions such as fencing maintenance, the erection of new fences, and fire management.

**To provide or obtain further information on TECs throughout the State, especially outside the southwest, contact Sally on (08) 9405 5168 or email [sallybl@calm.wa.gov.au](mailto:sallybl@calm.wa.gov.au)**

## Maintaining the Threatened Ecological Community Database ~ Melissa Hoskins

*The Western Australian Threatened Species and Communities Unit (WATSCU) recently received funds from Bioprospecting licences* to support a new position. This position 'Ecologist – TEC database' involves maintaining and updating information on botanical and other types of communities on the Threatened Ecological Communities Database.

With rapid urban development of the Swan Coastal Plain over recent years there is the potential for many of the threatened ecological communities, particularly in the metropolitan area, to be adversely affected. In some cases, occurrences of threatened communities may be modified or destroyed without their significance being first identified. It is essential therefore that WATSCU have the capacity to keep re-

records up-to-date and to add new survey information as it becomes available.

The first priority of this new position is to update the TEC database by entering new occurrences of endangered and vulnerable communities as identified in *Bush Forever*. Each of these sites needs to be visited and surveyed to collate information that is then entered onto the TEC database. The fieldwork involves mapping the boundaries of these communities and assessing their condition.

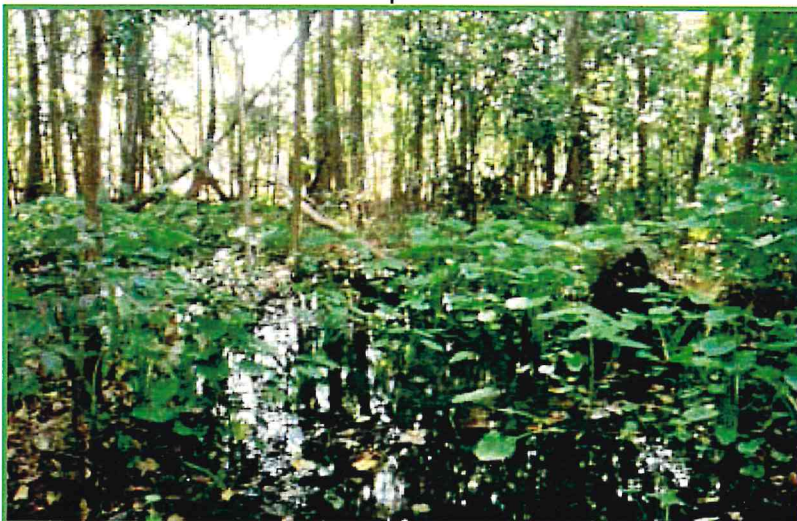
Field visits have been conducted for a number of *Bush Forever* sites and to date, 18 new occurrences of threatened communities have been added to the database. These new data includes information on areas of the following communities:

- the endangered community '*Banksia attenuata*

over species rich dense shrublands' (Swan Coastal Plain community 20a')

- the endangered 'eastern *Banksia* and/or *Eucalyptus marginata* woodlands' (Swan Coastal Plain Community 20b')
- the endangered community 'Shrublands on dry clay flats' (Swan Coastal Plain community 10a')
- the vulnerable 'herb rich shrublands in clay pans' (Swan Coastal Plain community type 8')
- the vulnerable '*Eucalyptus calophylla* – *E. marginata* woodlands on sandy clay soils' (Swan Coastal Plain community 3b')

The TEC database is utilised by a number of State Government Departments, private companies and environmental consultants to help identify areas of environmental significance. A more complete data set will support early identification of any potential impacts to these significant areas.



A rainforest soak in the north Kimberley Photo: Sally Black

For further information contact Melissa on (08) 9405 5170 or email [melissah@calm.wa.gov.au](mailto:melissah@calm.wa.gov.au)

## NEW FLORA FINDS ~ Andrew Brown

### New population of *Ptilotus fasciculatus*

*Ptilotus fasciculatus* is an unusual prostrate species of mulla mulla that was until 2000, thought to be extinct as no plants had been found for over 97 years since the type collection was made from near Cunderdin by W V Fitzgerald in 1907.

In fact, we now know that specimens had been collected but, due to taxonomic confusion, were thought to represent another *Ptilotus*. Following investigation by Terena Lally (formerly of the Western Australian Herbarium), it was found that plants thought to be *P. caespitosus* were in fact *P. fasciculatus* and that *P. caespitosus*, rather than *P. fasciculatus*, was really the extinct taxon.

*P. fasciculatus* occurs on sandy rises above saline flats in the central and northern Wheatbelt. Some seven populations are now known, extending from near Hyden to Yuna over a geographic range of some 600 kilometres. The species has a prostrate habit, distinctive leaves and inflorescences that emerge laterally then bend upwards. It is a late flowering species and usually reaches its peak in late October, November.

Thanks to the insight of Farmers Alison and John Doley, a large area of land on their property west of Wubin

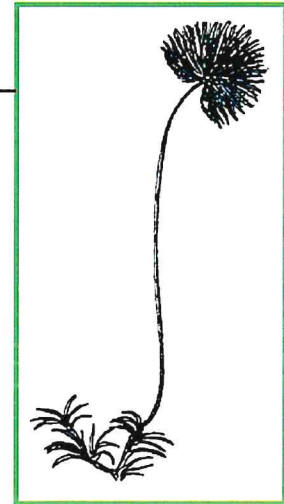
property has been set aside for the conservation of flora and fauna and contains populations of many species threatened with extinction elsewhere. Some of the best populations of *P. fasciculatus* occur on their land and, in August 2001, Val English and I had the opportunity to see the species first hand.

The plants were in bud but, due to their distinctive habit, were readily distinguished.

A few weeks later when returning to Perth from Holidays in the Binnu area I stopped to take a look at some remnant bushland between Nabawa and Yuna as I had spotted several *Eremophila* species in full flower.

The area consists of sandy-clay rises above a saline drainage system and in many ways is similar to the habitat where Val and I had seen *Ptilotus fasciculatus*. It only took a few minutes for me to find the first plant and with a bit more searching I discovered that there were literally 1000s of plants in the area, all in early bud.

As I knew some of the local farmers I asked one if he could collect a specimen when the species was in full flower. In late October, Mr Brad Burns sent me a specimen that I showed to Rob Davis of the WA Herbarium. Imagine my delight



Fitzgerald's mulla-mulla  
Illustration: Susan Patrick

when he confirmed my suspicions and told me that it was indeed *P. fasciculatus*. The population is some 200 kilometres north of the next known population east of Perenjori and may indicate that more populations are lurking in similar habitat in between.

The species is currently ranked Endangered but with the discovery of this new population is likely to be reclassified to Vulnerable.

### Rediscovery of *Eremophila complanata* ms

In 1985 Mary Squire (Nursery owner and *Eremophila* expert) found a beautiful pink flowered *Eremophila* on Chiddarcooping Hill Nature Reserve north of Merredin. She subsequently told Bob Chinnock of the Adelaide Herbarium about the species. Bob, who is working on the taxonomy of *Eremophila*, made a collection of the species and gave it the manuscript name *E. complanata*. *Complanata* is Latin for flattened and refers to

the flattened appearance of the flower.

*Eremophila complanata* is similar to the closely related *E. phillipsii*, differing essentially in having pink rather than blue-purple flowers. The species has only been found in a single location and was therefore being considered for declaration as Rare Flora.

As I had not been able to locate it at either the type locality or in similar habitat elsewhere, I thought it would be a good idea to get its discoverer to show me exactly where she had originally found it. In September this year I accompanied Mary Squire and Karen Bettink (Merredin District Conservation Officer) to the type locality.

Chiddarcooping Hill was recovering from a hot summer wildfire that had occurred during early 2001 and included the area where *E. complanata* had been found. Many *Eremophila* species germinate following summer fire and we were hoping the Chiddarcooping fire may have stimulated germination of *E. complanata* seed. After just a few minutes searching the first seedling plants were found and after another hour we had located a total of 37 seedlings, a few in first flower.

Thanks to the help of Mary Squire in relocating the plant we are fairly confident of the long-term security of this species and will defer any recommendation in regard to



**Sandplain Sun Orchid**  
Photo: Andrew Brown

declaration until further surveys are undertaken next Spring. At this time most seedling plants will have reached maturity and be in full flower.

### **New Population of Sandplain Sun Orchid (*Thelymitra psammophila*)**

In September this year I accompanied Sarah Barrett (Albany District Conservation Officer) to an area of Private Property south of Ongerup where a local farmer had discovered what he thought may be a new population of the Sandplain Sun Orchid. Sarah had distributed a small brochure containing a photo and description of the species to a number of residences in the Borden - Ravensthorpe area

in the hope that someone would recognise the orchid. The farmer had seen the photo and thought it resembled a species that he had seen on his brother's nearby property.

Imagine our delight when he took us to the site and it not only turned out to be the elusive Sandplain Sun Orchid but also was the largest population yet to be found. Over 300 plants were seen in full flower.

The species has a single smooth leaf and a spike of up to 7 pale yellow flowers that resemble the far more common Lemon Scented Sun Orchid (*Thelymitra antennifera*) but differs in lacking the ear-like column lobes.

Despite its common name of Sandplain Sun Orchid, the species does not grow in areas of sandplain. Rather, it prefers clay soils in winter moist low heathland habitat. This habitat is quite common in the Ongerup area and more plants of the orchid may be found with further searching.

Sandplain Sun Orchid is currently known from seven populations between Borden and Ravensthorpe. The new population almost doubles the number of known plants.

**For further information contact  
Andrew on (08) 9405 5166 or  
email  
andrewbr@calm.wa.gov.au**

## Giving biodiversity a helping hand ~ The BankWest LANDSCOPE Conservation Visa Card ~ Jill Pryde

*Several more projects have now been completed with funds provided by the Bankwest Landscape Conservation Visa Card Trust Fund* and those using the card continue to support excellent conservation work. A summary of work of six projects that were funded during the 1999-2000 follows. This information will be reproduced in a brochure and sent to holders of the card.

### Subterranean aquatic fauna survey, adjacent to Fortescue marsh

The conservation of subterranean fauna, especially species (known as stygofauna) that live in groundwater aquifers is becoming more important. More information is needed about these animals as, without adequate knowledge, the potential exists for impact by resource industries. The stygofauna of the Millstream aquifer is comparatively well known and the survey was designed partly to discover how widespread these animals are.

The BankWest *Landscape Conservation Visa Card Trust Account* funded a survey of the stygofauna near the Fortescue Marsh, north of the Hamersley Range, in the Pilbara. The work was carried out by Dr Bill Humphreys of the Western Australian Museum, the leading scientific expert on these animals in WA. Some 32 sites were sampled of which 20

yielded aquatic fauna, mostly crustaceans. The identification of some of these is continuing, but already it seems that the Millstream stygofaunal assemblage is unique.

### Radio-tracking of Dibblers, Fitzgerald River National Park

The Dibbler *Parantechinus apicalis* is a small carnivorous marsupial that is listed as an Endangered species. The only mainland populations known at present occur within the Fitzgerald River National Park. The aim of this project was to use radio-tracking to enable a more detailed understanding of the movements and social organisation of Dibblers, particularly whether they occupy the same sites for significant periods of time. This information will help design conservation programs for the species and management actions for the park. Dr Tony Friend was in charge of the project.

The transmitters were developed in consultation with a specialist company in the United Kingdom. They weighed only 2 g and the battery lasted about 10 weeks. Fieldwork took place during October and November 1999 and January to May 2000 and a number of volunteers participated. The study area, on Twertup

Creek, was found to support a high density of Dibblers, with 20 captured in traps over 75 ha. Individual Dibblers occupied discrete home ranges and occupied long-unburnt vegetation, avoiding an area burnt five years previously. They were crepuscular, that is they were active near dawn and dusk. It proved impossible to locate their diurnal and nocturnal rest sites, as they moved away from them when approached.

### Seed collection and germination in two threatened *Adenanthos*

Thirty-three species of *Adenanthos* occur in southern temperate Australia with 32 species confined to southwestern Australia. Many are susceptible to the pathogen *Phytophthora cinnamomi* and six species are currently listed as threatened. The collection and storage of viable seed is an important action to conserve threatened plants, and some years ago the Department of Conservation and Land Management set up the Threatened Flora Seed Centre, located at the WA Herbarium, to conduct this important work. Anne Cochran, the manager of the Seed Centre, led the project.

Hand collection of *Adenanthos* seed is difficult and time consuming. In 1997 the Department obtained funding from the World Wide Fund for Nature Australia (WWF) to establish 20 seed traps targeting Velvet Woollybush *A. velutinus* and Spiky *Adenanthos A. pungens* subsp. *pungens*—both are threatened species and the Spiky *Adenanthos* is listed as Critically Endangered. The funding covered the expenses of local volunteers, who carried out the necessary



frequent clearing of the traps. Unfortunately, insufficient seed was collected at this time for comprehensive germination trials.

The BankWest *Landscape Conservation Visa Card* funded the further collection of seed from the seed traps and germination trials carried out at the TFSC. Seed traps have proved very useful in collecting *Adenanthos* seed. The germination trials were successful, with an average of 41% of seed from *Adenanthos pungens* subsp. *pungens* and 54% of seed from *A. velutinus* germinating after special treatment. The Threatened Flora Seed Centre now has sufficient material of both species in long-term storage, in case seed has to be used as a last resort to save these plants from extinction.

#### Survey of lowland vegetation communities of restricted occurrence in the Stirling Range National Park

Whereas the upland communities of Stirling Range National Park have been surveyed extensively, lowland communities have not received the same attention. Several of these communities appeared to be different from any represented in other conservation areas. A significant portion of the Park has been severely affected by *Phytophthora* dieback disease, so it important to find out which areas need special protection. The BankWest *Landscape Conservation Visa Card* partly funded surveys aimed

at delineating such restricted plant communities. These surveys were conducted by Russell Smith, Sarah Barrett and Malcolm Grant.

Some special communities were identified. These included the Baker's Spring Ironstone community, the *Dryandra* heath on laterite ridges community, and some sandplain plant communities. The Bakers' Spring community, while not unusual in its mix of species, is one of the very few areas of the once more widespread *Eucalyptus tetragona* mallee-heath that has not been severely impacted by *Phytophthora* dieback disease.

#### Phosphite application to threatened Southern Ironstone Community

The Critically Endangered Southern Ironstone Community occurs near Tutunup, not far from Busselton. The community, and several threatened plants within it, are threatened by the root-rot plant pathogen *Phytophthora cinnamomi*. The BankWest *Landscape Conservation Visa Card* funded the application of phosphite to three occurrences of the community, which contain the threatened plants *Dryandra nivea* subsp. *uliginosa*, *Dryandra squarrosa* subsp. *argillacea* and *Petrophile latericola*. All these plants are susceptible to and killed by *Phytophthora*.

Phosphite is a simple chemical that enables plants to fight off the pathogen and when applied correctly does not harm native plants. It is the only treatment currently available that can be used in natural bushland areas. The work was supervised by Greg Voigt.

Monitoring transects were set up to measure the effects of the treatment. It is expected that the application will protect the community for some years.

#### Installing monitoring bores around a threatened ecological community

An occurrence of the critically endangered ecological community 'Perched wetlands of the wheatbelt region with extensive stands of living sheoak (*Casuarina obesa*) and paperbark (*Melaleuca strobophylla*) across the lake floor' is located on a private farm near Dowerin. This is one of very few freshwater wetlands remaining in the wheatbelt and groundwater monitoring is necessary to measure changes in salinity.

The BankWest *Landscape Conservation Visa Card* funded the establishment of a network of monitoring bores in the Tin Dog Creek catchment. A guillotine gate, allowing the diversion of low salinity surface water towards the wetland, was also installed, at the landowner's expense. Monitoring during 2000 did not demonstrate any short-term hazard to the vegetation in the wetland. Monitoring will continue and remedial action will be undertaken if necessary.

The work was supervised by Sheila Hamilton-Brown and carried out by a consultant.

For further information contact Jill on 08 94055 128 or email [jillp@calm.wa.gov.au](mailto:jillp@calm.wa.gov.au)

## Translocations of threatened fauna and flora

*Two new translocations were approved and carried out during August and November 2001*

### Western Swamp Tortoise (*Pseudemydura umbrina*) (Critically Endangered (CR))

Approximately 25 juvenile animals are to be moved each year over the next five years from the breeding colony at Perth Zoo and introduced to land purchased last year at Mogumber. This piece of land contains three seasonal clay swamps and after a trial translocation of six tortoises in 2000 suggests this location is suitable habitat for the young animals.

The translocation was undertaken by Dr Gerald Kuchling on behalf of the Western Swamp Tortoise Recovery Team.

### Dibbler (*Parantechinus apicalis*) (Endangered (EN))

This translocation is considered a re-introduction and animals that were bred at Perth Zoo came from original stock at Fitzgerald River National Park. Forty three adult and juvenile animals were translocated to the proposed Peniup Nature Reserve which lies within the Shire of Jerramungup. The translocation was undertaken by Dr Tony Friend on behalf of the Dibbler Recovery Team.

## NEW PUBLICATION

### *A new publication recently published looks at the progress*

of Interim Recovery Plans written in 1996 and 1997. Titled *Review of Implementation of Interim Recovery Plans approved in 1996 and 1997* by Andrew A Burbidge, Andrew Brown, Val English and John Blyth (Western Australian Wildlife Management Program No. 34). The review examines whether the recovery actions prescribed in IRPs 4-16 have been implemented, whether success criteria have been met, whether the taxon still meets criteria for Critically Endangered and whether a full recovery plan is required.

In 1997, the Department of Conservation and Land Management published Wildlife Management Program No. 29 Interim Recovery Plan 4-16 for Western Australian critically endangered plants and animals (see list below) edited by Jill Pryde, Andrew Brown and Andrew Burbidge. The term of the Interim Recovery Plans (IRPs) varied. Most were for 1996 – 1999, while two were for 1996 – 1998. Approval dates were between 21 March 1996 and 17 May 1997.

IRP No. 4 Night Parrot *Pezoporus wallicus*

IRP No. 5 Antina *Zygomys pedunculatus*

IRP No. 6 Western Ground Parrot *Pezoporus wallicus flaviventris*

IRP No. 7 Small-flowered Conostylis *Conostylis micrantha*

IRP No. 8 Red Snakebush *Hemiandra gardneri*

IRP No. 9 Dwarf Rock wattle *Acacia pygmaea*

IRP No. 10 Mogumber Bell *Darwinia carnea*

IRP No. 11 Norseman Pea *Daviesia microcarpa*

IRP No. 12 Kamballup Dryandra *Dryandra ionothocarpa*

IRP No. 13 Stirling Range Dryandra *Dryandra montana*

IRP No. 14 Metallic-flowered Eremophila *Eremophila veneta*

IRP No. 15 Majestic Spider Orchid *Caladenia winfieldii*

IRP No. 16 Swamp Starflower *Calytrix breviseta* subsp. *breviseta*

Interim Recovery Plans are prepared for a three-year period, although they continue to operate unless superceded. Although not stated in these recovery plans, more recent ones have a commitment to prepare a full recovery plan at the end of the three-year period, if the taxon is still Critically Endangered. For each plan, the following questions are addressed:

Is the species still ranked as CR and if so why, or has it been moved to a lower category of threat and if so why?

Which recovery actions have been fully implemented; which have not been fully implemented and why not?

Have criteria for success been met;

(Continued on page 11)



**Silky eremophila**  
Photo Andrew Brown

(Continued from page 10)

if not have criteria for failure been met?

Does a new IRP or full Recovery Plan need preparation?

The conclusions of the 13 IRPs published in 1997 states that they have progressed well and of the 13 taxa, seven still meet criteria for ranking as Critically Endangered, four have been moved to Endangered and two have been moved to Vulnerable. No species covered by these IRPs has become extinct, although the status of the Night Parrot is still unknown. None of the taxa has been delisted.

If you wish to view the full publication, please contact Jill on (08) 94055 128 or email [jillp@calm.wa.gov.au](mailto:jillp@calm.wa.gov.au)

## Celebrating 100 Interim Recovery Plans! ~ Jill Pryde

*The staff of WATSCU, recently came together to celebrate the approval of the 100<sup>th</sup> Interim Recovery Plan (IRP).*

Current staff along with some of the previous project officers who were employed to write or implement these plans (many of whom are now spread far and wide) and people who provided valuable advice in the writing of the plans, often as co-authors, got together to celebrate the achievement.

Interim Recovery Plans are mostly written for critically endangered threatened species and ecological communities in order to prescribe urgent recovery actions needed to address the threatening processes most affecting their ongoing survival. These plans are developed within the framework laid down in the Department's Policy Statements Nos. 44 and 50 and all plans are approved by the Director of Nature Conservation. IRPs usually operate for three years but remain in force until withdrawn or replaced. If a taxon is still ranked as Critically Endangered at the end of the three years, it will usually be replaced by a full recovery plan.

The first IRPs were written in 1995; however, it wasn't until 1997 when WATSCU employed special-

ist project officers with funds provided by the Commonwealth's Endangered Species Program (now part of the Natural Heritage Trust) that the bulk of the flora and ecological communities plans were written. There are currently 73 Flora, 9 Fauna and 19 ecological communities covered by IRPs. The Commonwealth has now adopted 40 of these plans under the *Environment Protection and Biodiversity Conservation Act 1999*. This Act includes provisions for ecological communities, which are not yet recognised in Western Australian legislation.

Deputy Director, Biodiversity Conservation, Dr Andrew Burbidge, previously Director of WATSCU, paid tribute to the commitment and hard work of WATSCU staff and supporters. He said that Western Australia continued to lead the nation in the production and implementation of recovery plans for species and ecological communities.

Since the last issue of *WATSNU* three more IRPs have been approved by the Director of Nature Conservation and these include:

**IRP No. 99 Whorled eremophila, *Eremophila verticillata* by Robyn Phillimore and Andrew Brown**

**IRP No 100 Vein-leaf Grevillea, *Grevillea phanerophlebia* by Robyn Phillimore, Alanna Chant, Val English**

And

**IRP No 101 Silky eremophila, *Eremophila nivea* by Robyn Phillimore, Diana Papenfus and Val English**

## Sheila's busy Springtime reconnaissance ~

Sheila Hamilton-Brown

*The field component of my project this spring* has been very busy and has concentrated on two aspects including identifying new threatened ecological communities (TECs) and implementing recovery actions for them.

### New possible TECs

Off to Walpole, accompanied by University of Western Australia Masters student, Cate Tauss, to have a look at swamps dominated by the priority species *Reedia spathacea* and other plants. Cate is concerned that the swamps are being destroyed by clearing for housing estates, feral pig activity and fire.

After having a good look at a suite of them, Cate and I decided that we had two different possible TECs to put before the Threatened Ecological Communities Scientific Committee (TECSC) at its next meeting in February 2002.

Closer to home, along with Mike Lyons (Research Scientist, State Salinity Strategy) I surveyed the salt flats vegetation of the Mortlock River located between Meckering and Tammin. Another population of *Frankenia parvula* was found. The Scientific Committee will be assessing this one in February also. So watch this space for the outcome.



**Bentonite Lakes Photo:**  
Sheila Hamilton-Brown

The TECSC have now classified two new TECs since the last WATSNU issue:

Organic Mound Spring (Three Springs area) – Endangered; and

The Plant Assemblages of the Broomehill System – Presumed Totally Destroyed

These have yet to be endorsed by the Director of Nature Conservation and the Minister for the Environment.

In the last issue of WATSNU I mentioned the Bentonite Lakes of the Watheroo-Marchagee region. A valuable volunteer, Kathleen Glossop and I visited all the 33 identified wetlands on the conservation estate and private land to determine the plant assemblages on each lake bed and margin.

*(Contrast this picture with the one in the last issue. Not many people have ever seen it in this condition).*

I suspect that it will take a few years of inspection to determine the full suite of herbs on each wetland, but this is a picturesque start.

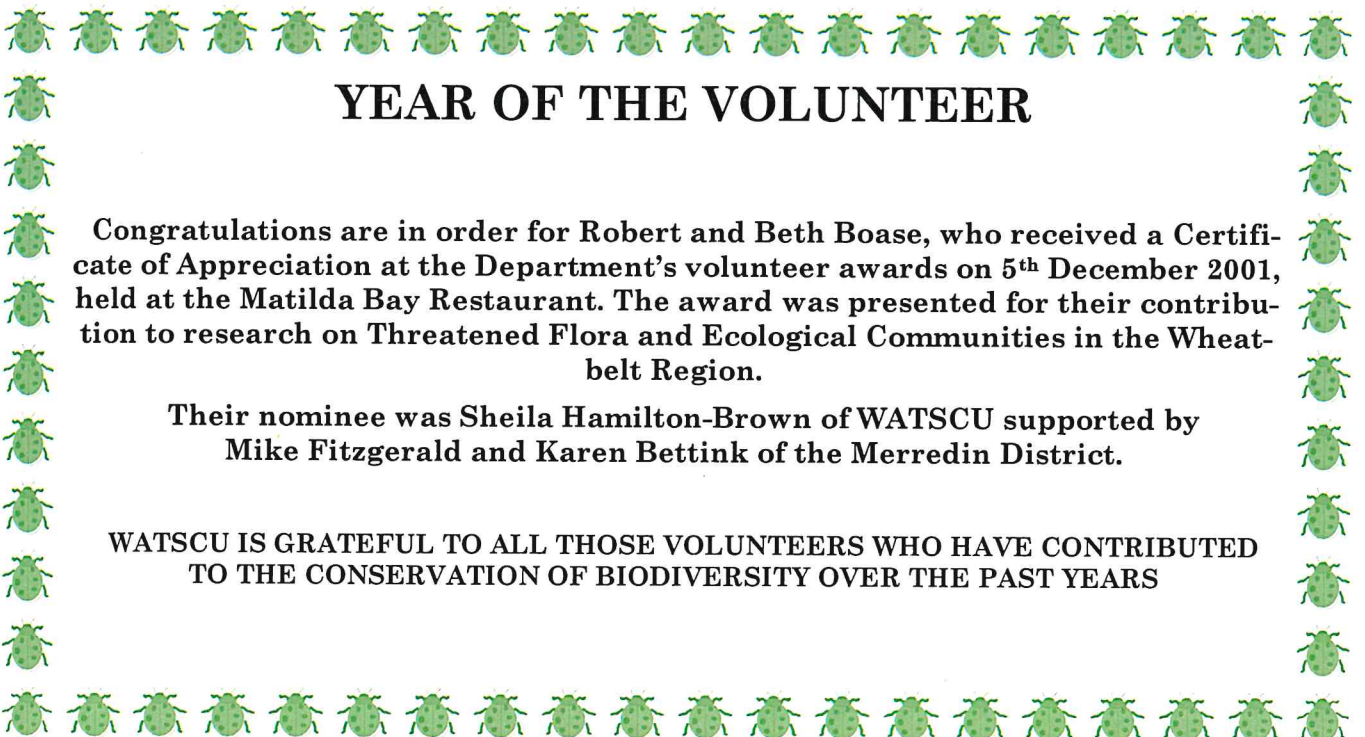
A formal request has been made, with support from Keith Hockey who is the Department's District Manager at Moora, to acquire an unvested camping reserve in the Shire of Three Springs. This reserve contains two occurrences of a mound spring TEC and the Ferricrete floristic TEC and also a number of priority flora. The Department of Land Administration (DOLA) has not received any objections to the care, control and management of this reserve being transferred to the Conservation Commission and is being managed by the Department. The hoped for result is the gazettal of an "A" Class Nature Reserve, which I hope will be called Nebroo Nature Reserve but more about this reserve when we acquire it.

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## Natural Heritage Trust Endangered Species Program 2001-2002

The Natural Heritage Trust's Endangered Species Program's new allocation of funds has now been announced. The following are those Western Australian Department of Conservation and Land Management projects that were successful in attracting funds for 12 months

<b>Continuing projects</b>	<b>\$</b>
Western Swamp Tortoise Recovery Plan (implementation)	80,000
Noisy Scrub-bird Recovery Plan Phase 2	56,040
Gilbert's Potoroo Recovery Plan (Survey and implementation)	40,000
Merredin District Threatened Flora Management Program - implementation including community involvement	57,000
Protection and Recovery Actions for Threatened Flora in the Albany District	100,000
Conservation Status confirmation of poorly known flora considered to be Critically Endangered	40,000
Conservation of nine Critically Endangered Plant taxa in the Moora District	60,000
Conservation of the Critically Endangered "Southern Ironstone" community in Busselton	50,000
Conservation of seed genetic resources of nationally threatened plant species	38,000
Optimising phosphite prescriptions for protection of threatened communities from <i>Phytophthora cinnamomi</i>	62,400
<b>New projects</b>	
Implement the Esperance District Wildlife Management Program and Interim Recovery Plans for 3 Critically Endangered plant taxa	50,000
Translocation methodologies and translocation success criteria for fifteen critically endangered plant taxa	64,400
Develop and implement Interim Recovery Plans for 18 Critically Endangered WA plant taxa (Merredin) (combined with Merredin project above)	0
Wongan-Ballidu Threatened Flora Management Program – Implementation and Community Involvement	32,000
Develop and Implement Interim Recovery Plans for 14 Critically Endangered Western Australian plant	60,000
Dibbler Recovery Plan	40,500



### YEAR OF THE VOLUNTEER

**Congratulations are in order for Robert and Beth Boase, who received a Certificate of Appreciation at the Department's volunteer awards on 5<sup>th</sup> December 2001, held at the Matilda Bay Restaurant. The award was presented for their contribution to research on Threatened Flora and Ecological Communities in the Wheat-belt Region.**

**Their nominee was Sheila Hamilton-Brown of WATSCU supported by Mike Fitzgerald and Karen Bettink of the Merredin District.**

**WATSCU IS GRATEFUL TO ALL THOSE VOLUNTEERS WHO HAVE CONTRIBUTED TO THE CONSERVATION OF BIODIVERSITY OVER THE PAST YEARS**

## Documenting and protecting threatened wetlands ~ Val English

*A series of small depressions (swales) between sand dunes on the coast near Rockingham* have been identified as containing a Critically Endangered sedgeland community. The particular significance of this wetland plant community was identified in the 1994 report 'A floristic survey of the southern Swan Coastal Plain' by Neil Gibson, Bronwen Keighery, Greg Keighery, Allan Burbidge and Michael Lyons. The sedgeland was initially listed as threatened in 1996, as a consequence of its highly restricted occurrence and likelihood of changes to the water regime due to development in the area where most of the community occurs.

Each small swale, generally up to a few hundreds of metres long and up to 50 m wide, occurs in a series of bands along the coast. These bands have been laid down by wave action in the most recent 10,000 years of geological history (the Holocene period) and are of great interest to geologists investigating the formation of our coast lines.

The plant community that has evolved in these dune swales consists of a series of relatively common plants, including the sedges *Bau-  
mea juncea* (a twig rush), *Isolepis nodosa* (knotted club rush), and the grass *Poa porphyroclados*. The shrubs



**Sedgeland community,  
Secret Harbour**  
Photo: Val English

*Muehlenbeckia adpressa* (climbing lignum), *Acacia saligna* (kudjong) and *Xanthorrhoea preissii* (balga) are also common.

Areas close to the coast near Perth are under intense development pressure. Large areas of the 'Becher Plain' near Rockingham that contains the greatest proportion of the swale wetlands and the associated sedgeland community are planned for, or already have been cleared for housing and infrastructure.

With funding assistance from BankWest LANDSCOPE Conservation Visa Card, nearly 50 small areas totalling about 110 ha have been carefully documented in the field during the last two years. Each individual swale that still contains an intact area of the community is being recorded on the Threatened Ecological Community database at the Department of Conservation and Land Management's Woodvale office.

These data have been provided to a number of groups including environmental planners at relevant local government authorities, and environmental consultants who undertake projects for developers in the Rockingham

area. This information can then be used to help ensure that wherever possible, developments are sympathetic to the needs of these precious wetlands. Already, a series of conditions have been negotiated by the Recovery Team for the sedgeland community, that will help ensure many of these areas are conserved and managed so that future residents and visitors to new coastal towns will be able to enjoy them too.

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### **WATSNU**

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## New approval process for Threatened Ecological Communities ~ John Blyth

***Threatened communities of native plants and animals will be given additional protection under new arrangements announced recently by the Minister for Environment and Heritage, Judy Edwards.***

Dr Edwards has adopted a list of 56 'threatened ecological communities' held informally by the Department of Conservation and Land Management and will consider future recommendations from the Department of such communities for inclusion on the Ministerial list. The list identifies threatened ecological communities as being Critically Endangered, Endangered or Vulnerable, these categories being arrived at by scientific appraisal against criteria based on those used internationally for threatened species.

Special legal protection for individual species of plants and animals threatened with extinction has long been part of the Wildlife Conservation Act in Western Australia and of Commonwealth environmental legislation. More recently, conservation scientists have also recognised the importance of identifying and conserving rare or declining assemblages of plants and animals that occur together in similar environments. Readers of *WATSNU* will be familiar with the term threatened ecological community that is now commonly used to

describe and list such assemblages.

The particular conditions of an ecological community's physical and chemical habitat, such as soil and water, the natural processes that allow the species to occur together and the resulting assemblage of plants and animals, add significantly to the biological diversity of western Australia. Thus, although a threatened ecological community may not necessarily contain individual species recognised as threatened, there are still strong reasons to identify and conserve those communities that meet criteria for threatened.

The list approved by the Minister includes such well-known ecological communities as Toolibin Lake near Narrogin and Lake Clifton in Yalgorup National Park, both of which are Wetlands of International Importance under the Ramsar Agreement. Less well-known threatened ecological communities include remarkable assemblages of cave dwelling animals on the Leeuwin Naturaliste Ridge, at Yanchep National Park and in the limestone caves and sink-holes of the Cape Range Peninsula.

Many plant assemblages are also on the list, and include some like the Shrublands on southern Swan Coastal Plain Ironstones (Busselton area) and Montane Thickets and heaths of the eastern Stirling Range that contain many threatened species of plants. In both cases dieback disease caused by *Phytophthora cinnamomi* is a major threat to both the threatened species and the threatened ecological communities.

Although Western Australia currently has no legislation specifically dealing with conservation of threatened ecological communities, measures are available to help their conservation. These include agencies such as the Environment Protection Authority and the Department of Planning and Infrastructure using their legislation to protect communities identified as threatened, and priority being given for research and recovery actions by the Department and others. Ministerial endorsement will aid in obtaining such an 'all of government' approach to conserving threatened ecological communities.

The Minister intends that a legal means to cover the special protection and conservation of threatened ecological communities would be identified in the proposed biodiversity conservation legislation that would replace the now outdated Wildlife Conservation Act.

Most ecological communities currently on the Ministerial list have significant recovery programs underway. These programs are based on a co-operative approach among the Department, other Government agencies, landholders, conservation groups, local community groups and industry.

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