February 1997
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DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

Western Wildlife

NEWSLETTER OF THE *LAND FOR WILDLIFE* SCHEME
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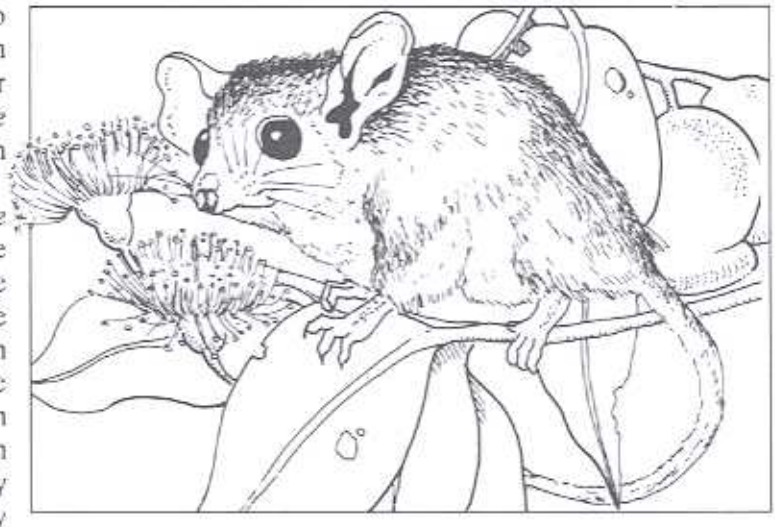
Welcome to Land for Wildlife!



I am delighted to launch Western Wildlife, the Newsletter of the *Land for Wildlife* scheme in Western Australia.

Land for Wildlife is a voluntary scheme that aims to encourage and assist private landholders in Western Australia to provide habitats for wildlife on their property, even though the property may be managed primarily for other purposes. *Land for Wildlife* is new to Western Australia, but it is based on the successful scheme running in Victoria since 1981.

The *Land for Wildlife* scheme is one of the State Government's key initiatives under its Salinity Action Plan, launched in November 1996. The retention and management of wildlife habitats on private lands, and the creation of new habitats, have the potential to help reduce the threat of increased salinity.

Our intention in publishing this newsletter is to bring together ideas and information from the numerous people interested in nature conservation on private land in Western Australia, for the benefit of those entering the *Land for Wildlife* scheme. It is intended that some articles will be contributed by researchers in various fields of plant and animal biology, ecology and production, and that it will also contain articles written by landholders, amateur naturalists and interested persons, as well as snippets of information taken from various sources, including interstate *Land for Wildlife* type publications.

We hope to put together a newsletter that will contain a mixture of information and practical advice, so that each issue will contain something of interest to everyone.

Our aim is to produce up to four issues of Western Wildlife each year. In addition, we will also be producing single-topic Wildlife Notes, and also small booklets on management issues.

I am confident that Western Wildlife will be well received by those interested in nature conservation, sustainable utilisation of natural resources and land management. Western Wildlife will be one of the key ways we will disseminate the information required to enable land managers to incorporate wildlife management into the plans for their whole property. I hope that Western Wildlife will also act as a battery charger to help participants in *Land for Wildlife* retain and renew their enthusiasm and drive for wildlife conservation management.

Syd Shea

Syd Shea
Executive Director

Department of Conservation and Land Management

EDITORIAL

Welcome to Western Wildlife, the newsletter of the *Land for Wildlife* scheme in Western Australia! It will be published quarterly and will be sent to all *LFW* members and other interested persons.

Each issue will contain articles about wildlife management in the south-west of WA - including stories on flora, fauna, economic aspects, practical tips and reminders about funding. Hopefully, each issue will contain something of interest to every *LFW* member, but, since this is the first issue, we can't be sure that this is what you want. Please help us to make Western Wildlife reflect your requirements.

This is a great opportunity for members of *LFW* to influence the direction the scheme will take. Use Western Wildlife to communicate with other people who are concerned about similar issues and face similar problems. Why don't YOU put pen to paper and share your experiences, ideas, problems and the innovative ways in which you are conserving flora and fauna on private land. How do YOU integrate conservation with landcare and production?

Please write with ideas, suggestions, articles, dates of events and any other matters of interest to *LFW* members.

Correspondence should be sent to:

The Editor,
Western Wildlife,
CALM Wildlife Branch,
Locked Bag 104,
Bentley Delivery Centre,
WA 6983.

Penny Hussey

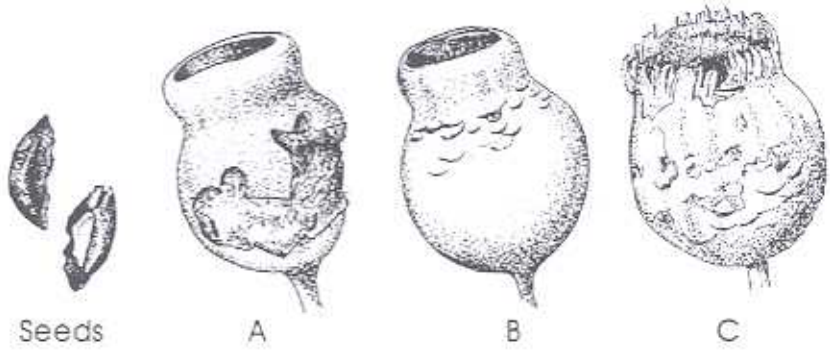
The chick from the stump! See story on page 5. (Photo by Skip Watkins)

BUSH DETECTIVE

Who ate that honkey nut?

Have you ever noticed that the gum nuts under a Marri tree have been severely chewed? Marri produces one of the largest seeds of any eucalypt and they are an extremely important seed source for many different types of fauna. Several parrots enjoy eating them, and each has a different method of getting into the seed cavity.

Twenty-eights rip away at the fruit (A), Red-caps tweak the seeds out with their long upper bill (B) while Baudin's Black Cockatoos use their bolt-cutters of bills to simply rip the opening wider (C). If you want to get a feeling for how powerful they are, try tearing a honkey nut open with your hands!



Drawings by Margaret Pieroni from "Leaf and Branch: Trees and tall shrubs of Perth" by Robert Powell. CALM.

The origins of Land for Wildlife

by Stephen Platt

OVER the last 20 years there has been a substantial shift in the way landholders manage their land and in their relationship with government. *Land for Wildlife* was spawned during this period of change which also saw the evolution of Landcare and much wider community involvement in the task of nature conservation, previously seen as the role of government agencies, a role which is now widely accepted as critical to our chances of success. It was also a time in which the importance of managing the whole landscape was recognised. Salinity, soil erosion and acidification, tree dieback and dramatic declines in native plants and animals told us something was going wrong - new techniques of managing the land were needed. Private land was recognised as being different to public land, not just in the wildlife habitats present, or the extent of the problems (95% had been cleared in Victoria) but also in the means of dealing with them. The burden on ordinary landholders was also increasing during this period, They didn't need more problems but solutions and help.

The Victorian *Land for Wildlife* scheme originated in 1981 at one of the regular meetings held between the Bird Observers Club of Australia and the Fisheries and Wildlife Service (now Department of Natural Resources and Environment). It was recognised that many landholders were trying to provide habitat for wildlife on their own land and that this should be recognised and supported by government. It seems a simple enough idea now but in 1981 it was a ground-breaking innovation.

The first property to join was 'Brickmakers', a 425 ha sheep and fat lamb business, owned by Noel and Wendy Fowler and family, and situated at Bambra in the south west. The Fowlers have revegetated about 8% of their property with over 10 000 plants and created large dams designed for wildlife. Buff-banded Rails, Plumed Whistling Ducks and Royal Spoonbills inhabit these wetlands while Blue-winged Parrots and Sacred Kingfishers move along the 3.2 km of creek frontage which they have fenced.

Between 1981 and 1990 some 800 properties were registered. Then, in 1990, *Land for Wildlife* entered a second phase. The registration scheme would continue with considerably increased resources. A coordinator and extension officers were appointed and a quarterly newsletter and more detailed 'Notes' series began publication. Dedicated staff allowed the scheme to offer on-site advice to landholders and to expand its horizons to look beyond those who had already decided to join. If so many landholders were interested in managing their properties in an ecologically healthy way - why weren't others? So *Land for Wildlife* began providing help to the wider community of landholders, began looking for ways, which also benefited the environment, in which to relieve landholders of burdens. Extension staff allowed the scheme to look for innovations of farmers and circulate them through its ever-widening network.

Today, the registration scheme includes over 3,800 properties covering 437,000 ha of which landholders have nominated some 106,000 ha as being managed for wildlife. The scheme's distinctive diamond-shaped sign is proudly displayed in most areas of the State. Some landholders have even taken to manufacturing their own signs in imitation including variations such as 'Land for Wild Women' and 'Land for Agriculture'. A huge diversity of people and properties are represented including small and large farms and bush blocks, over 75 schools, 17 golf courses and many council parks each making their own contribution to nature conservation. The latest trend is for large corporate enterprises to voluntarily join the scheme. For example, BHP have registered properties with important native grasslands and Hazelwood Power Corporation have registered wetlands in the LaTrobe Valley.

Many landholders, in discrete areas, have had direct contact by an extension officer often resulting in improved management for some of the wildlife species dependant on private land and for the properties contacted. In my personal experience, most of the people joining the *Land for Wildlife* scheme are overflowing with enthusiasm and looking for good advice and ideas. They want to improve the management of their property and leave it in better condition than they received it.

Various approaches to nature conservation on private land have existed in other States and Territories. Queensland has legislated for a 'Land for Nature' scheme and Tasmania has proposed for a *Land for Wildlife* scheme with many landholders already expressing interest in participating. In New South Wales, Wildlife Refuges have existed for many years. The NSW National Parks and Wildlife Service is currently reviewing schemes for private landholders.

Overseas there are comparable schemes as well. For example, in the USA, there is 'Partners for Wildlife' involving 13,800 landholders and some States have a programme called 'Acres for Wildlife'. In Alberta, Canada, "Bucks for Wildlife' exists. Each scheme has its own characteristics but in common they recognise the importance of private land to wildlife and of working with landholders in a positive way to help protect the environment.

I wish all Western Australians well with their *Land for Wildlife* activities.

Stephen Platt is the Land for Wildlife Coordinator in Victoria. He can be contacted at Flora and Fauna Branch, Department of Natural Resources and Environment, Victoria.

FAUNA

INVERTEBRATES IN YOUR REMNANT

by Jonathan Majer

WHEN you think of invertebrates in your remnant vegetation, the first animals which may come to mind will be the flies, ants, termites or maybe the occasional pest. In reality, even a degraded remnant can be a treasure trove of invertebrate diversity - and all of them are potentially useful.

By invertebrates we mean animals such as earthworms, slaters (which are grouped with crabs and crayfish as crustaceans), scorpions, spiders and mites and the insects themselves. These animals play a vital role in the functioning of the remnant's ecology. Taking a journey from below the soil to the tops of the trees reveals invertebrates performing important ecosystem functions.

Although you may not have noticed them, many thousands of mites and springtails occur in a square metre of soil. These, along with animals such as earthworms and millipedes, interact with the microbes in the soil to recycle nutrients from decaying leaves and other organic matter - a very useful thing when you consider how much fertiliser we place on our paddocks. Also in the soil is a diverse array of termites and ants - an average-sized remnant could easily contain 15 termite and 40 ant species. As well as assisting with nutrient cycling, these animals increase the porosity of the soil. Have you noticed how sheet flooding can occur in a paddock, but not in the remnant? By placing open-bottomed cylinders of water over ant nests in remnants we can show that water percolates into the soil 20 times faster than where ant nests are absent.

Ants are also present on the soil surface. It is here that they assist with the reproduction and survival of plants. The seeds of many Australian plants possess an oily appendage which is much sought after by ants as food. These ants collect the newly-fallen seeds and take them to their nests where they eat the appendage and discard the seed, which effectively 'plants' it in the soil near their nest. Many plants which germinate, particularly after a fire, appear on ant nests, showing

Camponotus sp. - one of the spectacular-looking invertebrates which is found in most remnant vegetation.
(photo: G. Lowe)

that ants play a significant role in the survival of the next generation of plants.

Many invertebrates live on the herbs and shrubs which may still be present in the remnant. Some of these animals, such as certain flies and wasps, are pollinators of these plants, while others may eat the plant itself. This is not detrimental to the vegetation. When plants germinate, particularly after a fire, there is often an abundance of individual species. There is evidence that leaf-eating animals, such as bushcrickets and beetles, reduce the vigour of the most abundant plants and consequently give the other plants an opportunity to survive. In other words these invertebrates, although they eat plants, can help increase the diversity of the vegetation.

The diversity of invertebrates in the tree tops is immense. Recent work in western and eastern Australia has revealed 1,600 species of invertebrates in four species of Eucalyptus, two from Western Australia and two from New South Wales. These animals form an important food supply for insectivorous birds, a fact which seems to be appreciated by some bird species who select those species of tree which support the richest and most abundant invertebrate faunas. Wandoo, a common tree in Wheatbelt remnants, has characteristically high invertebrate levels in the canopy and is an important food reservoir for insectivorous birds living in the fragmented agricultural landscape. You can read more about the insects, spiders and other animals living in the tops of eucalypt trees in Dec 1996 issue of GEO magazine.

Although invertebrates may appear to be abundant in just about any remnant that you look at, the variety of species that are present may be highly reduced or modified if the remnant is not maintained and managed in an appropriate way. For example, work on ants in jam/wandoo woodlands near Kellerberrin has shown that the variety of ants is lower in unfenced than in fenced remnants. Other studies in the same area have shown that the levels of invertebrates along roadside vegetation is correlated with the amount of dead wood and leaf litter on the ground. The more wood and litter on the ground, the more invertebrate food there is for insect-feeding birds such as babblers. Leaving or adding logs and woody debris to areas being revegetated is a useful way to hasten the process of restoration. Studies in patches of gimlet woodland of varying sizes and degrees of isolation have shown that although the diversity of many invertebrate groups declines with increasing degradation, a surprising number of species survive even in the most degraded patches. Thus, even these degraded remnants can be an important nucleus for the restoration of the landscape and ecosystem functions.

Next time you go out into the remnant, take a close look. Fossick

continued on page 5

FAUNA

EVEN A STUMP WILL DO!

by Kingsley Miller

IN the spring and summer of 1996, staff from CALM's Nature Conservation Division were involved in the monitoring of large numbers of nests of Carnaby's cockatoo, which were located in several shires in the northern Wheatbelt. Carnaby's cockatoo, *Calyptorhynchus latirostris*, is also known as the white-tailed black cockatoo, and is listed as a threatened species.

The nests were located in a diverse range of sites, including private property, vacant Crown land, road reserves, rail reserves and shire reserves (including one golf course). More than 100 wandoo (*Eucalyptus wandoo*) and salmon gums (*E. salmonophloia*) were examined. The diameter of the trees, their health and location were all recorded.

All of the trees used as nest sites by the Carnaby's cockatoos were large (diameter greater than 400 mm), with the largest wandoo tree being 980 mm in diameter and the largest salmon gum being 910 mm in diameter. About 60% of the trees used were wandoo and 40% were salmon gums. Most of the trees were still alive, but nearly 15% of the trees were completely dead. Most of the trees had some dead limbs in their canopy, which is not surprising since it is the loss of dead limbs which leads to hollow formation.

Two trees in which nests were located consisted of nothing more than dead stumps 2-2.5 m high, with no branches at all. The floor of the nest chambers in these two nests were only 1-1.2 m above the ground. So we shouldn't think that just because a tree is dead that it can't still be used by birds for nesting.

Another interesting thing that was observed was that many of the nest hollows were used by more than one species of animal during the breeding season. Several hollows had been used by mountain ducks, *Tadorna tadornoides*, and wood ducks (or maned geese), *Chenonetta jubata*. These two species of duck nest during winter and early spring, so the hollows are usually vacant by the time the Carnaby's cockatoos want to begin nesting.

Six abandoned duck nests were found containing as many as 16 addled eggs and a lot of soft duck down. Cockatoos were observed sitting near the nests but not using them. Once the duck eggs and down had been removed, the Carnaby's cockatoos moved straight in every time. Some Carnaby's cockatoos are more determined than others, since two nests were located where the cockatoos had laid their eggs on top of the addled duck eggs. Clearly, a tree or hollow that looks good to one species can also appeal to other species.

Kingsley Miller is a Wildlife Officer in the Wildlife Protection Section, CALM, Como. He can be contacted on (09) 334 0470.

Kingsley Miller peers in a stump, watched by Lyle Gilbert. (photo: Gary Merrin, Sunday Times)

continued from page 4

through the leaf litter, look under logs, inspect the flowers and leaves of the shrubs, and look on the bark of trees. You will find many interesting animals, many of which you may not have noticed before. In terms of diversity, these are animals which make up over 95% of animal diversity in Wheatbelt remnants. They are vital to the sustainability of the remnant, they make it a more interesting place to visit, and they can be encouraged by looking after the remnant and restoring it if it has become degraded. Any attempts at restoration of these areas will be assisted by the activities of these animals and the landowner will be rewarded by the knowledge that the area is home to thousands of species of native wildlife.

Dr Jonathan Majer is Associate Professor in the School of Environmental Biology, Curtin University of Technology, Perth.

FAUNA

BIRDS ON FARMS

A national project of the RAOU

by Brenda Newbey

THE Royal Australasian Ornithologists Union (RAOU) has set up a project to find out what success revegetation programs and remnant protection are having in bringing birds back into rural areas. The project is called "Birds on Farms" and it involves surveying specific sites of remnant vegetation eight times over two years to determine which birds are using the area.

The WA project was launched at the Mullewa Wildflower Show in August 1996, and by December, 124 potential participants have expressed interest and 34 farms have registered with the scheme. So, what do we hope to achieve?

Birds are considered to be good indicators of the health of a farm - if there are many different bird species present, the ecosystem is in good condition. The goal of the Decade of Landcare is to achieve sustainable landuse by the year 2000. More than half way through this plan our knowledge of the causes of land degradation has greatly improved and measures are being taken by many land managers to slow down the destructive processes. Revegetation and protection of remnant vegetation are two of the main techniques for the turn-around to sustainable farming. But have these actions helped native birds, especially those that were on the decline?

To find out, we need people to nominate remnant vegetation areas on their farm that can be studied. Ideally, the remveg patch should be 50 ha or more, and comprise varied habitat, but smaller sites of specific habitat type could also be useful. If you are yourself a birdwatcher, you could nominate your site, and take all the records. Alternatively, if you feel that you do not have the time, or the birdwatching knowledge, but you would still like to know what birds you have in your bushland, the RAOU will match your site up with a birdwatcher.

As the information is collected, we will be able to answer questions such as which species are declining or increasing in range. A picture of bird use of revegetation of various types and ages and of remnants should emerge, and information on quite small local areas should also become available. Farmers will be able to compare data from their own properties with similar properties. Ideas for further management to increase bird diversity should become clear. In addition, anyone who is involved with Farmstay or Ecotourism will find the data helpful to their visitors.

There is no firm quota for participants, but it is hoped that at least 90 farms with 50 ha sites will become involved, plus a minimum of two hundred additional small sites such as those on small farms and road verges. The Main Roads WA will be contributing in this area, which should provide good information on the importance of the corridor effect.

If you are interested, please contact me before May 1997.

Mrs Brenda Newbey,
WA Coordinator, Birds on Farms,
RAOU (WA Group),
71 Oceanic Drive,
FLOREAT WA 6014.
Ph: (09) 383 7749
(weekdays: 9.30 - 12.30)

FLORA

THE CORRIGIN GREVILLEA RECOVERY PLAN:

an example of successful cooperation

by Maurizio Rossetto and Kingsley Dixon

The Corrigin Grevillea (Grevillea scapigera) in flower. This prostrate shrub can reach over 2 m in width and is covered with sweetly-scented, white flowers.

THE Corrigin Grevillea (*Grevillea scapigera*), only found in a small area around Corrigin in the central Wheatbelt, is one of the most endangered plant species found in Western Australia. First collected in 1954, this species was subsequently named by A.S. George in 1974.

Known from restricted populations, the Corrigin Grevillea has always been highly vulnerable to habitat modification. As a result, ten years ago this species was presumed to be extinct until four plants were rediscovered in 1990. To date, less than 40 living individuals are known in the wild. Because of the lack of suitable habitat and low numbers, a recovery plan was devised which would provide a long-term future for the species.

The first step towards the recovery of a species is the creation

of a recovery team. This is a group of representatives from land management agencies, botanic gardens, researchers and landowners that is in charge of planning and executing recovery actions. With funds from the Australian Nature Conservation Agency a project was initiated for the reintroduction of the Corrigin Grevillea by clarifying major biological, genetic and propagation questions. The final aim was to re-establish *G. scapigera* populations within its range to preserve this species and its habitat for future generations.

The reintroduction of a species to its natural habitat is an involved process requiring careful planning, research and commitment. The lack of a sound research and organisational background could have drastic effects for endangered species. A PhD project dealing with the conservation of the Corrigin Grevillea was initiated in 1992 and at completion of the research program many new and interesting facts have been learned.

We now know that this species cannot be propagated by conventional horticultural methods (cuttings or seed) but more sophisticated techniques, such as tissue culture and smoke-induced germination, are required. Using DNA fingerprinting techniques (similar to those used in forensic medicine) plants that could offer the higher potential for adaptation and survival in the wild were selected. Since the start of this project considerable advances have been made in understanding growth, pollination, distribution and habitat preferences of *G. scapigera*. The cooperation of the local community was, and still is, instrumental to the success of each phase of this project.

The Corrigin LCDC, inspired by their President, Darralyn Ebsary, has followed the Corrigin Grevillea project from the inception with great enthusiasm, pride and sense of ownership. Many of the naturally-occurring plants were found by landowners and much of the data on growth and pollination has been acquired with the help of trained local volunteers. With the support from the local community and with the new information at hand, three experimental reintroductions were undertaken at selected sites. One of these sites, Hartley's Reserve, was purchased by the Corrigin LCDC using funds donated by the WA Dept of Agriculture, with rare flora reintroduction as one of the main objectives. An electric fence at the planting site was donated and erected by the local group which, together with the other agencies involved, participated in all the experimental plantings. Selecting a safe site was not an easy task, as native vegetation remnants which could support the plant are located on unprotected road verges or on private land. Potential sites were often suggested by local landholders and one of the three that is currently in use is on private, uncleared land.

One of the road verge locations for the Corrigin Grevillea. These sites are often denuded of native vegetation and threatened by weed infestation.

The Corrigin Grevillea recovery team during the 1995 trial reintroduction. This group includes landholders, members from the local CALM office and Kings Park and Botanic Garden researchers.

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Want to find out more about rare flora and fauna recovery plans? Perhaps you'd like to help?

Contact the Western Australian Threatened Species and Communities Unit (WATSCU), Wildlife Research Centre, Woodvale. Phone: (09) 405 5100.

continued on page 8

PRACTICALITIES

WET SEASON STIMULATES WEEDS IN THE BUSH

by Eliza Dowling,
Wongee Farm, Popanyinning

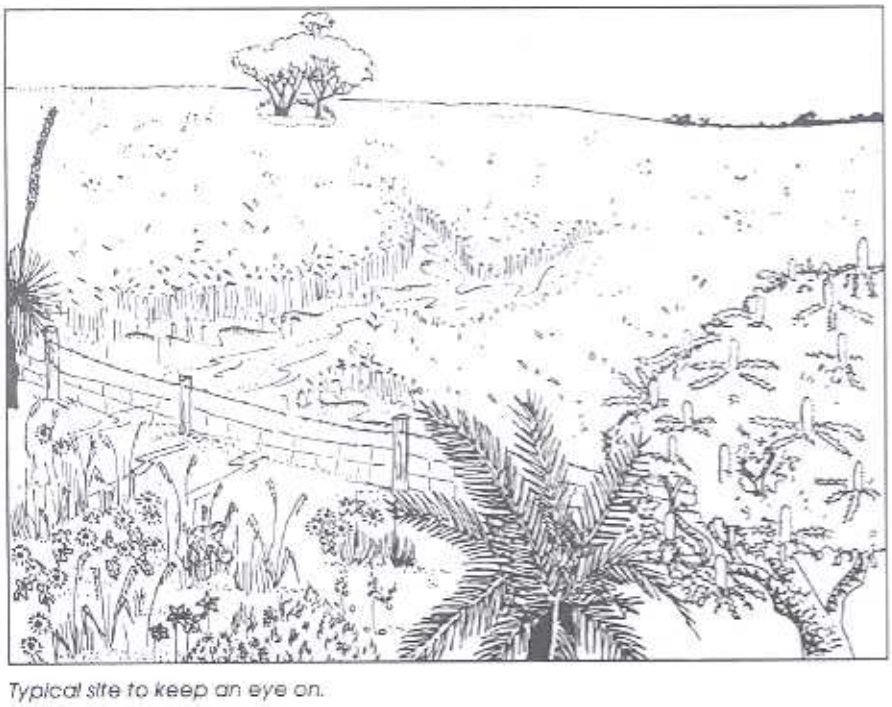
1996 will be remembered as an extremely wet year. The rain was very late in coming, but when it did arrive in mid June, it didn't stop. The soil profile became inundated with water (resulting in very yellow crops and paddocks too wet to get on and spray) and still the rain fell, so much so that many paddocks in the area washed. Some of these paddocks have never been considered at risk of erosion before this year. Apart from the loss of irreplaceable soil and the inconvenience of having small washes in the paddock, a major problem is where the soil has ended up.

On the farm where we live, there are several areas of good bushland. Two of these are below arable areas and there are minor depressions that go from the paddock into the bush. This year these have washed out and the water has carried soil into the bush where the water has slowed and the soil has been deposited. Not only has soil washed in, but weed seeds and fertiliser too. In November there was a lush growth of weeds - both agricultural weeds such as Capeweed and Wild Oats and actual crop itself. The weeds have swamped out native plants, such as everlastings and native grasses. With the depression now eroding and weed seed banks established, the infestations are very likely to spread.

In one area it should be possible to control further spread next year. By using a system of banks the water will slow down before it reaches the bushland and, by revegetating the drainage line as a buffer zone, weed seeds and fertiliser should be trapped before they enter the bush. The farming operation is changing to a direct drill cropping system in 1997 so there will be less soil disturbance. The new crop of weeds in this area can be controlled with careful spraying of selective herbicides.

The other area of bush is on the boundary fence with run-off coming from an upstream property so we will need some neighbourly cooperation to fix this problem. A catchment group meeting is a perfect forum to bring up this kind of situation and work out some solutions. As there isn't one yet in this area, this might prompt us to start one up, and who better to do it than the Landcare Development Officer!

The effect of contaminated runoff into bushland is dramatic and devastating. It is an insidious problem in that it can easily go undetected unless you keep a close eye on what is happening in your remnant vegetation. A particularly bad year such as 1996 can mark the beginning of the problem, but often it is easy to work out where erosion is likely to happen. Where farmers are adopting no-tillage techniques, the risk of erosion is minimised, and other improved farming practices such as contouring paddocks, working on the contour and fencing off and revegetating creek lines can all prevent weeds being spread into our precious bushland.



Typical site to keep an eye on.

Eliza Dowling is a Landcare Development Officer at AgWA in Narrogin. She can be contacted on (098) 81 0222.

continued from page 7

As a result of careful site selection, research and appropriate planting techniques, a four-fold increase in plant survival was recorded between the first and last trial reintroductions. The recovery team is now confident that with the knowledge acquired and the participation of volunteers to oversee and monitor the project, *G. Scapigera* will be saved from extinction. The direct participation of local landholders in this project, rightly integrated the farming community as part of the conservation process for the Corrigin Grevillea.

Both authors work at Kings Park and Botanic Garden. Dr Kingsley Dixon is Assistant Director (Plant Science) and Dr Maurizio Rossetto is a Post-Doctoral Fellow.
They can be contacted on (09) 480 3614.

ECONOMIC ASPECTS OF BIODIVERSITY

MARRI - THE FORGOTTEN TIMBER

by Graeme Siemon

MARRI or red gum is one of the most widely distributed native eucalypts in the south-west of Western Australia. It grows from Greenough to east of Albany, and inland beyond Narrogin, and the form can vary from shrubby to a 60 m tall forest tree. The large seed capsules make the species easy to identify, and these are commonly referred to as 'honkey nuts'.

The botanical name of marri is now *Corymbia calophylla*, because the bloodwood group of the eucalypts were reclassified into this new genus in 1995. The term bloodwood refers to the ability of these species to produce gum (kino) as a response to wounding. The three main causes are insects, fire or mechanical damage. This characteristic has disadvantaged marri considerably where timber production is concerned, because it has been difficult to produce wood with no kino veins.

Marri, one of the most important trees for wildlife in the wetter south-west, also has value for timber production.

Marri timber is an attractive honey-brown colour, with density averaging about 850 kg/m^3, and straight-grained defect-free timber is about twenty-five per cent stronger than similar jarrah timber. It was often used for structural purposes, provided the kino veins did not reduce the strength.

The most common use for marri in the last twenty years has been as woodchips for pulp and paper production, because it provides the main component of the marri/karri mix which is exported to Japan.

Dining table and chairs made of marri - BVR Furniture.

Forest thinnings or residue logs which are below sawlog quality are used, as well as sawmill residues. A further advantage of this use is that previous logging of jarrah or karri had tended to favour the regeneration of marri, which is an excellent coloniser, and an imbalance was developing in the native forests.

Marri also has considerable potential as an appearance grade timber for furniture and joinery. The timber is easily worked, and the greatest problem is the extensive characteristics flaws which affect the quality, particularly the kino veins.

CALM's policy is to promote value-adding of native timbers, which generally involves drying the timber, and then dressing (i.e. machining) and grading. Drying marri timber may take longer than required for jarrah, depending on where the tree was growing. In general, timber from open-grown marri trees on farms is lower density and dries faster. CALM Timber Technology at Harvey has a 30m^3 solar-assisted kiln dedicated to drying marri timber for furniture.

With previous Australian and Industry Standard specifications, very little marri timber could make grade because of its characteristics.

However, a 'feature-grade' is now being developed which emphasises the natural features or characteristics of timber. A much greater quantity of marri can be used when extensive kino veins and other features are accepted. Previously there were regular problems when customers insisted on clear wood, because this is only a percentage of the overall timber produced.

BVR Furniture are a small company in Perth who have specialised in feature grade furniture, and produce high quality pieces using either marri or jarrah feature grade timber.

Dr Graeme Siemon is Scientific Advisor in the Forest Resources Management Program, CALM, Como. He can be contacted on (09) 334 0333.

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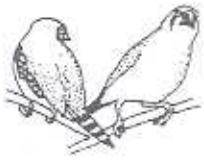
Want to know more about revegetation with local native trees for timber?
Contact:
Farm Forestry Unit,
CALM, Como.
Ph: (09) 334 0322



ABOUT GROUPS

WESTERN BANDERS ASSOCIATION

Revegetation Corridors - are they just for looks?

THERE are now many Landcare and on-farm revegetation projects which are well established. The plants in the corridors look good to the people who planted them, but what do the native mammals, birds and invertebrates think of the corridors? How can you tell if the corridors of vegetation and the remnants they link still provide suitable homes and food?

In the south-west of WA there are several projects under way to measure the use of native vegetation corridors by native birds. These projects are conducted by people who are qualified to catch and band birds. Some of the birds which have been banded are recaptured. Where they are recaptured tells us a lot about how much the birds use different habitats like corridors. Some birds have coloured plastic leg bands which can be seen from a distance, so the birds can be identified without having to catch them again.

These study sites are run by dedicated people from all walks of like, but with a common love of native birds and a desire to learn more about how the birds live. They are all members of the Western Banders Association, and all are trained in catching and handling birds. They all have the necessary approvals from CALM to conduct these projects.

Projects are currently being run at locations such as Bakers Hill (on a farm), Marradong Timber Reserve (near Boddington), Dongolocking Nature Reserve (near Dumbleyung), and a number of sites in the metropolitan area such as Yanchep and John Forrest National Parks, Thompson's Lake Nature Reserve (at Jandakot) and Mt. Claremont.

If you are interested in seeing what happens at these sites and how these people are helping to find out whether birds use rehabiliitated areas, you are most welcome to drop in to see for yourself. Visitors are always welcome. To find out where the project nearest to you is, and when the next banding day is scheduled, contact:
Perry de Rebeira
ph. or fax (09) 298 8999.

IN BRIEF

Will 1997 be a good Marri year?

You sometimes hear people say that if the marri flowers well, it means that a good, wet winter will follow. Can trees foretell the future? - unlikely! But stands of marri, and even individual trees, do show great variation in flowering. What is the likely reason?

Like most gum trees, marri takes several years to produce mature fruits. So, in the winter and spring of 1996, marri grew new shoots and leaves, with buds last of all, appearing in early summer. They grow rapidly, starting to open in January, and going on until March (this will be 1997). The fruits take a year to mature (so this is now summer 1997/8), then they open and the seed is gradually shed, though the empty fruits remain hanging on the tree. The fruits and seeds, being large, are a big drain on the tree's resources.

If the tree has flowered heavily, it will put most of the next year's effort into making fruits, rather than new buds. This effect will be even more noticeable if it is a poor season.

So, to answer the question, "Will the marri flower well this year?" we need to look back. Did that tree flower well *last* year - if so, it will have put more effort into fruits than into buds, so this year will be a poor flowering.

Fortunately for our native fauna, which depend on marri flowers to get them through the "autumn feed gap", the trees are very individual in their responses, and each year there will always be about 20% that are flowering and fruiting well.

Penny Hussey

When is a gum tree not a eucalypt?

- when it's a Corymbia!

The group of gum trees known as Bloodwoods has recently had a scientific name change, they have been taken out of the genus *Eucalyptus* and put in a new genus, *Corymbia*. Thus marri is now officially *Corymbia calophylla*, and red-flowering gum is *Corymbia ficifolia*. Its probable, however, that most plant nurseries and field workers will still be calling them eucalypts!

For more information, read *Australian Plants*, Sept 1996. This is the journal of the Society for Growing Australian Plants - the Wildflower Society of Western Australia is the local branch.

Write to:
The Secretary, WSWA,
PO Box 64, Nedlands
WA 6009.

NEW BOOKS

TREES AND SHRUBS FOR THE MIDLANDS AND NORTHERN WHEATBELT

D.G. Wilcox, E.C. Lefroy, T.C. Stoneman, N.R. Schoknecht and E.A. Griffin.
Agriculture Western Australia, Bulletin 4324. 1996.

If you are thinking of doing any revegetation in the northern part of the agricultural region, you must have a copy of this book. It divides the area up into soil types, then lists plants native to each site, including understorey shrubs. Descriptions, including photographs, of many of the plants are also included.

Obtainable from AgWA for $15 + $5 postage.
(Note: AgWA also has a special deal, for an extra $5 you can get a copy of "Revegetation Guide to the Central Wheatbelt")

EXPLORING WHEATBELT WOODLANDS

M. Bamford.
CALM, 1995.

This little book contains a superb description of the plants and animals characteristic of Wandoo, York Gum, and Salmon Gum woodlands, and explains some of the ecological relationships that make the woodlands function. If you are managing a remnant of this type, this book is a must.

Obtainable from CALM for $10 + $3 postage.

GROWING LOCALS: GARDENING WITH LOCAL PLANTS IN PERTH.

R. Powell and J. Emberson.
Western Australian Naturalists' Club, Perth. 1996.

Much more than just a gardening book, this book is a mine of information about the plants and animals found on the Coastal Plain and in the Hills around Perth. Interestingly and clearly written, it talks about such things as the inter-relationships between species, the effect of climate, planting to encourage native animals and even creating aquatic habitats. Anyone who likes gardens will enjoy this book.

Obtainable from WA Naturalists' Club,
PO Box 156, Nedlands, WA 6009.
for $19.95 + $6 postage.

COMING EVENTS

▶ STATE LANDCARE CONFERENCE
Geraldton, 1-3 Sept 1997

The conference will look at the practical aspects of landcare, and at ways of implementing best practise solutions to problems. It will include a session on the integration of wildlife conservation into farming activities. As always, the greatest inspiration will be provided by the enthusiasm of the participants. If you can't spare time for the whole Conference, why not pick the sessions which interest you?

Contact: Jane Keefe,
Mullewa Agriculture and Landcare Centre,
Mullewa, WA 6630.
Phone: (099) 611 388, fax (099) 611 412.

▶ NATIONAL LANDCARE CONFERENCE
Adelaide, 16-19 Sept 1997

This Conference will be attended by representatives from LCDCs in WA, carrying resolutions made at the State Conference. A feature of this Conference will be a comprehensive young person's programme.

Contact: Andrew Curtis,
GPO Box 1671, Adelaide, SA 5001.
Phone: (08) 303 9339, fax (08) 303 9320.

▶ NATURE CONSERVATION 5: CONSERVATION IN PRODUCTION ENVIRONMENTS: MANAGING THE MATRIX
Taupo, New Zealand. 30th Nov - 5th Dec 1997.

This is the fifth in a series of theme-oriented workshops on the integration of nature conservation into the productive landscape. The previous workshops were held in WA. The Conference is designed for professional ecologists or land managers, but will also be of interest to the general public.

Contact: Coordinator, Nature Conservation 5,
School of Environmental and Marine Sciences,
University of Auckland,
Private Bag 92019. Auckland,
New Zealand.

FUNDING

FUNDING is available to assist projects undertaken on private land that will enhance in the conservation of biodiversity in Australia - ie. have positive benefits to native wildlife as one of the major aims of the project. But it is a competitive world, and not all projects can be funded.

If you have a project in mind, LFW staff may be able to help you compile your application form. Having administered the "Save the Bush" program in WA for the past few years, the LFW Coordinator, Penny Hussey, has a pretty good idea of which submissions are likely to catch the judges' eye! For help in the first instance, ring her on (09) 334 0530.

THE GORDON REID FOUNDATION FOR CONSERVATION (LOTTERIES COMMISSION)

FUNCTION: - To encourage and sustain action by community organisations to conserve and restore indigenous plants, animals and micro-organisms and their natural environments in Western Australia.

Who can apply: - Groups, non-profit organisations mainly run by volunteers (eg LCDCs, Wildflower Societies, Friends of Parks Groups etc.).

How much can be applied for: - Either: SMALL GRANTS (up to $5000) and MAJOR GRANTS (no limit given). What projects might be eligible for small grants (or large ones if tackled on a catchment scale): -

- revegetation with local plant species, including understorey
- establishing seed orchards of local species
- fencing remnant vegetation, wetlands or streamlines
- controlling weeds, feral animals, disease and fire
- purchase of essential equipment needed to manage bushland
- production of a Newsletter or a pamphlet that would educate the general public on a wildlife issue of local significance.

These examples are indicative only.

Timeline: - Funding is available annually. There is no closing date, applications are assessed throughout 1997 until the funding is exhausted. However, you are advised to get your application in before April, as all funds are often committed by that date!

How to apply: - On the official form.

For further information and to obtain the forms, contact:

Mr Micheal Crouch,
Executive Officer,
Gordon Reid Foundation for Conservation,
PO Box 6725, EAST PERTH WA 6892.
Phone and fax: (09) 322 1850

NATURAL HERITAGE TRUST
including the
NATIONAL LANDCARE PROGRAM
the
NATIONAL VEGETATION INITIATIVE
(previously One Billion Trees and Save the Bush)
and the
NATIONAL RIVERCARE INITIATIVE
(previously Waterwatch and including Fishcare)

FUNCTION: - To assist community groups to undertake activities which contribute to achieving Ecologically Sustainable Development (ESD) in their local area.

Who can apply: - Groups, non-profit organisations mainly run by volunteers (eg LCDCs, Wildflower Societies, Friends of Parks Groups etc.).

How much can be applied for: - dependant on project type - seek advice. (Note: proponant must contribute $1 for every $2 requested in 1997, for NHT in further years, it will be $1 for every $1 requested.)

What projects might be eligible for grants: -

- on-ground actions
- awareness and training
- resource inventory
- planning
- investigations, trials and demonstrations
- monitoring
- project support.

Timeline: -Closing date: 15th April 1997.

How to apply: - On the official form.

For further information and to obtain the forms, contact:

NLP -Jon Glauert, AgWA
ph (09) 368 3475 - fax (09) 368 3946

NVI -Save the Bush Coordinator, CALM
ph (09) 334 0438 - fax (09) 334 0278

NRI -Naomi Arrowsmith, WRC
ph (09) 278 0300 - fax (09) 278 0585

This Newsletter is a compendium of articles written by many different people. The views expressed are those of the authors, not necessarily those of the Department of Conservation and Land Management.
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