



# LAND FOR WILDLIFE NEWS



Newsletter of the LAND FOR WILDLIFE scheme



Department of Natural Resources and Environment, Victoria, Australia.  
Print Post Approved PP381667/00072  
NRE Publication Number 03-20-0400-2  
ISSN 1323-2517

Volume 5 No. 2 July/August 2002

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*The Sugar Glider is one of many wildlife species that use the Black Wattle as a food source. Page 10 has an article about the Black Wattle and why it is such an important species. Photo: Lindy Lumsden.*





Land for Wildlife  
News  
Vol. 5, No.2  
July/August 2002

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See page 16 for a list of  
where Land for Wildlife  
Extension Officers and  
Contacts can be found.

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Printed on recycled paper to  
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Printer: Gill Miller Press,  
Collingwood,  
Tel: (03) 9415 1788.

# Editorial

Dear Land for Wildlifers,

Enclosed with this newsletter is a brochure detailing our second Land for Wildlife Open Property Scheme, held during Biodiversity Month in September. I hope you will take the time to visit other Land for Wildlife properties, either local or across the state. Last year was a huge success and I would like to thank the landholders who kindly offered to open their properties. Not only will visitors get a chance to catch up with their local Land for Wildlife Extension Officer, but they will get a chance to casually meet up with other members in their district. The scheme will also give visitors a chance to see the large array of wonderful nature conservation activities occurring on private land across the state. Invite your non Land for Wildlife friends and neighbours so they can learn more about what lies behind that 'green sign on the gate'.

Also enclosed is 'Green Pages', a pocket-sized contact list (see page 14).

Just a reminder that if you haven't had a visit from a Land for Wildlife Extension Officer or assessor for a while (e.g. for more than six to eight years), please give them a call and arrange a visit (what we term a 'reassessment'). Remember that part of your membership means that you can ring or email your local Land for Wildlife Extension Officer anytime for advice. This is all part of the service offered to members.

This will be my last newsletter for some time. In November I will be taking leave to start a new journey in my life - motherhood! Thank you for all your words and letters of support for the program and I

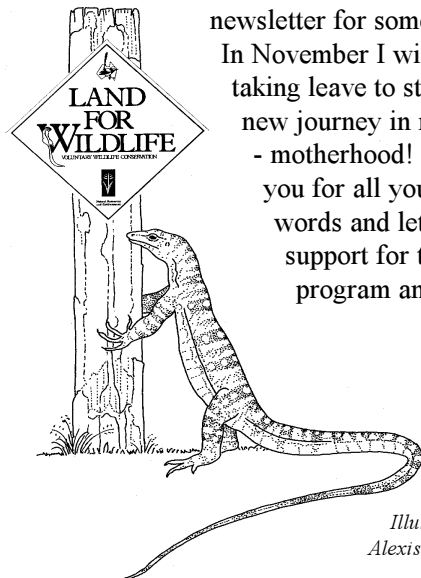


Illustration:  
Alexis Beckett

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## Website

Go to [www.nre.vic.gov.au](http://www.nre.vic.gov.au) and enter via plants and animals, native plants and animals and then Land for Wildlife

[www.nre.vic.gov.au/notes/](http://www.nre.vic.gov.au/notes/)

look forward to returning in a year or so. The next issue of the Land for Wildlife News should be a November/December issue, however, with the appointment and training of a new co-ordinator, the issue may be delayed until early 2003. I'm sure it will be great issue!

All the best for the months to come and I will look forward to returning back to this fantastic program.

*Felicity Nicholls  
Statewide Coordinator  
Land for Wildlife Victoria*

**Visit the Land for  
Wildlife Web site at  
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**and enter via 'plants and  
animals', 'native plants and  
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Wildlife'**

| LFW MEMBERSHIP | PROPERTY AREA | RETAINED HABITAT | HABITAT UNDER RESTORATION | NEW PROPERTIES SINCE LAST EDITION |
|----------------|---------------|------------------|---------------------------|-----------------------------------|
| 5,654          | 559,611 ha    | 129,405 ha       | 22,121 ha                 | 125                               |

Figures include reductions to areas due to de-registrations of properties. Current at 3rd July 2002.

# Letters to the Editor

Dear Editor,

I write requesting assistance in managing a problem which is developing on my 18 acres block at Moyston (near the Grampians). I have had this land classified as Land for Wildlife (some 10 years ago) and have developed a large dam/wetland and have increased the wildlife usage to an extent I could have only dreamt of.

Unfortunately some years ago the grass *Phalaris* began encroaching my paddocks from the road verge and taking over from the native grasses. It is now time that I take the problem in hand before it is too late.

I have spent a substantial amount of money over the years in an effort to enhance this block and I would very much appreciate your guidance.

Peter Hayes, Land for Wildlifer,  
Moyston

Dear Peter,

*Thank you for your email. It sounds like you have done some great conservation works on your property. I'm glad to see you are acting now on the problem as it is a good idea to manage/remove weeds before the problem gets too big. Just a couple of ideas:*

*-use a wicker wiper hand tool to selectively target the phalaris amongst the native grass; or*

*-put on rubber gloves which have been wetted with herbicide and carefully wipe the phalaris foliage.*

Editor

Dear Editor,

I felt inspired to write and thank you for all your input into the Land for Wildlife

magazine, which we always enjoy; but particularly for the latest edition, which exceeded our expectations! 'Learning the Lingo of Landscapes' definitions as well as the insert 'Photographic Monitoring of Vegetation' will be a valuable resource during my term as Group project Coordinator for the Arcadia Landcare Group.

The present tree-planting season will be the third in which we have been involved, and it has been very rewarding so far, with several district landholders committed to tree, shrub and native grasses plantings, with the assistance of the Environmental and Tree-Growing grants.

I am also particularly interested in 'Biodiversity Indicators' and would like to develop a simple guide for Primary School students. Do you know if there is already one in existence?

Congratulations on your excellent standard of disseminating Land for Wildlife News/Information.

Jackie McCracken, Land for Wildlifer,  
Arcadia.

Dear Jackie,

*Thank you for your positive comments. They certainly inspire me to get straight onto the next issue with enthusiasm.*

*The Arcadia Landcare Group sounds very active. I encourage all Landcare groups to get involved in Land for Wildlife activities. Refer to Land for Wildlife Note 30 'Including wildlife in Landcare actions'.*

*Regarding the 'Biodiversity Indicators' guide for Primary School kids, the only resource I can think of is 'Victoria's Biodiversity Education Resource Books' produced by NRE. They are available at the NRE Information Centre - phone 9637 8325.*

Editor

## The passing of two devoted naturalists

Staff of the Land for Wildlife Program would like to extend their sorrow in the passing away of **Graham Pizzey** in 2001 and to **Susan McInnes** and her husband, Ivan, earlier this year. Both dedicated naturalists and bird lovers, their contribution to conservation will be missed.

Graham Pizzey was a devoted long-term member of the Bird Observers Club of Australia, a naturalist, a photographer and an author. His field guide becoming a bible to many birdwatchers. As the 'Bird Observer' said 'nature has lost one of her finest advocates'.

Susan McInnes illustrated the popular Birds of SE Australia habitat series produced by the Gould League and her wildlife art work featured in many publications, including 'Timelines News'. Susan was a renowned local conservationist in the Grampians area.

Our sincere sympathy to family and friends. A great loss to them and to conservation.

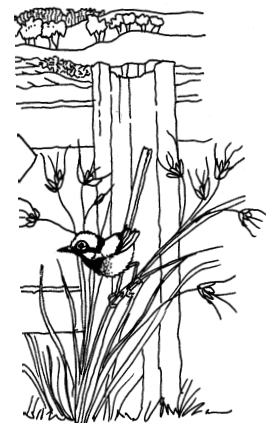


Illustration by Alexis Beckett

## Kangaroo grass seed collection and sowing using hessian

### Seed collection

In early December, select groups of established kangaroo grass tussocks with many flower heads and immature seed. Inter-tussock spacings of 20 to 30 cm are ideal. The donor site should match the proposed receptor site in as many characteristics as possible.

Spread hessian sheets (up to 2 x 2m) over the tussocks and then cut slits in the hessian over each tussock. Carefully pull the leaves and the flower heads through the slits so that each tussock is surrounded by hessian at ground level. Use wire pegs to hold the hessian securely to the ground. As the seeds mature they fall onto the hessian and then become embedded in the hessian with the black awns bristling from the upper surface. Leave the hessian in place until most of the seed has matured and been shed. This may take several weeks. Ripening within each flower head is sequential and the mature seeds are mobile with long black awns. A run of hot days will shorten the ripening period.

If there is heavy rain some of the awned seed may move right through the hessian but under normal summer conditions most of the awned seed remains in the hessian for at least four weeks. By then most of the seed in the flower heads will have matured and been shed.

Unroll and peg the stretched hessian firmly to the ground so that it covers the receptor site. The black seed awns will be bristling from the upper surface. Leave the hessian in place for at least two weeks after the autumn break to allow all of the fertile awned seed to 'self-drill' into the underlying soil. Do not leave the hessian in place for too long after the autumn break - it may inhibit germination and growth. The hessian can be used again next year.

Germination will not occur until seed dormancy has been broken. Dormancy appears to vary from year to year with winter ground temperature perhaps one of the important variables. Dormancy of at least 12 months is not uncommon. The presence of 'natural' seedlings between tussocks adjacent to the donor sites does not prove that the collected seed was fertile. The 'natural' seedlings may have come from the germination of seed that was either 12 months older or 12 months younger than the collected seed. Seed fertility is said to be very dependent on seasonal conditions.

Burning the weed or grass trash after the hessian has been removed may help to break the dormancy.

New weed infestations of the seeded areas should not be a problem. The hessian technique does not disturb any soil. Any contaminant seeds will either be shaken off at the time of transfer or stay stuck on the hessian only to be removed when the hessian is finally lifted. Only species with actively motile seeds are likely to reach the soil of the donor site.

The sheets of hessian are ideal for seeding within remnant ecosystems in areas where kangaroo grass has been lost. They can be used to establish patches of kangaroo grass that will subsequently spread by self-seeding. If early confluence is required, many closely spaced seeded hessian sheets could be used. Hessian sheeting, two metres wide, is readily available at nurseries and garden suppliers at approximately \$2.45 per metre. Old hessian bags can be cut down to provide small sheets suitable for placing around one or two established tussocks.

*Peter Thomson, Land for Wildlifer,  
Linton*

### Seed transfer and sowing

Unpeg and lift the seed-laden hessian and shake gently to remove loose contaminants. Immediately transfer the loosely rolled seeded hessian to the chosen receptor site.

Preparation of the receptor sites will depend upon the amount and type of existing vegetation. Sites with indigenous vegetation do not need to be cleared or disturbed in any way. Bare ground can also be left undisturbed. Heavily weed infested sites can be sprayed with herbicide at least 2 weeks before the seed-laden hessian is expected to be available.

Photo: NRE



## Bush Detective Who made this? Who did this?



This is an echidna digging. The echidna uses its strong claws and limbs to excavate holes in termite mounds and ants nests. The diggings in the photo were in an ant mound and demonstrate the characteristic large, semicircular holes the echidna makes. The dirt is dug out in a rough fan shape.

Reference: Morrison, R.G.B. (1981). A Field Guide to the Tracks and Traces of Australian Animals. Rigby Publishers.

*Photo: Felicity Nicholls*

## Did you know.....?

### Living, Loving and Dying!

Did you know that after male antechinus (rat-sized carnivorous marsupials) mate, they die? Because individuals in a population all mate at about the same time, there is a period of months after breeding where the only male antechinus around are young dangling from their mothers teats.

The males mate over a two week period (usually between mid winter and early spring) and then die. Gestation is twenty-eight days. Females may breed a second year.

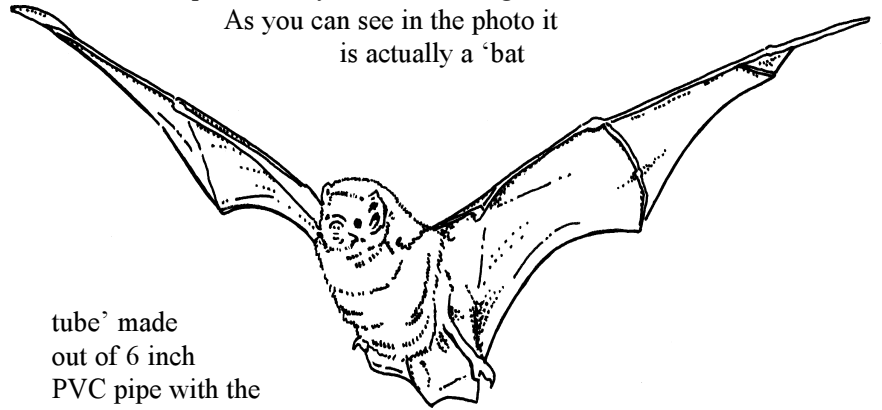
Reference: S. van Dyck (2001-2002) Sex to die for. Nature Australia. Vol. 2 No 3. pp20-21.

## Practicalities continued No hollows? - try building a Bat Tube

Keith and Leanne Oberin, Land for Wildlifers from Barnadown, own a large property on the banks of the Campaspe River which combines agricultural as well as conservation activities.

Keith decided to supply nest boxes for the various wildlife found in the area, including bats. For his bat nest box, he modified a plan he found in 'The Nestbox Book' produced by the Gould League.

As you can see in the photo it is actually a 'bat



tube' made out of 6 inch PVC pipe with the opening at the bottom, cut on a 45 degrees angle.

The top of the pipe had a PVC end.

Keith lined the inside with shade cloth which he attached using pop rivets. He also pop riveted on a galvanized tin strip at the back of the top which he used to attach to the tree. Wiring on the tube could have led to the tree being ring-barked. He then painted the tube a khaki green to blend in with the bush.

Keith kept checking the bat tube with a torch and within a month, bats had moved in. With an open end, there was no worries about bat scats collecting and accumulating and it allowed easy monitoring (including for bee and wasp infestation).

*Felicity Nicholls, Editor*

*Bat illustration by Dawn Harris*

*Bat tube. Photo: Keith Oberin*



# Property Profile

## A Land for Wildlife Group working to save Lollypop Creek, Werribee

Located on the urban fringe of Werribee, the Wyndham Lakes Resident's Association (WLRA) is a Land for Wildlife Group working to protect the significant values of Lollypop Creek in an area of ever expanding residential development.

Lollypop Creek is an ephemeral freshwater stream with River Red Gums lining the banks along with rocky basalt outcrops and escarpments, native grasslands and grassy swamps. During flora and fauna surveys for the development of Wyndham Green Residential Estate, remnant grassland flora species were identified on the site including *Cullen parvum* (Small Scurf-pea) which is listed as an endangered species on the Flora and Fauna Guarantee Act 1988.

In 1999 a group of residents from WLRA formed a creek committee. The issue of the permanent inundation of River Red Gums in water from an instream lake, was initially addressed, but now the group is focussed on protecting, maintaining, and restoring the environment along the Lollypop creek corridor. Two grassy escarpment areas containing *Cullen parvum* have been fenced as flora reserves. Both areas were quite degraded with serious weeds such as Ser-rated Tussock, Artichoke Thistle and Chilean Needle Grass. With advice from Grey Box

and Grasslands Indigenous Nursery, the areas are being rehabilitated with weed control, fuel reduction burning, slashing and revegetation with Kangaroo

grass. The Group has been surveying and monitoring *Cullen parvum* and seed has been collected for propagation and reintroduction to the site to increase the population size and improve genetic viability.

Elaine Macmillan of the WLRA said that joining the Land for Wildlife Scheme in 2000 has given the creek committee members a great feeling of support, as previously they had been sandwiched between developers and residents who wanted a tidy urban environment with willows and exotic grasses. The opportunity to take part in activities such as the Grassland Walk organised by Land for Wildlife in November last year has helped develop the Group's interest and knowledge in indigenous grassland plants.

Gradually more residents are learning to appreciate the local flora and fauna values of Lollypop Creek as the revegetation work the Group has completed becomes more established. Education of the local community is the way forward in order for the Group to gain support and membership from residents of Wyndham Green and surrounding residential estates. As part of this education, the Group has developed a series of interpretive signs for the Lollypop Creek Nature trail highlighting flora, fauna and cultural values of the creek corridor.

To officially launch the signs at WLRA's Land for Wildlife Property at Lollypop Creek, this property will be open for a day in September as part of the **Land for Wildlife Open Property Scheme**. As featured in this newsletter, the Land for Wildlife Open Property Scheme, trialed in September last year during Biodiversity Month, was such a success, the scheme is now an annual event. Further information on the Open Property event at Lollypop Creek is in the Land for Wildlife Open Property Scheme brochure accompanying this newsletter.

*Elise Jeffery, LFW Extension Officer,  
Geelong and Melbourne West.*

*Top: Lollypop Creek with the two fenced flora reserves protecting populations of *Cullen parvum* (Small Scurf-pea) and the revegetation works the group has completed. Photo: Elaine Macmillan*

*Bottom: The deep pool of Tuckers waterhole with basalt escarpment as a backdrop and surrounded by River Red Gums, typifies the superb visual features of Lollypop creek. Photo: Elise Jeffery*



### Farewell Elise

Elise is leaving Land for Wildlife to work with Alcoa at Anglesea. Good luck Elise and thank you for your enthusiasm while being a Land for Wildlife Extension Officer.

# Mixed species feeding flocks -insectivorous birds

With winter now upon us, many people might happen to notice flocks of various species of insectivorous birds that feed cooperatively in forest and woodland environments.

## Mixed species feeding flocks

These flocks are referred to as 'mixed species feeding flocks' and often comprise between 15 and 20 species, each of which forage for insects as they gradually move through a patch of forest. The number of individual birds in a typical mixed species flock may total up to 50 to 60 birds. With the arrival of spring the flock disperse, and each species becomes territorial as it prepares for breeding.

Mixed species feeding flocks typically contain one or two 'nuclear' species, i.e. those that are numerically dominant, such as buff-rumped or yellow-rumped thornbills, and several 'attendant' species, i.e. those that follow the nuclear species around, such as spotted pardalotes, speckled warblers, grey fantails and scarlet robins.

It is thought that, by forming mixed species flocks, small insectivorous birds may have increased survival chances in terms of predator detection (e.g. safety in numbers, more eyes on the alert for predatory birds such as goshawks), and also feeding opportunities may be enhanced at a time when insect abundance is low due to cool weather conditions.

## Feeding niches

Birds in mixed species flocks forage for insects in their own specialised niche. Buff-rumped thornbills and speckled warbler feed on the ground and fallen timber, and any insects that they disturb are often taken by other species, such as scarlet robins, that patrol the slightly higher shrub layer. In turn, those shrub layer feeders may flush insects that fall prey to high shrub feeders, such as golden whistlers. High shrub feeders may disturb insects that are taken by canopy specialists such as striated thornbills, and so on.

Often, the most conspicuous elements of mixed flocks are those that forage in exposed circumstances, such as the tree-trunk climbing white-throated treecreeper and varied sittella, or those that madly chase after aerial insects, such as grey fantail and dusky woodswallow. A typical flock can be quite an effective natural insect-control agent, covering all strata within a forest patch.

The coming months are an ideal

time for those interested in learning to identify their 'small brown birds', as many species within these flocks become so engrossed in feeding that they can often allow observation at very close quarters.

*Chris Tzaros (previous Bendigo LFW Extension Officer and currently Coordinator of Threatened Bird Network, Birds Australia)*

*Top: Flame Robin  
Photo: Graeme Chapman.*

*Bottom Left: Speckled Warbler  
Photo: Chris Tzaros*

*Bottom Right: Spotted Pardalote  
Photo: NRE/McCann*



# Return of the Red-browed Finch

In late 1996 Doug and Helen Phillips bought a 9 hectare property, which was largely dominated by exotic grasses with two old-growth manna gums and some bracken fern present. Although the property was fortunate to be surrounded by a Flora and Fauna Reserve, it seemed that its best feature was a Shallow Freshwater Marsh which still contained a variety of native aquatic plants.

‘Don’t despair, lets get revegetating’, the couple thought, so plans for the LFW property began. Their goal: to build a self-supporting dwelling, maintain weed control and to protect the existing habitat whilst creating further wildlife habitat.

The wetland area and several prospective planting areas were fenced off from sheep to allow grazing in order to control weeds and for fire safety reasons. A diverse range of

indigenous and endemic species were planted, including: Eucalypts, Acacia, Casuarina, Leptospermum, Melaleuca, Bursaria, Banksia, Correa, Pultenaea, Karkalla, Scaevola, Tetragonia, Lomandra, Austrostipa, Austrodanthonia, Poa and Dianella. All structural layers of vegetation were represented (trees, shrub and ground cover) and seeds were randomly planted.

Many people wouldn’t believe that nesting habitat could be provided for wildlife within 3 years! Just last November the Red-browed Finch (*Neochmia temporalis*) began nesting in the 2-3 year old Prickly Moses (*Acacia verticillata*) and Sweet Bursaria (*Bursaria spinosa*). The Finches feed mostly on grass seed

but also forage some herbs, fruitlets and some insects, particularly when breeding. Feeding is broken by frequent visits to water where they drink by scooping. They have been increasing ever since November with now approximately 9 nests located and some 50 odd birds have been counted. A large number of them are juveniles indicating nesting success.

It is suggested that the prickly understorey vegetation, with the close proximity of water and native grasses has been critically important in establishing a population of the Red-browed Finches.

*Tanya Wood, LFW Extension Officer,  
Portland and Colac*

#### References:

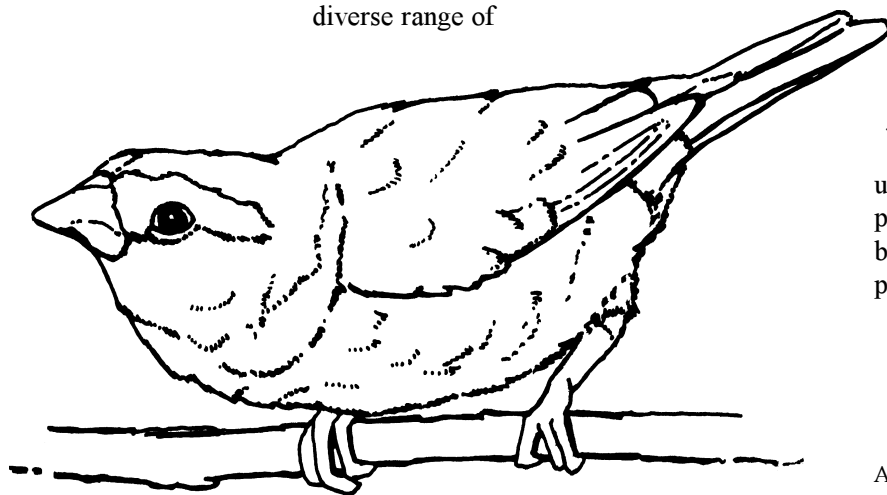
‘Readers Digest – Complete Book of Australian Birds’ Readers Digest, Sydney, 1976, p 568.



*Red-browed Finch.*

*Photo: McCann/  
NRE*

*Illustration by Dawn  
Harris*



*Left - Grasses such as these Poas species provide valuable food for the finches.*

*Right - Red-browed finch nest.*

*Photos: Tanya Wood.*





# Property Profile

## Sand Extraction and Wildlife

Pat O'Connor is a farmer who loves the natural beauty of his local environment by the Hughes Creek, Goulburn River and associated wetlands near Mangalore in Victoria.

He manages wetland, creekline and remnant vegetation habitats for wildlife as part of his overall farm management, and has been a member of the Land for Wildlife Scheme since 1994.

Pat's family has been in the district since 1873, and since the mid 1960's Pat has lived by the Hughes Creek, only three to four kilometres from its confluence with the Goulburn River. At that time the creek was well populated with fish, mainly Macquarie Perch and some Redfin. Pat remembers there was plenty of sand in the creek but also very good fish holes.

A flood in 1916 had begun a movement of massive amounts of sand from the upper reaches of the creek. Pat recalls that in the mid to late 1970's a sand slug worked its way along Hughes Creek to the Goulburn River, obliterating all the fish holes. The native fish consequently disappeared from the creek, replaced by European Carp and the occasional Redfin.

Sand extraction began in the early 1980's in this section of the creek and continued for many years, with 3,000 to 6,000 cubic metres of sand taken out per year. During Spring flows sand would move downstream into the extraction hole at a rate of approximately half a metre of sand front per day.

As the sand was being washed out with winter and spring flows each year, the holes began to reappear downstream of the extraction site, and were full of snags. It was ideal habitat for Macquarie Perch, Blackfish and Catfish - species which came into the warm water of the creek from the cold water of the Goulburn River.

### Farewell to Liz Raven

A big farewell to Liz who has decided to retire to enjoy more time with her husband, Gordon, her dogs and her vegie patch. Liz was one of the original LFW Extension Officers and has contributed greatly to the success of the program. You will be missed - enjoy life Liz!

Platypus and water rats were in the area too. Platypus were always about but definitely increased in number with extraction of sand. They bred in the bank adjacent to the extraction site and sometimes could be seen feeding at the same time as a dragline or excavator was working - no doubt getting food that the machines disturbed. Pat says 'I haven't seen a platypus in the creek for some years now - probably they're in low numbers though'.

For the past nine years no sand extraction has been undertaken, originally because of a moratorium imposed on the activity, and then difficulty getting a commercial operator. All the fish holes and most of the creek bed have since filled with sand. But the good news for Pat is that sand extraction has been reinstated and he is hopeful that platypus, water rats and native fish will return to the Hughes Creek.

Pat's 800

ha farm encompasses wool and grain enterprises. All creek frontages are being fenced and 3 ha (on Pat's property) of a 10 ha wetland adjacent to the Goulburn River is managed for its habitat values. Off the farm, Pat is an active member of the Upper Goulburn-Broken Implementation Committee, the Goulburn-Broken CMA Biodiversity Committee and the Steering Committee for the Goulburn-Broken case study of the Ecosystem Services Project.

Pat is totally dedicated to the environmental values of his area and firmly believes that sand extraction under guidelines should be encouraged to restore the health of streams clogged with sand slugs. He is also adamant an ecologist or biologist should be involved in the decision-making of suitability of sand mining.

As Pat says 'If platypus are there, something is right'.

*Liz Raven, LFW Extension Officer,  
Benalla*



*Pat O'Connor in front of Hughes Creek. Photo: Liz Raven.*

# The Wonderful Black Wattle

Black Wattle rates as one of the least popular species in replanting projects. On my replanting list, however it is at the top of the list because of its many wonderful qualities.

The Black Wattle, *Acacia mearnsii*, is a common tree found across the southern half of Victoria, and is recognised by its ferny dark green foliage. It can grow to 15m but more commonly is 5 to 8 m tall. Its sweetly scented pale yellow flowers appear in October to December, with seeds maturing some 2 to 3 months later. It can be distinguished from *Acacia dealbata*, the Silver Wattle, by their different flowering times and the greyish green foliage of the Silver Wattle.

Anyone who has pulled up a wattle or planted wattles will recall the pungent smell emanating from (the nodules on) the roots. Wattles like many of their leguminous relatives are able to produce and fix the important plant nutrient nitrogen in the soil, so in revegetation works wattles are an important coloniser species. Their extensive shallow roots are also ideal for stabilising erosion sites.

Next on the list of this plant's assets is its ease of propagation, its close to 100% planting out survival rate and it grows more quickly than any plant I know in almost any position or conditions. It is said to be a short lived species, but 15 to 30 years isn't a bad run. It regenerates readily, so after an initial planting or after fencing off remnant trees, you are assured of the continuation of the species. As sheep are partial to young plants, fencing off is essential to protect regenerating wattles.

The quick growing aspect of this tree, teamed with the dense nature of its timber, make it a terrific species for firewood plantations. Within 5 years trunks may be 25-30 cm in diameter, which make an ideal log size for burning, not needing splitting and the timber burns very hotly. In commercial rather than personal use situations some pruning of side branches would be necessary to facilitate harvesting. In a 4000 tree break of slope woodlot of mixed species in the Black Range, although Black Wattle was not one of the species planted it has regenerated naturally and for a number of years outgrew Red Gum and Blue Gum!

After 8 years some have reached 8metres in

height with a trunk diameter of 30cm.

This summer I intend to harvest lots of Black Wattle seed from my property to utilise one of the other useful properties of this species. Because of its extensive, fairly shallow root system and the dense nature of the foliage, mature trees tend to outcompete any understorey species. Some years ago on my property, after extensive ripping of warrens, weeds proliferated posing a serious management problem. The disturbance of ripping was enough to tip the scales in favour of weeds over remnant grassy ground flora. I am hoping that replanting these areas densely with Black Wattles will help to control these disturbed sites and prevent the spread of weeds to neighboring intact sites. Replanting ripped sites immediately with Black Wattle or similar quick growing species may be more widely applied to control subsequent weed growth in disturbed sites.

Perhaps the most exciting quality (for me) is the importance of the Black Wattle as habitat for the Sugar Glider. The Land for Wildlife magazine quotes studies that found in areas with stands of Black Wattle there are likely to be 10 times the population of Sugar Gliders than elsewhere. The wattles exude gums which are an important source of carbohydrates particularly in winter when other food sources are scarce.

Wattle seeds are eaten by parrots, honeyeaters and pigeons, birds such as thornbills and cuckoos forage for insects amongst the foliage and the sugary fluid produced in glands at the base of the leaf attracts a variety of honeyeaters. Thirty six species of wattle are known to be food plants for Australian butterflies. Because of the relationship with predatory insects, orange groves in California have been interplanted with wattles to provide natural pest control.

As shade trees they are hard to beat, they make ideal shelter belts and they are generally a very attractive tree. At the end of a long hot summer though, they look like many of us feel dried up and on our last legs waiting for the autumn break!

So get out and collect pods from your local Black Wattles and propagate them yourself, have them propagated or try direct seeding them. Give the very versatile Black Wattle a go!

Jane Marriott, Land for Wildlifer,  
Stawell

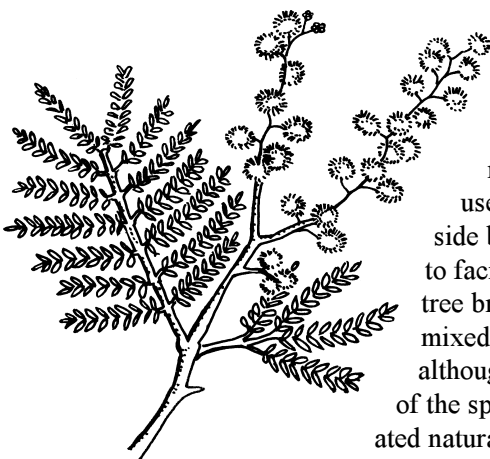


Illustration by Dawn Harris

# Landscape Patterns for Biodiversity Conservation

A new research project is taking a wide-angle view of rural landscapes to try to better understand the relationship between native vegetation cover and the conservation of viable animal populations.

## Restoring native vegetation

There are many reasons for restoring native vegetation in rural Australia, one of which is the conservation of biodiversity. We have a reasonable understanding of the ability of plants and animals to survive in bushland remnants of different types, sizes and management regimes. This knowledge has provided the impetus for many individuals and community groups to restore natural areas through revegetation and fencing programs. However, individual remnants of native vegetation are usually too small to maintain viable populations of most species. For effective long-term conservation of wildlife in rural environments, networks of suitable habitat are required at the 'landscape level'. Networks can support larger overall populations and they provide the opportunity for species to recolonize patches if a local population is lost.

However, our understanding when planning for wildlife conservation at the landscape level is inadequate. We know little about the specific attributes that landscapes must possess to support viable populations of plants and animals. For example, how much bushland is enough? Is it 5%, 10%, 30% or a greater part of the landscape? Does it matter whether the habitat is clumped in several large blocks or divided into many small fragments across the landscape? And what is the influence of different land uses in the 'matrix' between the vegetation remnants? These are the sorts of questions being asked in a new research project entitled '*Landscape level thresholds for conservation of biodiversity in rural environments*'. This collaborative project is being conducted by ecologists from the School of Ecology and Environment at Deakin University (Melbourne) with funding provided by the Land and Water Australia Native Vegetation Research and Development program and the Department



of Natural Resources and Environment.

## The 'landscape' scale

This project has a 'landscape' scale focus. This means adopting a holistic approach to the environment - one that considers multiple patches of habitat and their position relative to one another, the linkages between them and the nature of the human land-uses that surround them. Landscapes are large relative to the daily movements of an animal but an individual may move across several landscapes within their lifetime. Landscapes are species-specific - for example, the size and type of a landscape of a dung beetle is very different to that of a Brush-tailed Phascogale or a Powerful Owl.

This project will examine 24 'landscapes' of approximately 100 square km in the Goldfields and Victorian Riverina bioregions, selected to represent different levels of vegetation cover (from less than 2% to about 50%) and pattern (clumped versus dispersed vegetation). We will carry out field surveys of birds, mammals and reptiles, as

well as indicators of ecological processes, such as mistletoe abundance and tree health. We will then describe the

relationship between animal populations and the amount and pattern of native vegetation. The influence of land use and vegetation type will also be considered.

## Benefits

It is anticipated that we will gain new knowledge about how animals respond to changes in whole landscapes, such as those brought about by clearing for agricultural development, extensive revegetation across a sub-catchment, or widespread planting for agroforestry. This will assist in setting goals and predicting outcomes for vegetation protection, revegetation and restoration, and identify areas where additional actions are likely to result in significant biodiversity benefit. This will help to more effectively allocate resources for conservation and restoration work.

For further information on the project, please contact Jim Radford on 54304357 or [Jim.Radford@nre.vic.gov.au](mailto:Jim.Radford@nre.vic.gov.au)

Photo: Felicity Nicholls

## Environmental Management Systems

### What is an Environmental Management System?

An Environmental Management System (EMS) is a systematic approach that can be used by any enterprise or organisation to manage its impacts on the environment. An EMS is a management tool that helps to achieve continuous improvement through a 'plan, do, check, act' cycle that can include Business Management Plans or codes of practice. It may also be readily integrated with other existing activities such as quality assurance schemes. An EMS can be externally audited and may be certified to the international ISO 14001 standard.

An EMS does not set environmental standards, but sets out procedures designed to meet environmental performance standards that are most relevant to the company and its situation.

### Why adopt an EMS?

The reasons for adopting an EMS vary between enterprises, landholders and communities. These may include the need to:

- improve profits from enhanced market prospects;
- protect the environment;
- become more sustainable;
- differentiate their products;
- reduce environmental and financial risks; and
- gain respect, knowledge, pride and enhanced reputation from taking action to improve the environment.

### How does a landholder develop an EMS?

The first step in adopting an EMS on a property would be to conduct an environmental review to identify the full range of environmental values and assess the impacts of operations on the environment.

The property manager would then assess the significance of those environmental impacts and establish the priorities for action, taking into account regional and catchment targets in their area.

Developing an environmental policy for a property involves setting objectives and targets and documenting them in a simple statement of intent for the property or

enterprise. They would then identify their legal obligations and any minimum requirements set for an industry/region. They would also set out the ways in which they plan to monitor progress over time.

The land manager would then move to the action phase, carrying out what they have judged to be the most important changes to improve environmental management on the property or enterprise.

Once the system is in place, they can pause and take stock. Management actions can be reviewed and, if needs be, corrective action taken to improve or modify their activities, embarking on the cycle of continuous improvement that could help lift the efficiency of operations and at the same time, reduce impacts on the environment.

On the way through, the property manager would document the key actions and keep the records to inform future actions and provide evidence of efforts to manage the environment. These details may be required for quality assurance (QA) system as well as for EMS.

### Biodiversity and EMS

The incorporation of biodiversity into EMSs for agriculture is a relatively new and untested area. Currently there are trials being run to ensure that biodiversity is being incorporated into the EMS model. This may include activities such as:

- ensuring that biodiversity assets are identified (e.g. types of vegetation, threatened flora and fauna);
- carrying out actions that benefit biodiversity (e.g. fencing to manage or exclude grazing in remnants, environmental weed control, revegetation and wetland management); and
- ensuring that monitoring processes are put in place (e.g. photopoint monitoring, bird census).

### How can you find out more?

If you are a Web user visit the EMS Navigator at [www.affa.gov.au/emsnavigator](http://www.affa.gov.au/emsnavigator)  
Go to the NRE web site  
[www.nre.vic.gov.au](http://www.nre.vic.gov.au) and enter via Conservation and Environment and scroll down to

*continued on page 13*

# Underwoodisaurus milii?

Who said scientists don't have a sense of humour? Every time I see

*Underwoodisaurus milii*, otherwise known as the Thick-tailed Gecko, which lives - yes you guessed it - under logs, I have to smile at its endearing and descriptive scientific name.

I don't smile when I see the habitat favoured by this delightful gecko and a myriad of other similarly fascinating creatures, being destroyed. In many cases landowners believe they are doing the right thing by tidying up their property or removing possible rabbit harbour by burning or pushing out logs and stumps. These same landowners would balk at removing valuable habitat by chopping down trees. However by removing the odd standing dead tree or logs and stumps from the paddock, we are removing the essential shelter, homes and food source for a variety of lizards, skinks, geckoes, native marsupials such as the fat-tailed dunnart, worms, beetles, blind snakes and legless lizards. A 'rough' paddock with fallen logs and branches and perhaps remnant native pasture may have up to 20 times the faunal diversity of an 'improved' paddock.

Removing and often burning this timber, obviously has a devastating impact on the community that exists around these logs and stumps. I still remember the sickening feeling of sitting round a campfire in the Flinders Ranges and seeing a family of geckoes darting out of the hollow log on the campfire and sizzling to their death.

We do need to reduce rabbit populations and harbour, but we also need to see

logs, fallen branches and dead trees as important assets for fauna both in the paddock and in the bush. It is for the same reason that as far as retention of habitat is concerned, it is better to cut a young living tree rather than an old 'habitat' tree as a source of firewood. When it comes to providing diverse and healthy habitats 'tidying' up the bush or paddock equates to destroying habitat.

In the past we cleared trees because we didn't realise their importance and we are now busy with massive replanting programs. It will be a long time before these young trees will provide the hollow logs and stumps needed by a range of creatures with similar habitat requirements to *Underwoodisaurus*.

In some of the Upper Wimmera hill country planting projects, often the wonderful grassy ground flora still exists as it did when the area was clothed in trees. Being

steep rough country, often there are also standing dead trees and logs. With the diverse ground flora, logs and branches, all that is missing are the trees. With the huge plantings taking place on

such sites there is an good possibility that once the missing element of trees is returned, a healthy and diverse environment with high values for flora and fauna will result.

So from *Underwoodisaurus* and associates, a plea not to tidy up those elements of our environment which provide important fauna habitat and to think about management compromises which will reduce rabbits and weeds but will protect good habitat.

*Jane Marriott, Land for Wildlifer,*



*Thick-tailed Gecko*  
Photo: Peter Robertson

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*continued from page 12*

find a document on incorporating biodiversity into EMS (and see reference below).

If you are not a Web user then contact the NRE Information Centre (9637 8325) for availability of books and documents on EMS or contact your local NRE office to see if there is an EMS officer available.

## References

Anderson, S., Lowe, K., Preece, K. and Crouch, A. (2001). Incorporating Biodiversity into Environmental Management Systems, NRE.

Natural Resource Management Standing Committee Discussion Paper (2001). Towards a National Framework for the Development of Environmental Management Systems in Agriculture.

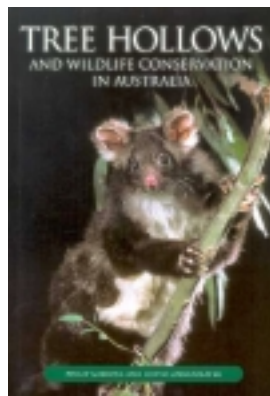
*Felicity Nicholls, Editor*

## Recent Publications (see page 2 for member discount)



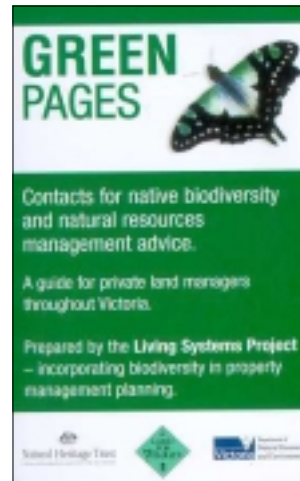
**Everlasting Daisies of Australia - identification/propagation/cultivation** (2002). Australian Daisy Study Group. This book is a result of five years work by the Australian Daisy Study Group (members of

Australian Plants Society) covering all of the species in twelve genera of everlasting daisies. The book has chapters on growing, propagation, floral arrangements, floriculture, reproduction and hybridization. Detailed species' descriptions are written in easy-to-understand language and illustrated with beautiful colour photographs. Published by R.G. and F.J. Richardson/C.H. Jerram and Associates. Price \$49.95 plus \$10 postage within Australia or \$30 overseas airmail. To order, contact RG and FJ Richardson, PO Box 42, Meredith, Vic, 3333 or phone/fax: (03) 5286 1533 or email richardson@weedinfo.com.au or visit www.weedinfo.com.au to look at other books.



**Tree Hollows and Wildlife Conservation in Australia** (2002). P. Gibbons and D. Lindenmayer. This book is the first comprehensive account of the hollow-dependent fauna

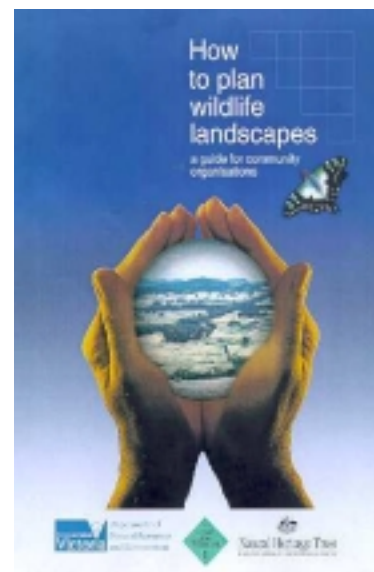
of Australia and introduces a considerable amount of new data on this subject. It not only presents a review and analysis of the literature, but also provides practical approaches for land management. Chapters in the book include the hollow-using fauna of Australia, hollow formation, the selection of hollows by fauna, pest and introduced species that use hollows and the role of nest boxes in research and management. CSIRO Publishing. \$59.95.



**Green Pages.** 2002. Living Systems project, NRE. Green Pages is a credit card-sized 10 page free guide to contacts for native biodiversity and natural resources management advice. Copies

have been sent with this issue of Land for Wildlife News but further copies available from major regional offices of the Department of Natural Resources and Environment or the NRE Information Centre (see page 2 for details). Copy included with this issue for members.

**Error in Green Pages** - page 2 Gippsland Regional Office should be (03) 5172 2111.



**How to Plan Wildlife Landscapes - a guide for community organisations** (2002) Department of Natural Resources and Environment. This guidebook, written in plain language, covers the major principles of landscape planning for native biodiversity. Chapters include visions of landscape, landscape design principles and developing an action plan.

Registrations of interest should be emailed to [stephen.platt@nre.vic.gov.au](mailto:stephen.platt@nre.vic.gov.au) or phone (03) 9412 4585.

# Conservation Properties for Sale

**Clunes**, 30 ha (75 acres), LFW property and TFN covenant. Approximately 5km north of Clunes adjoining State Forest. The land is a diverse Yellow Gum and Grey Box forest and woodland, providing habitat for over 120 native bird species. Seventy bird species have been recorded nesting, including some rare and declining species; the rare painted honeyeater is a reliable spring and summer visitor and breeds on the block. The land is inhabited by the threatened Tuan (Brush-tailed Phascogale), Sugar Gliders, Echidnas, Yellow-footed Antechinus and Black Wallabies. There are stockproof fences, two sheds, a shipping container and a dam on the property; the area which includes the dam has been designated as the domestic area (suitable for home construction if desired) under the covenant. \$85,000. For more information, contact Graeme on 0414 391 344.

**Nungurner**, 18.7ha, LFW and TFN covenanted property between Bairnsdale and Lakes Entrance, near the Gippsland Lakes. The property is in the Maringa Creek rainforest corridor, upstream from Nyerimilang rainforest revegetation area. Consists of broad undulating ridges with plains grassy forest (also a rare community) dissected by the steep gullies of the creek. Apart from 1ha of old garden in one corner, property is all natural or regenerating bushland with few weeds. Covenant allows 2ha for development. Shire planning permit current. No facilities but close to power, phones. Great opportunity to create your own world but still be close to major towns. \$105,000. For more information, contact Peter or Barbara on (03) 5792 1074 or [mitchell.moss@net-tech.com.au](mailto:mitchell.moss@net-tech.com.au) or PO Box 744, Seymour, 3661.

**Eurobodalla**, Southern NSW. 40 acre bush retreat on the Tuross River. This beautiful forested block abuts State Forest, beach frontage on the Tuross River and other large bush blocks. It is close to Wadbilliga and Deua National Parks. Home to numerous flora and fauna. A large flat above the river would make an ideal house site. Nearest towns are Cobargo (40 minutes) and Bodalla (50 minutes) and is less than 8 hours drive from Melbourne. Asking \$75,000. Phone Jenny and Roy on (03) 9755 1398.

**Nagambie**. 100 acres Land for Wildlife and Trust for Nature covenant. Old-growth Box-Ironbark bushland on the rolling hills of Bailieston. Habitats range from Grey Box gullies, an ephemeral wetland to Stringybark ridgelines. Hundreds of old-growth Red Ironbark, Grey Box and Yellow Gum, many predating European settlement, with a variety of flora and fauna including listed Flora and Fauna Guarantee species. The covenant allows for the construction of one residence and associated outbuildings. All weather access on well-maintained gravel road. Only 130km from Melbourne. \$60,000. Contact [mstewart@pocketmail.com.au](mailto:mstewart@pocketmail.com.au) or Ralph Dalton at Trust for Nature 9670 9933.

**Harrietville**, near Bright. Two subalpine blocks with water, power and good access. Both blocks have permanent creeks along one side. Magnificent Manna Gums, tree ferns and the occasional snow fall. Adjacent to the Alpine National Park. Extensive wildlife and forest in very good condition. Lot 1 area 1.8 hectares \$85,000 and Lot 3 area 7.8 hectares \$110,000 (all offers considered). Phone owners Jennie and Simon on (07) 4725 3989 or fax/message (07) 4728 8721 or email [showlan@bigpond.com](mailto:showlan@bigpond.com)



*Photo: Felicity Nicholls*

## Have you sold or are you thinking of selling your Land for Wildlife property?

If you sell your Land for Wildlife property, please inform the Extension Officer or Statewide Coordinator. We can then alter the database and invite the new owners to join. **The Land for Wildlife sign is the property of NRE and needs to be returned or picked up.**

Advertising your property here is free to Land for Wildlife members.

**Land for Wildlife  
Extension Officers are at the following Department of Natural Resources and Environment Offices:**

**Alexandra**

- (03) 5735 1240  
- (03) 5772 0257

**Bairnsdale**

- (03) 5152 0400

**Ballarat**

- (03) 5333 6736

**Benalla**

- (03) 5761 1611

**Bendigo**

- (03) 5430 4368

**Central and West  
Gippsland**

- (03) 5183 9103

**Geelong**

- (03) 9785 0134

**Portland and  
Colac**

- (03) 5523 3232

**Melbourne area &  
Port Phillip East**

- (03) 9785 0134

**St Arnaud**

- (03) 5495 1700

**Wodonga**

- (03) 6055 6173

**Other Land for  
Wildlife contacts:**

**Horsham**

- (03) 5362 0765

**Swan Hill**

- (03) 5036 0832

**Bird Observers**

**Club of Australia**

PO Box 185,  
Nunawading, 3131  
(03) 9877 5342 or  
1300 305 342  
(country callers).

## Courses/Field Days/Information Sessions

**9th August 2002. NCCMA Workshop 1: Looking after what we've got.** Strategies for managing remnant vegetation. Meet at Creswick. Cost \$35/\$20 concession or \$150/\$80 concession for 5 workshops. Victorian Landcare Centre, Creswick in partnership with NCCMA. (03) 5345 2200.

**22nd August 2002. Bring Back Bush Biodiversity.** Port Phillip region. Cost \$200/\$80 concession. Greening Aust Vic. Lydia Fehring (03) 9450 5302.

**23rd August 2002. NCCMA Workshop 2: Mapping - what goes where.** New vegetation mapping and analysis techniques. Meet at Newstead. Cost \$35/\$20 concession or \$150/\$80 concession for 5 workshops. Victorian Landcare Centre in partnership with NCCMA. (03) 5345 2200.

**5th September 2002. Identification of Wet Forest Plant Communities.** Port Phillip region. Cost \$200/\$80 concession. Greening Aust Vic. Lydia Fehring (03) 9450 5302.

**6th September 2002. NCCMA Workshop 3: Woodland Birds as Indicators of Ecosystem Health.** Meet at Maldon. Cost \$35/\$20 concession or \$150/\$80 concession for 5 workshops. Victorian Landcare Centre in partnership with NCCMA. (03) 5345 2200.

**12th September 2002. Propagation - advanced.** Port Phillip Region. Cost \$200/\$80 concession. Greening Austr Vic. Lydia Fehring (03) 9450 5302.

**20th September 2002. NCCMA Workshop 4: Bioregional Planning.** Meet at Newstead. Cost \$35/\$20 concession or \$150/\$80 concession for 5 workshops. Victorian Landcare Centre in partnership with NCCMA. (03) 5345 2200.

**25-26th September 2002. "Smart Seed" Native Seed Forum.** Port Phillip region. Cost \$250/\$80 concession. Greening Aust Vic. Lydia Fehring (03) 9450 5302.

**3rd October 2002. Identification of Dry Open Forest Plant Communities.** Port Phillip region. Cost \$150/\$30 concession. Greening Aust Vic. John van Braam (03) 9450 5304.

**10th October 2002. Valuing Vegetation Quality.** Port Phillip region. Cost \$200/\$80 concession. Greening Aust Vic. Lydia Fehring (03) 9450 5302.

**12th October 2002. NCCMA Workshop 5: Monitoring.** Meet at Newstead. Cost \$35/\$20 concession or \$150/\$80 concession for 5 workshops. Victorian Landcare Centre in partnership with NCCMA. (03) 5345 2200.

**22nd October 2002. Bird Identification.** Port Phillip region. Evening session. Cost \$30. Greening Aust Vic. Elaine Bayes (03) 9450 5305.

**24-25th October 2002. Native Grassland Management Course.** Creswick. \$240 including accommodation and meals. Victorian Landcare Centre, Creswick. (03) 5345 2200. Possible FarmBi\$ subsidies for eligible participants.

**8th November 2002. Koori Plants.** Creswick. \$45/\$30 concession. Victorian Landcare Centre, Creswick. (03) 5345 2200.

**15-19th November 2002. 'Brolgas, Bell Frogs and Buttercups' Wetland Ecology Course.** Residential course. Venue unknown. \$880 per person. Greening Aust Vic. John van Braam. (03) 9450 5304.

**17th November 2002. The Wonderful World of Waterplants.** Meet at Creswick. \$35/\$20 concession or free to waterwatch monitors. Victorian Landcare Centre, Creswick. (03) 5345 2200.