



# Western Wildlife



NEWSLETTER OF THE LAND FOR WILDLIFE SCHEME

Registered by Australia Post Print Post: 606811/00007

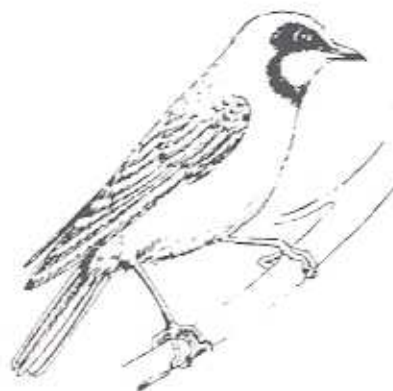
## THE FUTURE OF AUSTRALIA'S BIRDS: A PERSONAL OPINION

by Harry F. Recker

**B**IRDS are the most conspicuous native animals in the Australian landscape. Being active during the day, their song and movements make them part of our daily lives. Birds are part of human culture and are used as symbols of valour, death, heraldry, peace, war and beauty. In an agricultural landscape, birds do more than enliven the day. Birds assist in the control of pests, spread weed seeds and disease, and damage crops. But on balance, birds are probably of greater pleasure and benefit to the landowner than they are nuisance and a rich avifauna signifies a healthy and productive environment. Few of us would like to see fewer birds and most of us would like to keep or increase the numbers of birds we already have. It would be hard to imagine the day devoid of the sight and sound of birds. Yet, this is the reality that Australians need to face as we enter the 21st Century.

### A Personal Opinion

I've been a bird watcher for as long as I can remember. For 40 years, I've studied birds professionally: first in North and South America, then, since 1967, in Australia. Spending that much time with a group of animals, you acquire a feel, a sense, of how they behave, even what they might be thinking about. You also develop a sense of how they are doing. There is nothing



exceptional in this. After time you come to know where to look for birds, where different species live, how common or rare they are, when they nest, and when, or if, they migrate. You notice when new birds arrive or old friends decline in numbers and disappear from familiar haunts.

The numbers of all plants and animals change with time. Some years are better than others and breeding is more successful: numbers increase. Other years are not so good: numbers decrease. Habitats change - forests mature, fires burn mature plants and young ones grow in their place: the changes favour first some species of birds and then others. Biologists expect these changes, but in the mid-1980s, after I had been studying birds in Australia for nearly 20 years, I began to notice other kinds of changes. Birds that I had grown accustomed to in city and country were becoming less abundant, or simply disappearing from the places I expected

to find them: disappearing even when their preferred habitats remained intact.

The extent of the losses that I was noticing (or just feeling) among Australia's birds alarmed me. In 1988, at a meeting of the Ecological Society of Australia at Geraldton, I presented a paper with Leong Lim in which we analyzed these concerns and predicted that the rate of loss of Australia's birds would accelerate, just as it had for the continent's mammals nearly 100 years earlier. Our paper was not just based on 'feelings'; everything we read about changes in local bird communities confirmed that Australia's birds were in decline. The losses were greatest and most obvious in the southern half of the continent, but there was evidence of loss in the north as well.

To be candid, the views we expressed in the Geraldton paper were not treated seriously. After all, the dominant concern among the nation's biologists and conservationists was for Australia's mammals, large numbers of which were already extinct, while many others perched precariously at the edge of extinction. Even in 1999, only one bird on the Australian mainland has become extinct, the Paradise Parrot. Birds were everywhere! Singing, flying about and generally enlivening the lives of Australians from farm to city: there was no problem. But there was a problem.

*continued on page 3*

## EDITORIAL

*Greetings everyone!*

**W**ELCOME to the new century! Does it deserve a 'stronger than usual' New Year's Resolution? I'd like to hope that we can actually *achieve* the Landcare symbol – you know the one, the two hands holding (cherishing?) Australia. One hand is economics, the production side, so that we can maintain a good standard of living. The other hand is ecology, the natural forces which sustain both production and wildlife. Both are important, and both need to be balanced so that neither adversely affects the other. Can we achieve this? I believe we can, but it needs all people to work together, to understand each other's point of view and to strive to achieve that balance. Every *Land for Wildlifer* that I have met is doing just that, surely we will succeed!

*Land for Wildlife* WA was launched in Feb 97, so we have now been active for three years. There has been a fantastic response from landholders, with over 550 people registered, and every person demonstrates in their own way just how much people care about conserving our flora and fauna. Some statistics are given below.

Use the map and the contact list to ring your local *LFW* Officer and have a chat, even if they haven't yet contacted you for a visit. Because of the increasing demand, the workload on each *Land for Wildlife* Officer is building up, so we may be slower than we'd like in getting back to you. Please bear with us.

In order to ensure that this newsletter is as useful as possible, please could you return the enclosed questionnaire? It has been designed to help us ensure that 'Western Wildlife' is providing the sort of information, in the sort of format, that you find valuable. Please give us as much help as you can! The questionnaire is 'reply paid', so it won't cost you anything but some time!

*Penny Hussey*



**Land for Wildlife statistics  
to the end of Dec 1999**

Total registrations	559 landholders
Total property area	348 143ha
Total area of LFW sites	68 956ha
Yet to be visited	174 landholders



**Contact details for Land for Wildlife Officers**

	Location	phone number
Heather Adamson	Merredin	(08) 9041 2488
Avril Baxter	Narrogin	(08) 9881 1444
Jenny Dewing	Bridgetown	(08) 9761 2318
Fiona Falconer	Coorow	(08) 9952 1074
Claire Hall	Perth	(08) 9334 0427
Bob Huston	Mundaring	(08) 9295 1955
Cherie Kemp	Busselton	(08) 9752 1677
Sylvia Leighton	Albany	(08) 9842 4500
Anne Rick	Newdegate	(08) 9871 1791

**LETTER TO THE EDITOR**

*We received this excellent idea from a reader in Gooseberry Hill, only we can't decipher the signature!*

**Small animals and swimming pools**

Some years ago, my then primary age son came up with the idea of making the pool less attractive in the first place, by providing water elsewhere. He simply placed several pot plant bases at intervals around the pool, especially near the vegetated areas. During the hot months he replaced the water daily. In what has been a continuous overall very successful strategy, he also put twigs in the containers which overarched from water to ground in order to provide 'escape ladders'.

*Thank you, reader!*

*Australia's Birds continued from page 1*

The problem was that the birds which were disappearing were mostly the small brown ones that few people, even keen conservationists, notice. It was a problem of not appreciating that even very abundant species can rapidly disappear into extinction. Less than a lifetime after John James Audubon described flocks of Passenger Pigeons blacking out the sun of the American mid-west, the last one died a lonely death in the Cincinnati Zoo. But the most important problem was the emphasis that biologists and legislation placed on extinction: action to save a species does not really begin until it is already on the verge of extinction.

### State of Australia's Birds

Australia and most of the states have lists of threatened species of plants and animals. Some states, such as New South Wales, even list threatened ecosystems or unique communities of plants and animals. Threatened species include those that are already extinct, those that are endangered (on the verge of extinction), those that are vulnerable or at risk for one reason or another of becoming endangered, and some naturally rare species. In 1992, on behalf of the Commonwealth, Stephen Garnett prepared a report on the status of Australia's birds. Garnett listed 100 taxa of birds (his taxa included species and unique varieties or subspecies) on Tasmania and mainland Australia as threatened with extinction. This is nearly 11 % of Australia's avifauna or about the same percentage of birds as are threatened around the world. Garnett also listed another 71 taxa, about 7 % of the avifauna, as birds of special concern - birds which could be threatened, but for which there was insufficient information on their status to be certain. Thus, Garnett's 'official' list of threatened birds listed 18% of the continent's unique avifauna: a revision being readied in 1999 will increase this to nearly 20%.

Although only 171 of the 941 taxa of birds on Tasmania and mainland Australia were listed as

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threatened or of concern, it did not mean that the other 82% of birds were secure and not threatened. Garnett was required to operate within specified limits as defined by international criteria for listing threatened species, as well as the legislative and policy requirements of government. For most of us, listing nearly 1 in 5 birds as threatened or of special concern should prove that Australia's birds are in trouble. However, I thought Garnett's assessment of status was too conservative and too constrained by government policies. In my opinion, the status of Australia's birds was much worse than 1 in 5 being threatened: to me, birds were as endangered as Australia's mammals where more than 20 species or nearly 10% of the known species are already extinct as a result of European settlement.

Official assessments of the status of species, whether on a continental or regional scale, have been unable to project the effects of threatening processes into the future. The system is reactive, rather than proactive: action is not taken until a species is clearly endangered. As a result, official assessments have been unable to anticipate cumulative losses of populations which would result in a change in status of species from 'not threatened' to 'threatened' or even 'extinct'. To be proactive, requires recognition that many seemingly abundant species are at risk. One of the best examples of birds in this category are birds which feed and nest within the tree canopy in the agricultural regions of southern and eastern Australia. Here the progressive loss of mature trees from tree death and continuing land clearing will inevitably lead to precipitous declines in abundance. Some of these birds, the Weebill for

example, are extraordinarily abundant, but totally dependent on mature trees which are being lost to old age and continued land clearing and habitat degradation. An entire family of birds, the honeyeaters, is affected in precisely this way. The Regent Honeyeater, now a fashionable icon of national efforts to save endangered birds, is just one of a dozen or more honeyeaters dependent on mature woodlands and in precipitous decline in eastern Australia. Planting new trees helps, but it is very much a race against time.

### Prediction for the New Millennium

Taking up where Garnett left off, and based on my own experience, discussions with other ornithologists, and a comprehensive review of the literature, I reached the conclusion that over most of southern Australia entire avifaunas are threatened with extinction: parallel changes are underway in northern Australia. When allowance is made for habitat loss and degradation, 30 to 90% of bird species across the continent have already declined in abundance by as much as 90% of their original numbers. The extent of this decline is that the survival of many bird species in the 21st Century is threatened. Over much of Australia, many species are already ecologically extinct.

I do not deny that while a majority of birds have declined in abundance and/or distribution, others have increased. This is also evidence of human impacts on Australia's environment and its wildlife. When it comes to evaluating such impacts, increases in abundance and a change in the composition of avian communities are as significant as extinction. Increases and decreases both adversely affect patterns of continental biodiversity and are evidence of environments which are ecologically dysfunctional and unsustainable.

I expect fewer than half of Australia's terrestrial bird species will survive the next one hundred

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years. If I am wrong, it will only be because birds are tenacious and the rate of extinction will be slower than I anticipate, or because Australians modify their behaviour and change the ways they manage and exploit the continent's lands, waters and natural resources. However, at the close of the 20th Century, there is no evidence that this will happen and all trends are towards a continued, rapid decline in the avifauna with the progressive loss of regional populations culminating in continent wide extinctions. As I write this, massive land clearing in Queensland, New South Wales and the Northern Territory coupled with increasing land degradation, changed fire regimes and intensified logging of forests are evidence that the rate of loss of birds will accelerate in the next decade, not decrease. Even with the most Herculean efforts, concerned farmers cannot plant and grow trees or replace native vegetation fast enough to compensate for today's losses of mature vegetation from clearing and land degradation.

Even if the loss of species is not as great as I predict, Australia will still lose most of its avian biodiversity through the decline and extinction of populations and massive change in the species composition of bird communities. The great majority of birds will be diminished, while a few will continue to be extraordinarily abundant. Regrettably, the conspicuousness of these few, superabundant commensals of humanity will mean that few Australians will notice the losses and governments will continue to fail to act.

My analysis and prediction is not novel: it is simply a description of events as they have happened over the past 200 years.

### Sustainability

Much needs to be done to reverse the decline of the terrestrial avifauna and achieve ecological sustainability in land use. The most

## FAUNA

urgent actions are to end the clearing of native vegetation, reduce grazing pressure, remove inappropriate fire regimes, control feral and native animals whose abundance threatens native species, and restore functional ecosystems, with an emphasis on native vegetation, to a minimum of 30% of the landscape. These need to be accompanied by an aggressive program to improve water quality in fresh water habitats and restore environmental water flows, and the creation of a comprehensive, adequate and representative reserve system across the continent irrespective of land tenure.

We should view the decline of Australia's avifauna as a symptom of more serious problems and seek to remedy them by correcting the underlying causes and not by treating symptoms. Australia has approached the conservation of native wildlife species by species. If Australia is to conserve its terrestrial avifauna, it must take a different approach. Emphasis needs to shift from species preservation to the management of ecosystems; the landscape must be managed in its entirety. This can only be achieved by the full co-operation of land managers, land owners and politicians alike, working towards specified national objectives: Australians need to question the sustainability of their demands on

the continent. The decline of the avifauna is evidence that these demands are not sustainable.

### Our Choice

As we enter the 21st Century, Australia and Australians are committed to growth. Governments fall or are elected on how well the economy performs. The success of a government is measured by how many jobs are created during its term of office and by how much the economy has grown. Each year we need to produce and to consume more than we did the previous year. As Tim Flannery put it, *we are eating the future*. The price we will pay for our affluence and our lack of thought for those who will follow us includes the loss of our birds.

If we are to achieve anything to conserve our birds we must include concepts like 'production of new bird habitat' in economic analyses, and 'how many landscape restoration jobs were created and sustained during a government's term of office' in our political and economic report cards and the teaching of our children. Perhaps it is time to copy Britain's lead and select 'birds' as indicators of national sustainability (along with more usual measures such as the GNP, air quality and unemployment figures). It also seems clear that landcare activities will not reverse the problems we are faced with unless they take into account the 'big picture' approach. After all, it was big government policies and big economic styles that gave us the problem.

There are many encouraging signs that people are thinking like this. But if we, as an entire community, do not act...yes, some birds will survive. Our towns and cities will host their hordes of pigeons and sparrows. Our farms will still waken to the cacophony of Kookaburras and Galahs. Some of us may still enjoy a Willie Wagtail tormenting the cat from the clothes hoist, but much will be silent. Those who follow may never regret the absence of a lone Yellow Robin announcing the end of the day or the



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wings of countless honeyeaters chasing flowers across the landscape as first one bit of bush and then another bursts into flower. Even now, who knows or cares that many are already gone, but it will be a deeper silence than just the absence of a bush song or the clap of wings. It will be the silence of our own prison; a continent of four ocean walls and a dusty dirt floor devoid of life and meaning.

### Further Reading

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- Saunders, D. A. and Curry, P. J., 1990. The impact of agricultural and pastoral industry on birds in the southern half of Western Australia: past, present and future. Proceedings Ecological Society of Australia 16, 303-21.
- Saunders, D. A. and Ingram, J., 1995. Birds of Southwestern Australia: An Atlas of Changes in distribution and abundance of the wheatbelt fauna. Surrey Beatty & Sons, Chipping Norton.

*Harry Recher is Professor of Environmental Management at Edith Cowan University, Joondalup, WA. His main interests are in the ecology and behaviour of birds, but he also works on insects and mammals. He can be contacted on 08 9400 5289 or by email (h.recher@cowan.edu.au).*

## IN BRIEF

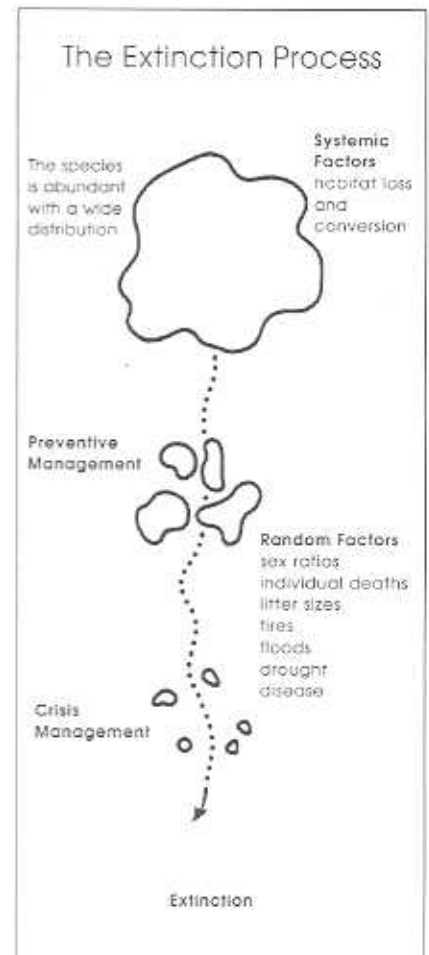
### Sustainability or Extinction?

**T**HE following is an extract from a book produced in Victoria. It is equally relevant to WA.

Sustainability is an important concept in land management. 'Sustainable development' and 'sustainable agriculture', for example, have become common terms reflecting our recognition that we must meet the needs of the present without compromising the ability of future generations to meet their own needs. In the agricultural environment this has led to increased national and local efforts to improve land management practices in order to maintain the soil resource and the quality of water resources – the essential requirements for productive land use now and in the future.

Extinction is the loss of all living individuals of a species from the Earth. In Australia, 19 species of native mammals have become extinct over the last 200 years. The loss of a species can also occur at the local or regional scale, even though it still survives elsewhere. But when, and how, does extinction occur? Is it sudden or gradual? Are there lessons to be learned that are relevant to the sustainable management of flora and fauna?

A key concept in conservation biology is that extinction is a *process* that usually happens gradually; it is rarely a sudden event. It is possible to describe a general model of how extinction occurs (see diagram). Typically, a species may initially have a wide natural distribution, but this distribution becomes broken and fragmented. If the processes (such as land clearing) that caused the fragmentation continue to operate, the range and population size of the species will continue to be reduced. The outcome is a series of small, isolated populations that become increasingly vulnerable to further disturbance, to catastrophic events, or to fluctuations in environmental conditions. One by one these



*A generalised model of the extinction process. The population is fragmented into smaller and more isolated components, on which systemic and random factors take their toll. (After Clark et al 1990.)*

isolated populations disappear, until the final loss marks the extinction of the species.

Management intervention is needed urgently in the latter stages, when only a few populations remain, but it is difficult and frequently expensive. This is the situation facing recovery conservation programmes for endangered species. It will be more effective in the long term if we can tackle the process of extinction at an earlier stage, by identifying and reversing disturbances before populations decline to critical levels.

*From: Fragments for the Future: Wildlife in the Victorian Riverina. 1998. A. Bennett, G. Brown, L. Lumsden, D. Hespe, S. Krasna & J. Silins. NRE, Melbourne.*

## FLORA

# WESTERN AUSTRALIA'S STATE WEED PLAN: A NEW STRATEGY IN THE WAR ON WEEDS

by Sandy Lloyd

**W**HY do we need a State Weed Plan? you might ask yourself. Did you know that after habitat loss, such as clearing, environmental weeds are the biggest threat to biodiversity? Exactly how many weeds are there in Western Australia? A few dozen? A couple of hundred? There are over 1,300 weed species already known to be in WA, and plenty more trying to get in!

What is a weed? The National Weeds Strategy definition: 'a weed is a plant which has, or has the potential to have, a detrimental effect on economic, social or conservation values' was used in the State Weed Plan because it covered every angle.

To many Australians, weeds are merely a nuisance in the garden. But to those concerned with the preservation of native bushland, weeds are a menacing threat to native flora and fauna. Weeds also have a detrimental impact on human health and water resources. The effects of weeds may be direct, such as the loss of native species and agricultural production; or indirect, such as increased frequency of bushfires. Sometimes it is these less obvious indirect effects that have the greatest impact on biodiversity. An infestation of veld grass, for example, can lead to a cycle of hot summer fires seriously degrading native vegetation and decimating wildlife.

It is impossible to calculate the cost of weeds to the environment, biodiversity, heritage, tourism, and health. But ask any farmer about weeds, and he or she will quickly tell you what effect they have on the bank balance. The fact is, weeds cost Australian agriculture in excess of \$3.3 billion per annum. Many more dollars are spent removing weeds from waterways, national parks, roadsides, railway lines, footpaths, sporting grounds and so on. Who pays for this? We all do, whether through rates and taxes, reduced profitability of farming, or through our own hard work. Although large sums of money are poured into weed control every year, weeds seem to be exploding across Australia, and WA is no exception.

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Searching for skeleton weed. Photo: AGWEST.

## FLORA

**W**IDESCALE clearing of perennial native vegetation has impacted on the landscape in both the metropolitan and regional areas of Western Australia. In many cases, only small, isolated pockets of vegetation remain, often in poor condition. Many communities are undertaking widescale revegetation to improve both production and biological values.

Greening Australia (Western Australia) established the Sustainable Seed Banks Project in 1998 to assist up to 20 such community organisations in their efforts to revegetate the landscape. The Natural Heritage Trust and the WA Minister for the Environment also support the project.

The project aims to address the limited availability of local seed for revegetation and restoration of WA's natural bushland. Central to this aim is the use of local seed, especially understorey, in revegetation projects. Incorporating local species provides a more natural composition to revegetation. This in turn enhances nature conservation and biodiversity values. Additionally, putting back local species often means they are better adapted to the environment than planting seed from species that occur in other areas.



Participants are provided with training, technical advice and support to collect, manage and grow local native seed for use in revegetation projects. Education plays a major role in the project, providing participants with a wide range of skills including plant identification, seed processing and handling as well as revegetation techniques such as direct seeding.

The first phase of the project assists the community to establish a seed bank. Seed stored in the seed

## SUSTAINABLE SEED BANKS PROJECT

By Julie Thygesen



*Banksia sphaerocarpa*. - To extract seed, give the nut a quick, hot burn. The nut should then be placed in a water bath to cool and then removed. This process should be repeated until the follicles slowly open and release the seed.

(Drawing by Julie Thygesen)

bank will then be available to the wider community for use in revegetation projects. The information gained about many of these species will also be provided to the wealth of information contained in CALM's Western Australian Herbarium, with specimens being forwarded to the state collection. In the second phase, a portion of the seed collected is then used to establish a seed orchard. This will reduce collection pressures on an already dwindling resource, and provide the community with seed of species that are useful in revegetation.

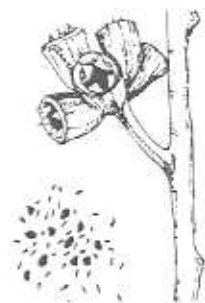
In the long-term, providing resources, education and support to communities will ensure self-sufficiency in the maintenance, management and ownership of seed. We hope that the interest and knowledge gained from this project

will encourage people to establish and manage a wide range of seed orchards and seed banks. We also see the wealth of information gained on a species level will increase the knowledge of the many fascinating aspects of Western Australia's diverse flora.

The following groups are currently managing seed banks as part of this project:

- ◆ Mount Marshall LCDC, Beacon
- ◆ Monjerducking Catchment Group, Beverley
- ◆ Bruce Rock LCDC
- ◆ Calingiri - New Norcia LCDC
- ◆ Corrigin Landcare Committee
- ◆ Koorda LCDC
- ◆ Narembeen LCDC
- ◆ Shire of Kent
- ◆ Cunderdin LCDC & Tammin LCDC
- ◆ Arrowsmith River Catchment, Three Springs
- ◆ City of South Perth (in association with the City of South Perth Environment Association)
- ◆ City of Canning (In association with the Bannister Creek Catchment Group)

*If you would like further information, please contact Julie Thygesen, Greening Australia, ph: (08) 9335 8933 Fax: (08) 9335 9203*



For the Metro Region contact:  
Susan Lowell, APACE  
who is the organiser for the  
SWAN REGIONAL SEEDBANK.  
ph: 9336 1262

## PRACTICALITIES

# DIRECT SEEDING DOES WORK IN LOW RAINFALL AREAS

by Avril Baxter

**D**AVE and Barbara Morrell have had great success in direct seeding native vegetation on their property at Pingrup, in a 350 mm rainfall zone.

The Morrell's had planted over 100 000 seedlings on their 2 200ha property in the last twenty years. However, a visit to Gary and Marion Gilmore's property at Jerramungup, opened their eyes to another method of revegetation – direct seeding. Dave and Barbara realised that they too could create a more natural stand of native vegetation at a much reduced cost.

In the last four years, they have established 27ha of thirty metre wide fenced revegetation belts below grade banks. This system allows them to harvest water into dams, control surface water, prevent some of the recharge to the groundwater system, crop on the contour and provide a system of windbreaks throughout the landscape.

The dense plantings of shrubs and trees will also provide excellent wildlife habitat. When the system is complete it will connect 300ha of high quality fenced remnants within the property to neighbouring farm remnants and Shire road reserves.

Seeds from "easy to collect plants", such as sheoaks, eucalypts, melaleucas, hakeas and other understorey species are collected from bush blocks within the property and surrounding areas. This ensures local species are planted, enhancing the chances of success and maintaining a local identity to the landscape. Wattles, peas and grevilleas which generally ripen during busy farming periods are purchased and mixed with their own seeds.

Seeds are collected throughout the year. Mature seed pods are dried on plastic sheeting in the shearing shed. This takes between one and three weeks depending on the time of the year and type of seed. Dominant varieties are stored separately and all understorey species kept together. This ensures a good mix of varieties when seeding occurs.

Their direct seeding system has evolved over the last four years. Ground preparation is critical and begins the year before with regular crop or pasture weed control to reduce seed set. At the break of season in the year of planting, the area is sprayed with a knockdown and residual herbicide. Later, the top 6 cm of the surface is scalped with a grader to remove any weed seeds left in the ground. The windrows created by the scalping are sprayed with a residual herbicide to prevent weeds from growing on the disturbed soil and reinvading the direct seeded area during the second year. Seedlings are planted on the windrows. Immediately after scalping, the ground is scarified, to break up the clay and allow moisture to penetrate.



Ground preparation is critical to success (photo: A. Rick)



One year old seedlings have germinated well in wheat ruts (photo: A. Rick)



Two year old direct seeded corridor (photo: A. Rick)

After the farm cropping and tree seedling programme have been completed, the area is once again scarified and sprayed with insecticide to control ants and red legged earthmite. Seeds are treated with smoked water and an



## PRACTICALITIES

*continued from page 4*



*Dave Morrell in a one year old direct seeded windbreak (photo: A. Baxter)*

icecream container of seed is mixed with a two litre bucket of general farm fertiliser and topped through the super spreader. The Morrell's have had more success when using fertiliser as a bulking agent than with either sawdust or sand. This amount covers 200-300 metres of the 30 metre wide belts.

Soils in Pingrup are very variable changing several times within each paddock. Having a good mix of seed allows nature to choose the varieties best suited to each soil type. This system has not worked on difficult grey clays. Next year, seed will be collected from remnants on grey clays and seeded separately to other soil types to see if the success rate increases.

Direct seeding 30 metre wide strips of natural vegetation is a very rewarding experience for the Morrells'. Reduced windspeeds will enhance crop production, waterlogging and salinity problems in discharge areas are lessened and fauna is on the increase in both variety and number. Collecting their own seed means that they can revegetate 5ha of land with naturally occurring species for under \$1 000 and they also get to spend time wandering through their bush!

*Further details can be gained from contacting Dave or Barbara on ph : 98 20 4046 fax : 98 204026 or Email : [bigredmorrell@bigpond.com.au](mailto:bigredmorrell@bigpond.com.au)*

*"Weed Plan" continued from page 6*

Weeds continue to find new ways to spread. One of the new 'vectors' is the postal system, especially now that internet ordering is so popular. The WA Quarantine and Inspection Service (WAQIS) has installed a special scanner at the mail exchange to check parcels coming in from overseas – many banned seeds, bulbs, cuttings and so on are intercepted in this way.

While weeds degrade our natural resources, they may also be a symptom of degradation caused by other factors. For example, aquatic weeds proliferate in waterways with high nutrient levels. In this case the nutrient problem must be dealt with before the weed problem will be solved. Another problem arises where a plant may be of great benefit or highly desirable to one group of people, but a serious weed to others. Paterson's curse and tagasaste are good examples of this.

Complicated isn't it? That's why we need a State Weed Plan. Controlling weeds has traditionally been perceived to be the domain of farmers, shire councils, government agencies and organisations such as the Agriculture Protection Board. In fact, control of serious agricultural weeds (Declared Plants) has, for over 20 years, been the legal responsibility of all landholders. The same responsibility has not applied to environmental weeds. Some concerned groups of volunteers have been attempting to attack environmental weeds in bushland, but their efforts are often thwarted by irresponsible gardeners dumping plant rubbish. The new State Weed Plan (SWP) will attempt to engage the wider community in combating weeds. The formation of a new body, the

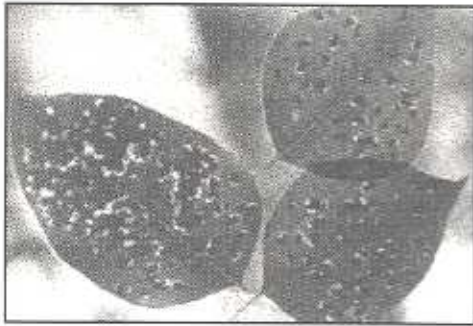
State Weed Coordinating Council (SWCC) has been recommended.

How was it written? A steering group comprised of representatives from AGWEST, the APB, the Environmental Weeds Action Network, Roadside Conservation Committee, Australian Association of Bush Regenerators, CALM, Conservation Council, Department of Environmental Protection, Nursery Industry Association, and others, engaged a consultant to write the plan. Public meetings to obtain comments and suggestions were held in Busselton, Fitzroy Crossing, Katanning, Kununurra, Moora and Perth. Submissions were also called for. The plan was to be released in the spring of 1999 for a period of public comment, however the task was greater than anticipated and the plan will now be released in early February. It will be circulated for about two months to get submissions from the public.

The plan will be circulated widely through AGWEST offices, other government agencies, councils, and community centres such as the Swan Catchment Centre. You can get a copy from the AGWEST publications section Tel. 9368 3729. The plan will also be available on the internet <[www.agric.wa.gov.au/programs/app/swp](http://www.agric.wa.gov.au/programs/app/swp)>

*Sandy Lloyd is Executive Officer, State Weed Plan at AGWEST. She can be contacted on: Ph: 08 9368 3760 Fax: 08 9474 3814 Email: [slloyd@agric.wa.gov.au](mailto:slloyd@agric.wa.gov.au)*

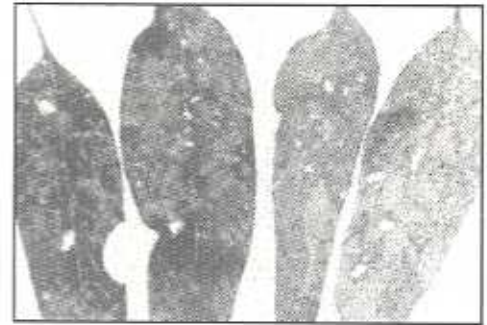
## RESEARCH



Perthida sp Blotch Mines

FLOODED  
GUM  
DIEBACK

by  
Vanessa Yeomans



Psyllid infestation

**A**t the request of the Leschenault Catchment Coordinating Group and as part of her studies at UWA, Vanessa Yeomans studied *E. rudis* dieback along the Preston River. Her findings and recommendations are given below.

As many of you will be aware flooded gum (*Eucalyptus rudis*) throughout the southwest of Western Australia has been identified as exhibiting extensive and progressive dieback. Insect attack has been implicated in most cases of flooded gum dieback. However insect attack is thought to be symptom of tree stress. With plant stress nitrogen content and insect abundance increases. Causal factors can be a combination of climatic changes, salinity and other hydrological changes, nutrification, pathogens, fire, competition with exotic species and other land use practices. The decline of eucalypts is significant not only due to the prominence within Australia, but due to the resources, heritage and ecological functions they provide. Tree cover is important for the control of soil erosion and dryland salting. Riparian eucalypts are also important for flood control and bank stabilisation. Riparian eucalypts provide an increased number of food sources, tree hollows and a dense leaf litter giving them great ecological importance. Therefore the decline of *E. rudis* can not be ignored.

The condition of *E. rudis* along the Preston River, Donnybrook, has

generated substantial concern within the local community, with the flooded gum leafminer *Perthida* sp thought to be responsible for canopy cover decline. A second insect thought to be in outbreak along the Preston River is a lerp insect or psyllid, *Creis periculosa*. It has developing nymphal stages, which suck the phloem beneath lerps (sugary casings). Psyllid infestation causes leaf necrosis and premature leaf drop.

Gregarious gall beetles are also known to attack *E. rudis*. The adults are leaf chewing winged beetles whilst the larvae create large irregular stem galls which can cause senescence of entire branches.

As part of an honours project in the Botany Department at the University of Western Australia, I sought to identify variation in *E. rudis* canopy cover along the Preston River, how it may have changed with time and if there were any correlations with types of leaf damage, foliar quality, soil profile, soil nutrients and species richness. The study region was a 30km stretch of the Preston River, 234km south of Perth, beginning 7 kms upstream from the Donnybrook-Boyup Brook turnoff. Six sites were chosen for accessibility and with subjective measurements of crown cover, to represent the observable range of tree conditions at each site. Three sites were located downstream of the Glen Mervyn Dam and three sites upstream.

My conclusions were:

- ◆ % Canopy cover was found to differ significantly across sites, higher in plots upstream of the Glen Mervyn Dam.
- ◆ Leaf chew was correlated significantly with the change in canopy cover and lerp insects were in higher abundance on defoliated trees.
- ◆ The severely defoliated tree had lower % tannin content. Leaf N increased with defoliation in a glass house experiment.
- ◆ Soil P<sub>i</sub> and the proportion of the vegetation was that exotic could be used as indicators of environmental disturbance.
- ◆ The Glen Mervyn Dam was found to be the distinguishing landuse practice between severely defoliated and less defoliated sites.
- ◆ An examination of tree rings and water – use efficiency revealed that tree health has declined over the last decade and rainfall did not seem to be a factor.

#### Further Research and Recommendations

**Insect Monitoring.** Since the principal type of leaf damage encountered was related to leaf chewing insects, it is necessary to identify the composition of this functional group to identify their predators and nutritional requirements in order to determine possible preventative or control

## RESEARCH

continued from page 10

measures. In this investigation psyllids were also found to infest the most severely defoliated site. However numbers recorded in this study are not as high as has been recorded for other *E. rudis* populations. It must be considered that leaf damage due to particular insect groups will depend on the time of the year and the results of this study may differ with the seasons (leaf necrosis due to psyllid infestation may increase later in the year).

**Restoration of Preston River Riparian Ecology.** Once predators of particular insect pests have been identified, the appropriate understorey shrubs should be replanted to encourage natural predators to return to help prevent insect outbreaks in the future. This study suggests that the Glen Mervyn Dam has had a negative impact on the health of *E. rudis*, whether this inference can be substantiated requires further investigation. Increased runoff into the river due to land clearing has led to a deepened river channel along with a faster flowing more erratic river flow. The river no longer floods out onto the old river flood plains. Drying out of the riparian zone may have led to tree stress and subsequent insect damage. Flood is an essential part of riparian ecology, for example redistribution of nutrients, control of insect pests and regeneration of vegetation. An experimental study into the effects of water regime on tree growth and foliar quality is suggested as a possible means to investigate the influence of catchment clearing and dam construction on riparian vegetation. There is also a multitude of other land use practices (chemicals etc.), which due to the brevity of this study were not examined for their possible contributions to tree stress. These practices would require further investigation. Due to the widespread nature of *E. rudis* dieback it is difficult to pinpoint



any causal landuse practices, as not all instances of dieback are in the same situation. More broadscale environmental changes should be considered, such as length of the growing season, temperature fluctuations etc. It must also be remembered that insect outbreaks can simply spread from the initial point of occurrence.

**Tree Resistance.** In this study and elsewhere throughout the southwest, healthy trees can be found amongst defoliated trees so the possibility remains that trees with the ability to produce abundant anti-herbivore compounds or those with other resistance mechanisms may be identified and used for replanting. It is important to retain the genealogy of the different *E. rudis* populations, so one strategy may instead be to plant resistant clones amongst those susceptible in 'hot-spots' of tree stress so that insect outbreaks do not become so severe.

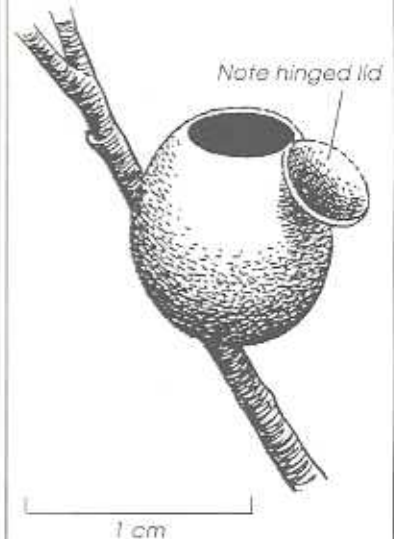
### Comparative studies.

Investigations into *E. rudis* decline along other rivers or in other catchments may identify causal factors which could then be compared to the history of decline along the Preston River to obtain a greater understanding of the casual factors leading to tree stress and/or insect outbreaks. A concerted effort is certainly needed to address the widespread occurrence and severity of *E. rudis* dieback.

*Vanessa Yeomans can be contacted through the LCCG, contact Carolyn Switzer on 9721 2531.*

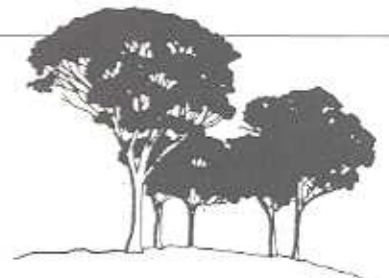
## BUSH DETECTIVE

Who made this?



On small, twiggly branches, you can often find a small white cup with a hinged lid. Its very much better known, in fact, than the animal which made it, a ????????

(answer P 13)



## THE TREE SOCIETY

presents:

SALMON GUM CONFERENCE  
AND EXHIBITION

Thursday 3rd February 2000

Quairading hall, Quairading  
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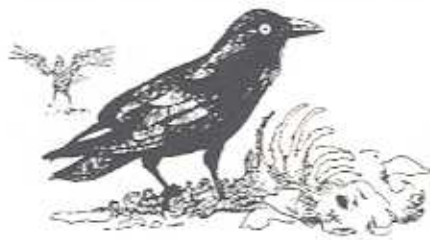
Have you a good remnant  
or reveg project involving  
Salmon Gum?  
Or taken any good pics?  
Enter the competitions!  
For further info and registration  
contact:  
Kay Wingrove 08 9368 1919

IT will be no surprise to Metropolitan residents that ravens (*Corvus coronoides*) in the Perth area have increased in abundance by 27.3% since 1977, according to a study by P. Stewart of Edith Cowan University.

Ravens are omniverous, consuming meat, eggs, insects, fruit, bread, seeds, berries and even flower parts. They are opportunistic feeders, switching diet according to food availability, and in built-up areas often act as scavengers. The study showed that, in Kings Park, the greater the number of humans using an area, the greater the number of ravens likely to be found there.

The increase in available food probably accounts for the increase of birds in Perth, as their other requirement – suitable roosting and nesting trees – has actually decreased. Nesting site availability probably determines which suburbs have most ravens, as ravens nest, on average, between 10 and 25 metres above ground. Therefore they tend to be scarce in new suburbs, with

## FAUNA



### Ravens in Perth

their closely-spaced buildings, tiny gardens and few large trees. In addition, ravens are large, aggressive birds, so they can effectively dominate feeding situations, nor are they threatened by cat or dog predation.

Many people consider ravens a problem because

- ♦ they make too much noise
- ♦ they attack other animals, eg taking hen's eggs and chicks, goldfish, tortoises and lizards
- ♦ they make a mess when scavenging in rubbish bags and bins

- ♦ they could spread disease, eg moving directly from rubbish to picnic baskets
- ♦ they cause damage – eg pecking flywire, pulling out window putty and messing up reticulation
- ♦ they steal – golf balls, for example; do they mistake them for eggs? - or drop dog bones into roof gutters!

However, it could well be that their scavenging activity around picnic sites is actually beneficial, as it cleans up mess that would otherwise be left for rats and mice. They're also pretty smart birds!

Many animals have been disadvantaged since European settlement of Australia, the raven is clearly one that has benefited.

*Stewart, P.J. 1997. "Some aspects of the ecology of an urban corvid: the Australian raven (Corvus coronoides) in Metropolitan Perth." Honours Thesis, Edith Cowan University.*

**R**ECENTLY CALM and AGWEST trapped 12 pigs in Birdwhistle Nature Reserve, near Narrogin. It seems they were deliberately put there, perhaps so that somebody could hunt them later on. There is evidence that pigs have also been put into other forests and reserves in the area. This is incredibly silly...

In Western Australia feral pigs are found in low numbers in the forest country of the South West, in agricultural areas north of Geraldton and in the Kimberley region.

It appears feral pig populations are spreading, with reports indicating that this is possibly due to deliberate releases for hunting. Moving and releasing pigs for hunting is extremely irresponsible and can result in many problems for local communities.

#### Feral pigs:

- ♦ disturb the soil by digging for roots causing erosion, reduction in ground cover and weed invasion;

## FERAL ALERT

### Feral Pig Problems

by Marion Massam



- ♦ feed on and destroy native plants and animals, and increase competition with native animals;
- ♦ feed on crops and livestock causing damage by rooting and trampling;
- ♦ harbour and spread diseases and parasites.

Diseases spread by feral pigs may include jarrah dieback, tuberculosis and tapeworm parasites. Pigs could also spread exotic diseases if they were introduced to WA, including anthrax, foot and mouth disease, African swine fever, rinderpest and rabies. These diseases would be

difficult to eradicate and their presence would have immediate and drastic effects on the State's livestock industries. There would be immediate losses of key export markets until eradication of the diseases could be achieved.

Control of feral pigs is difficult. In Western Australia, poisoning (by staff from AGWEST) and trapping are the most effective techniques. Hunting is not an efficient method for control of feral pigs and can only be considered a recreational activity.

Anyone moving feral pigs for hunting purposes, particularly into areas previously free of the animals, should seriously consider the potential consequences of this action.

*Marion Massam works at AGWEST's 'Vertebrate Pest Research Services'. She can be contacted on 9366 2301.*

**If you come across information that would in any way curtail the introduction of feral pigs, please ring your nearest CALM office.**

## LFW NEWS

### Feral control – Jerramungup style!



photo Ned Crossley

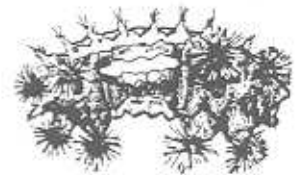
**A**VRIL BAXTER sent this photo of a Southern Heath Monitor (*Varanus rosenbergi*) catching lunch. Apparently the goanna used its strength to hang on for 15 minutes or so while the rabbit struggled frantically to get away. When the exhausted prey paused, quick as a flash, the grip was changed to the throat and the rabbit suffocated. Lunch was then served! Goannas frequently enter burrows to take rabbit kittens, but do not usually tackle animals of this size.

The Southern Heath Monitor can be found from Perth, through the southern forests and along the south coast. It hunts mostly on the ground where it feeds on frogs, reptiles, insects and carrion, but it can climb to escape predators or seek out bird nestlings.

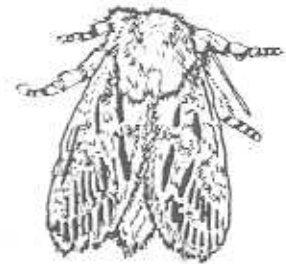
It can be distinguished from Gould's Monitor (*V. gouldii*) by the fact that the body has bands of colour rather than spots, while the other southern goanna, the Black-tailed Monitor (*V. tristis*) is more uniformly dark coloured.

## BUSH DETECTIVE ANSWER

It is the pupal case of a Cup Moth. Eggs are laid on a leaf and develop into a squat, slug-like caterpillar which often bears stinging spines. The caterpillars are bright-coloured, to warn predators of their unpleasantness. When ready to pupate, the larva spins the cup-shaped cocoon, using its jaws to create a hinged lid, which will remain closed through the stages of metamorphosis. The adult moths are squat, fat and have very furry bodies.



Caterpillar



Moth

### Rabbit control – permanent bait stations



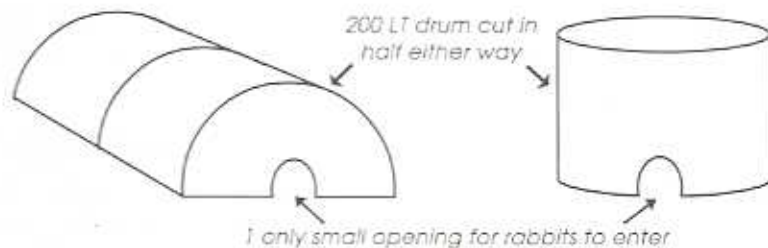
Summer is a good time to put big effort into rabbit control. One-shot oats works well, but if used within bushland it can be inefficient and lead to an increase in weeds. Steve Newbey of

Ongerup has designed a permanent bait station that has been very effective. Why not try it?

Use 200 litre drums cut in half. Put an old tin mug full of oats underneath the drums every month

or so. Place close to a known rabbit use area. Dig a rabbit run into the entrance to encourage its use.

(Nb: ensure that your permit covers all the months you intend to bait.)



## LFWNEWS



### Bush Picnic - Pollinators and Plants

On 16<sup>th</sup> Sept, naturalist Eric McCrum led 23 interested people to John and Mary Squire's property about 30kms NW of Mukinbudin.

Within seconds of alighting from the bus, Eric was drawing pictures on the ground, as he explained why plants had certain leaf shapes, and different methods of pollination. Following a narrow track through a teatree/sheoak thicket, we encountered sundews, orchids, hoverflies, wood white butterflies, plus many brown honeyeaters fussing through the flowering shrubs.

On the granite rock we looked at the plants attached to it - the lichens and mosses, how they got there and what purpose they serve. Next we were transfixed around a crystal clear rock pool, as an hour passed like magic while we went from large tadpoles through to tiny crustaceans' sex lives, back swimmers with two sets of eyes, water ferns, algae and algae-eaters - if we'd had a microscope we'd still be there! Also living on the rock were dragons, grasshoppers, cockroaches and spiders. We also listened to weebills, red wattlebirds and grey shrike-thrush, watched a wedge-tailed eagle and observed an active malleefowl mound.

On the way to the sandplain we observed the dense white flowers of the Nungarin triggerplant, *Stylidium nungarinensis*, which is pollinated by a very large fly. It was very hard to believe that the sandplain area was once cropped, it was such a beautiful display of colour and diversity. A highlight was the truffle beetles, which smell the truffles (underground fungal fruiting bodies) then dig down to lay their eggs on them, leaving a mound of soil at ground level. There were many small birds nesting among the shrubs.

We had a splendid picnic lunch (provided by the Mukinbudin café) while sitting at the base of a limestone ridge. It was densely covered with plants and insects which kept us intrigued until it was time to head back to town to view slides and listen to Eric talk on pollination, which was most informative and captivating.

I'd like to thank everyone who participated and helped on the day - hope you enjoyed it as much as I did!

*Heather Adamson*

### Woodland Discovery Day

On 13<sup>th</sup> Oct., 27 people attended a field day at Latham to discuss managing woodlands.

In the morning, speakers described woodland ecology (Nathan McQuoid, GAWA and John Dell, WA Museum) and covenants (Phil Bellamy, National Trust and Rod Safstrom, CALM). The afternoon was spent visiting sites, gimlet woodland, salmon gum woodland and various ungrazed vegetation sites on LFWers Peter and Sue Waterhouse's property. Here was one of the day's highlights - an active malleefowl mound! The day much too rapidly came to a close and we got back to the Latham recreation centre for a bbq just on dusk.

The organisers, Bushcare (CALM), GAWA and LFW thanked the speakers and the participants for a great day and we look forward to next year's event.

*Robyn Stephens*

### Neighbourhood Days

*Land for Wildlife* in Victoria encourages "Neighbourhood Days" where a property is open to local LFWers. It usually involves a walk, a guest speaker and a picnic, the aim being to encourage local networking and learning from each other.

Monica Atkinson recently organised such an event for landholders at "The Vines". After a cuppa, participants fed banana to the quendas, then discussed weed management, native vs introduced grasses, seed collection, fire, and phytophthora dieback, all the while wandering through magnificent bushland. It was a delightful morning, much appreciated by all participants.

If you would like to arrange a similar day, LFW can help with guest speakers, etc.

## LFWNEWS

### Wandoo Woodlands Workshop



*Peter Mawson talking about fauna in Wandoo Woodland.*

Dryandra Woodland looked beautiful, as always, when over 60 people assembled on 7<sup>th</sup> Nov for a two-day workshop organised by Avril Baxter, the *Land for Wildlife* Officer at Narrogin. On the first day, participants looked at the different sorts of habitats that can be found within the woodland, while Peter Mawson explained what features were suitable for various native animals. The role of understorey, especially for small bird habitat, and the use of fire was also discussed.

As dusk started to fall, Clare Anthony gave a talk on some of the region's more interesting fauna, followed by Nathan McQuoid of Greening Australia WA on the detail of Wandoo regeneration.

To fortify the inner person, everyone consumed quantities of pizza, then set off spotlighting. The night was cool, calm and very dark. Numerous grey kangaroos, woylies and possums were seen, as well as

the occasional tamma, but no chuditch or nocturnal birds.

At dawn the next day the birds were more cooperative, the highlight being watching a pair of striated pardalotes bringing food to their

noisy nestlings. Such a minute hole, you'd wonder anything could get into it!

Then it was down to business, discussing management techniques in detail, and trying to work out what would be an appropriate goal to aim for. Brett Beecham talked here about looking at the bigger picture, while Penny Hussey highlighted techniques for remnant bush management. As an example, the group visited *Land for Wildlife* members Ed and Linda Blanchard's property at Popanyinning to look at actual management issues and devise a suggested management plan. The day concluded with a brainstorming session on just about every aspect of "getting the message across".

The participants were about equally divided between *LFW* members and advisors and everyone agreed that the two days had been informative, entertaining and very worth while!

*Penny Hussey.*

### Learning about Local Plants

In October and November, *Land for Wildlife* Officer, Jenny Dewing and Bushcare Support Officer, Neil Pemberton – Ovens led a series of field days to help landholders learn more about the plants in their bushland. The workshops were held in the Shires of Boyup Brook, Nannup, Bridgetown – Greenbushes and Donnybrook – Balingup.

Each of the five workshops featured a particular plant community that people in each local area had asked for information on, such as the riparian vegetation of the Balingup Brook, a granite outcrop community in the Bridgetown area, the Jarrah forest near Nannup through to a Wandoo woodland in Boyup Brook.

The workshops were organised to help landholders gather specific information such as a revegetation plant list for a creek line or Wandoo woodland. Each session was carried out, as a "hands on" experience through which people learnt about



*Setting up a monitoring quadrat in a private remnant at Boyup Brook.*

native plants in their area. The relationship between plant communities and the soils and geology of each area was highlighted. Simple techniques such as survey plots and photo points for landholders to see how their bush changes over time were included.

The field days gathered useful information for all land managers as well as providing a learning opportunity for participants.

The field days are being followed up with an opportunity for participants to learn how to prepare herbarium specimens and easy ways to identify plants. In Nannup, a seed-collecting workshop was held in December for a group of *Land for Wildlife* landholders who have identified the creation of a wildlife corridor as a community project for their local area.

*Jenny Dewing*



## FAUNA



### Christmas Spiders

WHEN seed collecting recently, I struggled not to damage - or become enmeshed in - the huge numbers of Christmas spider webs that festooned the bushland. Every year, I always wonder where on earth they come from!

The Christmas or jewel spider (*Gasteracantha minax*) is found in gardens and bushland all over southern Australia and also extends into the tropics. The species occurs in many habitats from windswept coastal islands on the west coast to inland shrubby woodlands where it achieves its greatest abundance. Hundreds of webs may occur together in giant colonies, catching flying insects such as midges and flies.



It is a small black short-legged spiny spider with a star-shaped abdomen having bright yellow or white patches on the black background. Adult females of these attractive little spiders may reach about 10 or 12 mm across the abdomen. The males are much smaller and, although similarly shaped, the six spines which give the abdomen its star-shaped outline are stumpy in comparison to the long tapering spines of the females. Both sexes occur together in the colonies but during the late spring and early summer when the spiders mature, males can readily be distinguished by their small size and the bulbous 'palps', the appendages by which males transfer sperm to the female.

By autumn most of the spiders have mated after which they lay their eggs and die. The egg sac is usually attached to a twig or under bark on a branch adjacent to the web. It is about the size of the female and is protected by a silken covering. The spiderlings hatch during the winter but it is not until mid-spring that the spiders or their fragile webs are large enough to attract notice.

As local spider expert Barbara York Main said: "When hiking through the bush I have often expressed as much irritation as any araneophobe when I have stumbled into a tangle of webs. But irritation soon changes to delight and admiration. Some years these little spiders are more abundant than others.

"I remember one spring when in the eastern wheatbelt out beyond Hyden in WA - after a particularly good winter season - coming across thousands of webs strung in groups of any number from half a dozen to 40 and more. In some patches of bush, many hectares in extent, it was almost impossible to walk without becoming enmeshed. We had to pick our way between the colonies. It was late in the afternoon, and shafts of sunlight fell through the groves of sheoaks around a granite rock and lit up masses of webs. The shimmering nets provided a spectacle which dispelled any initial frustration and annoyance.



"Although most colonies consisted of dozens of individual webs which shared many of the supporting threads, and formed three-dimensional structures, there were also smaller colonies built on a single plane. Less frequently a common framework strung between bushes supported a row of orbs or several rows of orbs, one above the other to form a fragile repetitive pattern like the ironlace decorating balconies on colonial terrace houses or outback pubs or - more realistically - a delicate piece of Victorian tatting. What a delightful motif for some latter-day designer of the fashionable mock iron-lace now being mass produced in cast aluminium!"

*If you would like to read more of Barbara's wonderful lyrical descriptions of Arachnid natural history, read 'Spiders': pub. Collins, Sydney, 1976.*

Penny Hussey

## ECONOMIC ASPECTS OF BIODIVERSITY

*The next time you come across a dugite, consider this information before you decide its fate!*

One Dugite (or one Mulga Snake) will eat about twice a week for thirty weeks of the year. If it eats two mice a feed, this will total 120 mice a year.



If those 120 mice happen to be 60 males and 60 females, breeding every two months with an average brood of six babies (each baby becoming sexually mature at six months) in a single year that one snake will have accounted for 425,700 mice.



If each one of these 425,700 mice eats 5 grams of wheat per mouse per day over the period of its life, then, during the year they would consume a total of 398,581 tonnes of wheat.

With wheat selling at \$185/tonne, the snake has saved \$73,737 in a year.



A Dugite will live about seven years on average in the wild. In its life time, therefore, the snake has a value of \$516,162.

If you can afford this sort of money, go ahead and kill it!



*(Acknowledgement and thanks to Ted Mertens of Port Pirie, SA, for the original concept of this note.)*



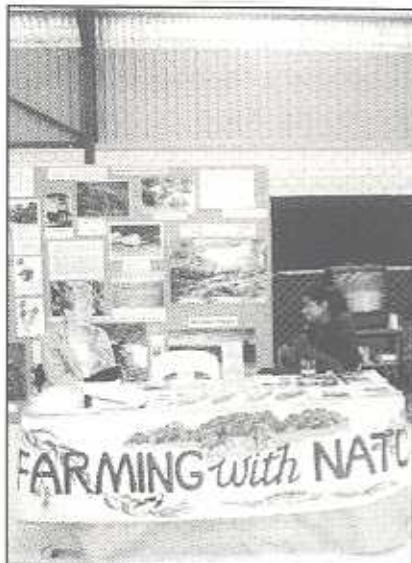
## LFW NEWS

### Wildlife Information Day

LFW and CALM South Coast Region combined to present a day of information about fauna on the South Coast. 135 people attended the morning's formal lecture session giving updates on what was happening in the native animal scene, while 90+ stayed for the afternoon's more 'hands on' activities. Mark True's carpet python was a great hit! The LFWers present (some 50 people) were very keen to have others such days, so perhaps 'Fire' will be tackled next year.

Sylvia Leighton

### Newdegate Field Days



Beth Loudon and Sheila Hamilton-Brown at the CALM/LFW display at Newdegate - before the rush began! Photo: Anne Rick.

## WEED ALERT

### Weedbuster Week 2000

8<sup>th</sup> - 15<sup>th</sup> October

Plan your activities now!



### Bio-control of Bridal Creeper - your chance to help



As we mentioned last issue, if you have bridal creeper on your property, or you're involved with an environmental group battling this pest, this is your chance to be involved in a biological control project. CSIRO and the CRC for Weed Management Systems are seeking collaborators to release the bridal creeper leaf hopper in winter 2000. This is also an excellent real-life science project for school children.

Details required are your name, address, and telephone number (also fax and email if you have them). Also include the address/location of the bridal creeper infestation(s) and a brief site description. Send this information to:

Ms Kathryn Batchelor,  
CSIRO Entomology,  
Private Bag,  
PO Wembley WA 6014,  
Ph.: 9333 6643;  
Fax: 9333 6646;  
email:k.batchelor@cecar.csiro.au

### Castor Oil Rust



Rust pustules on underside of leaf  
Photo P. Hussey

During late spring, it was noticed that Castor Oil (*Ricinus communis*) bushes in Perth were going rusty. Bright orange pustules appeared on the back of the leaves, which eventually died and fell off. At about the same time it was also noted in Queensland and NSW.

The rust is *Melampsora ricini*, and is native to Castor Oil. Apparently it doesn't attack other plants in the same family. It is not known how or when it reached Australia. Perhaps it blew in on the cyclones earlier in the year? It seems to be having a severe effect on the bushes in Perth, so may have value as a bio-control agent. However, it is having very little effect at Carnarvon, and doesn't seem to have reached Merredin.

If you know of any populations of this weed in your area, have a look for this rust and please inform your LFW Officer if you find any.



## MEMBER'S PAGE

### Sharing with Wildlife - the Grapefruit Puzzle

By Mary Bremner

ON a small orchard/bushblock just east of Kalamunda, fruit is opportunistically shared with the local fauna. Over the years these have always been birds - but what now ... !

Apples: cheeky rosellas, elegant and redcapped parrots sit on the branches with an apple held in one claw while the fruit is still attached to the branch. The end result is a small remnant of chewed apple left hanging on the tree.

Almonds: it looks a great crop but when it comes to harvesting, not one almond fruit has a kernel. Every "nut" has been extracted through a small hole at the bottom end, leaving on the tree a large crop of nutless almond fruit. The culprits are whitetailed black cockatoos.

Oranges: Surprise! I saw a new bird species - all black, with a large orange pouch beneath the bill!! Yes, a raven, which had been sitting in the tree chewing through the stem of an orange until freed. The raven's lower bill then punctures through the skin, while the upper bill holds the upper part of the orange, and away it flies. These ravens eat the flesh, leaving the orange skin intact.

Grapefruit: Both Wheeny and Marsh grapefruit are grown, but the Marsh variety has so far only been devoured by humans. But over the

last five years, something very strange has been happening to Wheeny fruit which have fallen to the ground. They have been perfectly skinned, leaving only the unpunctured whole naked flesh! This occurs only during August and September, even though some fruit may fall to the ground in October. Five years ago it would have been only the occasional fruit so peeled but each year more naked grapefruit remain on the ground.

Who is the culprit? The first attack is a long, sharp lower tooth, followed by nibbles from upper teeth. Is it the quenda? Quenda roadkills are occasionally seen in the vicinity. There are large balgas (*Xanthorrhoea preissii*) with long skirts and tunnelling. Conical-shaped diggings are fairly numerous. Unfortunately, there are also frequent sightings of foxes and feral cats. Has the quenda braved these predators in order to increase the vitamin C in their diet?

Has anyone else noticed this, or is it just something they have learnt in this area?

*Editor's note: I hate to say it, Mary, but the consensus among fauna people here is that the grapefruit-skinning culprit is most likely to be the black rat!*



Rosemary and Alan Lonsdale of Bickley sent us this picture of a brush-tailed possum taken on their verandah. The animal is black, with prominent white markings. She asks if such colouring is common.

Possums are usually brown with darker extremities, but other colours are known. Western Shield's widespread fox-baiting campaign means that more animals are surviving, with a greater chance of beautiful colour variations like this.

Vicki Eva of Three Springs has discovered two Declared Rare Flora species in her bushland (so far!) Here Vicki and Fiona Falconer look at the beautiful, red-flowered *Hemiantra* sp. (Watheroo).

It is a good idea to check for what is flowering in the bush during summer, as botanists tend to stay inside and write things up during the hot weather! You might find something really interesting.



**B**OTH of the Snotty-gobbles, *Persoonia elliptica* and *P. longifolia*, are extremely attractive small trees well worth attempting to re-establish in bushland, and even in gardens. However, they have proved difficult to grow. A successful method of propagation is outlined below, based on the experience of a lower south-west plant propagator.

The best cutting material is obtained from young suckers in the autumn after a spring burn. Plant material can be collected along roadsides where grading has been carried out. The mechanical damage to the roots caused by grading, together with the impact of the fire, seems to stimulate sucker development.

A collecting licence from CALM will be needed, and permission to take material must be obtained from the land manager - CALM for forest roads, MR for main roads, the Shire Council for local roads.

- ◆ The best time to take cuttings is about Easter, after the first rains.
- ◆ The best material is a shoot from 10 to 15 cm long, semi-soft, with a white to pink colouring at the base of the sucker. If the cutting is too soft the cutting

## PRACTICALITIES

### A method for propagating Snottygobble

*Jenny Dewing*



will wilt. If possible, it is better to get a bit of heel with the cutting material. Always leave some suckers attached to the parent plant to grow on.

- ◆ Transfer the cutting to a bucket of water immediately. Trim the

rough edges from the base and reduce the leaf area to about one third. Soak the cuttings in Maxicrop or another vitamin source and rooting promotant. This keeps the cuttings in good condition while they are rooting.

- ◆ Dip the cutting in rooting hormone powder. Advanced cuttings with a bit of bark material can be slit to allow the rooting hormone to contact the plant material.
- ◆ Put the cuttings into tubes filled with coarse white river sand.

Bottom heat of around 26°C will assist root development, as will misting.

Roots take four weeks to several months to develop. Once the roots have reached to bottom of the pot, transfer the cuttings into larger pots of 12-15 cm diameter. Transplants respond well to deeper tubes or root training pots. Osmacote can be added to the potting mix.

These cuttings will be ready for planting out in spring or early in the next season.

*Jenny Dewing is LFW Officer at Bridgetown. She can be contacted on 9761 2318.*

### A Grass Patch

**G**RASS PATCH, north of Esperance, wasn't called that for nothing! When farmers first moved into the region, they found big areas of open grassland, surrounded by woodland. When Brendan Freeman's grandfather first took up his land, "Grass Patch Farm", these natural areas were where the farm horses were grazed. Some were up to 30 or 40 acres in size. As time passed, most were ploughed, but one 6 acre patch remains. Long grazed, but not burnt, it has recently been fenced out.

Brendan mentioned this during the Landcare Conference Field Trip (while taking us to inspect his oil mallees). Recently, Coral Turley of the Esperance Wildflower Society returned especially to look at the site. She reports that it is amazing!



*Grass patch on "Grass Patch Farm" photo: Coral Turley*

The grassland contains some paddock weeds, but many native plants also.

Native perennial grasses that have stood up well to 100 years of use by stock are exactly what we need to get back into pasture

systems. Hopefully, this fascinating site will contribute knowledge that agriculture as a whole will be able to benefit from – to say nothing of the wonderfully preserved piece of biodiversity!

*Penny Hussey*

## IN BRIEF

### 1999 State Landcare Awards

At the State Landcare Awards ceremony during the State Landcare Conference in Esperance, it was great to see acknowledgement of the efforts made by dozens of finalists in a variety of categories, and very encouraging to see a number of *Land for Wildlife*s among them. It was wonderful to see two of those *Land for Wildlife*s step onto the stage to accept their awards as winners in their respective categories!

Congratulations to Margaret and Colin Tonkin of Collie, joint winner of the Water & Rivers Commission "Living Streams" Award, and winner of the NHT "Rivercare" Award. Margaret and Colin have been involved in the fencing, restoration and monitoring of riparian zones on their mixed farming property, and have since seen the return of quendas, frogs and the rare spotless crane.

Congratulations to Sandy and Kingsley Vaux of Ongerup, winner of the Cotton Australia "Landcare Primary Producer" Award. Sandy and Kingsley have been involved in sustainable natural resource and land management practices on their mixed farming property over the past 40 years, and have encouraged other land managers to follow a similar course.

Both of these awardees will be representing WA in the National Landcare Awards next year in Melbourne.

Congratulations also to the Rocky Gully Catchment Group (RGCG) of Mount Helena, which was chosen as a finalist in the Water & Rivers Commission "Living Streams" Award. The RGCG was formed by Jenny and Mike Mackintosh in 1997 with the aim of restoring Rocky Gully Creek to wildlife habitat

It would be wonderful to see more *Land for Wildlife*s nominated for the next State Landcare Awards to be held in 2001. No project is too small, and regardless of the outcome, all efforts are contributing greatly to the improvement of landcare practices across the State. Perhaps the project involves incorporating wildlife corridors into a farm plan, or protecting a wetland, or managing a nearby reserve for the benefit of a locally rare species. These are all vitally important activities (size does not matter!), and are all suitable nominees for the Awards.

*Emma Bramwell*



## FUNDING

### HURRY! HURRY! HURRY!

NHT applications close 25<sup>th</sup> Feb 2000!

Info:

- ▶ Bushcare, Keith Claymore, CALM, 9334 0438
- ▶ NLP, Natalie Moore, AGWEST, 9325 0009
- ▶ NRI, Luke Pen, WRC, 9278 0376

## Regenerating Woodlands - Plan Ahead!

Harvest was a long haul this year for all our broad acre *Land for Wildlife*s. But now that it is over and you are sitting relaxing at the beach reading this magazine, it is a good time to reflect on just how you grew that crop and to realise that regenerating your patch of woodland is a similar process.



In growing the crop you kept the sheep out of the paddock, controlled weeds, created a seed bed and planted seeds, manipulated fertility and pest species, you may even have introduced pollinators and finally prayed for perfect winter rains.



When you head back to the farm, treat yourself to a walk through the bush. Have a look around - are any of the elements missing? Changing one of them could be the start of this year's bushland management programme. The next issue of *Western Wildlife* will give more detail.

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.

Published by the Department of Conservation and Land Management, Perth. All correspondence should be addressed to: The Editor 'Western Wildlife', CALM Wildlife Branch, Locked Bag 104, Bentley Delivery Centre, WA 6983.

Design and Desktop publishing by Louise C. Burch Graphic Designer.