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Updates on ecological community nominations September – December 2006

Nomination of the sedge-rich *Eucalyptus camphora* swamp community as an endangered ecological community

Six botanical experts, one zoologist and members of the Department of the Environment and Heritage Ecological Communities Section attended a two day expert workshop at Healesville, Victoria, on 16-17 October 2006 to assess the nomination of the Sedge-rich *Eucalyptus camphora* swamp community as an endangered ecological community. Participants concentrated on determining exactly what characteristics, whether they be constituent flora and animal species, understorey type, soil type, hydrology or altitude, contributed to the uniqueness of the nominated ecological community (EC) Another consideration for the workshop was to determine whether the EC was restricted to the nominated location, Yellingbo Nature Reserve near Healesville, or whether it had a broader national distribution.

The initial assessment determined that, although the species *E. camphora* was associated with swamp communities in Victoria, New South Wales and Queensland, the ecological community at Yellingbo was unique, and restricted to the nature reserve and a few creek systems in the local region. Workshop members defined the EC in terms of a range of limiting factors with particular attention paid to differential shrub species and the sedgy ground stratum. This EC must be seasonally inundated for extended periods, and is restricted to below 150 m above sea level in an area with a mean annual rainfall of 1100 mm. Having defined the EC, members concentrated on determining condition classes in line with the Department's new approach, and identifying threats to the EC's existence.

Sedge-rich *Eucalyptus camphora* swamp – **D Jackson**

The EC, as defined, differed from other ECs around Corryong in Victoria and on the south west slopes of New South Wales which have *E. camphora* in the overstorey. Another EC, restricted to extremely small pockets on the New England Tableland in NSW and within Girraween National Park in Queensland, differs from the others in that the dominant canopy tree is a different subspecies of *E. camphora* – *E. camphora relicta*. (There are in fact three recognised subspecies of *E. camphora*).

A report outlining the findings of the technical workshop will be released for public comment in the near future.

Technical workshop reports open for public comment

Technical workshop reports were released for the following ecological communities currently under assessment by the Threatened Species Scientific Committee for listing as threatened ecological communities under the Australian Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act):

- Brogo Wet Vine Forest;
- Dry Rainforest of the South-East Forests of NSW; and
- Forest Red Gum (*Eucalyptus tereticornis*) Dry Grass Forest.

Dry Rainforest of the South-East Forests of NSW – **P Komidar**

As part of the nomination assessment process a technical workshop was held in Brogo, NSW on the 9th and 10th November 2005. Technical workshops are used as a mechanism to obtain expert opinion on the nature and extent of ecological communities nominated for listing under the Act. As such they should be considered an early stage in the assessment process.

The outcomes of the technical workshop extend the ranges of the ecological communities beyond those included in the nominations.

Considerable additional work is required before the Threatened Species Scientific Committee is in a position to provide the Minister for the Environment and Heritage with sound scientific advice on whether or not the nominated ecological communities qualify for listing under the EPBC Act.

These reports were placed on the Department website in late October 2006 and can be viewed online at:

http://www.deh.gov.au/biodiversity/threatened/nominations/index.html

It is important to note that the technical workshop outcomes reports represent the collective views of the workshop participants. They reflect one input to the complex nomination assessment process. Release of these reports does not imply endorsement of the contents by the Threatened Species Scientific Committee.

The formal public comment period has been extended until 23 February 2007. This has been done to ensure that views on the technical workshop outcomes reports from experts, stakeholders and the wider community are made available to the Committee to inform its nomination assessment process.

Recently adopted recovery plans

The department is working to prevent threatened species from becoming extinct and to recover their populations. As part of this work the department develops threatened species recovery plans. These plans set out the actions needed to maximise the chances of long term survival in the wild of a listed threatened species or ecological community.

The Minister for the Environment and Heritage recently adopted/made sixteen national recovery plans. Nine of these plans were submitted by Tasmania and include:

- Giant Freshwater Lobster or Tayatea, a slow growing and long-lived freshwater crustacean that can reach over 4 kg in weight;
- Forty Spotted Pardalote, a small endemic bird, restricted to four main populations on offshore islands and peninsulas along the east coast of Tasmania. This bird forages predominantly in white gum *Eucalyptus viminalis*, which appears to be pivotal to the survival of individuals and breeding colonies;
- Kings Lomatia, an unusual shrub that grows along creek banks in the cool, dense, rainforest of Tasmania's remote Wilderness World Heritage Area. Kings Lomatia was discovered by the miner and naturalist Denny King;
- Tunbridge Buttercup, a small perennial mat-forming herb generally found on the margins of wetlands surrounded by native grasslands; and
- Morrisbys Gum, a species endemic to south eastern Tasmania, known only from two natural populations.

Other Tasmanian plans adopted are for threatened Tasmanian galaxids, orchids, grasstrees and alpine karst flora.

Also adopted were plans for:

- Northern and Southern marsupial moles (Kakarratul and Itjaritjari) These animals are not closely related to any other taxa and comprise their own unique

order. Despite being known to science for over a century and to indigenous people for thousands of years, they remain among the least known and most elusive animals in Australia;
- Bridled Nailtail Wallaby. These wallabies were once common west of the Great Divide. Today the only significant population occurs in Taunton National Park in central Qld. Additionally a small translocated population has been successfully established in Idalia National Park and Avocet Nature Refuge;
- *Pimelea spicata*, a small shrub restricted to two disjunct areas within the Cumberland Plains and coastal Illawarra;
- Oxleyan Pygmy Perch, a small freshwater fish found in swamps, streams and lakes of lowland, coastal 'wallum' heaths; and
- Smooth Davidsonia, a medium sized rainforest tree, restricted to north-east NSW and south-east Qld.

Recovery plans have also been made for Lister's Gecko and the Christmas Island Blind Snake, two species of reptile found only on Christmas Island and a subspecies of Buff Banded Rail endemic to the Cocos (Keeling) Islands.

Hatching gecko – **H. Cogger**

Further information on recovery plans is available online at:
http://www.deh.gov.au/biodiversity/threatened/recovery/index.html

Changes to the EPBC Act

What you need to know
The Australian Government is amending its landmark environmental legislation the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Why amend the Act?
In the six years since the introduction of the EPBC Act, the challenges facing the Australian environment have changed, just as the Australian environment itself has changed.

The Australian Government now proposes to streamline the Act with a series of amendments that will benefit industry, the economy and the nation while maintaining its strong commitment to protecting Australia's unique and iconic natural, cultural and Indigenous heritage.

What will the changes achieve?
The changes to the EPBC Act will:
- ensure matters of national environmental significance continue to receive the highest possible level of protection;
- cut red tape and enable quicker and more strategic action to be taken on emerging environmental issues;
- provide greater certainty for industry;
- make environmental decision-making more efficient and cost-effective;
- strengthen the enforcement provisions of the Act;
- encourage the use of regional plans to create more certainty about the outcomes of environmental decisions; and
- increase the general understanding of the processes and mechanisms of the EPBC Act.

Changes to the listing process explained
- Currently the EPBC Act provides for any person to nominate a threatened species or ecological community for listing.
- All nominations (except those that are vexatious, frivolous or not made in good faith) have to be assessed by the Threatened Species Scientific Committee regardless of the merit or priority and regardless of the conservation benefit likely to arise from listing.
- This means valuable resources from both the department and the Threatened Species Scientific Committee may be tied up dealing with nominations that have little merit, or do not deserve priority attention or, if successful, will result in little conservation benefit.
- The amendments will allow a more strategic approach so that the work of the Threatened Species Scientific Committee will be directed to matters of the most importance.
- The new system will involve an annual cycle:
    - public nominations will be called for at least 40 business days. The Minister may determine themes (although this step is optional);
    - all nominations are referred to the Threatened Species Scientific Committee;
    - the independent expert body provides the Minister with advice about what nominations should be assessed;
    - the Minister finalises the list of nominations to be assessed (in effect setting an annual work programme for

the Threatened Species Scientific Committee);
- the Threatened Species Scientific Committee invites public comment on all the nominations to be assessed;
- the Threatened Species Scientific Committee assesses the nominations in the finalised list and provides its advice to the Minister; and
- the Minister decides whether or not the various nominations should be accepted for listing under the EPBC Act.

The Environment and Heritage Legislation Amendment Bill (No. 1) 2006 which amends the EPBC Act was passed by Parliament on 7 December 2006. It is expected that the Bill will receive Royal Assent before the end of the year with provisions in the Bill coming into force early in 2007.

Further information is available online at: http://www.deh.gov.au/epbc/2006-amendments/index.html

Threatened Species Scientific Committee welcomes two new members

In November 2006, Dr William Humphreys and Dr Antony Lewis were appointed to the Threatened Species Scientific Committee. They expand the collective expertise of the Committee in a number of areas.

Dr Humphreys is currently Senior Curator at the Western Australian Museum. He has experience of marine, freshwater and terrestrial fauna, both as a researcher and teacher, and has published widely on both invertebrate and vertebrate taxa. He is also Vice-President of the International Society of Subterranean Biology, and a member of the Western Australian Scientific Advisory Committee for threatened ecological communities.

Dr Lewis is an independent fisheries advisor whose expertise includes fishery resource assessment and management. He currently serves as Chairman of the Western Tuna and Billfish Management Advisory Committee (eastern Indian Ocean) for the Australian Fisheries Management Authority.

In September 2006, the Committee also farewelled two members, Professor Bob Kearney and Dr Libby Mattiske, both of whom made significant contributions to the work of the Committee. In particular, Professor Kearney provided expertise in the area of fisheries management and Dr Mattiske offered valuable insight into the uniqueness of Western Australia flora and native vegetation management.

The Threatened Species Scientific Committee advises the Australian Government Minister for the Environment and Heritage on amending and updating lists for threatened species, threatened ecological communities and key threatening processes, together with the making or adoption of recovery plans and threat abatement plans.

More information about the Threatened Species Scientific Committee is available online at: www.deh.gov.au/biodiversity/threatened/committee/index.html

Saving an endangered plant

Saving an endangered plant from extinction: *Hakea pulvinifera*

Since 1991 Joe McAuliffe from the Australian National Botanic Gardens(ANBG) has been working on propagating the critically endangered species *Hakea pulvinifera*. The plant comes from the Gunnedah agricultural district of New South Wales, where between 100-200 of the *H. pulvinifera* plants were found clinging to a rocky hillside.

Joe discovered the mainly grey-green plant would only strike at a very particular time, when it had new-ish red and green growth on its stem.

Since the first strike nearly 10 years ago, it's been hard work. All the recorded research on the spectacularly flowering *H. pulvinifera* argued the plant was sterile – it had both male and female parts in the same flower, but the male parts didn't work.

However, that view changed forever the morning Joe and his nursery staff noticed fruit beginning to appear on the plant.

Recent developments

We now have developing fruit on a few of the plants in our collection. This is extremely exciting news as this has never been observed by science before. In the wild the plant population is believed to be one organism which has lost the ability to set seed or fruit. One thing we can now say is that it is possible that the plant is capable of producing fruit. This means that the species may be capable of producing viable seed, which would significantly change our approach to the cultivation and conservation of this species. That having been said, it is also quite possible that it will never produce viable seed. Another consideration to keep in mind is that we can't rule out the possibility of cross-pollination with another species. Nonetheless we are continuing to unravel the secrets of *H. pulvinifera.*

Hakea pulvinifera – **J McAuliffe**

The news that this plant was producing fruit greatly excited National Parks and Wildlife Service rangers. They travelled to the wild site to check if those plants were producing fruit. Unfortunately, but not surprisingly, there was no fruit to be seen. However, the rangers commented that the plants were producing the largest flush of new growth ever recorded.

We now have a photographic record of the fruit of *H. pulvinifera.* I am hoping that there will be a botanical illustration and description done in the near future based on the fruit on the plants in the Gardens' nursery. Further pollen analysis of the plants in our collection will be done to determine if there has been any change to its viability.

In the past we have successfully propagated *H. pulvinifera* by vegetative methods including cuttings and grafting. Producing cuttings from this species is slow. This is because we have very little suitable propagation material available from the several plants in our collection. The plants are naturally sparse and are slow to develop, taking several years to be able to yield many cuttings. While strike rates are becoming more encouraging, it will take decades before we have enough parent plants to produce the species in any reasonable numbers.

Grafting the species has been achieved and the results are promising. We have one grafted plant, grafted onto *H. salicifolia*, and it has thus far proven to be the most vigorous plant of *H. pulvinifera* in our possession. It is very useful as a high yielder of suitable propagation material. However, it is well known that *H. salicifolia* as a rootstock is unreliable, sometimes shedding the graft union or dying suddenly. Another issue to consider when choosing to graft this species is that the wild population is believed to reproduce only by root suckers. Our long-term aim is to grow this species in a single population within the Gardens, allowing it to reproduce itself by suckering. Grafted plants will not have this ability. For these reasons we will not be producing many grafted specimens of *H. pulvinifera.*

Why do we need to produce larger quantities of *H. pulvinifera*?

There are a few reasons. Firstly, the more plants of this species we have in our collection, the more secure the species will be. Only having a small number means that what we do have is at a high risk of being lost through unforeseen events. Secondly, we need to collaborate our efforts with this species with other botanical institutions by providing them with plants that they can secure in their collection. We have already provided some plants to Mt Annan Botanic Garden and Burrendong Botanic Garden and Arboretum. Spreading the holdings of the species in this way greatly increases the species' security as the entire collection cannot be threatened by one single event.

There is another reason why we are making a serious effort to further secure this species within our collection. Should we lose the collection we have at the ANBG now, it is highly probable that we will not be able to propagate from the wild plants. Our original plant of *H. pulvinifera* was acquired by digging it up from the wild population. This is a practice not favoured now by NPWS for many reasons. Most plants of *H. pulvinifera* removed by this method do not survive, and if they do, the chance of successfully propagating from them would be very low. The reason is that the wild population lacks what we propagators call 'juvenility'. In other words, the wild plants do not produce growth that is conducive to propagation methods. For several years we worked on one plant, removing as many cuttings as possible with only a single success. This initial success is what I believe to be a chance occurrence. We were extremely fortunate to have that initial success which produced a plant with increased juvenility, producing material that better suited propagation methods.

Finally, it would be extremely satisfying to contribute to the establishment of a second in situ population of *H. pulvinifera*. This is the ultimate goal and although achieving this is not going to happen in the near future, we are working towards producing enough *H. pulvinifera* to make this possible.

Conservation management networks

Conservation management national network conference

Over the 21st and 22nd November the Conservation Management National Network Conference was held in Bairnsdale, Victoria.

A Conservation Management Network (CMN) is a network of remnants and their owners or managers, and other interested individuals. Remnants can be represented

under various land tenures. CMNs aim to encourage partnerships between local communities, government and scientists to manage and protect important remnant ecological communities.

CMNs represented at the conference included Gippsland Plains, Monaro Grasslands, East Gippsland Rainforest, Wedderburn, Northern Plains, Grassy Box Woodlands and Bega Valley. Woodland Watch from WWF (WA) and the Trust for Nature were also represented. There were also participants from the Victorian Department of Sustainability and Environment, the Australian Government Department of the Environment and Heritage and the Australian Government Natural Resources Management Team.

The Conservation Management National Networks Conference brought CMN members together to discuss issues focused mainly on management. It was acknowledged that each CMN is different and they face many different management issues.

In particular, the need for a National Coordinator for CMNs was highlighted. A National Coordinator could produce guidelines for establishing CMNs, maintain a national CMN Website and liaise with government and non-government organisations.

The conference ended with a tour of the Gippsland Plains Grassy Woodlands, including grassland restoration sites, and sites of burning and revegetation trials.

Network helps landowners protect native vegetation

Locals Dan and Vickie Williamson are working to establish a Community Conservation Network in the Bega Valley Shire in southern New South Wales. With funding assistance from the Southern Rivers Catchment Authority, the network will connect people who want to know more about caring for native vegetation on their land.

Dan Williamson explained that over 200 landholders have already committed to protect areas of native vegetation on their properties.

“Many landholders have received funding from organisations such as New South Wales National Parks or the Bega Valley Shire Council to assist with the cost of project works,” Dan said.

“However not everyone knows *how* they want to manage native vegetation and the multitude of information out there can be quite confusing.

The Network will be a one stop shop to find and share information with other locals and professionals.

It will also support groups like the newly established Wapengo Watershed Association, formed by residents to take an active, community approach aimed at maintaining and improving the environmental, social and economic integrity of Wapengo Lake and its catchment.

Terry and Jill Bunn have been working for several years to keep Wapengo Lake catchment as a place of natural beauty where birds and animals can thrive.

“We’ve planted hundreds of trees with the help of the local community,” said Terry.

Vickie (holding Taylor) and Dan Williamson and Jill and Terry Bunn - **Bega Community Conservation Network**

“The biggest improvement however, has been achieved simply through fencing livestock out of the waterway.

“The natural regeneration and stabilisation of parts of the Wapengo estuary since fencing was constructed has been enormous.

“The Conservation Network members have different reasons for wanting to protect their native vegetation,” Dan said.

“Some are working to protect their water supply, some enjoy having good habitat for native wildlife and plants and many find better farming results from healthier natural systems around them.

“Once we understand what support is needed, the Network will find ways to share skills and information. This will help landholders get better results from the native vegetation they’ve identified to protect,” he said.

The Conservation Management Network will share information through:

- display sites demonstrating innovative techniques;
- field days sharing methods and advice for landowners;
- workshops on topics members need to know about;
- a website with current information and contacts for advice and support;
- a discussion group for e-mail users, linking locals who share and learn together; and
- a regular newsletter with new conservation methods, other peoples successes, funding opportunities, and coming events.

“We want to make sure these activities are worthwhile but also fun so we’ve sent out a survey to those who have a conservation contract to ask what they want from the Network,” Dan said.

“Those who complete and return the survey will have a chance to win one of four $50 vouchers for Bega Agricultural Services.

For further information on the Bega Valley CMN please contact Dan or Vickie Williamson on 6492 5558 or vickie@goldy.com.au.

Upcoming events

- 49th Annual Conference of the International Association for Vegetation Science, ‘New Zealand: New home; new habitat! new ideas?’. (12-16 February 2007, Palmerston North, New Zealand)
- First National Forum of the Australian Network for Plant Conservation: *What lies beneath? The role of soil biota in the health and rehabilitation of native vegetation* (17-19 April 2007 Canberra)
- Biodiversity: Balancing Conservation and Production Case Studies from the Real World (26-28th June 2007 University of Tasmania, Launceston)
- The Biodiversity Extinction Crisis, a Pacific and Australasian response: the Australasian section of the Society for Conservation Biology inaugural regional meeting of conservation scientists and practitioners. (10-13 July 2007, UNSW, Sydney)
- International Association for Ecology (INTECOL) The 10th International Congress of Ecology (August 2009, Brisbane) (Hosted by The Ecological Society of Australia in partnership with The New Zealand Ecological Society)