



Working with the Kimberley community to conserve Rangeland TECs ~ Sally Black

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"While in Broome, I also met with members of the community about the conservation of other local TECs..."

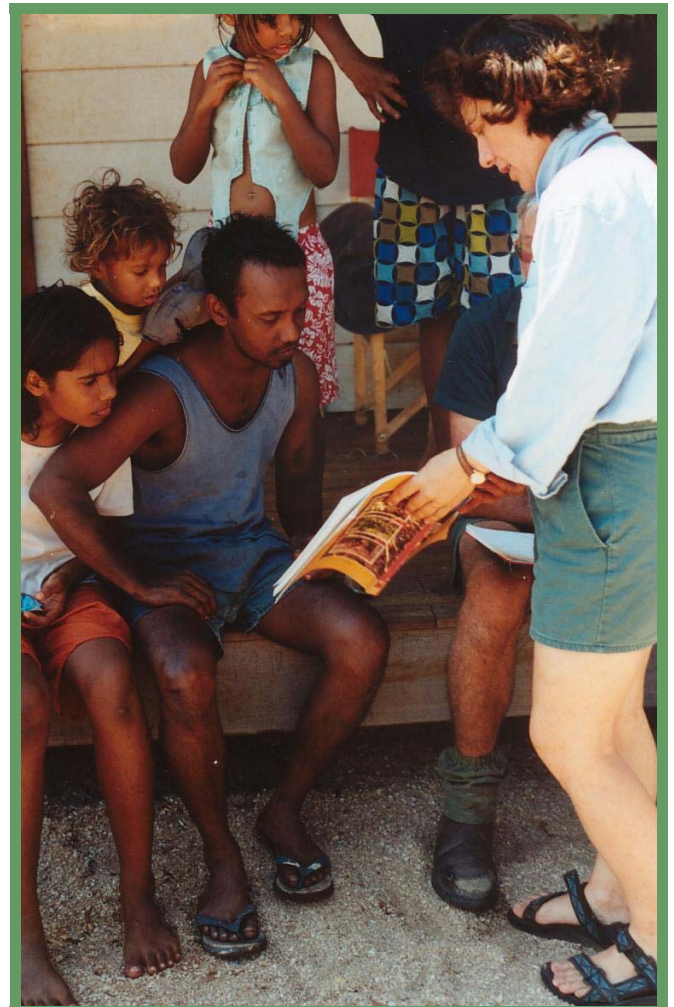
The project 'Conserving threatened ecological communities (TECs), especially outside the Southwest Botanical Province', involves identifying TECs throughout Western Australia, especially in the rangelands, and seeking ways to conserve them. It is in its fifth financial year and to date has been assisted by NHT funding.

With 20 TECs entered on the database under this project, the emphasis this year has been on monitoring their condition and promoting their conservation. Although based in Perth as the Project Officer, I spent eight weeks of this year conducting field work in the Kimberley Region, where the most endangered of the TECs in the rangelands are located.

In June I travelled to Broome to attend the forum 'Celebrate the Bay', that is, Roebuck Bay, held by Environs Kimberley. The 'Species-rich faunal community of the Roebuck Bay intertidal flats' is a TEC and the Bay itself is listed under the Ramsar Convention as a Wetland of International Importance. For display at the forum and elsewhere, I prepared posters on this and another TEC, the 'Monsoon (vine) thickets of the coastal sand dunes of Dampier Peninsula'. The posters (100 of each) and travel expenses were funded by WATSCU. While in Broome, I also met with members of the local community about the conservation of other

TECs, and participated in part of the ROEBIM02 survey, that is collecting and identifying the bottom-dwelling invertebrate fauna of Roebuck Bay. In the space of 20 days, this survey sampled close to 1000 sites across the intertidal mudflats and involved around 130 people (the majority as volunteers), enhancing their understanding of and appreciation for the ecology of Roebuck Bay.

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Sally seen here seeking assistance from a member of the local community in Broome. Photo David Dureau



Monsoon thicket community
Photos: Sally Black

Mamajen
fruit

Ebony fruit

In what has become a jointly funded project with the Broome Botanical Society, and an annual expedition over the last three years, Tim Willing - the West Kimberley's Conservation Officer, David Dureau - the president of the Broome Botanical Society, and I surveyed 26 occurrences of the coastal monsoon thickets of Dampier Peninsula this year. Although known to the team from aerial photographs, most of these occurrences had not been documented previously. In addition, two artists joined the team for part of our journey, to begin producing art work that may be used towards promoting an awareness of the thickets.

As well as conducting surveys, we responded to several requests for management advice, and took every opportunity to exchange information with local people and to promote an awareness of the conservation significance and needs of the coastal monsoon thickets. Numerous outstations and the Peninsula's main Aboriginal community offices and schools were visited (Lombadina-Djarindjin, Beagle Bay, and One Arm Point).

Together with the Lombadina-Djarindjin Catholic School, a cultural day out was organised for children to visit a patch of coastal monsoon thickets in the company of several elders, and to record their observations in drawings. We also supported the interest of local people by distributing posters and copies of the book 'Broome and Beyond'.

In November I participated in a meeting of the North Kimberley LCDC, attended by 27 pastoralists, having been successful in applying on their behalf, for a 'Living Wetlands' grant from Banrock Station Wines and Wetlands Care Australia, for the purposes of fencing a mound spring on Mt Elizabeth Station. Another grant from the Department's Wetland Conservation Project funded my travel expenses and will pay for the analysis of aquatic micro-invertebrate fauna samples I collected from several mound springs while in the North Kimberley. Another priority was to meet on-site with the leaseholder of Mt Elizabeth Station, to plan the alignment of the fence around the mound spring.

Among other management actions conducted over the year, input was provided to various Environmental

Impact Assessments involving TECs. In addition, input into the 2015 pastoral lease renewal review process included a list of TECs on pastoral leases for which future conservation management agreements should be sought.

In the process of survey work conducted over the duration of the project, numerous plants have been recorded and collected. A collection of botanical voucher specimens lodged in the WA Herbarium this year included three native species that are new records for the State, one native species that is a new family record for the State, and one new weed record for the State, as well as several range extensions for native species already known within the State.

To provide or obtain further information on TECs in the rangelands, contact Sally Black on 08 9405 5168 or by email sallybl@calm.wa.gov.au.

Increased populations of Critically Endangered flora ~Val English

Botanist Anne Harris has been contracted to do detailed survey and monitoring of three Critically Endangered flora species that occur in the Department's Moora District. Anne's work is part of a two year project funded by the Natural Heritage Trust entitled 'recovery of nine Critically Endangered taxa in the Moora District'. Anne is working in liaison with Dr Colin Yates from the Department's Science Division, and Val English from the WA Threatened Species and Communities Unit (WATSCU). The work will be completed in March 2003.

Anne has been working on *Grevillea humifusa*, *Grevillea batrachioides* and *Gastrolobium hamulosum* since August 2002. Her work entails detailed monitoring of known populations of each species, including tagging individual plants, measuring their height and width, and counting flowers, fruits and viable seeds produced by each plant. Amongst other things, this work will help provide an indication of the factors that affect the fertility of the populations, and this can assist in defining the management needs of these highly threatened species.

The work has already produced excellent information that will be incorporated into the future management of the three species. Accurate counts of the prostrate and highly tangled species *Grevillea humifusa* indicate that numbers of plants in the only known population are closer to 1300 plants than to the previous estimate of 400 plants. The population occurs on a road verge and on private land. Anne worked with dedicated members of the Jurien Bay Regional Herbarium (Margaret Puckridge, Margaret Hayes, Humphrey Hayes, and Elizabeth Bitter) to complete this useful work.

Detailed survey of the area around the known population of *Grevillea batrachioides* in Lesueur National Park revealed that plant numbers are, again, much higher than previously thought. This species occurs in thick, scratchy, tangled scrub on a sandstone ridge, and plants can be extremely difficult to locate! The Department's Moora District Conservation Officer (Gina Broun), WATSCU staff member (Jill Pryde) and Park Ranger (Luke Bouwman) kindly helped Anne with this rather arduous task. Prior to Anne's work, there were thought to be around 40 plants, but 100 plants were counted, tagged, measured and recorded by the group. This is a substantial improvement in the known status of this species, that is only known from this one population!

Initial work done by Anne on *Gastrolobium hamulosum* was not as positive as for the other two species. Populations previously recorded near Bindi Bindi and Calingiri were not found. Indeed, the very detailed plan of the location of the plants in Calingiri placed them underneath large piles of garden clippings dumped alongside a rail line. However, Anne met a farm manager who owned a property adjacent to one of the other populations near Watheroo who rec-

ognised the plant and told her he knew where more were located! He showed Anne the plants, which turned out to be a new population. Another land manager in the same area invited her to survey other remnants on his property at a later stage.

Overall, Anne's work has improved the status of all three of these Critically Endangered plant species, and although the results are still preliminary, the information should also help us to understand and greatly improve their future management. Anne has been very appreciative of the help provided to date by knowledgeable volunteers, including the farmers who provided extremely useful information about *Gastrolobium hamulosum*, and members of the Jurien Bay Regional Herbarium who have helped with survey work.



Anne (right) with volunteers (left and below) assisting in surveying



Grevillea humifusa
Photo: Kate Brown

For further information contact
Val English on 08 9405 5169 or
email: vale@calm.wa.gov.au

Birds Australia Carnaby's Black-Cockatoo Recovery Project ~ Leonie McMahon

It comes as a surprise to quite a few Wheatbelt farmers to hear that Carnaby's Black-Cockatoo, *Calyptorhynchus latirostris*, is endangered. Capable of being both highly visible and voluble, especially when rain is in the offing, the cockatoo is not considered to be in danger of extinction, especially in the northern Wheatbelt. Landholders further east and south often tell a different story however. In their own lifetimes they've seen their local populations of 'Rainbirds' dwindle away, in some cases completely.

A breeding migrant, the species disperses out into the Wheatbelt to breed from late winter through to early summer then tends to congregate in flocks on the coastal plain to feed during the non-breeding season. Agricultural clearing has taken a heavy toll on its ability to successfully breed and it is now locally extinct in up to a third of its former breeding range. The overall population is believed to have halved in the last 30 to 40 years.

For breeding success Carnaby's require several very different habitats in close proximity to each other. They nest in the large hollows of mature eucalypt species, in particular, Salmon Gum

(*Eucalyptus salmonophloia*) and Wandoo (*E. rudis*) but feed on kwongan heath species such as banksia, grevillea, hakea, dryandra, and marri. Carnaby's has also adapted to feeding on introduced species including pines, wild geranium and wild radish.

The Carnaby's Black-Cockatoo Recovery Team was convened in 1999 and a recovery plan has been submitted to the Acting Director of Nature Conservation seeking endorsement of the Conservation Commission and the Minister for the Environment and Heritage. The management of remaining breeding and feeding sites in the Wheatbelt, as outlined in the recovery plan, is the focus of a Birds Australia recovery project.

The project is funded by the Natural Heritage Trust, managed by Birds Australia WA and overseen by the recovery team. The current stage began in August 2001.

Initial work focused on raising public awareness, identifying priority breeding sites that would become the focus of recovery actions, and developing relationships with relevant stakeholders.

Seven key sites were selected in the districts of Waddi Forest, Walebing, Moora, Watheroo, Piawaning/Yerecoin, Gillingarra and Nyabing/Katanning. Due to the considerable interest shown by the Calingiri-New Norcia landcare group, we are also working closely with this group. The breeding sites and corresponding feeding sites are mostly on private land but also on rail and road reserves, public reserves and in townsites.

Surveys of exist-



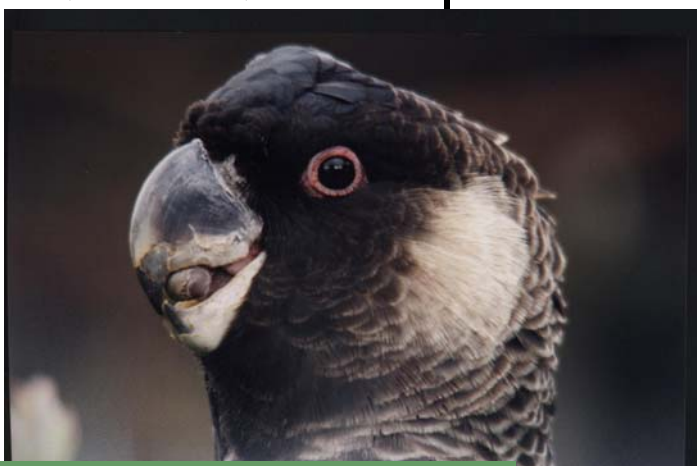
Female in hollow
Photo: Leonie McMahon

ing breeding populations have been carried out with the assistance of volunteers from Birds Australia and local communities and landholders themselves.

The management issues at each site have been identified and discussions held with various stakeholders including landholders, rural communities, local authorities, the Department's field staff and landcare coordinators and volunteer organizations.

The most commonly identified recovery actions include: fencing off existing stands of eucalypt woodland and kwongan heath; revegetating with both breeding and feeding plant species; control of other hollow-using species that compete with Carnabys, most notably Galahs (*Cacatua roseicapilla*) and Western Long-billed Corellas (*Cacatua pastinator butleri*) although feral bees and wood duck and mountain duck have also been reported using traditional Carnaby hollows; and repairing and/or protecting existing hollows.

For further information contact
Leonie McMahon on 08 9287 2448
or email ljmcmahon@bigpond.com.



Male cockatoo Photo: Leonie McMahon

Conserving Threatened Ecological Communities on the Swan Coastal Plain ~Robyn Phillimore

Previous *WATSNU* issues have reported on the progress of the three year project titled 'Implementation of Interim Recovery Plans for Critically Endangered Threatened Ecological Communities (TECs)'. The aims of this Natural Heritage Trust (NHT) funded project are to co-ordinate the recovery of 11 Critically Endangered TECs and two Endangered TECs, most of which are located on the Swan Coastal Plain (SCP). This project will be completed at the end of 2002. Some of the highlights from the project include:

Shrublands and woodlands on Muchea Limestone

The largest occurrence of this community type occurs at Bootine Rd Nature Reserve in Gingin. In January 2002, introduced weed trees were notched and poison injected into their trunks by the Department of Conservation and Land Management's (the Department's) Perth Coastal District. Most of these trees are now dead, however, there are still a few that have survived and will need to be poisoned again. Other weeds including Japanese pepper and grape vines were also removed by hand.

Communities of Tumulus Springs

A consultant was contracted to investigate the hydrogeology of the organic mound springs on the Swan Coastal Plain in October 2002. This study has resulted in a series of basic recommendations for future management of the springs and their surrounds, from preliminary investigations into the local hydrogeology.

An occurrence of this community in Neaves Road, Bullsbrook

is about to become a Nature Reserve managed by the Department. The boundary of the reserve has been marked and fencing is due to occur soon. Blackberries will present the greatest threat to the springs at this reserve. These plants were sprayed by district staff in December 2001.

In March 2002 grassy weeds on the western side of Faull St Nature Reserve, another reserve that contains the tumulus springs, were sprayed with herbicide by the Department's Swan Coastal District.

A survey of Tumulus Springs on Bush Forever site 22 in Ellenbrook was also undertaken in April 2002 by WATSCU and Swan Coastal District staff to map the boundaries of the occurrence and review the threats.

Stromatolite-like microbialite community of coastal brackish lakes (Lake Clifton)

There have been several meetings of the Recovery Team for the Lake Clifton thrombolites, with the inaugural meeting in May 2002. The role of this recovery team is to oversee the recovery of the Lake Clifton thrombolites, through the drafting of the recovery plan and overseeing the implementation of actions within the plan. The recovery team is made up of members of the Lake Clifton Landcare Group and Peel Preservation Group, staff from the Department, Water and Rivers Commission, Agriculture WA, University of WA, City of Mandurah, and CSIRO. The Interim Recovery Plan is now in a final draft and should be completed at the end of the year.

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

An additional occurrence of this community was identified in Bush Forever at Stirling Crescent, Hazelmere (Bush Forever site 481). This occurrence was surveyed by WATSCU staff in December 2001. Several very small areas of the community were mapped and the threats for each area noted on the TEC database.

Building on the success of a previous Green Corps project in implementation of the management plan, an NHT grant was obtained by the Friends of Talbot Rd group to continue restoration of Talbot Rd bushland (Bush Forever site 306). Actions such as weed control, track closure and planting for rehabilitation have now been undertaken, some by Joondalup TAFE students of Environmental Science. An application for funding to continue this work at Talbot Rd bushland in 2003 was made to the Threatened Species Network, but unfortunately was not successful. However, funding has been received through a Bankwest *Landscape* Conservation Visa Card Grant to undertake weed control in the reserve in 2003.

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

Work on this community has been conducted at four sites, as discussed below.

Lambert Lane Nature Reserve (Bush Forever site 264)

Previously a section of this reserve had been used as a dumping ground for numerous soil mounds and other rubbish. Following the conversion to a Nature Reserve, restoration work was undertaken by the Swan Coastal District. This included using a dozer to remove soil mounds and other rubbish, and landscape landscaping the area. Fencing was then completed around the reserve and signs were erected in an attempt to reduce the amount of rubbish being dumped. Planting of the cleared area was undertaken in June 2002 by a Conservation Volunteer team. Several weed spe-

cies including Baboon flower (*Babiana angustifolia*), *Watsonia bulbifera* and Tree Lucerne (*Chamaecytisus palmensis*), some of which germinated following a recent fire or after the dozer work, were also sprayed with herbicide.

Brixton Street Wetlands (Bush Forever site 387)

A fire management and response plan has been produced for the Greater Brixton St Wetlands in consultation with the Fire and Emergency Services Authority and staff from the Department's Swan Coastal District. This plan was put to use when a fire lit by vandals burnt the whole reserve in March 2002. Wetland Conservation Funds were used to employ three bush regenerators to hand weed and map *Sparaxis bulbifera* to continue the successful weed control program being undertaken by the Friends group and Environmental Weeds Action Network (EWAN). A contractor was also hired to spray *Tribolium uniolae* and *Sparaxis* on the firebreaks.

Mundijong Rd bushland (Bush Forever site 360)

A meeting was held in March 2002 between Department staff, Shire of Serpentine-Jarrahdale, the local Bushcare Officer, and the Friends of Mundijong Rd to discuss the development of a management plan for this bushland area. This plan is now in an early draft stage and should be completed by the end of the year.

Dundas Road bushland (Bush Forever site 319)

In January 2002, exotic trees that had been planted along a firebreak on Western Power land were cut down and the stumps poisoned by contractors. Seed was then collected from the bushland in March by APACE for use in future rehabilitation. Weeds including lovegrass

(*Eragrostis curvula*), perennial veldt grass (*Ehrharta brevifolia*) and *Watsonia bulbifera* were sprayed by a contractor in July 2002 and again in September 2002.

Aquatic root mat communities numbers 1-4 of caves of the Leeuwin-Naturaliste Ridge

A detailed resurvey of the invertebrate fauna in the root mats of the Leeuwin Caves was undertaken by the University of WA, and funded by the Department. Four sites were surveyed; Calgardup cave, Kudjal Yolgah east and Kuljal Yolgah west and Strongs cave. Results from this survey indicated that the root mats were abundant and appeared to be in good health, and the fauna seemed to be present in reasonable diversity and abundance. Hydrological monitoring was also undertaken within these caves by Departmental staff to determine the extent and impact of hydrological changes on the invertebrate community. Water levels in general, and particularly in Strongs cave, gave cause for concern as they are low. Departmental staff will continue hydrological monitoring. A PhD. study by Stefan Eberhard, funded by the Augusta-Margaret River Tourism Association is producing valuable information about several caves.

A preliminary meeting was held in October 2002 between Departmental staff and staff from the University of WA to discuss the management of the caves and determine the need for a full Recovery Team. It was agreed at the meeting that a formal Recovery Team is to be recommended, with the first meeting proposed for April 2003.

Sedgeland in Holocene dune swales of the southern Swan Coastal Plain

Numerous surveys have been undertaken for this community around Rockingham, including in the Port Kennedy area, and around

Lakes Cooloongup and Walyungup. Information from these surveys was entered on to the threatened ecological communities database.

THREATENED COMMUNITIES POSTERS

As mentioned in a previous WATSNU article (June 2002) three threatened ecological communities were featured in a series of posters. The posters provide information such as dominant species, habitat, approximate locations, and a description and general location for communities. The posters also contain information on threats and recovery actions that are underway. Two new posters have now been produced, and the total list of threatened ecological communities currently featured in posters is as follows:

- Plant communities on ironstone and Muchea limestone (near Perth)
- Woodlands of the Swan Coastal Plain (eastern side)
- Thrombolites of Lake Clifton and Lake Richmond
- Invertebrate communities of caves
- Organic mound springs of the Swan Coastal Plain

Photographs and descriptions included in the posters may help people identify critically endangered communities, and lead to the discovery of new areas where they occur. The posters also will also help spread the message about the need for conservation of these extremely important communities by reducing threats to their survival.

For further information on the threatened ecological communities mentioned above, contact Robyn Philimore on 08 9405 5169 or email: robypn@calm.wa.gov.au

Translocation of the Whorled Eremophila (*Eremophila verticillata*) ~ Jill Pryde

One translocation proposal has been submitted and approved since our last issue. *Eremophila verticillata* is endemic to the Newdegate area and is currently known from two live populations. Three others are presumed extinct. Threats include mine operations, poor regeneration, vehicle damage, weed invasion, salinity, road maintenance activities and inappropriate fire regimes.

An interim recovery plan has been written and recommends translocation as a recovery action. Leonie Monks and Bethia Loudon are the proponents for this translocation and research proposal and the major aim is to conserve the wild genetic stock of this species over a four year period.

Seed was collected from population 2 with the purpose of restocking the extant population. A

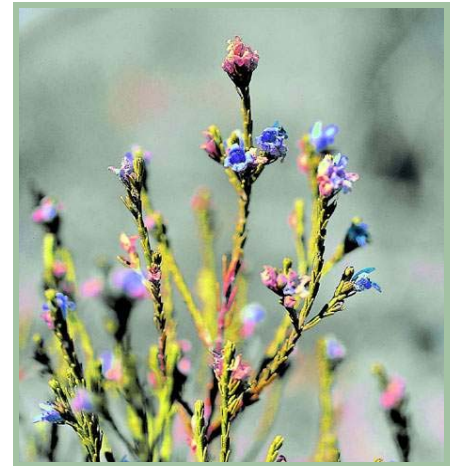
number of experimental treatments were used.

The translocation will be deemed successful if

- germination occurs of the translocated seed;
- seedlings are grown from translocated seed;
- seedlings survive to flower and produce seeds; and
- a seed collection and a soil stored seed bank are established with acceptable levels of seed viability.

The translocation was funded under the Salinity Salinity Strategy.

Help with setting up of the monitoring sites came from the Newdegate Land Care District members who obtained funding from the World Wide Fund for



Eremophila verticillata

Photo: S Hopper

Nature's (WWF) Threatened Species Network.

**For further information contact
Jill Pryde on 08 94055 128 or
email: jillp@calm.wa.gov.au**

Bankwest *Landscape* Conservation Visa Card Trust funds

Another nine projects have been selected to receive support under the Bankwest *LANDSCOPE* Conservation Visa Card Trust Funds. These projects will be carried out in the next 12 months and summaries of their reports will be reproduced in *WATSNU*.

Project name	Project officer
Illustrations for the conservation of endangered Western Australian trapdoor spiders	Bradley Durrant
Seed bank dynamics and response to disturbance of the Endangered <i>Dryandra ionthocarpa</i> (Proteaceae)	Sarah Barrett and Anne Cochrane
<i>Lambertia orbifolia</i> ssp. <i>occidentalis</i> – intraspecific resistance to <i>Phytophthora cinnamomi</i>	Meredith Spencer
<i>Lambertia orbifolia</i> ssp. <i>occidentalis</i> – phosphite effectiveness	Meredith Spencer
Identification of the causal organism associated with stem canker disease in the rare and endangered meelup mallee (<i>Eucalyptus phylacis</i>)	Richard Robinson
Control of Watsonia on Meelon Nature Reserve to protect two DRF species	Steven Gunn
Distribution, abundance and taxonomic status of <i>Typhonium</i> sp. (Araceae) in the east Kimberley	Tony Start
Control of weeds at Dundas Road, Forrestfield and Talbot Road bushland, Stratton	Robyn Phillimore
Cave Gating project - Yanchep National Park	Nicole Lincoln

Threatened Ecological Communities reviewed ~ Melissa Hoskins

Since the commencement of the position ‘Ecologist – TEC database’ nearly fifteen months ago, a total of 93 new occurrences of endangered and vulnerable threatened ecological communities (TEC) have been added to the Department of Conservation and Land Management’s (the Department’s) TEC database. Having a position dedicated to the task of maintaining and updating information on botanical and other types of communities on the TEC database has increased the ability of officers from the Department to contribute to the conservation of threatened plant assemblages on the Swan Coastal Plain, on both public and privately owned land.

Field visits have been conducted for Bush Forever sites and System 6 sites that were not already included on the TEC database. To date, 93 occurrences of threatened communities have been added to the database. These new data includes information on areas of the following floristic communities:

- the endangered community ‘Southern wet shrublands’ (‘Swan Coastal Plain community type 2’)
- the endangered community ‘Shrublands on dry clay flats’ (Swan Coastal Plain community type 10a’)
- the endangered community ‘*Banksia attenuata* over species rich dense shrublands’ (‘Swan Coastal Plain community type 20a’)
- the endangered ‘eastern *Banksia* and/or *Eucalyptus marginata* woodlands’ (‘Swan Coastal Plain community type 20b’)
- the endangered community



Dense shrublands on clay flats, Community Type 9
Photo: Melissa Hoskins—taken near Pinjarra

‘*Melaleuca huegelii* – *M. acerosa* shrublands of limestone ridges’ (Swan Coastal Plain community type 26a’)

- the endangered community ‘Shrublands and woodlands on Muchea Limestone’
- the vulnerable community ‘Southern *Eucalyptus calophylla* woodlands on heavy soils’ (‘Swan Coastal Plain community type 1b’)
- the vulnerable community ‘*Eucalyptus calophylla* – *E. marginata* woodlands on sandy clay soils’ (‘Swan Coastal Plain community type 3b’)
- the vulnerable community ‘Herb rich saline shrublands in clay pans’ (‘Swan Coastal Plain community type 7’)
- the vulnerable community ‘Herb rich shrublands in clay pans’ (‘Swan Coastal Plain community type 8’)
- the vulnerable community ‘Dense shrublands on clay flats’ (‘Swan Coastal Plain community type 9’)
- the vulnerable community ‘Forests and woodlands of deep seasonal wetlands’ (‘Swan Coastal Plain community type 15’), and
- the vulnerable community ‘Shrublands on calcareous silts’ (‘Swan Coastal Plain community type 18’)

With only a few sites remaining to be surveyed it is now time to review the category of threat for each of the communities described below. The Threatened Ecological Communities Scientific Advisory Committee will undertake this review. Their recommendations will be presented to the Acting Director of Nature Conservation, and if endorsed, to the Minister for Environment. Criteria that the committee will consider

include the area of the community that is reserved and the threatening processes acting on the community. It is possible that some community types may have their category of threat downgraded as a result of the increase in the number of known occurrences of threatened ecological communities included on the TEC database. This would be an excellent outcome from this project.

Bronwen Keighery from the Department of Environmental Protection provided valuable plot data on many of the Bush Forever and System 6 sites surveyed. The provision of these data is greatly appreciated.

**For further information contact
Melissa Hoskins on 08 9405 5170
or email: melissah@calm.wa.gov.au**



Salt Myoporum
(Myoporum turbinatum)
Photo: A Cochrane

Interim Recovery Plans approved in 2002 ~ Jill Pryde

In 2002, fifteen new Interim Recovery Plans were approved by the Acting Director Nature Conservation. Nine for threatened flora and six for threatened ecological communities. All these IRPs (apart from No 107) have been sent to the Commonwealth for adoption under the *Environment Protection and Biodiversity Conservation Act 1999*.

Flora IRPs

- 102 Foote's Grevillea, *Grevillia calliantha*
Robyn Phillimore, Diana Papenfus, Val English
- 103 Pythara Grevillea, *Grevillea pythara*
Robyn Phillimore, Diana Papenfus, Felicity Bunny,
Andrew Brown
- 104 Meelup Mallee, *Eucalyptus phylacis*
Robyn Phillimore, Meredith Spencer, Val English
- 111 Cactus Dryandra, *Dryandra anatona*
Robyn Phillimore and Andrew Brown
- 112 Lake King eremophila, *Eremophila subteretifolia* ms
Robyn Phillimore, Gillian Stack and Andrew Brown
- 113 Hook Point Poison, *Gastrolobium hamulosum*
Gillian Stack and Val English
- 114 Mt Lesueur Grevillea, *Grevillea batrachioides*
Gillian Stack and Val English
- 115 Round-leaved Honeysuckle, *Lambertia* ssp. *orbifolia orbifolia* ms
Robyn Phillimore and Andrew Brown
- 116 Salt Myoporum, *Myoporum turbinatum*
Robyn Phillimore and Andrew Brown

Communities IRPs

- 105 Plant assemblages of the Moonagin System.
Sheila Hamilton-Brown
- 106 Lesueur-Coomallo Floristic Community A1.2
Sheila Hamilton-Brown
- 107 Plant assemblages of the Inering System
Sheila Hamilton-Brown
- 108 Herbaceous Plant assemblages on bentonite lake beds (Vegetation types 1,2,3&7) and margins (Vegetation types 4,5&6) of the Wathe-roo-Marchagee Region
Sheila Hamilton-Brown
- 109 Lesueur-Coomallo Floristic Community D1
Sheila Hamilton-Brown
- 110 Sedgeland in Holocene Dune Swales
Val English, J Blyth, N Gibson, D Pember, J Davis, J Tucker, P Jennings, B Walker

**Should you wish to obtain any of these IRPs, please ring or email me
08 9405 5128 jillp@calm.wa.gov.au**

Yanchep Caves Root Mat Community ~ John Blyth

The condition of all occurrences remain critical, with all cave streams now dry, very small pools being maintained by artificial watering systems, and many of the constituent species no longer present in these pools.

On the positive side, a few new caves containing invertebrate fauna have recently been discovered, by lifelong caver and recovery team member Lex Bastian. Further, a trial artificial recharge scheme, designed by Adrian Peck, as the Department's Hydrological consultant, and Water Corporation officers, and funded by the Water Corporation, is about to begin in an attempt to rewater Cabaret Cave and other nearby caves. The intention is to try to establish a small local water mound that

will provide more water in and around the cave in a more natural fashion than the existing emergency watering system.

If the trial artificial recharge system works, we will be seeking money and support from other agencies to extend the method to all root mat caves and Crystal Cave. There remains the hope that such local water mounding may also act to provide hydraulic connection between known caves and other possible deeper faunal refuges that cannot be reached by people.

State Cabinet, in agreeing to an agreement for a new mill to utilise pines from the Gngangara Mound over the next 20 years, has required all agencies with responsibilities relating to water use on the mound to cooperate to ensure that the Yanchep Caves fauna is protected, and to prepare a strategy for achieving long term sustainability of the Gngangara water. The

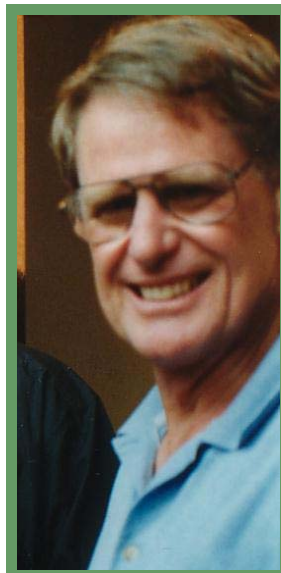
Department's Director of Regional Services, Alan Walker, has the responsibility for coordinating the Department's response to meet the Cabinet directive.

The artificial recharge trial referred to above is the first step towards more robust emergency actions for the caves. Cabinet has also agreed that further survey of aquatic fauna dependent on the Gngangara Mound is a high priority, and the Department and University of WA will be liaising in the near future to develop a plan for conducting such research, and to seek funding for it.

**For further information contact
John Blyth on 08 9405 5161 or
email: johnbl@calm.wa.gov.au**

Farewell to Andrew Burbidge

For the past 10 years Andrew has been the Director of WATSCU. Andrew officially retired from the Department in July after many years of service. His influence on recovery planning for threatened species and communities can hardly be overstated. He will be greatly missed for his knowledge and capacity and for his friendly and approachable manner. Andrew is now a Research Fellow with the Department



WATSNU

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