Bush Matters

Summer 2004/2005

Newsletter of the Conservation Partners Program ISSN 1446-8441
National Parks & Wildlife Service - part of the
Department of Environment and Conservation (NSW)

inside.....

The Director General of DEC, Lisa Corbyn (centre) visited Coffs Harbour to meet with landholders who recently joined the Conservation Partners Program (above) and with DEC staff involved in the production of the Natural Resource Management Notes for North East NSW (see page 9).

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... from the Director General

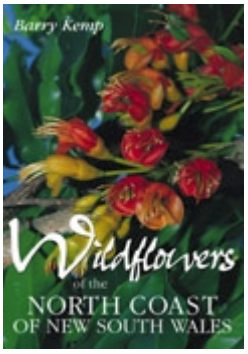
It was with great pleasure that I was recently able to meet with landholders in the Coffs Harbour area, who have voluntarily agreed to protect part or all of their property where the land has native wildlife values. While our formal reserve system is one of the best in the world, it cannot in itself provide the only protection for biodiversity. Landowners and private property play an integral role in the conservation of the State's natural biodiversity.

The landowners I met are newly involved in the Wildlife Refuge and Land For Wildlife schemes. These landholders became involved through a "one stop shop" project run by the Northern Rivers Catchment Management Authority. This project is an example of people working together, and involved the Department of Environment and Conservation (DEC), the Department of Infrastructure Planning and Natural Resources (DIPNR), Greening Australia and the Nature Conservation Trust. I was delighted to acknowledge some of the applicants to the "one stop shop" project who have been successful in becoming members of the DEC Conservation Partners Program, through the range of options available including Voluntary Conservation Agreements, Wildlife Refuges and Land for Wildlife.

It was good to be able to congratulate these new landowners personally and present them with signs recognising the status of their properties.

LISA CORBYN
Director General
Department of Environment and Conservation

New book...



Wildflowers of the North Coast of New South Wales
by Barry Kemp

This covers the coastal area of Nsw South Wales - extending from Newcastle to the Queensland border.

Released in 2004, the book features over 300 native plant species, which are the most commonly encountered on the North Coast.

The book is soft cover and ideal for taking on bushwalks. Plants are grouped under the type of vegetation in which they are most commonly found, for example, Coastal Dunes, Coastal Heath, Open Forest and Rainforest. Within these vegetation types, they are grouped as trees, shrubs or herbs.

Each entry includes a description of the plant and a clear photograph. This book is excellent for those who are wanting to identify wildflowers and to become familiar with the vegetation types commonly found in the region.

176 pages. Published by New Holland (2004)
RRP $ 29.95

Are you on email?

Interested in opportunities for learning about managing your land for conservation or seeking funding assistance.

We often get notice of field days or funding opportunities with a limited time in which we can notify landholders.

If you would be interested in receiving news of such events, let us know your email address.This provides a very quick method of communicating these things to you.

This can also work in reverse - if you know of things in your local area, which may interest to others, let us know and we can pass the information on.

Send you email address to

louise.brodie@environment.nsw.gov.au

or

sally.ash@environment.nsw.gov.au

Locust spraying and threatened species: a safer insecticide is available

Landholders who are having their land sprayed for locusts are often worried about the effects on native animals. Catherine Price, from the Department of Environment and Conservation, gives helpful advice on insecticide use.

The current locust infestation has resulted in broad scale use of insecticides for control.

Several different insecticides are currently used to control locusts.

The commonly used chemicals for locust control are Fipronil, Fenitrothion and Chlorpyrifos. Fipronil is the active ingredient in the comon flea control product "Frontline" and is a phenylpyrazole. Fenitrothion and Chlorpyrifos are organophosphates.

However, little information on the direct and indirect impacts of insecticide use on native wildlife has been gathered, with studies from overseas suggesting that some chemicals could affect species which consume sprayed insects, such as the endangered Bush Stone-curlew. There is a need for research into the impacts of locust control on native fauna.

Bush Stone-curlew

An alternative insecticide to use

To allow for effective management of locust populations and to minimise potential impacts on the endangered Bush Stone-curlew (or Bush Thick-knee), the Department of Environment and Conservation (NSW) provides the following advice for organisations and landholders applying insecticide for locust control:

- Within a 2km area around known Bush Stone-curlew sites, the environmentally safe insecticide *Metarhizium* (or Green Guard™) will be used for ground and aerial spraying.
- For ground applications, landholders within these areas will be provided with *Metarhizium* at no additional cost.
- Landholders may be asked to nominate the 2km area on their property if the location of a Bush Stone-curlew site is not precisely known. This information will not be used for any other purpose than allocating appropriate insecticides for locust control.
- If Rural Land Protection Board (RLPB) Rangers are aware of sensitive areas within an area that is to be sprayed, they should recommend the use of *Metarhizium*. This information will not be used for any other purpose than allocating appropriate insecticides for locust control, and no assumptions as to the nature of the area will be made.

Similar recommendations have been drawn up for Plains Wanderer habitat, although only a 1km area surrounding records has been recommended.

Other animal species may also be of concern to landholders. In these cases, landholders may request that *Metarhizium* be used over certain areas of their property if they are concerned about the potential impacts of other insecticides to native fauna.

Metarhizium was developed by the Australian Plague Locust Commission and is a naturally occurring fungus that attacks locusts and grasshoppers. It is not genetically modified and can be used against nymphs and swarms using ground or aerial application. The greatest mortality of locusts occurs within 7 to 15 days of the application depending on the ambient temperature. Organic producers, such as organic beef farmers, currently use *Metarhizium*. The DEC uses *Metarhizium* effectively against adult locusts within sensitive environmental areas, such as some National Parks.

Talk to your RLPB Ranger regarding the use of this insecticide on your property.

If you have questions regarding this information, contact Catherine Price, Bush Stone-curlew recovery coordinator on (02) 9995 6183 or email:
catherine.price@environment.nsw.gov.au

Diamond Park Wildlife Refuge

Megan Benson talks about her experiences with a Wildlife Refuge.

Arriving on the mid-north coast from the city 17 years ago to our bush block and farm, we had the typical sea-changer attitude ……. that the environment was there for us to transform! The 40 hectare property consisted of bushland with around one-third of the property cleared for grazing. We whacked in an orchard and dug a few drains, built a house and tried to grow a suburban lawn.

As time went by we learnt about drought, foxes, rabbits and hares. We watched weeds grow and spread - wherever that tractor goes, weeds will follow. With these experiences in mind and watching the urban expansion of Taree's coastal strip progressing, we came to realize that what was here in the first place was far more precious than anything we had transformed.

The farm was intensively logged (as was with the region) 100 years ago, with quite a few ring barked stumps remaining, and from 1930s was fairly continuously grazed. The age of the native vegetation varies - there are remaining windrows on the property about 80 years old, and some of the forested areas are around 70 years of age. So there is a mosaic of regeneration of the native vegetation happening.

We gazetted our 40 hectare property as a NPWS Wildlife Refuge about seven years ago. We also have a Property Agreement with DIPNR over part of the property - 10 hectares of Low Closed Swamp Forest and 9 hectares of Dry Open Forest. That agreement allowed for the funding of stock proof fencing around those areas.

We have been FAWNA members for over 10 years and the property is a registered release site for rehabilitating native wildlife (See box on right).

Luckily, Khappinghat Nature Reserve is our western and northern neighbour and this enhances wildlife movements on the property. The vegetation includes open forest with different types of eucalypts in different parts of the forest – including tallowwood, grey gum, grey ironbark, white mahogany and blackbutt. We also have swamp forest with paperbark, tea-tree and swamp oak.

Habitat tree on Diamond Park Photo: M Benson

Other habitats are modified grasslands and farm dams.

A lot of people refer to our property as "rubbish country", but very pretty. What do they know? To be honest – we didn't even know that 'ecological' values existed when we moved here. Threatened fauna known to us include Brush-tailed Phascogale, Squirrel Glider, Grey Headed Flying Fox, Osprey, Barking & Powerful Owls, Glossy Black Cockatoo and Jabiru. Koalas used to be about – but we haven't heard or seen one for at least 6 years. We've recorded over 70 different species of birds, twenty four different native mammal species, a fair smattering of reptiles and frogs live here too.

FAWNA (For Australian Wildlife Needing Aid) operates on the mid north coast of NSW (throughout the Kempsey, Hastings, Greater Taree and Gloucester local government areas). It is a volunteer wildlife rescue and rehabilitation service for injured and orphaned native wildlife. FAWNA is licensed by NSW National Parks and Wildlife Service (NPWS). FAWNA also undertakes an educational role through schools and community groups. For more information contact:
FAWNA (NSW) Inc., PO Box 218, Wauchope, NSW 2446 Australia. www.fawna.org.au (0500) 861 405

Information on other wildlife rescue organisations in NSW can be found on the National Parks website - www.nationalparks.nsw.gov.au
- go to Nature and Conservation/Native Plants and Animals/Sick, injured and orphaned native animals

We have fantastic habitat trees, and on walking past one of these recently, we found a variety of animal remains within one metre of each other – a feather, a sugar glider carcass, wallaby scats and an egg shell (see right).

We have tourist accommodation on the farm. Visiting children get very excited when they bring back their collected scats (and bones and other collectibles) from walks.

A substantial amount of our time is spent managing weeds. Recently crofton weed has appeared since neighbours started clearing their bush and growing weeds 2 years ago!

Another pest problem has been European beehives in the habitat trees, and we have killed off accessible ones in the past.

Over the years we've got to know our local NPWS Rangers pretty well – their advice and help (especially in bush fire season) is appreciated. It was the Rangers who originally encouraged us to register for Wildlife

Photo: M.Benson

Refuge status. We get lots of "free advice" from them too, but I'm not so sure we will ever manage to plant the 40,000 trees required to revegetate the Refuge. Let alone the 300 nesting boxes needed (we've managed to put up a dozen or so) because we have so few trees with hollows. The officers from the DEC Hurstville office have helped us out with grant applications for revegetation projects and organized a couple of teams from Conservation Volunteers Australia to assist with labour, which saw to the plantings of many hundreds of trees. I'd like to take this opportunity to thank DEC staff for their support and good humour – they're great people to work with.

I'd like to see a greater knowledge of Wildlife Refuges in the community, with people understanding how habitats on private land contribute to conservation outside of National Parks.

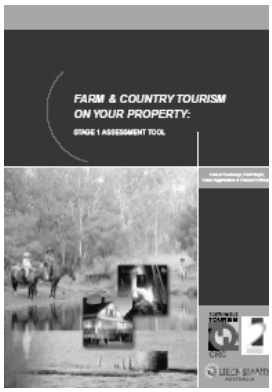
As well as having a Wildlife Refuge, Megan is a member of the Mid North Coast NPWS Advisory Committee. Advisory committees play an important role in the relationship between the NPWS and the community. There are 19 committees across New South Wales, see www.nationalparks.nsw.gov.au/npws.nsf/Content/advisory committees for more information.

SUSTAINABLE TOURISM CRC

Sustainable Tourism Kit

Thinking about tourism as a good way to make additional income as well as assist you to manage and protect your environment?

To help you ensure your decision to go into tourism is well founded, the Sustainable Tourism Cooperative Research Centre (STCRC) has developed an assessment tool kit to ensure your business venture has a successful start.



The tool kit is a 2-staged process consisting of:

- Part A - examines the tourism potential of your property and your region. This is a rapid assessment tool and takes less than 30 minutes to complete (10 pages, free of charge)

- Part B - looks at the characteristics of your property as well as other key elements. This is a substantial planning kit that will challenge the potential tourism operator to research all aspects of their venture. (120 pages, $85.00)

For further information or copies of the workbook contact

Sustainable Tourism CRC
Brad Cox – Communications Manager
Ph: 07 5552 8166
Email: brad@crctourism.com.au
Or visit www.crctourism.com.au

Download a free copy of Part A at http://crctourism.com.au/CRCBookshop/page.aspx?page_id=2&productID=337

The Platypus - *a fascinating but elusive animal.*

Who would blame scientists for thinking that the first platypus specimen which was sent to England for identification, was a hoax. The platypus was first described by a British scientist, Dr George Shaw in 1799. He even took a pair of scissors to the pelt, expecting to find stitches attaching the bill to the skin!

According to Aboriginal legend, the first platypus were born after a young female duck mated with a lonely and persuasive water-rat. The duck's offspring had their mother's bill and webbed feet and their father's four legs and handsome brown fur. This aptly describes the appearance of the platypus.

However the platypus is a rare type of animal. The platypus and the two species of echidna (sometimes called spiny anteater) are the world's only monotremes. Monotremes are mammals, as they are warm-blooded, but lay eggs (other mammals give birth to live young). The name 'monotreme' comes from the fact that these animals have only a single opening for reproduction and getting rid of body wastes.

The platypus lives only in Australia, and is commonly found in the rivers, streams and lakes of eastern Australia. Populations occur in Tasmania, Victoria, New South Wales and Queensland to about as far north as Cooktown. They are found in the major permanent river systems in the south of NSW, west of the Great Dividing Range, and occasionally in South Australia.

The platypus is mainly nocturnal and spends about half its time in the water feeding. A platypus stays underwater for between one and two minutes, but if disturbed it can stay underwater for up to 10 minutes. They may spend up to 10 hours in the water at any one time.

Out of the water, platypuses spend most of their time in burrows which have been dug into the river bank, with their entrances usually above water level. They use a number of short resting burrows (three to five metres long) as protection from predators and temperature.

What do they eat?

The platypus usually catches its food underwater, sifting through the gravel and mud of the riverbed. Its diet consists mainly of riverbed animals such as insect larvae. However, it also eats freshwater shrimp, and may catch adult insects on the surface of the water. The 'duck bill' is a flexible, soft and very sensitive organ. It helps the animal to find its way about and to search for food, picking up electrical discharges from its prey. A great deal of mud can be consumed in the feeding process. The platypus fills its cheek pouches with unchewed food, and when it has finished feeding it rests on the water surface to grind and swallow the food. Although it has no teeth, the platypus uses grinding plates on the upper and lower surfaces of the jaw to chew its food.

Breeding

Platypus breeding season is in spring, running from October to March in NSW. The animals build a nesting burrow up to 30 m in length, containing a nesting chamber. Between one and three leathery eggs are laid, which are incubated by the mother, who curls around the eggs with her tail laid over them. After hatching, the young platypuses are fed milk by their mother. Platypuses do not have teats, milk is transferred from the mother's mammary glands to the skin, and the young suckle her underbelly fur. After three or four months the young venture into the open to see daylight and the river for the first time.

Platypus poison

The platypus is the only Australian mammal known to be venomous. Adult males have a pointed spur (about 15 millimetres long) located just above the heel of each hind leg. These spurs are connected to a sac containing poison strong enough to kill a dog.

Venom is only secreted by mature males, with production peaking during the platypus breeding season in late winter and spring. It is therefore presumed that males mainly use their spurs when competing for mates or breeding territories.

People mainly get spurred when they handle a platypus which has become hooked inadvertently on a fishing line. Platypus venom is not considered to be life-threatening to a healthy human. However, spurring is painful.

Like echidnas and most other native Australian animals, platypuses are protected under the *NSW National Parks and Wildlife Act 1974.*

Spotting Platypus

Platypus are hard to spot - they are elusive and live in a way that rarely interacts with humans. About half the size of a household cat, platypuses are dark brown on their backs and generally light brown on their bellies.

During the breeding season (July to October) there is more activity and so a better chance of seeing them, if you know where to look. Geoff Williams, from the Australian Platypus Conservancy, gives the following spotting tips:-

- Dawn or dusk is the best time, although where platypus are locally abundant some may be seen during the day
- Find a burrow during daylight hours and come back after dark. Burrows are usually located at least one metre above the water, often on substantially undercut banks where vegetation overhangs the water
- Platypus float very low in the water, are 40-60cm long, and slightly higher at the head and the rump and create a bow wave as they paddle along the surface
- They often dive and resurface within 25 metres, but when platypus are feeding they will usually only dive for around a minute before returning to the surface to eat or groom
- Platypus diving creates a very distinctive circular ripple pattern, and is sometimes accompanied by a loud splash.

EVEN MORE WEIRD - 10 Sex chromosomes!

We thought platypus were unusual, but recent work by scientists from the Australian National University has proved this to be even more so. Platypus have ten sex chormosomes - five X and five Y (as opposed to humans who have two sex chromosomes). These form a long chain that looks like human sex chromosomes at one end and bird sex chromosomes at the other end - linking these monotremes to a very ancient system of sex determinations. For more information see *Nature* **432**, 913-917 (16 December 2004).

Create a platypus-friendly habitat

The presence of platypus is an indicator of the general health of a waterway, which in turn reflects the health of the adjacent land. The Australian Platypus Conservancy has a number of suggestions for both rural and urban waterways to encourage any platypus already in the area:

- Cover pump intakes with mesh to stop juveniles being sucked in
- Control erosion by:
  - keeping walking and cycling tracks at least 30m from river banks
  - retaining or restoring buffer zones of healthy, native vegetation along creek/riverbanks
- Reduce grazing pressure from livestock along the waterway - this may require fencing and the provision of off-stream watering points.
- Reduce pollution by:
  - storing and disposing of chemcials correctly
  - not applying pesticides or other agricultural chemicals near water, unless the chemical is specifically registered for use near water.
  - ensuring fertilisers do not enter watercourses and waterbodies.
- Ensure any fences across streams do not use barbed wire, and old barbed wire fencing does not end up in waterways.
- Keep bright lights at least 100m away from stream banks
- Increase stream flows

The most important thing is to create links between waterbodies so as to allow the platypus to keep its feet wet while travelling between them. They will use pipes and culverts linking waterways, especially those which incorporate breathing bays along their length. Flatter bank profiles in natural and artificial waterbodies allow easy access. Providing shallower areas and small islands will also make them attractive to platypus.

Yabby traps

how to use them and prevent damage to wildlife.

'Opera house' style traps are often used to catch yabbies (native freshwater crayfish). However this can result in trapping of other wildlife which subsequently drown. This is especially so for platypuses, but turtles and waterbirds can also be affected.

The public can protect native wildlife and prevent them drowning by following the guidelines and regulations which were introduced in November 2003 by NSW Fisheries - now part of NSW Department of Primary Industries (DPI)

The three things we can do to protect wildlife are:

1. Don't use yabby traps in waters where platypuses are found

Yabby traps are banned in the following areas, where platypuses are known to be living:

- in river systems in NSW east of the Newell Highway, which runs from Tocumwal in the south to Goondiwindi in the north.
- in the Murray River downstream to Echuca
- in the Edward River downstream to Stevens Weir
- in the Murrumbidgee River downstream to Darlington Point.

Don't use yabby traps in public waters (rivers, creeks, lakes) in these areas.

Platypyus habitat & areas where yabby traps are banned.

If you want to catch yabbies in these waters, use lift nets where they are permitted.

If you have permission to access farm dams, use your modified yabby traps there - but be careful as platypus are sometimes found in larger farm dams with vegetated banks.

Remember, all traps and nets are illegal in notified trout waters except for the use of lift nets in Lake Eucumbene and Lake Jindabyne.

2. Modify your traps to minimise harm to native wildlife

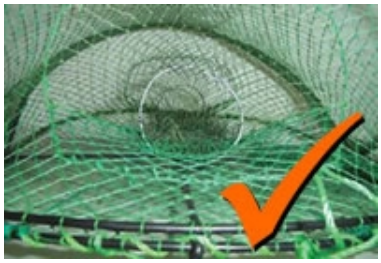
If your traps don't have rigid metal or plastic rings on the entrance funnels with a diameter of 90 mm or less, fit rings as described below. These rings will restrict wildlife such as turtles and cormorants from getting into the traps. You will not lose your bait from the traps as often, and your yabby catches will not be reduced.

Step 1: Cut a 30 cm length of stiff wire (eg. coathanger wire). At each end, fold a 1 cm length of the wire over to form a hook.

Step 2: Bend the wire into a circle.

Photo: DPI (Fisheries)

Step 3: Thread the wire into the mesh of the yabby trap entrance funnel, about halfway along the funnel, to form a vertical ring around the funnel. Hook the two ends of the wire together and crimp down the ends with pliers. You have now modified one entry funnel. Do the same thing with the other funnel, and your trap is now less harmful.



Modified yabby trap, showing correct placement of wire ring in entrance funnel

An unmodified yabby trap - a hazard to wildlife.

It's important to remember that **even modified traps will not keep platypuses out**. Don't use traps in platypus waters.

3. Check your traps regularly

Don't leave your yabby traps unchecked for more than 24 hours.

More information

For more details, contact DPI-Fisheries 1300 550 474

Trees as habitat

Helping habitat on your property

Native animals provide great pleasure for most of us – hearing and seeing a variety of birds, catching sight of frogs and lizards and other native animals are things we enjoy. Providing places on our properties where these animals can live and breed is an important contribution which helps to ensure that these animals are around for the future.

Provision of good quality habitat on your property is always recommended. Inclusion of a variety of native vegetation helps. However habitat can be complex as each animal may have a different requirement, sometimes conflicting with that required by another animal. Specific information can be difficult to find.

Native trees are the most conspicuous element of habitat. They contribute to habitat in a variety of ways.

Trees with hollows. One of the reasons it is important to retain such trees is that tree hollows take a long time to develop. Large hollows may only be found in trees older than 100 years. Tree hollows can be diverse in size with each size suiting a different animal. Small bats and reptiles can use small hollows, while larger mammals and birds, such as gliders and other possums require large hollows.

As well as protecting old trees, it is important to have trees with a range of ages – this ensures that hollows will be replaced over time - the younger trees start to develop hollows to replace trees which die. Some older and dead trees are considered a danger because of the possibility that they will fall. Lopping or felling the top of the tree, can reduce any danger and any hollows found in the lower trunk or branches can be retained.

Food Trees

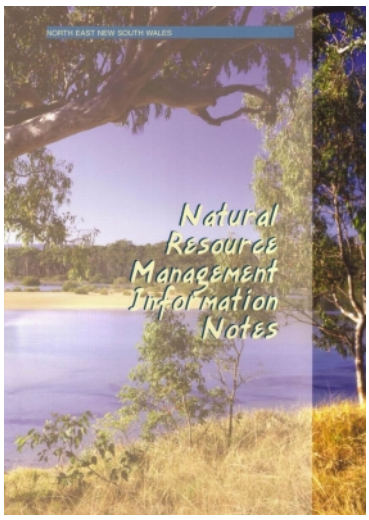
Another habitat requirement provided by trees is food, which includes nectar, pollen, fruit and seeds.

Some food sources are notable for their importance for threatened species. The glossy black cockatoo is listed as 'vulnerable' under the *Threatened Species Conservation Act 1995 (TSC Act)*. This means that if the threats to the survival of this species continue, it is considered that it may lead to the extinction of the species. As well as large tree hollows, the glossy black cockatoo feeds almost exclusively on seed of *Allocasuarina* species (commonly called she-oaks). An important way to assist these birds to survive is to manage stands of she-oaks to maintain foraging opportunities.

Nectar and pollen from a range of native trees and shrubs provide an important food source for a number of bird species, possums, flying foxes and insectivorous bats. Different plant species flower at different times of the year, so a range of species with different flowering times will ensure a food source throughout the year.

Fleshy fruited trees are found in large numbers in rainforests. The clearing of much of these areas has resulted in a range of species listed as 'vulnerable' under the TSC Act. For example, with lowland sub-tropical rainforest, only 1% remains of the original distribution prior to European settlement. Fleshy fruits comprise the entire diet of some pigeons, eg the wompoo pigeon and the rose-crowned pigeon.

The koalas is another animal with specific food needs. They favour particular eucalypt species as food trees.



"Natural Resource Management Information Notes"

Specific Information for North East New South Wales

These notes have been produced by the Department of Environment and Conservation to assist landowners in the Northern Rivers Catchment Management Authority area by providing specific information for property management.

Topics covered by the notes include:

- Trees With Hollows
- Glossy Black-cockatoo: Feed Trees
- Yellow-Bellied Glider: Feed Trees
- Nectar Food Trees
- Flesh Fruited Food Trees
- Raptor & Water Birds: Nest Trees
- Bat Roosts
- Flying-fox Camps
- Koala Habitat
- Old Growth Forest
- Cultural Heritage
- Biodiversity; It's everyone's business
- Threatened Species Conservation
- Threatened Species Recovery Plans
- Wildlife Corridors

For copies of these notes ring Conservation Partners: 02 9585 6040 or 02 9585 6671or download from www.nationalparks.nsw.gov.au/npws.nsf/Content/landholder_notes.

Looking for native plants and animals in Western NSW

Laura Kelly, Project Officer with DEC, has spent a busy few months writing up reports for some landholders she visited in Western NSW, to tell them about the plants and animals found on their Wildlife Refuge properties.

Work carried out as part of the Voluntary Conservation and Biodiversity Project funded by the Environmental Trust, allowed detailed surveys of flora and fauna to be carried out on a number of Wildlife Refuges, based on an Expression of Interest sent to landholders.

Laura says "I loved working outdoors in the varied environments of western NSW. I also really enjoyed meeting the landholders, everyone was so welcoming and helpful and gave us a lot of their time to show us around." Louise Brodie from the DEC office in Hurstville also visited some of the properties with Laura, and says "The highlights for me were meeting the landholders, talking with them about the challenges of managing their properties for both conservation and production – and of course the opportunity to visit Western NSW again."

© DEC. L.Kelly

Gathering information at survey sites

Some of the highlights included the occasions when a wider group involved on the property were interested in seeing what was found there. For example, in one case many of the property staff were involved in helping check the bat traps. All were able to see the Lesser Long-eared Bat (*Nyctophilus geoffroyi*), a few geckoes and skinks and the Holy Cross Toad (*Notaden bennettii*).

The presence of small insectivorous bats on a number of properties provided much interest to landholders. To capture these small bats 'harp traps' were used. These consisted of a frame strung with vertical lengths of fishing line and a holding bag at the base of the frame. The idea is to place these in potential bat flight paths, usually where they might access water. The survey team often had fun finding these sites and erecting the traps – including the near loss of shoes in mud by Laura!

© DEC. L.Kelly

Lesser Long-eared Bat (*Nyctophilus geoffroyi*)

Landholders were interested to see the small size of these bats – some weighing only 3 kilos. It is often assumed that such small bats are babies, rather than being full-grown. Landholders had a good knowledge of the birds and the larger reptiles on their properties, and were interested to find out about the small geckos and dragons.

At another property workers were able to see the Central Netted Dragon (*Ctenophurus nuchalis*), the two Suta snakes (Curl Snake - *Suta suta* and *Suta spectabalis*), geckoes, including the Marbled Velvet Gecko and Beaked Gecko, and some frogs and bats.

In some cases, children were able to help out. Laura and others carrying

out the surveys near Lightning Ridge visited the Hebel school for a "show and tell" of the animals that had been captured.

The Wildlife Refuges visited covered 132,152ha in total. Fifty five formal survey sites were selected over the total area of these Refuges. Other species seen during the property visits were recorded. Given the size of many of the properties, the time spent at each property (2 to 4 days), and the size of the formal plots, the surveys were not able to cover every plant and animal likely to be found there. The weather conditions and time of year also played a part in what was found. The drought conditions may result in different and probably fewer species being found than if surveys were taken after good levels of rainfall.

The properties had a variable level of modification depending on their farming activities. All had some areas of native vegetation or waterbodies which provided habitat.

It was nice to find a number of threatened species during these surveys, with most properties having at least one threatened species present. Among those recorded were the Grey-crowned babbler, Brown treecreeper, Hooded robin, Major Mitchell's Cockatoo, Brolga, the Little Pied Bat and the Yellow-tailed sheathtail-bat. One threatened plant species was found on a property near Bourke, being winged peppercress *(Lepidium monoplocoides*).

In many cases, regeneration of new trees to replace the mature trees was not occurring. As these older trees age and become stressed due to changes in environmental conditions, it is vitally important that replacement trees establish. It is known that the presence of such trees contributes to both economic and environmental health of the land. Thus successful natural regeneration of these trees is desirable. If regeneration occurs it is important that some seedlings are able to establish and reach maturity. Stock can be managed to allow this to occur by use of short-term paddock spelling or reducing stocking rates until seedlings are established enough to resist stock pressure.

Students from the Hebel School examining some of the animals found on a nearby property.

Levels of weed invasion were a problem in some areas. Lippia (*Phyla canescens*) was one of the more serious weeds recorded on properties in the Bourke and Moree areas. This weed poses a serious environmental threat to the inland wetlands and floodplains of New South Wales. A fast-growing and hardy weed, Lippia forms a "carpet" over the entire ground. Because of its root system, it can be the cause of severe river and creek bank erosion. Lippia secretes toxic substances, leading to degradation of soil and water and displacement of native plant species.

African Boxthorn (*Lycium ferocissimum*) was also seen. On some properties this was as individual plants, and in others, signs of invasion were more extensive.

It is felt that the project has been a positive experience for DEC officers and landholders alike, and that discussion during property visits and the information provided to landholders on possible on-ground works would assist with conservation on their properties.

Lippia (*Phyla canescens)*

This plant has been around for more than 50 years. Originally promoted as a soil stabilisation plant, it has been spread over large distances by floodwaters. It has also been marketed as a low maintenance "no-mow" turf, and is now found in many household lawns.

Lippia has invaded thousands of hectares of the State's inland watercourse country. Lippia can completely dominate the ground cover and out-compete all native vegetation including tree seedlings. It poses a severe threat to all watercourse and adjacent grazing lands. It has virtually no value as stock feed and can reduce a paddock's carrying capacity by 40 – 60%.

Land for Wildlife in Ballina Shire

James Brideson, Land for Wildlife Extension Officer for Ballina Shire, talks about Ballina Council and the scheme.

We all know that the north coast of New South Wales is a popular spot. Ballina Shire is one of the many beautiful scenic areas of this region, with its mountains and rainforest providing the backdrop to wonderful beaches and coast. Ballina Shire lies within the Richmond River Catchment in northern New South Wales (NSW).

In addition, it is an area rich in flora and fauna species. Its coastline, vegetation communities, fertile soils, temperate to sub tropical climate and high rainfall create a highly diverse setting resulting in high biodiversity. In fact the region is the most biologically diverse in New South Wales and the third most diverse in Australia.

Ballina Shire has the hinterland mountains as a backdrop to the coastal regions of the floodplains and headlands. Sub tropical rainforest (known as the Big Scrub) once covered much of Ballina Shire along with coastal littoral rainforests, wet and dry heathlands, sclerophyll forests and extensive wetlands. Ballina Shire has a wide range of soil types that cater for these differing vegetation communities.

Much of the original native vegetation has been cleared over the years for horticultural, agricultural and development use. Remnant native vegetation is now very fragmented and regrowth vegetation is holding the key to improving wildlife corridors and remnant expansion. Native vegetation and habitat on private and public land through restoration, rehabilitation and conservation measures greatly assist in protecting and ensuring the many endemic flora and fauna species survive and coexist.

Land for Wildlife

Ballina Shire has many landholders interested in conservation. Pressure on the area and its flora and fauna, by urban development, agriculture and clearing prompted Council to look at a number of initiatives to assist the community to manage and restore areas for habitat. Running the Land for Wildlife program has been one of these.

Ballina Shire Council recently signed a third party agreement with the NSW National Parks and Wildlife Service to conduct the Land for Wildlife scheme within Ballina Shire. The Council saw the Land for Wildlife scheme as a valuable extension opportunity to provide a face-to-face service to rural landholders interested in conservation. The scheme allows for a greater understanding in the creation and protection of our wildlife habitats and overall biodiversity. I was employed by Council as the Land for Wildlife Extension Officer to facilitate this.

Prior to this, Ballina Council was involved in a pilot program for the Land for Wildlife scheme (in 2002), alongside five other NSW Far North Coast Councils. This was through an agreement formed between the NPWS and the Upper Clarence Combined Landcare Group. I was also the Land for Wildlife Extension Officer during this north coast pilot project.

During the pilot program Ballina Council had a very positive response from rural landowners in Ballina Shire to join up to the scheme. There was great interest from rural landholders with properties of all sizes ranging from 1-2ha up to 111ha. The small size and land distribution of Ballina Shire meant that more properties of smaller sizes joined up.

At the end of the pilot program Ballina Council had 95 properties signed up with a total land ownership of 1,634ha of which 924ha were dedicated towards wildlife habitat. Many of these properties were clustered around the escarpments containing native sub tropical rainforest stands in the gullies. Many other properties were also linked to Landcare groups. These groups already had an interest in land restoration and rehabilitation and of course appreciating our unique flora and fauna. There were farmers new to the land signing up to the scheme.

Ballina Shire boasts a variety of environments from beach, lakes and bushland to mountains.

Photo: J. Brideson.

Longstanding landholders whose family are interested in conservation have also signed up.

The highlights for me as an Extension Officer have been the opportunity to view some amazing properties in the shire and experience our natural environment with the landowner. It has been a privilege to be able to assist them and provide guidance and support towards their goals of conservation.

Now that the Council has signed up directly to conduct the Land for Wildlife scheme, we plan to continue the same level of support for landholders in the scheme. This will involve information dispersal, newsletters, field days, support for grant submissions, links to networks and school talks. These were all provided during the pilot program and received by landholders with great enthusiasm. Already a new Council brochure has been printed promoting the scheme and we are preparing for a field day. Several new rural properties have already signed up to the scheme ensuring another corner of the shire will be managing their wildlife habitat with conservation in mind.

NPWS which is now part of the Department of Environment and Conservation supports Council and landowners by sending out the *Bush Matters* newsletter and occasional fact sheets to all Land for Wildlife landowners, providing the signs to landowners, and in the future, will collaborate with Council to arrange field days and gatherings.

Lumley Rainforest Photo J. Brideson

Land for Wildlife In Northern New South Wales

During the pilot project in Northern New South Wales, a large number of landholders signed up to Land for Wildlife through officers employed with the project who worked with a number of councils in that region.

Landholders in council areas other than Ballina, who signed up to Land for Wildlife during the pilot project, continue to get support from DEC via the newsletter and invitations to future gatherings and field days in their region.

In addition to Ballina Shire, Land for Wildlife is also being run on the Central Coast, Hornsby Shire and the Murakool area in the Riverina.

Need help to develop a tourism business concept that achieves conservation outcomes! Tourism and Conservation Partnerships

The guidelines for the second round of the Tourism and Conservation Partnerships are now available at www.industry.gov.au/TourismAndConservation. Also on this site you will find FAQ's, contact details and summaries of the six studies funded in 2004/05.

The Tourism & Conservation Partnerships program aims to develop commercial tourism concepts that make a substantial and direct ongoing contribution to conservation through the program. This program provides funding for feasibility studies and business plans for ventures that deliver conservation outcomes through tourism.

The second round is expected to fund 10-20 feasibility studies and several pilot ventures that have already completed feasibility studies. Closing date for Expressions of Interest is April 6, 2005.

Guidelines can be found on www.industry.gov.au/TourismAndConservation.
OR contact
Jacqui Jeffery 02 62761861 or Carrie Steffen 02 6213 7029

Benefits for landowners with conservation agreements

We are aware of the substantial commitments in time and money that landowners make in protecting and conserving the natural and cultural values on your properties. We are also aware that when you manage primarily for conservation you also forego some of the financial incentives that others receive, when they are using their land for other purposes such as agricultural production. Gradually governments are addressing this inconsistency. A few financial incentives have been created this year to assist landowners who have entered into a perpetual conservation covenant such as a Voluntary Conservation Agreement.

Land Tax

In the last edition of ***Bush Matters*** we mentioned some changes to Land Tax. Since that article was written some further changes have been made.

The current amendments to the Land Tax provisions, applicable to those properties which have a Voluntary Conservation Agreement in place start from 31 December 2004. From that date those who are liable to pay Land Tax on a property are exempt from paying Land Tax over the part of the property that is protected by a Voluntary Conservation Agreement. The amount that you have to pay will be calculated based on the proportion of your property protected by the agreement.

Vendor Duty

Vendor duty was also introduced in 2004. Vendor duty must be paid (currently 2.25%) when people sell a property other than their principal place of residence or farm. If you are selling land that will be liable for vendor duty and it is protected by a Voluntary Conservation Agreement you are exempt from paying Vendor Duty in proportion to the area of land protected by the Voluntary Conservation Agreement. For example if your agreement protects 60% of your property you are exempt from paying 60% of the Vendor Duty calculated.

Taxation through the Australian Taxation Office

In some cases entering into a perpetual agreement such as a Voluntary Conservation Agreement may decrease the land value. The Australian Taxation Office has brought in a concession when:

- The covenant is perpetual and is entered into after 1 July 2002
- The land is freehold (not available to leasehold at the moment)
- No money was received (apart from assistance in management actions)
- The decrease in market value is over $5,000.

If the decrease in value of the land is less than $5,000 you will only be eligible for a deduction if you acquired the land not more than 12 months before entering into the covenant and you meet all the criteria.

This concession is only available where your land is protected by approved agreements. Voluntary Conservation Agreements have been approved by the Commonwealth.

The concession can be spread over five years. Forms are available from the Commonwealth Department of Environment and Heritage.

The valuation of many properties will not change so you must seek a valuation of the change in market value of land from the Commissioner of Taxation through the Australian Valuation Office (AVO). There will be a charge and the AVO can advise on the details.

This concession was previously only available to agreements with non-government organisations but this has now been changed to include perpetual agreements such as Voluntary Conservation Agreements with the Minister for the Environment.

For further details

- Commonwealth Department of Environment and Heritage on http:www.deh.gov.au/biodiversity/publications/fact-sheets/incentives.html or phone their Community Information Unit on 1800 803 722.
- The Australian Taxation Office website is www.ato.gov.au
- The Australian Valuation Office in Sydney 02 9715 9900 or www.avo.gov.au
- The Office of State Revenue; 1300 139 816 landtax@osr.nsw.gov.au

If you would like to discuss this information or if you don't have a Voluntary Conservation Agreement and you may be interested in discussing what is involved and whether your property meets the criteria for a VCA contact us on 02 9585 6040.

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Succulents cause a big stink in the northern opal fields of NSW

There are a number of ways that states detect previously unrecorded weeds in their jurisdiction. One way is following up on publications where weeds are mentioned. This was the way that a number of previously unrecorded naturalised plants were collected and identified from the opal mining areas of Lightning Ridge, Grawin and Glen Garry.

Matthew Goodwin had written a research report for a University of Sydney research assignment entitled 'Introduced flora and weeds of the Lightning Ridge opal fields'. He sent me a copy of the report after I expressed an interest in naturalised cacti around this area. This report listed and illustrated a number of unrecorded species for NSW.

Specimens were collected in early September and late November 2003 and sent overseas to determine the correct names for the species.

The greatest number of unrecorded (or misidentified species) were cacti in the genus *Cylindropuntia.* These species are native to North America and specimen were sent to Don Pinkava an American specialist on *Cylindropuntia* species based at Arizona State University. The species came back as:

- *Cylindropuntia fulgida* var. *mamillata* (known as boxing glove cactus in the USA)
- *C. imbricata* (rope pear)
- *C. kleiniae* (misidentified as *C. arbuscula* in the past)
- *C. leptocaulis* (pencil cactus)
- *C. rosea* (confused with *C. tunicata* in the past)
- *C. tunicata.*

The pencil cactus (the pencil is not really part of the cactus!).

Of these species, rope pear has been considered to be a weed for some time and a cochineal insect, *Dactylopius tomentosus*, was brought in for its control in the past.

C. rosea, known locally as Hudson pear, is considered to be a serious weed. It now occupies over 100 square kms in and around Lightning Ridge, Grawin and Glen Garry. Prior to specimens being sent to the USA the name for this species was thought to be *C. tunicata*. Hudson pear is also naturalised in WA at an old tip area at Menzies. All of these cactus species are now well established and were introduced to the area as ornamentals.

Hudson pear: a serious cactus weed in the Lightning Ridge, Grawin and Glen Garry areas.

Other previously unrecorded species of interest are:

Bryophyllum daigremontianum - one of the mother-of-millions group that is not as common as *Bryophyllum delagoense* or the hybrid between these species.

All three types of Bryophyllum are found on these opal fields.

Cereus uruguayensis - one of the tall columnar cacti, is naturalised over a number of hectares at Grawin. This species was identified in Argentina.

Opuntia elata - this would seem to be the correct name of what was called *Opuntia paraguayensis* previously. This species was identified at the Berlin herbarium. The cactus is found at a few locations around Lightning Ridge and is much more common along the Murray River upstream of the SA border.

Stapelia gigantea - locally known as dead horse plant because the flowers emit an odour to attract blowflies for pollination. This is now common in the shade of native shrubs in a number of locations around Lightning Ridge.

Article and photos by John Hosking

Contact Dr John Hosking
Tel (02) 6763 1129
john.hosking@agric.nsw.gov.au

Useful web address:
www.fna.org/FNA/ (move through Published Volumes and Volume 4 to Cactaceae and then to Cylindropuntia), Malephora crocea is found in the same volume of Flora of North America.

Article from **weedwatch**, Newsletter of the Cooperative Research Centre for Australian Weed Management. Nov 2004

WHAT'S ON

2nd Riverina Biodiversity Forum
at Griffith NSW

"Biodiversity in Modified Landscapes"

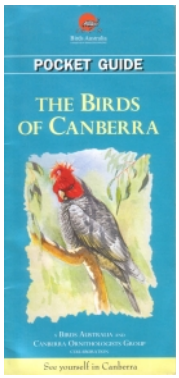
Thursday 26th and Friday 27 May 2005

Anyone interested in attending
should visit the Forum webpage (www.rga.org.au/environment/biodiversity-forum.asp),
For more information and registration details, or contact Janelle McGufficke at the Ricegrowers Association of Australia Inc. on (02) 6953 0598. E-mail: jmcgufficke@rga.org.au

Two new guides

Bird Routes of Coffs Coast
This brochure details a number of routes and locations where good bird sightings are likely. It covers the area from Red Rock in the north to Scotts Head in the south. Available from tourist information centres.

The Birds of Canberra: Pocket Guide.
This brochure features illustrations of over 60 bird species and their habitats, found in Canberra.
Available from Birds Australia (03) 9882 2622



Funding Opportunities

The Bundaberg Rum Bush Fund

Landcare and other community groups tackling water quality projects, are invited to apply for a Bundaberg Rum Bush Fund grant (between $1,000 - $5,000). Landcare Australia and Bundaberg Rum will assess proposals, based on environmental and community merits, and allocate grants each year.
Applications for national small grants close on 31 March 2005
Grant applications must address water quality issues within the local area. This may be within a river, lake, stream, creek, or as part of the wider catchment.

Find the Grant Guidelines at www.landcareaustralia.com.au
Or contact: **Jenny Quealy,** Email: jquealy@landcareaustralia.com.au, Tel: (02) 9412 1040

Bush Matters is the Newsletter of the Conservation Partners Program of the NSW National Parks & Wildlife Service and is produced twice yearly.
The National Parks and Wildlife Service is part of the Department of Environment and Conservation (NSW) - DEC.
Editor/ Layout: Louise Brodie. All photos, art work by DEC: L. Brodie unless indicated.
The views expressed in this publication do not necessarily represent those of DEC.
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