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DEPARTMENT OF
CONSERVATION AND
LAND MANAGEMENT

Western Wildlife

NEWSLETTER OF THE *LAND FOR WILDLIFE* SCHEME
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MINISTER LAUNCHES LAND FOR WILDLIFE!

THE Minister for Environment, the Hon Cheryl Edwardes, officially launched the *Land for Wildlife* scheme in Western Australia at Sue and Paul Kelly's property, 'Edenvale' at Mingenew on the 23rd February.

The ceremony was attended by some 30 people, mostly locals but some, like representatives from Greening Western Australia and the Wildflower Society, had travelled especially from Perth. It was held under magnificent remnant River Gums beside an ephemeral wetland, one of 5 specific *LFW* sites on the Kelly's property. Also in attendance were CALM's Executive Director, Dr Syd Shea and the Director of Nature Conservation, Kieran NcNamara.

In launching the scheme, the Minister said that *Land for Wildlife* was one of the key programs within the State Salinity Action Plan and also fulfilled one of the 1996 election commitments in the Court Government's Environmental Policy.

She described the program, and then continued: "Maintaining and linking native vegetation remnants and mounting an all-out attack on foxes and feral cats are two of the most effective measures that people can take to conserve our native wildlife. Research and experience over the past 20 years have shown that we can prevent extinctions through an integrated approach, involving predator control and managing habitat on an ecologically sound basis.

"The recovery of one native marsupial, the woylie, has already been so successful that the species has been taken off State and Federal threatened fauna lists. The return of species such as woylies into their former range will not only help restore nature's balance, it will also provide a tremendous natural indicator for ecologically sustainable management.

"It is hoped that initiatives such as *Land for Wildlife* will eventually result in the return of a whole suit of native plant and animal species across the agricultural areas of the State."

Very many thanks to CALM's Midwest Region and Corporate Relations Division, who, between them, organised the event. I am only sorry that ill-health prevented me from being there.

Penny Hussey

CALM's Executive Director Syd Shea, Mrs Sue Kelly, Environment Minister Cheryl Edwardes, Mr Paul Kelly and the Kelly children Rebecca, Shaina and Tara, proudly holding Land for Wildlife sign No 1.

The Minister and guests making friends (?) with a snake!

EDITORIAL

Well, now we are official! The Minister, the Hon Cheryl Edwards, wished *Land for Wildlife* well at the launch on the 20th Feb (see page 1) and so it is now full steam ahead!

So far, 50 people have expressed an interest in joining *Land for Wildlife* but pressures of work and, unfortunately, personal ill-health have slowed down the assessment process. Those of you who have not yet had a *Land for Wildlife* visit, don't despair! It will happen soon!

Three 'Wildlife Notes' have been published, two relating specifically to the southern Swan Coastal Plain, and one, on nesting boxes, having a wider geographic application. A fourth note, on seed collecting, is in preparation.

I am delighted to include some contributions from members in this issue (see Ann Carr's article on ecotourism and Joanna Seabrook's on crows) and would very much like more! Have you a special way of doing things? - or interesting observations? - or questions you'd like answered?

Please phone:
(08) 9334 0530,
fax (08) 9334 0278

or write,
c/- CALM, LB 104,
Bentley Delivery Centre,
WA 6983.

Penny Hussey

Gould's wattled bat

OUR LOGO

THE distinctive diamond-shaped *Land for Wildlife* logo is based on the Victorian design (see box).

Both carry exactly the same wording "LAND FOR WILDLIFE voluntary nature conservation". Our logo carries Western Australia's fauna emblem, a numbat; a knob-tailed gecko crawls over the 'W', while a pink rainbow twines around the 'E'. CALM's logo completes the sign.

The delightful numbat is one of the few small marsupials which forages during the day, searching for the termites on which it lives. Once widespread over the drier woodlands and mallee of southern Australia, habitat modification and introduced predators drove it almost to the brink of extinction. However, fox control measures have enabled its numbers to increase, and successful re-introductions have taken place within WA and even to South Australia. The numbat, which requires substantial areas of bushland in order to survive, symbolises the resurgence of interest in recreating wildlife habitat which is currently taking place, as well as the success of management activities.

Australia is exceptionally rich in reptile species, especially in arid zones, and the knob-tailed gecko is a reminder of the importance of these animals in natural ecosystems.

Without plants, no animals could exist, so wildlife conservation definitely includes plants. Our example, the pink rainbow, *Drosera menziesii*, is a beautiful species widespread throughout the south-west from the Murchison to Esperance. It grows on sandy soils with some clay fraction. Like many of our kwongan plants, it has a specialised way of coping with the infertile soils. In this case, it uses sticky leaves to trap insects, then digests its prey and absorbs the nutrients needed. The reverse of the usual food web!

The Victorian sign has a sugar glider climbing up the 'W', as well as the logos of the managing organisations; at the top a fairy-wren, symbol of the Bird Observer's Club, who started the scheme, and at the base the logo of the Department of Natural Resources and Environment. The base colour is turquoise.

FAUNA

BATS, THE FORGOTTEN INSECT EATERS

by Tony Start

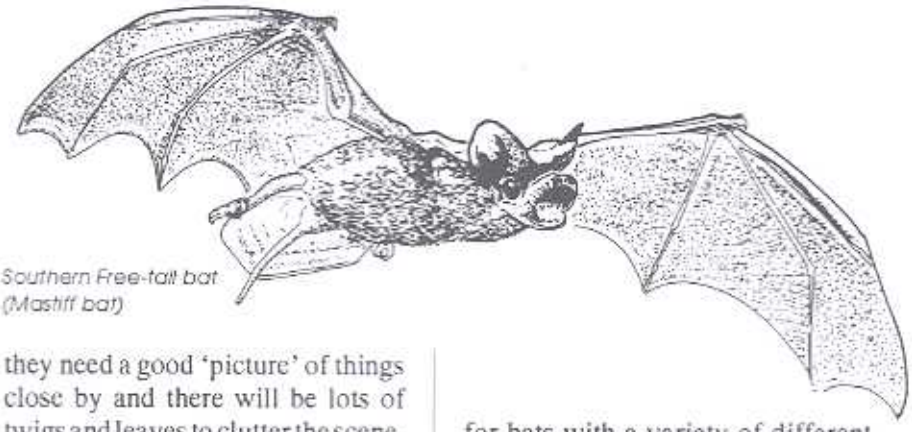
ON moon-less summer nights you have, undoubtedly, heard a metallic tik---tik---tik---tik (about one per second). Perhaps you've let it pass unnoticed, but listen for it next time you are out on a warm, dark evening. Notice that, unlike the crickets which chirrup from some fixed vantage point, this call will be up high. It will come in from one direction and pass overhead before fading into the night.

You have heard a mastiff bat as it hurtles through the air in search of insects to eat (unless you live in the tropics where some other bats that make sounds audible to humans). Wait long enough and you may hear the tik---tik give way to a buzz then return to its measured pace.

tik----tik----tik---tik--tik-tik-tik-tik-tik-tik---tik----tik----tik

Now you have witnessed the bat homing in to capture and devour an insect. Mastiff bats are the largest of our south western bats, weighing up to 40 grams. They have solid bodies and long, narrow wings which enable them to fly fast. They hunt over the tree tops in clear air where they do not need to be particularly agile; there are few obstacles. However, they must be able to detect prey at some distance and so their echo-locating 'tiks' are at the lower end of the frequency range used by bats because lower frequency sounds carry further. That is why we can hear them.

There are other species of bat hunting around the edges of the canopy, in between the trunks of trees or even in quite dense scrub, all searching for insects to eat. You will not see them as they flit in the dark but you may catch a glimpse in the car's headlights or around an outside light. You will not hear them either for they are using much higher frequency sounds than the mastiff bats. In their more cluttered air-space they do not need to 'see' as far ahead as the mastiff bats, but they need a good 'picture' of things close by and there will be lots of twigs and leaves to clutter the scene. The higher sound frequencies have shorter wave lengths. They give a finer resolution which suits the needs of the bats which hunt in and around vegetation.



Southern Free-tail bat (Mastiff bat)

There are about nine species of bats in the south west of WA. The exact number depends on where you draw the boundary, as well as some technical problems because biologists are still discovering new species that had been confused with previously well known ones. That does not detract from the fact that we have more species of bat than any other group of mammals in this area. They really are the forgotten mammals and that is a pity because they can play a very significant role as insect predators so long as their ecological requirements are met.

There are places where the bat fauna is intact. That is to say all the species which once occurred there are still there, hunting insects and playing a vital role in keeping the balance of nature on an even keel. We have already seen that the mastiff bats fly fast, above the tree tops, on long narrow wings whilst others hunt in quite dense forest or scrub. The latter have short, broad wings, more suited to manoeuvrability than speed. There are parallels in the design of aeroplanes. Jets compared with crop-dusters are the extremes. Just as we sometimes need planes that are a little more manoeuvrable than jets but a little faster than crop-dusters, there are ecological niches for bats with a variety of different flight capabilities.

If you trace the wing-shape of all the bats in an intact community and compare various parameters that determine each one's flight capabilities, such as speed and agility, you will find that each species has a unique design. Each one is able to exploit the insect resources of a particular part of the habitat, be that over the tree tops, beside the canopy or inside the forest. Finer niche divisions are brought about by the way the bats hunt. Some take all their food on the wing, like swallows do, while others can glean insects off surfaces. The long-eared bats, for example can pick insects off the ground. To complement its flying ability each species of bat uses echo-locating calls of a frequency ideally suited to its mode of hunting in its habitat niche.

However, if the habitat has been altered in any way that eliminated the essential resource requirements of any of the bats, there will be losses to the array of species that lives in that area. That may have flow-on effects because the predators of an ecological community have been removed. Perhaps the two most important resources that a community of bats requires are roost and breeding sites and suitable habitat in which there are insects to eat. This is where *LAND FOR WILDLIFE* can make so much difference.

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It is a common misconception that bats must have caves in which to live. Certainly there are some species in arid and tropical areas of WA that need caves or rock crevices (and there are some south west species that can exploit them) but all our bats live in trees. Some, like the mastiff bats, need hollow branches, but others, for example long-cared bats, will live under loose slabs of paperbark or beneath the shedding bark of dead trees, sometimes no more than a meter from the ground.

However each species is particular about the size or position of its hollow, or the orientation of its retreat. For example, on the coastal plain near Perth, long-cared bats have been found roosting under dead banksia bark, choosing the side that is warmed by the evening sun on fine winter days. But they move to the better insulated shelter of a paperbark site on wet days. The lesson is that a community of bats requires a diverse array of roost sites to choose from. It will include old trees with a selection of hollows as well as other features such as dead trees that are shedding bark, paperbarks or anywhere off the ground that offers shelter and seclusion. Sometimes old bird's nests are used by bats.

Let us consider two components of the other important resource, food. Firstly insects must be available, at least during warmer nights when bats are hunting. The widespread use of agricultural insecticides can reduce food supplies and poison the bats. No amount of good habitat will help in that case but that is rare today. Secondly, habitat of the type each species is adapted to must be available. As the mastiff bats hunt in the clear air spaces above the canopy, it matters little to them whether there is bush or grass below. They can hunt over pasture, crops or forest. However the number of insects available to them may change with the land use under their hunting areas and this may affect the number of bats in the population. On the other hand

FAUNA

Lesser long-eared bat

cleared land will be of no use to long-eared bats that fly with ease in thick vegetation, gleaning insects, or the wattled bats that hunt in the open air but close to the canopy.

How can we make sure that our bat communities are accommodated in the landscape we have created? We need to keep as many trees as possible including the old ones because they have hollow branches, and even dead ones because (besides any hollows they have) their shedding bark and even the splits that develop in their trunks, can provide roost sites. Trees also add a third dimension to the landscape. This is vital to bats because the community comprises species adapted to hunting a variety of specific sites in and around the canopy.

It is also important to keep the understorey, and even vegetation where there are no trees, as diverse as possible. Diversity will add to the complexity of the habitat structure available to bats allowing 'room' for more species to occupy their specialized habitat niche. It will also ensure that there are ample shelters for the species that do not use hollow branches.

Bats have one great advantage over terrestrial mammals. They can fly. This means that they can travel quite long distances and many of them can cross quite big gaps between patches of habitat where there are essential resources. Thus bats can use areas of remnant vegetation much more successfully than their terrestrial counterparts. A patch of timber may contain hollow branches from which a breeding colony of mastiff bats can forage over the surrounding countryside. Wattled bats, roosting in the old trees, may hunt insects over a near-by blue-gum plantation which is still too young to have developed any hollows (and, assuredly, will be harvested before it can do so!). Or a paperbark swamp may provide shelter for long-eared bats that hunt in an adjacent orchard.

Patches of remnant vegetation are important but so too are corridors. There are corridors along roads. They tend to traverse the landscape and so carry ever changing vegetation; swampy hollows, timbered valleys, heath on the ridges, and so on. Thus they provide a selection of roost sites and foraging habitats as well as a passageway between blocks of remnant vegetation. There are also corridors along creeks. While they may not intersect the same array of habitats, they often cross other corridors, adding to the network that bats can use.

Planning to manage land for wildlife can be rewarding. More importantly, it can benefit our need to keep our landscape habitable and productive. Bats are often the forgotten mammals, but they play a very important role in keeping nature in balance because they are predators of nocturnal insects. Their mobility is an advantage, making it easier to provide for them, but we must remember their requirements. If there is one word that sums up managing habitat for bats, it is "complexity" of habitat.

Dr Tony Start is a Principal Research Scientist at Wildlife Research Centre, Woodvale. He can be contacted on: (08) 9405 5100

References

Bats, Bats, and More Bats. Tony Start and Norm McKenzie. Landscope Winter Edition 1998.
Nestboxes for Bats. Wildlife Note 3.

ECONOMIC ASPECTS OF BIODIVERSITY

B&B AND FARM BUSHLAND

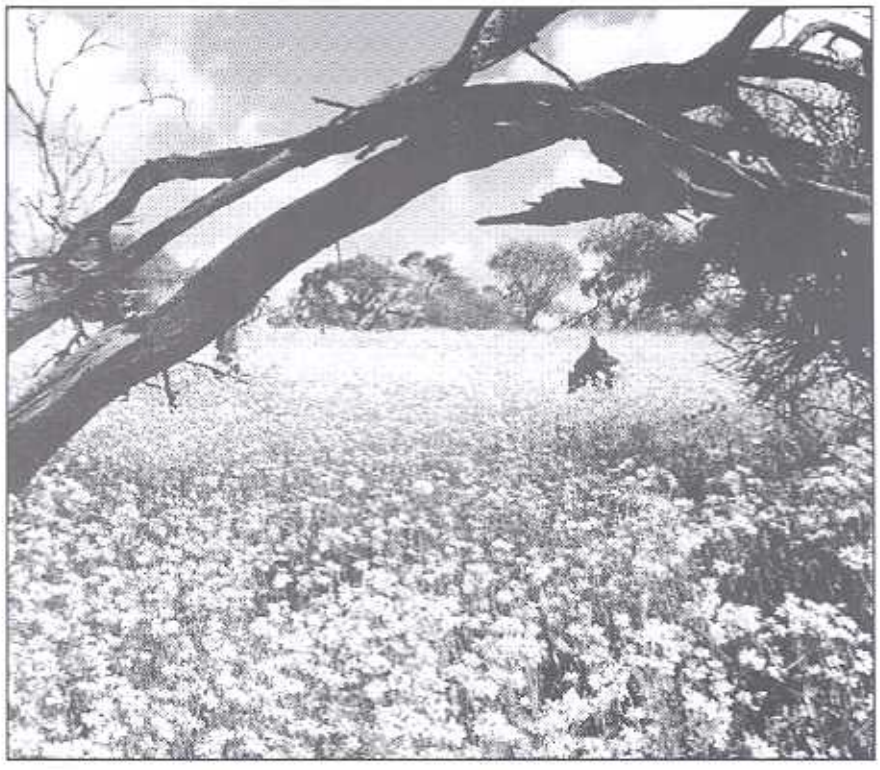
by Ann Carr

IN 1991, when the wool market collapsed, I said to John: 'Maybe we could open our house to guests? We like people; there is room in the house; the farm is picturesque, especially in spring with the everlastings; Coalseam Park and the wildflowers on the nearby sandplains are great tourist attractions - and we need the money!'

This will now be the sixth year we have run our bed and breakfast business. Guests have come from all over WA, the eastern States of Australia, New Zealand, European countries, America and Japan. Most come during the wildflower season, August to October. We can accommodate 4-5 guests at a time and provide dinner as well as B&B, dining together with our guests at night. During the evening I advise on what plants are in flower and where to go to see them, while John answers the farm questions.

Guests are also welcome to walk in the hills behind the house, where there are birds, plenty of kangaroos and views of the surrounding countryside. When the everlastings are flowering we take our tourists to a special part of the farm that is a carpet of pink and yellow. Time permitting, I also offer a springtime guided walk on 'the rocks' to interested guests. We don't advertise 'farm activities' as we feel that the extra insurance cost and the time it takes are not worth it, but if something special is happening, eg shearing, they are welcome to visit the shed.

To elaborate on the 'farm ecotourism' side - our farm is 4000 acres, of which almost half is grazed woodland which has a ground cover of everlastings. They include yellow pompoms, *Cephalipterum drummondii*, tiny yellow daisies, *Hyalosperma glutinosa*, and golden *Waitzea nitida*. We also have a special area where pink *Schoenia cassiniana* mix with the others in a beautiful display as far as the eye can see.



Everlastings, Langton.

'Everlastings are very susceptible to the sprays used in agriculture'

The everlastings need care to survive as they are very susceptible to the herbicide sprays used in agriculture (for some reason the pink species seem to be the most susceptible). Our main farm activity is grazing sheep and cattle with only a small amount of crop sown, and near the pink area no cropping at all. Luckily it adjoins a reserve so we don't have to worry about neighbours' sprays. John also believes that careful grazing management also helps to control the weeds, such as wild oats, resulting in a better survival and display of everlastings. Of course, overgrazing would be disastrous.

Apart from the grazed woodland, we have two special *Land for Wildlife* areas, 'the rocks' and the 'hills behind the house'.

The rocks - properly known as Enokurra Hills - are an outcrop of metamorphosed sandstone with good native vegetation. It has a number of interesting plant species that I have not seen anywhere else in the Shire. We fenced stock out of the area in 1992. Since then the native shrubs and ground covers have regenerated and are thriving, except for the part at the base - which was good grazing - where wild oats and other pasture weeds have established a thick cover.

On the rocks I show tourists the plants, from orchids to trees. I explain things such as: borya being a resurrection plant; the difference between male and female sheoaks; the area's importance for birdlife

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ECONOMIC ASPECTS OF BIODIVERSITY

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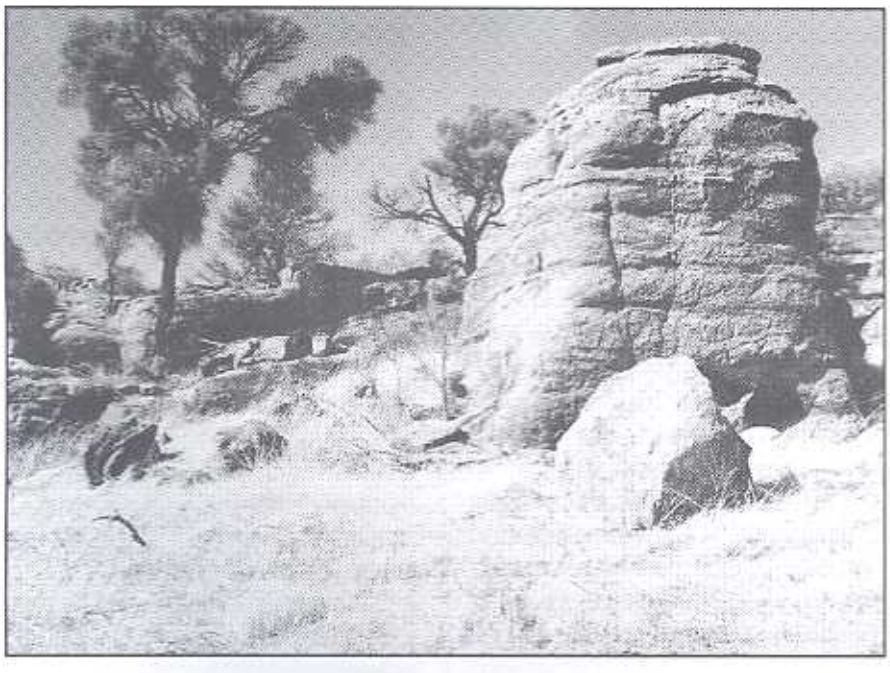
and animals such as carpet pythons, and we view the Yandanooka Valley from the lookout (Enokurra is aboriginal for lookout). The biggest management problem here is weeds, as they are inhibiting regeneration. Everyone who walks the rocks is requested to pull up a few blue lupins, and we are planning to treat the surrounding weeds, a section at a time, as we will probably need to manually spread suitable local seed into the treated areas, or only weeds will come back.

The 'hills behind the house' were also fenced in 1992 and I hoped the site would become a 'seed bank' for the surrounding area. It is a lovely walk close to the house and includes a creek which runs after rain and tadpoles appear. The area was grazed woodland of York gum *Eucalyptus loxophleba* and jam *Acacia acuminata* with the large shrubs kurara *Acacia tetragonophylla* and standback *Hakea recurva* with a ground cover of yellow pompom everlastings and non-native grasses.

Unfortunately, there has been little regeneration. Why? Perhaps there are too many weeds? - or maybe its been grazed too long so that few seeds are left in the soil? (the steep slopes would exacerbate this effect due to erosion) - or are the kangaroos eating the young seedlings? - or maybe it needs a fire? We don't have answers to these questions yet. However, the site does seem to have become a safe haven for all the local kangaroos, from which they venture out in the evenings to browse in the paddocks, while a few brave ones mow the back lawn at night. The tourists love them - the neighbours aren't so impressed!

Economically, its a small supplement to our farm income. We could make it more commercially viable by expanding - building more accommodation, etc, but then it wouldn't be a personal experience for the guests or us, and that is how we like it. We are a working farm with B&B a sideline. The tourists are seasonal, we are flat out during the wildflower season - luckily a less busy time farmwise - and more relaxed the rest of the year with only occasional guests.

We have a shelf of books on native flora and fauna, copies of 'Landscope', mounted plant specimens from the Mingenew Herbarium, and, of course, now a *Land for Wildlife* folder, all of which the guests can peruse. I really enjoy sharing my knowledge of local flora and fauna and guests often tell me they are now more aware of WA's biodiversity. Of course, some guests just want a bed for the night and are not nature buffs, so the conversation covers different topics - although just as interesting. However, being able to suggest local wildflower areas to visit does sometimes lead to a booking another year.



'The Rocks, ' Enokurra Hills

Ann and John Carr of 'Langton Farm', Yandanooka, can be contacted on (099) 72 6062. They are members of the Greenbrook CG. John has farmed in the Mingenew - Yandanooka area all his life. Ann is compiling a herbarium of local plants for the Mingenew LCDC and has recorded birds for national and state surveys.

Ecotourism contacts

Every year, thousands of people visit WA during the wildflower season.

Some of these visitors are members of *LFW* in other states, and they would probably like to meet landholders with similar interests.

Would you be interested in being put in touch with any of these visitors?

I will be compiling a list of potential WA contacts, please notify me by phone (08) 9334 0530 or fax (08) 9334 0278

If you would like to be on it, please include

- Name
- Phone
- Knowledge of eg: birds, wildflowers, no-till etc
- Tourist facilites available (eg: farmstay)

Penny Hussey

PRACTICALITIES

THE CAT'S HOME, AL-CAT-RAZ

by David A Lamont

Have you noticed that there are no longer any small birds or lizards around the house ?

Do you miss the calls of the birds? Is there a moggie in your life ?

You can have your moggies and wildlife too! Read how...

OFTEN cats are an integral component of the farm scene. The ubiquitous moggie is seen patrolling hay or feedsheds for rats and mice, and presenting themselves at the homestead for delicacies such as a saucer of milk, offal from a freshly killed sheep or a scratch behind the ear. Unfortunately cats are introduced predators with which our native fauna can't co-exist. All cats posses a schizophrenic trait that enables them to transform from an innocuous Matthew Meow at home to a ferocious Matt the Feral Cat, beyond the confines of the farmhouse. All cats including pet cats hunt by instinct. The vast proportion of wildlife killed by them is killed within close proximity of the house.

Although our native fauna contains native predators, they have evolved in conjunction with the prey species and thus a sustainable balance between predator and prey has been struck. Cats are a relatively recent addition to the natural ecosystem and as a consequence, prey species have not been able to withstand the hunting pressure placed on them by cats. This can result in many native species becoming locally extinct, with a detrimental flow-on effect to the local ecosystem.

During a recent study by Martin et al., 18 known food categories were identified from stomach samples taken from feral cats. Cats from the pastoral regions were shown to have a dietary breadth two fold greater from cats in rural or urban areas. Stomach samples taken were broadly grouped within five major food groups.

Category	Rural %	Pastoral %
Mammal	68	90
Bird	9	36
Reptile	0	44
Amphibian	16	4
Invertebrate	52	72

Figure 1: Percentage occurrence of five major food groups in cats from rural and pastoral areas. (after Martin et al.)

The stomach samples used in the study of Martin et al. were all taken from feral cats but even well fed pet cats can and do kill wildlife.

Rural	Pastoral
Introduced rodents	Native rodents
Rabbits	Crickets etc
Crickets etc	Small native carnivores
Birds	Birds
Frogs	dragon and monitor lizards
Spiders	Geckos
Honey Possums	Introduced rodents

Figure 2: The relative rank of the seven most important food categories for rural and pastoral cats (after Martin et al.)

Martin et al record that a study of the diet of urban cats in Canberra revealed that it consisted of ≈ 64 % introduced mammals, 27% birds (10% native species), 7% reptiles.

It is estimated that on average, each pet cat kills 25 creatures annually. Whilst it is difficult to quantify the population of cats in Western Australia, it can be appreciated that at 25 kills per cat annually they are responsible for the loss of many millions of native species of fauna each year. Often birds and animals birds or animals "saved" from cats may appear uninjured but invariably still die shortly afterwards from shock.

With the wide variety of foods eaten by cats it is not suprising that their mouths carry high levels of bacteria. Consequently a relatively minor bite can manifest itself as an infection to native animals. The infection spreads rapidly as native fauna has little resistance to these infections. Another effect that cats have on native fauna is as vectors of toxoplasmosis, a protozoan disease which can devastate wildlife populations.

Clearly cats and wildlife cannot live together, and even the presence of cats can inhibit wildlife. Nevertheless many families still enjoy the companionship offered by cats and this can be achieved by erecting a cat enclosure. About six months ago we erected a cat enclosure (now referred to as "Al-CAT-raz") and the effect on the local wildlife has been remarkable. The birdlife has always been prolific but wrens and honey eaters are now coming right up to the house secure in the knowledge that the moggies are doing time behind bars.

We erected an aviary type of structure but with heavier wire mesh as our cats were able to break through normal birdwire. That is in fact how this whole exercise started as the cats broke into the budgie cage one night and ate the budgies. So the budgie cage was repaired and the cats took up residence in it until we built a larger enclosure.

The cat enclosure is approximately 5 x 4 m with an enclosed shed in one corner. A

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WEEDS

WEED ALERT!

by Sandy Lloyd

TWO new populations of the Declared Plant, Sagittaria *Sagittaria platyphylla* have recently been found near Perth, on the Canning River and Yule Brook. It causes severe propblems in other States as it has the potential to block waterways and drainage ditches, and it can also infest natural wetlands. Thus it is important to stop it establishing in WA.

Anyone on the Coastal Plain from Perth to Dunsborough who has freshwater streams or wetlands, irrigation canals or drainage ditches on their property, should keep a careful lookout for Sagittaria.

There are 2 species, and both can grow to a metre above water level. *S. platyphylla* has strap-like leaves with a lance-shaped bit at the end, while *S. montevidensis* has arrowhead-shaped leaves. The flowers are produced in summer and are about 3 cm across, with three white petals and a bright yellow centre. The flowering stalk is triangular. However, there are a couple of native plants with which Sagittaria can be confused, so, if you spot a possible infestation, contact

Sandy Lloyd, Weed Science Group, AgWA, South Perth,
ph (08) 9368 3760

Sagittaria
Illustration by Helen Alston from 'Aquatic Plants of Australia', Melb. Uni. Press, 1973.

for inspection by an expert.
John Tapley, AgWA
(08) 9366 2300,
would be interested in this or other Declared waterplants, such as Water Hyacinth or Salvinia. AgWA also has free colour brochures which provide more detail about the plant.

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number of logs and stumps have been provided in different locations to catch the sun and shade at various times of the day. Our cats are brought inside to be fed and stay there most of the time but instead of allowing them to roam free outside they are locked safely away. The initial response from many people has been one of horror when they learn of our incarcerated cats but after a very short time our moggies have settled into their new home and seem quite well adjusted to it.

So now we are able to enjoy our beautiful birds and be confident that they will not come to any harm from our feline friends. The only negative aspect of this exercise has been an initial increase in mice and for a short time they almost over ran the place until we baited for them with anti-coagulants.

If you would like more details of the design please ring me.

David Lamont is the Executive Officer of the Roadside Conservation Committee, where he can be contacted on (08) 9334 0423. He also grows wildflowers commercially at Pipidinny Homestead, (08) 9407 5186

References

Anon 1992 Protect your cat protect your wildlife. Department of Conservation & Environment, Victoria

Martin, G. R., Twigg, L. E., and Robinson, D.J. 1996. Comparison of the Diet of Feral cats from Rural and Pastoral Western Australia. Wildlife Research 23; pp. 475 - 84.

Cartoons by John Alison Dept of Conservation and Environment, Victoria 1992.

A novel method of Watsonia control!

This grey kangaroo was photographed near the WA Naturalists' Club's Field Study Centre on Culeenup Island, Yunderup. It was eating the Watsonia flowers, perhaps for the sweet-tasting nectar. Removing the flowers is a good technique to limit weed spread - the problem is, there are too many Watsonias and not enough roos!

(For more about Yunderup, see article on p14)

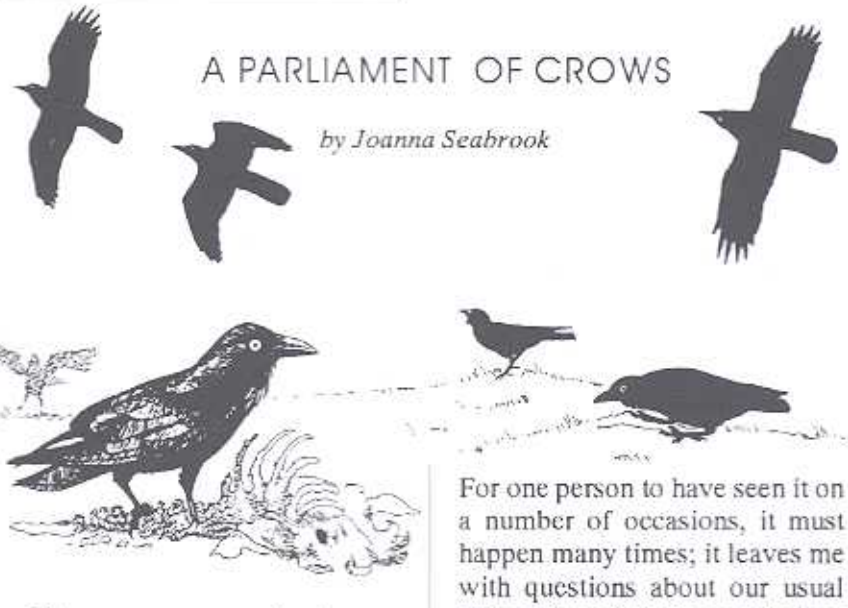
Horses and bushcare

The Equestrian Landcare Association has produced a leaflet outlining a Code of Practice for Bush Trail Horse Riding. It is an excellent little leaflet, and a very practical Code. As a bush horse rider myself, I commend it to all others who wish to enjoy the bush from horseback, without causing damage. Obtainable from Agriculture WA offices.

The Horse Riders Creed
When I ride out of the bush
I will leave only hoofprints
and take only memories.

Penny Hussey

IN BRIEF



A PARLIAMENT OF CROWS

by Joanna Seabrook

They are ravens really, but on the farms we still call them crows.

On our farm, out past York, there is a paddock called the Racecourse, so called because in very early days a race meeting or two was held there. It is a graceful paddock with groups of trees in two of its corners, measuring about 150 or so acres, with a rise towards the back and centre, so from the farm angle it presents an open picture.

In my life of 23 years on the farm an extraordinary phenomenon has occurred at least twice, perhaps three times, and always in the same place, the Racecourse paddock.

A gathering or convocation of hundreds and hundreds of crows. They must come from near and far and they talk in crow and talk and talk. Sometimes they fly about, not away, just there and land again, still calling and talking loudly and continuously. Sometimes groups will fly together, wheeling and circling in a great spiral high into the sky and come down to join in the discussion again. It is impossible to think of it as anything else but a discussion.

They will stay two or three days and then leave, not as a body but gradually, until only the usual residents are left.

I have observed this curious occurrence enough times to understand it is a real happening. For one person to have seen it on a number of occasions, it must happen many times; it leaves me with questions about our usual perception of birds as mindless creatures who live by innate motivations. I have even, once, seen it happen in Helena Valley, just west of Scott Street.

These birds are often seen in pairs and sometimes in groups of three to five, very seldom any more at one time. Other people's experiences would be welcome.

I do not think the importance of crows and ravens can be overstated. They will eat dead things, clean up after lambing, deal with grasshoppers and other ground dwelling pests. One wonders what plagues would attack us if these birds became scarce. It would be good to see some scientific work take place to lead to understanding of their place in our farm ecology and the consequences of a lessening in their population.

Joanna Seabrook is a noted rural conservationist, currently on the Board of Greening Western Australia and a Trustee of the Gordon Reid Foundation for Conservation - among other things. She can be contacted on: (08) 9299 6816.

Has anybody else noticed this? Please let us know so that we can pass on the information to an Honours student just starting a study of ravens. - Ed

FAUNA

FINDING OUT ABOUT YOUR LOCAL MAMMALS

Tips from the Wellstead experience

THE Wellstead community wished to find out what mammals occurred in their area, and because many of our native mammals are nocturnal and secretive, it meant they needed to set up a trapping programme. (Mammal survey traps are designed to catch the animal without any physical hurt, so that it can be released unharmed.) A grant from the Save the Bush section of the National Landcare Program was obtained, which enabled them to buy traps and materials (including gallons of peanut butter!) and to fund a professional biologist to train volunteers and oversee the work.

The aim was to provide an opportunity for local people to become familiar with some of the elusive bush-dwelling native mammals that resided in the remnant vegetation and discover information about their habits and needs.

The project was very successful. 21 families took part in the survey, which involved attending training days, then installing and monitoring traps in suitable remnant vegetation, usually on their own properties. Many different animals were recorded, and a tremendous amount of information gathered. People also discovered that a mammal survey is immensely interesting - and great fun!

If you are interested in finding out what is in your area by organising a mammal trapping programme, there are a number of things you will have to consider.

- Firstly, you need a local person ready to put in the time to act as coordinator of the project (grant monies may be able to help with telephone costs and mileage, but time would be donated).
- To make it worth while, a substantial number of local families must be ready to nominate a trapping site and donate the time needed to install and monitor the traps.
- To comply with animal handling regulations, the whole project must be under the supervision of a professional biologist - possibly a locally-based consultant (grant monies can meet the costs of this person's time).

People looking at the display at the official launch of the book 'Mammals of the Wellstead District'.

Grey Bellied Dunnart
An illustration from 'Mammals of the Wellstead District'.

- A licence is required from CALM to trap or otherwise capture any protected native fauna
- CALM may be able to help by providing experts to train local people in trapping and animal handling techniques.

Ring me if you'd like to discuss this idea further. (08) 9334 0530.

Penny Hussey

RESEARCH

SALINITY ACTION PLAN - BIOLOGICAL SURVEY OF THE AGRICULTURAL ZONE

by Greg Keighery

A major study just starting will increase our knowledge of wheatbelt flora and fauna. Would you like to know what's happening in your area? Or be involved yourself? Perhaps you have a piece of bushland that might qualify for a survey? Register your interest now!

OVER the next three/four years, the Community Conservation Section of CALM's Science Division will be co-ordinating and undertaking a major site-based survey of the wheatbelt as part of the Salinity Action Plan. The major aim of the survey is to identify a series of recovery catchments for the conservation of bio-diversity, establish long term monitoring sites and to obtain a regional overview of the flora and fauna of the wheatbelt. As well, species of plants will be carefully documented as to their ecological preferences (eg: waterlogging and/or salinity tolerance) and this information will be made available widely via a carrier such as the REX Database.

Plants and animals (mammals, birds, frogs, reptiles, various invertebrates - spiders, scorpions, centipedes and millipedes) will be inventoried at several hundred terrestial sites spread across the wheatbelt, with a bias towards areas low in the landscape, that are most likely to be affected by hydrological and salinity changes. There will also be a survey of aquatic plants, birds, frogs and invertebrates. A monitoring program for wetlands is also being established, covering rivers, fresh and naturally saline lakes and wetlands.

The program has started with extensive aquatic and flora studies being undertaken on the Lake Muir - Unicup Wetlands, a nominated recovery catchment. By the end of June we will have obtained a known flora and fauna list for the wheatbelt from existing studies and Museum and Herbarium records. A bibliography of previous site-based studies (either quadrats, sites, bush blocks or reserve) is being compiled. The first season's sampling sites will be in the central wheatbelt and selected in July. Sampling will start there in spring 1997.

Most of these sites - there will be over 1,000 in total - will be on public lands. However, they will occur throughout the wheatbelt and the results should be of interest to any landholder in the area. If people have any queries at this early stage I can be contacted on (08) 9405 5100.

Greg Keighery is a Senior Research Scientist at the Wildlife Research Centre, Woodvale, specialising in plant ecology and distribution.

The sort of site likely to be surveyed, carrying Salmon Gum woodland.

RESEARCH

FITZGERALD BIOSPHERE RESERVE - REMNANT VEGETATION PROJECT

by Chris Robinson

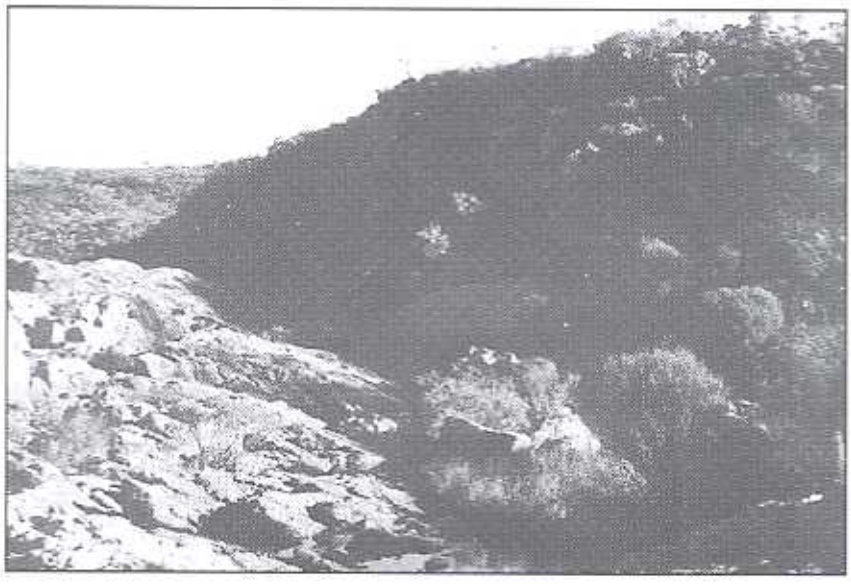
Do you live near The Fitz?
Do you know about this project?

THE Fitzgerald Biosphere Reserve is one of a network of reserves around the globe, established under UNESCO's Man and the Biosphere Program to conserve the world's biodiversity in balance or harmony with expanding human populations and increasing consumption of resources. A Biosphere Reserve should be a working example of how human activity (such as farming) and nature conservation can continue indefinitely in a sustainable manner.

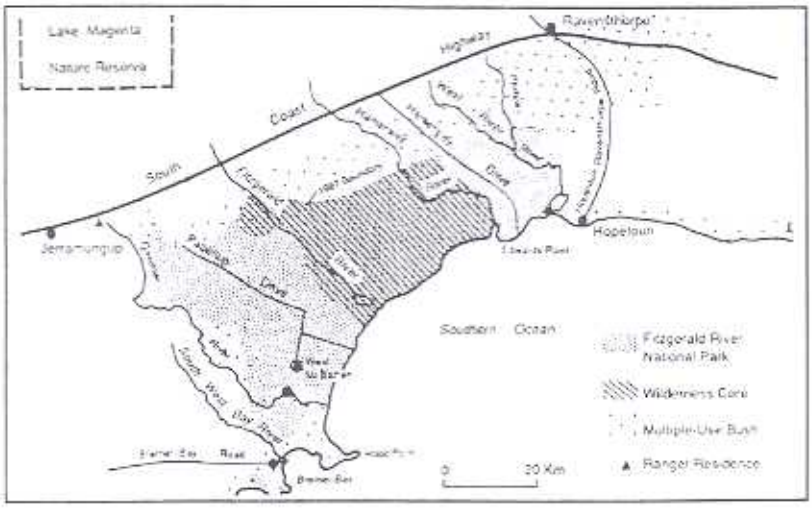
Ideally, in a Biosphere Reserve, farming should be in equilibrium with the basic resource (the land) and should not have any impact upon the core. (See map) However, the reality is that within the Fitzgerald Biosphere zone of cooperation, land degradation through rising watertables, salinity, erosion and nutrient runoff is increasing. The aim of this project is to attempt (in the zone of cooperation) through preservation of existing remnant vegetation and strategic revegetation, to halt the current decline of the land to achieve a sustainable balance and to promote biodiversity.

In the initial phase of this project we are identifying strategically important areas and types of vegetation to be prioritised for protection. Communities, such as yate swamps, which have not yet declined due to excessive flooding or salinity, will be identified and protected through planning a combination of fencing existing vegetation and planting to reduce or minimise recharge.

Bush corridors are also a priority. Existing corridors will be identified and protection promoted through fencing schemes. Opportunities to join smaller remnants with revegetation to form significant stepping stones to large reserves or to expand corridors will also be sought.



Remnant vegetation north of the Fitzgerald.



Although fencing existing remnants is the most immediate priority, revegetation will be the most important long-term means of achieving sustainable agriculture and protecting biodiversity in the zone of cooperation. Without strategic planting of broad areas, regional watertables will continue to rise, killing vegetation in its path and rendering farmland useless.

Landholders will be assisted in planning where to site revegetation. They will be especially encouraged to use species that are local and hence adapted to local conditions and will provide habitat for populations of local wildlife. Thus protection of biodiversity and agriculture will be compatible and achieved simultaneously. Direct seeding may be the most cost-efficient means of broadscale revegetation. Expert advice will be available on farm for collection, extraction and identification of local seed and the various techniques for sowing.

This project is part of the South Coast Regional Initiative Program.

Enquiries: Chris Robinson, CALM, Albany (08) 9842 4525. Chris is a contract botanist based in Albany.

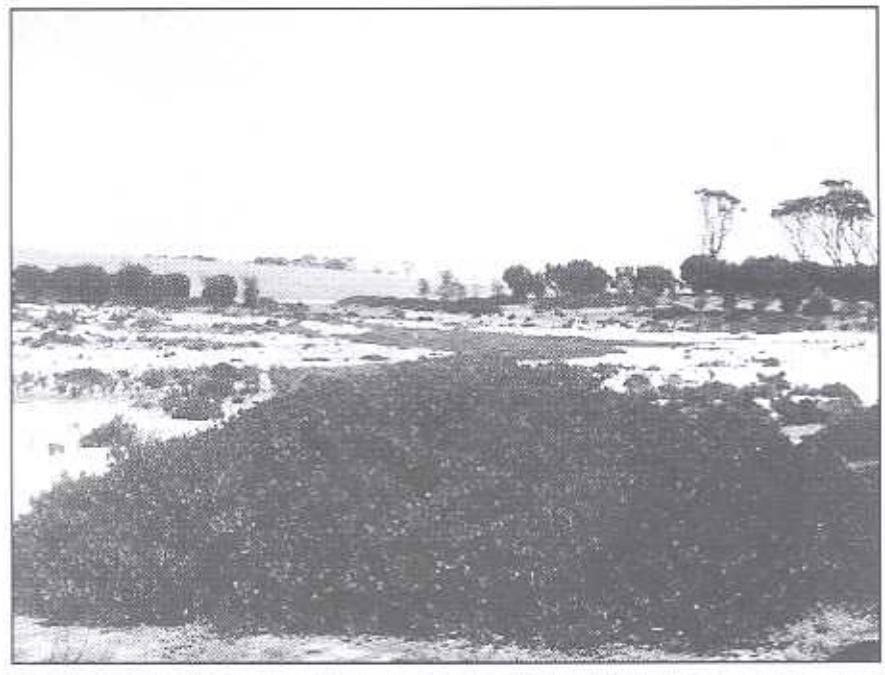
PRACTICALITIES

HABITAT RECONSTRUCTION

IF you are considering saltland rehabilitation in the South Coast region or the Southern Wheatbelt (roughly, Manypeaks - Katanning - Esperance), you might like to consider including *Acacia redolens*.

Found naturally in the Ravensthorpe area, it forms a dense, spreading, dome-shaped shrub, attractive and sweet-smelling when in flower. It prefers heavier soils, and will do well from the barley grass line upwards.

Its dense growth habit supresses weeds, and both flowers and seeds will be useful to native fauna, however, it is as a nesting site that it may have its greatest value. Kingsley Vaux of Ongerup has noted that, by 5 years after planting, Blue Wrens were nesting sucessfully in the bushes.



Acacia redolens at Gnowangerup LCDC saline land rehabilitation demonstration site, planted 1986.

BUSH DETECTIVE

SCATS - or, who's pooed here?

Animals can be identified by their droppings (called scats) which are a characteristic shape and consistency. Remains within each scat can indicate what the animal ate (eg the hard bits of termites within an echidna scat) and the number of droppings can give an idea of how many animals are around. The drawings below are taken from 'Mammals of the Wellstead District' - see 'New Books'.

Are any of them in your area?

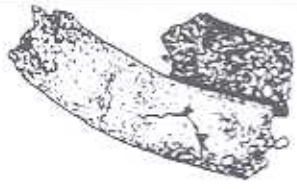
Rabbit

Western Grey Kangaroo

Quokka

Brush-tailed Possum

Chuditch



Echidna

Western Brush Wallaby

Southern Brown Bandicoot

Gould's Wattled Bat

House Mouse

ABOUT GROUPS

ESCAPE TO AN ISLAND?

by Otto Mueller

LOOKING for somewhere to get a bit of peace and solitude, do a bit of fishing, a bit of birdwatching? The WA Naturalists' Club's Yunderup Nature Observatory is just the place!

There are not many rivers in Western Australia that form a sizeable delta at their mouth, but the Serpentine and the Murray are the exception. Together they create a unique landscape at Yunderup, on the Peel-Harvey Inlet, south-east of Mandurah. The eastern end of the Inlet is a real delta made up of islands and channels created by the rivers over hundreds of years. The process is a natural one and continues all the time. There are seven islands, some occupied permanently or as holiday homes, others retain their pristine character.

At 7 ha, Culeenup Island is one of the largest. It is delineated by two channels, North Wargooloop and South Jeegarnyeejip and the Murray River itself. It is roughly east-west oriented, just over 2 km long and about 500 m wide at its broadest.

In 1970, the WA Naturalists' Club was granted some land at the western extremity of the 'built-up' area, as a site for a field study centre, to act as a focus for study of the exceptionally rich natural environment. Through the voluntary efforts of many Club members, a building was erected on site in 1984/5. It sits on stilts above the floodplain, and from the verandah there are

excellent views of the abundant bird life.

The building has a large main room including a kitchen with all the essentials. There are also three bedrooms, a bathroom, two toilets, a study and a laundry. There are four bunk beds in each bedroom, thus 12 people could be accommodated on any one night.

The island's vegetation consists of open woodland and scrubland on sandy soils, plus saline and freshwater wetlands. It has a very rich flora, including 23 different orchids. Flora and fauna identification books, lists of plants and birds and a field herbarium are available to help you identify what you see. The area is a RAMSAR wetland and is a paradise for birds, especially water birds which roost or nest along the channels, or feed on the mud-banks in the Inlet, but there are also many bush birds such as Splendid Fairy-wrens. In winter, you will need rubber boots to explore properly!

Apart from observing the wildlife, what else is there to do? Well, you can bushwalk to Cooper's Mill at the end of the island; you can swim or fish off the Club's jetty; you can use your boat to explore the delta, the rivers and the Inlet; or you could just sit and laze away in the peace and quiet of this serene and beautiful place.

There are two public boatramps (see map), the trip to the Nature Observatory takes 10 mins. Those who haven't got your own boat or canoe, may use the Club's boat, which is trailerparked at North Yunderup. You will need to take your own food, sleeping bag, etc.

And the cost? - just $16 (adult) and $11 (child) per weekend - best value in WA! Other charges apply for different lengths of stay. For bookings and further details ring Otto Mueller on (08) 9341 7762.

Think about it and have a break on an island!

AUSTRALIAN TRUST FOR CONSERVATION VOLUNTEERS -

Practical Support for Wildlife Conservation

ARE you looking for support for 'on the ground' nature conservation projects? Do you find that you or your group is limited by time, labour and resources? If so, the Australian Trust for Conservation Volunteers (ATCV) may be able to help you.

What is ATCV?

ATCV is a national, non profit, non political community organisation which provides assistance to landholders for conservation projects. Our mission statement is:

'To attract and manage a force of volunteers in practical conservation projects for the betterment of the Australian environment'.

Now operating in all States and major Territories, ATCV has proved to be a valuable asset to many landholders since its inception in Victoria in 1982. Over 1000 projects are completed annually throughout the country.

What does ATCV provide?

ATCV can assist the 'on the ground' components of your project by providing a team of 6-10 volunteers under the supervision of

continued on page 15

FUNDING

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.

Still some funds available for small grants in 1997,

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: (08) 9322 1850

COMING EVENTS

▶ STATE LANDCARE CONFERENCE
Geraldton, 1-3 Sept 1997

Don't forget this!
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.

Contact: Jane Keefe,
Mullewa Agriculture and Landcare Centre,
Mullewa, WA 6630.
Phone: (08) 9961 1388, fax (08) 9961 1412.

▶ 'SPRING FLING'
14 Sept
Wildflower Society of WA's expo and family day at Perry House, 71 Oceanic Drive, Floreat.
For more information ring (08) 9383 7979

▶ KINGS PARK WILDFLOWER EXHIBITION
20 - 29th October
WA's premier wildflower display

▶ ONGERUP WILDFLOWER SHOW
Sept 15 to end of month.

continued from page 14

an experienced team leader. The types of projects commonly undertaken include revegetation, seed collecting, biological surveys, weed removal and fencing of remnant vegetation. We supply a team leader, transport to and from the work site, food for volunteers, first aid expertise and basic tools.
What do you provide?

You as the land manager are responsible for providing project planning and preparation, materials and accommodation for the team. Often shearers' quarters or community halls are a good option. A contribution towards the ATCV vehicle and administration costs is also required, the standard cost being $330 per day plus 40c per km mileage. This fee is reducible for farmers and catchment groups.

Successful ATCV projects

Since 1994 our volunteers have successfully completed a wide variety of nature conservation projects in WA, at locations ranging from Esperance to the Pilbara. Examples include:

- the construction of 21 km of fence for malleefowl wildlife corridors at Ongerup
- the planting of 30,000 trees on farms at Bindi Bindi, East Pingelly and Gairdner
- river foreshore surveys, involving the assessment of vegetation and land use characteristics, along the Buanyanyup River in the Busselton district.

ATCV and Land for Wildlife

ATCV can contribute to making nature conservation projects a success by bolstering the scarce resources of catchment groups and individual landholders. By involving volunteers from a wide range of backgrounds, the Trust facilitates linkages between urban and rural communities. ATCV believes that empowering members of the community to achieve 'on the ground' results is an ideal way to raise public awareness about the importance of conserving our natural heritage.

For additional details about how ATCV can support the efforts of you or your group, contact Dan Huxtable or Sandra Maley, ATCV,
PO Box 1092, South Perth, WA 6951.
Phone (08) 9474 3445
Fax (08) 9368 2160.

NEW BOOKS

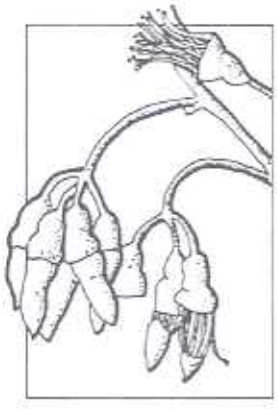
MAMMALS OF THE WELLSTEAD DISTRICT

compiled by Pattie Leighton
Wellstead LCDC. 1997.

This is a delightful little book that reports the results of the Wellstead Mammal Survey project. Totally written and illustrated by local community members, it provides descriptions, colour photographs and delightful black and white illustrations of the 25 land mammals and 6 marine mammals that either still occur in the region, or have been observed there within recent memory.
This book is a wonderful record of people's concern for, and delight in, their local native animals. It is full of interesting anecdotes, such as a pygmy possum found inspecting curtains in the lounge room! If you live on the South Coast or in the lower Great Southern - or if you just like native fauna - this book will be of great interest to you.

Obtainable from: Pattie Leighton, Wellstead LCDC, c/- PO Wellstead, WA 6328. Cost $12 + $3 postage.

(Incidentally, this is the FOURTH such survey and booklet the group has produced. The others, all of an equally high standard, are: Birds, Eucalypts, and Banksias.)



Flat Topped Yate or Swamp Yate (Eucalyptus occidentalis) An illustration from 'Eucalypts of the Wellstead District'.

BROOME AND BEYOND: PLANTS AND PEOPLE OF THE DAMPIER PENINSULA, KIMBERLEY, WESTERN AUSTRALIA

K.F. Kenneally, D.C. Edinger and T. Willing.
CALM. 1996

A magnificent book which describes and illustrates over 700 of the plants found around Broome. A feature is the information on aboriginal use of the flora.

Obtainable from: CALM for $39.95 + $10 postage.

A GUIDE TO EMERGENT WETLAND PLANTS OF SOUTH-WESTERN AUSTRALIA

J.M. Chambers, N.L. Fletcher and A.J. McComb.
Murdoch University, 1995.

Are you interested in maintaining and managing a wetland in the wetter south-west of WA? If so, you will know how difficult it is to identify the reeds and rushes which grow in these areas. This book provides detailed information on 15 species which emerge from the water to form reed-beds. Not only does it give identification and habitat details, but it describes the best method of propagation to enable wetland rehabilitation. My main concern is that it doesn't describe enough species!

Obtainable from: Environmental Science, Murdoch University, for $25 (includes postage).

THE SPECIAL EUCALYPTS OF PERTH AND THE SOUTH-WEST

Malcolm E. French and Dean Nicole
F&N Eucalypt Publications, Perth. 1997

Want to be sure of what tree you are looking at - in the bush, in reveg, or just in amenity plantings? Need some help to identify, or make up your mind what to plant? This magnificently illustrated book is for you! It describes 105 Eucalypts native to, or commonly planted in, the higher rainfall area of south-west WA, from Moora to Albany, roughly west of the Albany Highway. Anyone living in this area (or anywhere else for that matter!) who is interested in trees will find this book a delight.

Obtainable from: M. E. French,
ph (08) 9447 9376;
fax (08) 9447 9376, for $25.

Discounts for members of Landcare Groups and bulk orders.

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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