



SHAPE MATTERS TOO!

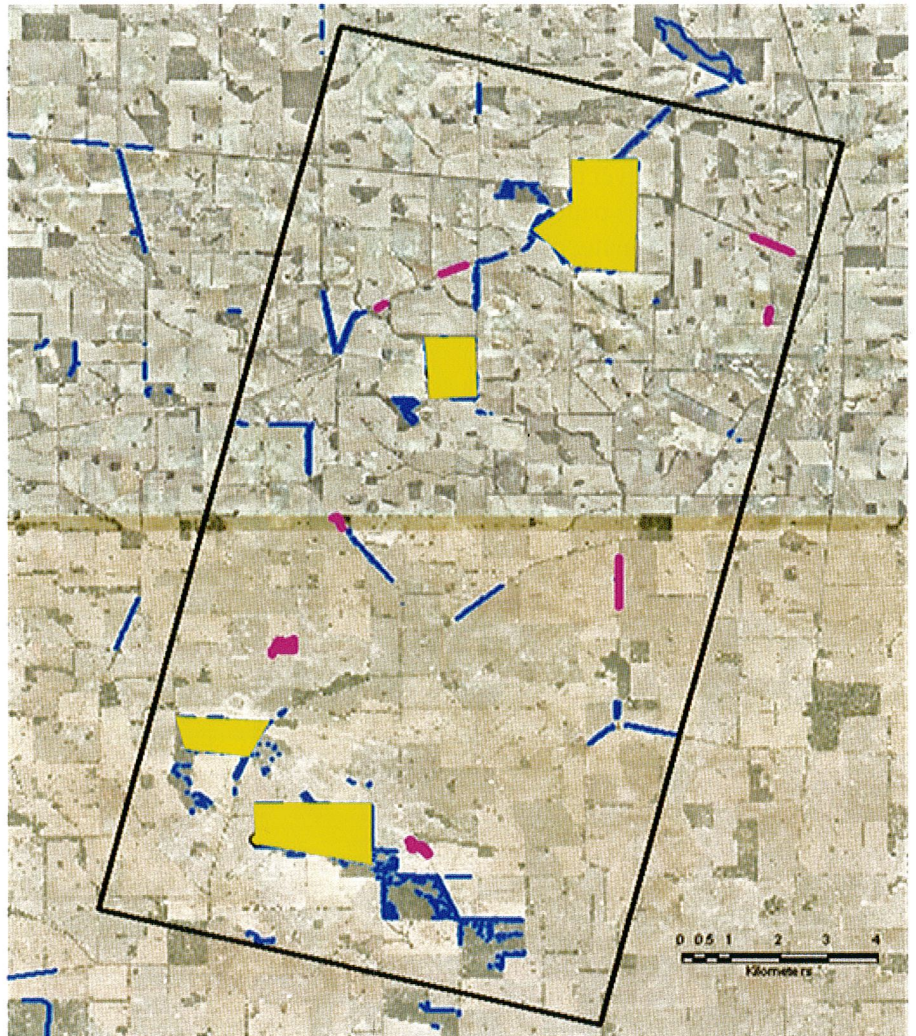
Tanya Llorens

In many areas of Western Australia, our native vegetation is confined to a scattering of bush remnants that are vital in maintaining regional biodiversity and providing important ecosystem services. However, all native vegetation remnants were not created equal – they vary greatly in their physical characteristics, which can affect the way the local ecosystem functions and ultimately the long-term viability of the remnant's native plant and animal populations.

It is fairly well known that small populations are usually less viable than large ones, and that more isolated populations often fare worse than those that have better connections to other populations. These principles of size and connectedness are widely used in conservation management and in the design of conservation reserves.

Yet little is known about how remnant shape might influence population function and viability. This is particularly pertinent in many agricultural landscapes, where the most common remnant shape is often the linear strip along roadsides, railways or fence-lines.

A recent study by scientists from the Department of Parks and Wildlife (DPaW) provides some valuable insights into the effect of population shape as a significant aspect of habitat fragmentation. The study of the common bird-pollinated shrub *Banksia sphaerocarpa* var. *caesia* investigated 12 remnant populations in the Harrismith area of the southern wheatbelt that varied in size, isolation,



Map of the 10km x 20km study area. Yellow: large populations; pink: small populations (including six linear populations); blue: *Banksia sphaerocarpa* occurrence. Image: DPaW.

shape and plant density, to determine the effects on patterns of plant mating (measured using genetic analysis of seeds), production of inflorescences (flower clusters) and cones, on the fitness of seeds and seedlings.

The results were quite surprising. While all four variables were strongly related to different aspects of plant

mating, only remnant shape could explain the variation in inflorescence and cone production and the fitness of seeds and seedlings.

In linear remnants, plants were much larger and produced many more inflorescences and cones. This is most likely due to increased water and

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Greetings!

If you are planning any revegetation this year, and intending to collect local seeds to grow on, then do read Tanya Llorens' article very carefully. The conclusion it reaches was quite unexpected – to me anyway. As a long-term advocate for the preservation of road verges, I found it a bit worrying. It just shows how incredibly complicated the ecosystem is.

Last year was officially declared Australia's hottest-ever year, and 2014 started as though it intended to break that record. Whatever the cause of the changing weather patterns, it would appear that climate change is altering the world we live in, and faster than was predicted. This emphasises the importance of long-term records that can help document that change. Denis Saunders' article on page four illustrates that point with the bird records from two properties in the northern wheatbelt.

So, all you Citizen Scientists out there, have you got your cameras and notebooks at the ready? A good photo of an interesting happening

can provide new information to contribute to our knowledge of natural history, even if it seems only a small part of the jigsaw, it all builds

up into the bigger picture – see Barb and Gus King's story on page nine.

Please note, **the departmental website has been updated.** For queries about *LFW* or to join *LFW* online, please use the following: www.dpaw.wa.gov.au/management/off-reserve-conservation/land-for-wildlife

Penny Hussey

PLEASE NOTE: If you change your postal address, phone number or email, please let *LFW* know.

Congratulations!

Cherie Kemp, *LFWO* at Busselton, will graduate with a Masters in Regional Planning and Development from UWA in April. Great news – all that study and full time work too! So now you know who to go to if you want any planning issues explained!

Cherie received a scholarship from DEC (now DPaW) to assist with the costs involved in this study, and here she is being congratulated by the



Minister for Environment, Albert Jacob (right) and the A/Director General of DEC/DPaW, Jim Sharp, on the left.

Photo: DEC/DPaW

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USE OF ARTICLES FROM WESTERN WILDLIFE

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Shape matters too

nutrient runoff (e.g. from roads and paddocks) available to plants in linear remnants – a consequence of the much higher ‘edge to area ratio’ in linear remnants. But unexpectedly, these large and productive plants produced seeds that were much smaller, had poorer germination success, and produced smaller seedlings with poorer survival rates, when compared to the smaller, less productive adult plants found in non-linear remnants. Furthermore, even among linear remnants this effect became greater as the degree of linearity increased (as the ratio between remnant length and width increased).

Further investigation revealed that the cause of the poor seed and seedling performance may be reduced paternal diversity – significantly fewer fathers were found contributing to seed crops in linear populations compared with non-linear populations, regardless of the size of the population. (Similar relationships between the paternal diversity of seed crops and the fitness of seeds and seedlings have recently been found in other plants, but the mechanism is not well understood.) How could a linear population shape reduce the number of fathers contributing to a plant’s seed crop? In linear populations, plants have fewer near neighbours to mate with (because local mates are spread out along a narrow strip), and pollinators are forced to forage for nectar in one direction, so pollen transfer among plants is far from random. Also, much larger plants with many more inflorescences would encourage pollinators to make fewer foraging movements among plants than in non-linear populations.

So, what does this mean for native vegetation remnants? Firstly, linear populations are at greater risk of detrimental changes to their mating system, and reduced seed and seedling fitness will probably lead to poorer population viability over time. Increasing the width of the most valuable linear remnants may increase the long-term viability of their plant populations (and the animals that depend on them).

For anyone sourcing seeds for restoration work, linear and edge-dominated remnants should be avoided if possible – the abnormally large and productive plants found in these types of remnants do not necessarily produce the fittest seeds!

Finally, this research is relevant to anyone creating restoration or revegetation plots, or connectivity corridors – linear or edge dominated geometries should be avoided in order to maximize long-term viability.

The department sincerely thanks landowners in the Harrismith area for their enthusiastic assistance in accessing remnant bushland on their properties for this study.



Top: a linear roadside remnant containing *Banksia sphaerocarpa*.
Centre: old and new inflorescences of *Banksia sphaerocarpa*.
Bottom: *Banksia sphaerocarpa* seedling growth experiment.
Photos: Tanya Llorens

Tanya Llorens is a research scientist at Parks and Wildlife, Kensington. She can be contacted on: tanya.llorens@dpaw.wa.gov.au

WHAT IS THE VALUE OF LONG-TERM DATASETS OF BIRD PRESENCE?

Denis A. Saunders

In 1987, John Ingram and I started a project to map the distribution of birds throughout the wheatbelt of Western Australia. This project involved 187 observers collecting data on which species of bird occurred on their property each week from 1987 to 1990. The data were presence data only; that is, one individual of one species seen once during the recording week was the equivalent of one hundred individuals of another species seen every day of the recording week (Figure 1).

The data collected by the observers were compared with earlier published lists of birds from the wheatbelt to examine changes in the distribution and abundance of the avifauna of the wheatbelt. The study revealed that 195 species of bird (excluding vagrants) had been recorded from the region since settlement by Europeans. Of these species, 49% had declined in range and/or abundance, 17% had increased and no change could be demonstrated for the remainder. The results were published in *Birds of Southwestern Australia: an Atlas of Changes in the Distribution and Abundance of the Wheatbelt Avifauna* by Surrey Beatty & Sons.

When we finished the project several people found that the data were interesting to them and continued collecting this information. I was no longer involved, although some did send me the data for several years after the project finished. However, to the best of my knowledge nothing was done with it.

In 2011, Nan Broad contacted me to ask what she should do with a set of data on birds collected by Tony McAleer, her late husband. The data were collected from Tony's property *Woopenatty* during the CSIRO atlas project and he continued collecting

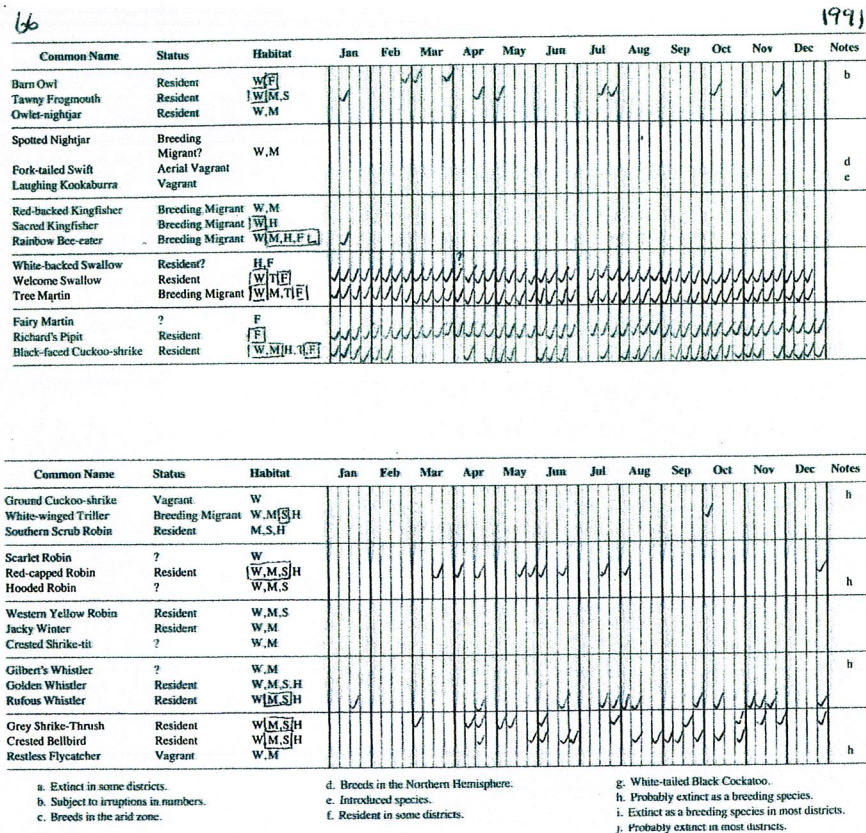


Figure 1: Example of the data collected on Koobabbie and Woopenatty, in this case they are from Koobabbie.

data in the same manner until the end of 2002. *Woopenatty*, located in the Midlands between Arrino and Yandanooka, was 7293ha situated on the headwaters of three major drainage lines and retained about 29% of the original native vegetation. With Nan's permission I transcribed the data electronically, analysed them and published the results in a paper: *The conservation value of private property; a case study of the birds of Woopenatty, Arrino, in the northern wheatbelt of Western Australia, 1987 – 2002* in the journal *Pacific Conservation Biology* in 2012.

As this paper was being published I discovered that Alison and John Doley, who also took part in the CSIRO bird atlas, had continued collecting data from 1990 on their 7123ha property *Koobabbie* at Waddy Forest, 80km southeast of

Woopenatty. This long-term data set was also transcribed electronically, analysed and Alison and I produced a paper: *The birds of "Koobabbie" in the northern wheatbelt of Western Australia (1987-2011) and the contribution of the farm to conservation of the region's avifauna* which is being published in *Pacific Conservation Biology* later this year.

Both the data from *Woopenatty* and *Koobabbie* are accessible to any interested parties via the Pacific Conservation Biology website at http://pcb.murdoch.edu.au/supp_material.html Both properties were in the region covered by the Northern Agricultural Catchments Council (NACC).

The bird communities of both properties were compared with records collated from 14 published bird lists within the NACC region and

the Wongan Hills from 1903 to 1979 and with data from the same areas collected during the two bird atlases conducted by Royal Australasian Ornithologists Union (1977-81) and Birds Australia (1988-2002). A total of 133 species was recorded on *Woopennatty* between 1987 and 2002. This total was made up of 52 species of resident, 16 species of regular visitor, 15 species of irregular visitor and 50 vagrant species. One hundred and thirty-one species of bird were recorded on *Koobabbie* between 1987 and 2011; 55 species of resident, seven species of regular visitor, 14 species of irregular visitor and 55 vagrant species. On *Koobabbie* 15 species declined, with one species being extirpated and two species increased. Two species increased until early this century and then declined.

Woopennatty and *Koobabbie* are located near the centre of the NACC region. Of 93 species of bird recorded on seven or more of the published bird lists (1903-1979) mentioned above (i.e., the species were widespread in the region) 88% of the species were recorded on *Koobabbie*. When the *Koobabbie* results are combined with those from *Woopennatty*, 99% of those species occurred on those two properties. One thing that is apparent from these data is that with this high representation of the avifauna of the NACC region on these two properties, it makes both important regional conservation areas.

The datasets from both properties show the importance of having long term bird monitoring sites in order to assess change over time and provide information useful for management. Presence only data can be useful in comparing recording rates (i.e., the percentage of the year's recording weeks a species was recorded) over time. For example, over the 25 years at *Koobabbie*, the Emu (*Dromaius novaehollandiae*) declined markedly (Figure 2) while the Regent Parrot (*Polytelis anthopeplus*) increased (Figure 3). Continuous monitoring,

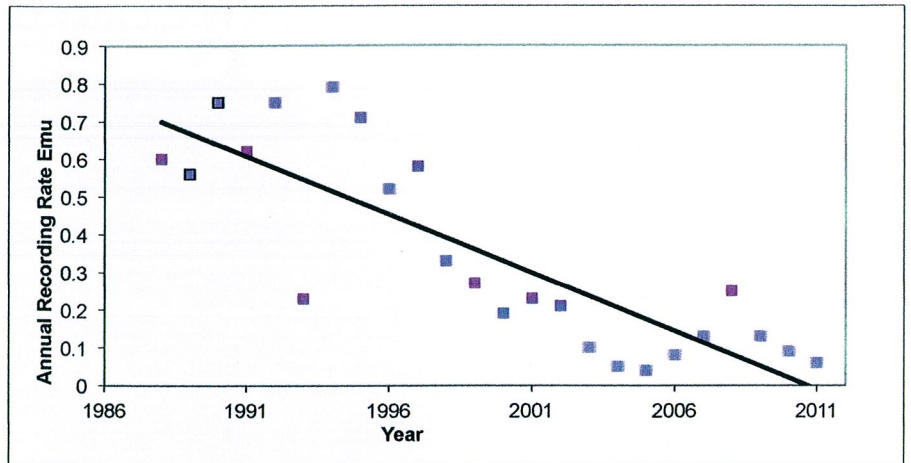


Figure 2: Annual recording rates for Emu on Koobabbie showing the decline in the species over the 25 years of data collection.

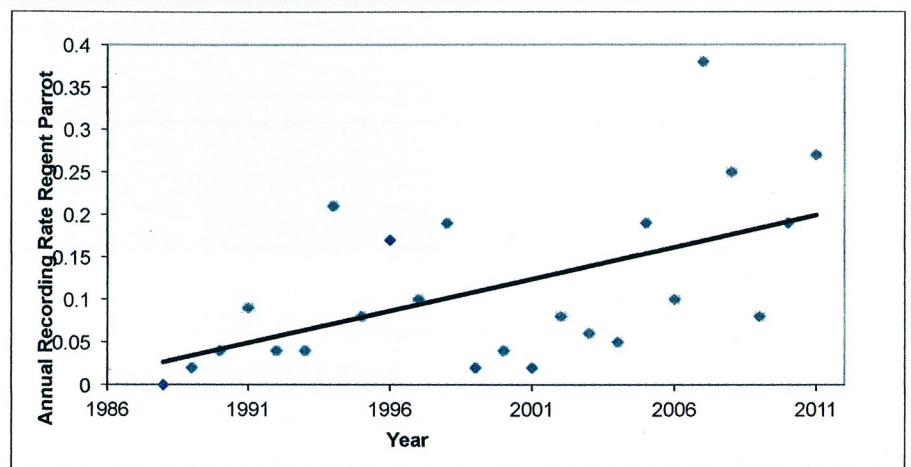


Figure 3: Annual recording rates for Regent Parrot on Koobabbie showing the increase in the species over the 25 years of data collection.

which was done on both properties for 16 and 25 years, revealed patterns of change which may not have been shown by monitoring at intervals, as for example with the two national bird atlases (1977-81 and 1997-2002). Site based monitoring may show that changes in one species in one area, may not be occurring on another area in the same region. For example, 15 species declined at *Koobabbie* over the 25 years, but none of these declined on *Woopennatty*. As an illustration of this point, the Australian Hobby (*Falco longipennis*) declined at *Koobabbie*, but at *Woopennatty* between 1987 and 1993 it increased five-fold and then declined five-fold by 2002.

The results from these two properties illustrate the importance of collecting long term data to assess

changes in the avifauna over time and of assessing the significance of remnant native vegetation on private property for conservation. Such data need to be collected, analysed and published at intervals in order to make them available for use by others. There is a need to set up a network of such monitoring sites over much of Australia in order to provide information for management of natural resources. We already have a superb model for such a network in the weather stations set up by the Bureau of Meteorology. Data collected by a wide range of individuals and organisations covering Australia are collated and analysed by the Bureau for others to use.

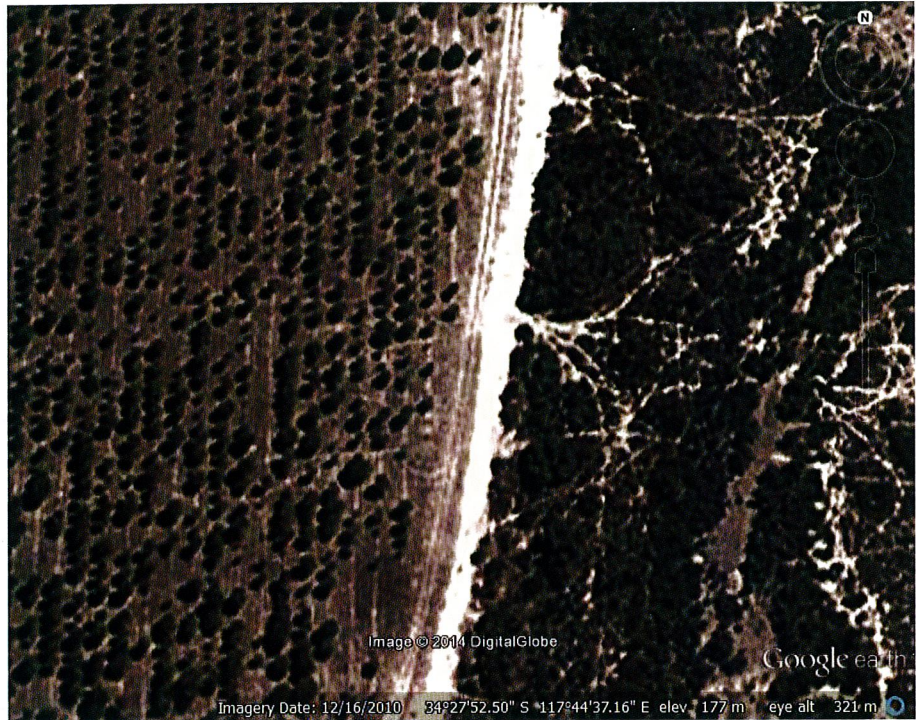
For further information contact Denis Saunders at: denis.saunders@csiro.au

INSTALLING A WALLABY GATE

Early in December Basil Schur of Greenskills organised a Wallaby Gate Field Day near the Stirling Range. Mark Waud (Oyster Harbour Catchment Group) outlined the observations that prompted the development of the gate, along with plans to make it and photographs of the gate in use.

Angela Sanders spoke on the possible use of Google Earth to help plan the best location for wallaby gates; as Basil said, this is “Quite exciting. I have checked out Google Earth and it is a very useful tool to determine the tracks made by the roos/wallabies as they cross the border between the Stirling Range and adjacent properties.”

The image shows a section along the property which demonstrates the value of Google Earth to pinpoint where the animals are crossing the fence. Well-used crossing points are



possibly the most suitable sites for wallaby gates.

Mark's excellent paper is available

as a PDF on request from *Land for Wildlife*.

Dorothy Redreau

The importance to biodiversity of gardens in the UK

For the first time in recorded human history, over half of the global human population lives in urban areas, and the proportion is much higher in developed countries. If wildlife is to survive in an increasingly urbanised world, individual gardens will become increasingly important. A study in the UK looked at the role of gardens in providing resources for wildlife*. It estimated that 87% of households had access to a garden, and 48% of these provided supplementary food for birds, two-thirds of these specifically use bird feeders – which equates to one bird feeder for every nine potentially feeder-using birds in the UK. Many households also maintain nest boxes, such that there is one nest box for every six breeding pairs of cavity-nesting birds. They also have ponds, and a quarter of all trees occurring outside woodlands.

The authors conclude: “The important contribution domestic gardens make to the green space infrastructure in residential areas must be acknowledged, as their reduction will impact biodiversity conservation, ecosystem services, and the well-being of the human population.”

[*For reference, contact Editor]

New: *Bats of Bungendore Park* pamphlet

Bungendore Park Management Committee has been conducting bat surveys over the past three years in Bungendore Park, Bedfordale.

Eight species of bat have been identified so far through acoustic recordings and trapping, and the committee has produced an interpretive pamphlet complete with exquisite line drawings by artist Rob Fleming.

If interested, *LFW* members whose property is in Jarrah/Marri



Above: Western Long-eared Bat, *Nyctophilus major*. Below: Southern Forest Bat, *Vespadelus regulus*. Photos: Kim Sarti



woodland can obtain a copy of the pamphlet by contacting the City of Armadale's Environmental Officer on 9399 0194, and requesting that a copy be posted in the mail.

Kim Sarti



Bush detective

What will this turn into?

Ken Atkins wrote: “December is the time for cleaning up the house ready for Christmas, so I took to my garden in suburban Perth to do my bit. The *Eucalyptus erythronema* in the front garden had dropped quite a few branchlets, which is normally OK to add to the litter layer, but they were building up, so I decided to clear some out. As I picked up one it moved under my fingers. I don’t mean it was too heavy, but rather it squirmed – definitely all was not what it appeared! On closer inspection I discovered that the thickening of the branchlet was not in fact all wood, but something animal-like. I was then able to make out furry projections along the side where legs would be and realised it was some sort of caterpillar.

“The camouflage was amazing with the legs concealed, and even a raised knob at one end to resemble a small twig sticking out. The colour was also a good match to the branchlet it was on, and so it was only detectable when touched. I had never seen anything like this in my time in the bush or garden. I felt pleased that my little bit of bush in suburbia was being used by other animals as well as the obvious birds. Now, if only my orchid leaves would send up a flower one year, I will be really pleased!

“I would be interested to know what this strange and amazing animal is – or will turn into – and so have forwarded some photos



Note how the photographer has placed the ruler here. For identification it can be used to give the size of the animal, but if a portrait was required, the ruler could be cut out of the photo. This is a good pattern to follow, if feasible, when taking invertebrate photographs.

Photo: Ken Atkins

to see if the LFW contacts can help.”

Terry Houston from the WA Museum gave us an answer – it is the caterpillar of an *Entometa* moth (family Lasiocampidae). This genus includes several species widespread across Australia. This one could be the Gum Snout Moth (*E. fervens*) which is found from southern Queensland to Tasmania and SW WA. *Entometa*

larvae feed on eucalypt leaves, and pupate in a white papery cocoon attached to their food plant. Adult females are larger than males, having a wingspan of some 8cm, while males have only a 5cm wingspan. They are nocturnal. Eggs are laid on the food plant. Thank you, Terry, for this information.



Entometa fervens, male left, female right. Illustration from ‘Moths of Australia’ by I.F.B. Common. Melbourne University Press.

Ants and recolonisation of ex-paddock areas

When bushland is fenced or re-fenced, a strip of what was once paddock is often enclosed by the fence, in the hope that the bush will spread out into it. But this does not always occur, especially in the drier parts of the agricultural area. There may be a number of reasons why native plants do not easily recolonise these 'old-fields' (as they are termed in the ecological literature) including weed competition, nutrient imbalance, lack of mycorrhizal fungi, lack of a trigger to kick-start germination, or simply no available seed. A study looked at whether ants may be involved in moving seed from remnants into these old-fields*.

Ants may affect seed dispersal in three ways. Firstly, they may eat the seed *in situ*, thus reducing the amount available to be dispersed. Secondly, they may eat only the elaiosome (an oily process attached to the seed, designed to attract ants) and discard the seed – but sometimes they may carry the whole thing underground to their nests. This is potentially a useful dispersal method.

The study found that ants did move seeds, but not far 61% were carried less than 3.6m from the seed source, and only 4% were dispersed beyond 20m. Thus ant dispersal is unlikely to be significant for returning native plants to old-fields.

Therefore, simply fencing out stock will not, in itself, be sufficient for woodland species to recolonise the ex-paddock areas. Specific intervention, including weed control, site preparation and direct seeding will undoubtedly be necessary for restoration.

This may be achieved in small sections, to create 'habitat islands' – contact your *LFWO* for advice on how to do this.

[*For reference, contact Editor]

Seedlings establish better if individually fertilised

Most conventional wisdom suggests that it is not necessary to add fertilisers to native seedlings when they are being planted in regeneration projects, and that in fact extra fertiliser may simply encourage weeds. However, many larger-scale plantings have poor survival rates, often related to hard-to-predict breaks in the season and nutrient-poor soils. The weather we are not (as yet) able to do anything about, but nutrient manipulation is possible.

Researchers from Murdoch University trialled various treatments to evaluate planted seedling survival in degraded Tuart woodland*. They found that supplementing nutrient resources beneath the rootball when planting increased early seedling growth and health. It would be worth considering this if you are planning a seedling planting this year.

[*For further detail, contact the Editor for the reference.]

How many times can a mallee re-shoot?

The ability of eucalypts to reshoot after a fire, an insect plague, logging or other disturbance often amazes observers. They have concealed buds on stems or lignotubers which are stimulated to grow when other foliage is destroyed, and there seems to be an inexhaustible supply of such buds to compensate for continuing defoliation by whatever means. In 1958 a researcher decided to investigate just how resilient eucalypt saplings could be*.

Saplings of several species, 1-1.5 years old, were defoliated at weekly intervals until they showed no further growth. The new buds had barely unfolded before they were removed and so had no chance to carry on much photosynthesis, thus the new growth must have come from stored reserves. *E. melliodora* (Yellow Box) still produced a few shoots

after 21 defoliations, and one plant of *E. hemiphloia* (Grey Box) after 26. One sapling of *E. hemiphloia* was cut down to one inch above the ground and defoliated 17 times. In that period it produced 270 new shoots in 119 days. After that time the lignotuber was shriveled and depleted of starch, and the tough little sapling died.

Truly, eucalypts are particularly well adapted to cope with the often harsh and fluctuating environments in which they grow.

[*For reference, contact Editor. Thank you to Kingsley Dixon of Kings Park for bringing this research to our attention.]

Coprophagy (dung-eating) by ring-tailed possums

When I taught biology I had a few favourite stories, guaranteed to wake up a dozing class. One of these concerned rabbits having feasts of their own poo, so as to get the maximum nutrients out of the leaves they eat. Did you know that ring-tailed possums do the same thing?

Eucalypt and other myrtaceous leaves are difficult to digest, so an animal that lives almost solely on them (like ring-tails and koalas) needs to have a very efficient digestive system. Ring-tails have a large caecum where fine food material can be kept for up to 70 hours. During that time micro-organisms ferment and partly digest the food particles.

During the night when the possums forage, they void hard, dry pellets with a low nitrogen content. During the day, while resting in the drey, they produce moist pellets with a high nitrogen content, which they promptly eat. This second time around the possum can absorb all the protein and energy that were produced during the microbial fermentation. Doesn't it make you pleased that humans are omnivores!

Penny Hussey

A DEADLY EMBRACE

Gus King writes: "Barb and I were visiting our Pingelly block on one of the cooler days just before New Year. We'd just purchased a new camera (a Canon SX50HS) with greater zoom capabilities to photograph the elusive birds we often see there and this was its first try out. As we were wandering through the bush I noticed a rather large whitish 'insect' fly by and saw it disappear into a nearby bush where I took this photograph. I zoomed my camera in and took a couple of images and managed to get this one in reasonable focus. What struck me as unusual was the size of the fly and to actually see it carrying such a large victim. Our bush is open wandoo woodland; the fly is most likely perched on a wandoo. I estimate it to be 2-3 cm long. We had just received our latest *Western Wildlife* magazine and reading Penny's Editorial prompted us to send the image in."



Our helpful entomologists said that this is a very interesting image. It is a female robber fly (*Mauropteron pelago*, family Asilidae). This is an aggressive predator, usually catching insects on the wing, mostly flies, wasps or flying ants. Once caught and held tightly by their powerful legs, they suck out the body juices via the sharp proboscis, first injecting a powerful enzyme to break down the innards of the unfortunate prey. Robber flies hunt in the daytime and moths and butterflies make up only a

small percentage of their diet. The moth is a female of a species of *Cryptophasa* (Xyloryctidae) which is strictly nocturnal, so maybe she was disturbed into flight and so caught. There does not seem to be a previous record of any of this genus being caught by a robber fly!

Very many thanks to Terry Houston, Bob Lavigne and Ted Edwards who helped with this identification.

WHY WOULD A ROO CHEW BONES?

Anne Vanderbyl was driving through the Stirling Range last September when she saw a Western Grey Kangaroo nibbling at the bones of a long-dead road-killed kangaroo. She stopped and watched for several minutes, even making a short video clip. The question arises – why would it do this? Anne suggested that it may be seeking calcium and perhaps protein.

David McNamara from Greenskills observed something similar on the northern edge of the Stirlings a few years ago; he saw a Brush Wallaby chewing on a bone. He recalled: "It was sitting up working on an object clutched in its two front paws just as a small child would be eating an ice-cream. After observing at a distance through binoculars for some time I moved forward slowly until the wallaby took flight and



A roo with a bone. Photo: Anne Vanderbyl
Below: a close-up of one of the smooth areas, the whole bone is about 100mm long.
Photo: David McNamara



dropped the object on the ground. I was able to collect the object and discovered that it was a piece of

bone – to me it looks like a piece of a small kangaroo pelvis. This bone had obviously been in use by the wallabies for some considerable time as it had, as well as the rough weathered surface, several areas of smooth shiny surface which under magnification show very fine grooves. Wallaby dentition is not particularly well suited to gnawing on bones so the technique seems to be to hold it tightly in the paws and wear away at it with the sharp lower incisors."

Contacts at the Museum confirm that the Great Southern region is known to be very low in many essential minerals and the wallaby was undoubtedly seeking additional calcium, phosphorus and maybe other trace elements. Have any readers other observations, suggestions, or ideas on this topic?

Please contact the Editor, or Sylvia Leighton (see p. 2 for contacts).

Sylvia Leighton

BUSY BEE-EATERS

By Australia Day 2014, the Rainbow Bee-eaters had almost left our section of North Beach. Their stay was about four months. Similar durations are likely to have occurred in most of the southern regions of WA.

With the convenience of an active tunnel across the road from home I have been able, once again, to experience some of the goings-on of one of the bee-eater families. Two years ago, only a few hundred metres away at another site, I had the pleasure of witnessing the almost-fledged chicks at a tunnel entrance demanding food from their parents and wondering why they weren't, in effect, offering themselves as morsels for some hungry predator. However, they seemed to have survived. Their parents must have exhausted themselves in the process of filling three hungry bellies.

The food provided consisted chiefly of dragonflies. Other flying insects that were caught and which I could identify included moths, cicadas, bees and large flies.

Recent offerings were similar but included at least one wasp. The tunnel was visited on average every four or five minutes in the last couple of weeks, often preceded by the parents perching nearby on a dead section of a Parrotbush or on a pine railing only a couple of metres from the tunnel. In spite of the exposure of the tunnel site to ravens, dogs and people, and being mowed on regular occasions, the adult birds persisted. Breeding seems to have had a successful outcome though young birds were not seen or heard in this tunnel.

The first indication of an impending bee-eater evacuation was mid-January's noisy, active gathering. Quite a few juveniles, not previously apparent, were amongst the birds which perched long enough for a good sighting. By the end of January no more were seen or heard, so it's assumed they had started to move northwards. However, at nearby Star Swamp bee-eaters continued a little longer. The most recent activity observed was on Feb 9th with only young birds identified, though adults may have also been present. Next October we'll await the return of these colourful creatures.

Rod Smith, BirdLife WA



Every five minutes food is provided. Presumably the parents get time to eat themselves, to keep their energy up?

Photos: Rod Smith

SHIRE OF AUGUSTA MARGARET RIVER ENVIRONMENTAL GRANTS



Arum Lilies invading the wetland.

Photo: Cherie Kemp

In August each year the Shire of Augusta Margaret River (AMR) offers funding to private landowners to assist them to improve conservation values and management of their bushland. This program has been in place for four years and it is open to any landowners who have a minimum of 10ha of remnant vegetation to manage. They can apply for up to \$3,000 to assist in their environmental management or conservation improvement works, including watercourse revegetation, weed or feral control, fencing of vegetated areas, erosion or other issues. There are five projects funded each year, so it is quite competitive.

A *LFWer* in the AMR Shire, David Newton who owns *Wrenwood Chalets* in the Deepdene locality, had been having difficulties with a range of weeds and ferals, so he took the opportunity to apply for some funding. David assures me that the process is very easy, in fact as easy as filling in a form and submitting it to the Shire.

Wrenwood has 40ha of remnant vegetation, with a high diversity

of vegetation communities, two priority listed flora species and a few threatened and priority listed fauna species. The property has a large wetland area, as well as a variety of wildflowers, birds, reptiles and mammals including Brush-tailed Phascogales in one of the sheds. On the revisit recently, we saw a Wedge-tail Eagle and a Peregrine Falcon as well as many other smaller birdlife.

David intends to use his funding for weed control, removal of fencing to allow wildlife movement through the property and revegetation/regeneration of an area where an intense wildfire burnt the wetland area 7 years ago – this area has been slow to recover from the intensity of the summer fire. The most pressing issue is Arum Lily control. David has already removed weedy wattles from his property and would like to now concentrate on the Arum Lilies that are invading his wonderful wetland area.

Wrenwood is adjacent to Leeuwin-Naturaliste National Park near Lake Cave which is in an area high in biodiversity, and sits within a

recognised ecological corridor, so his funding application was supported by the AMR Shire. *LFW* will support him with a management plan for the property and ongoing advice and assistance.

For *LFWers* that have already been visited by a *LFW* officer and have an existing report, the *LFWO* can easily write up a management plan. This fast-tracks the process of the funding and they can then apply directly rather than waiting for someone to write a management plan separately. This is a very good opportunity for landowners in AMR Shire who want to carry out a small amount of conservation work. The ability to obtain access to a small amount of funding to get started on their road to recovery is an excellent reward for efforts.

Anyone in the AMR Shire who is interested in applying for grant funding or the stewardship program can contact the Shire on: 9780 5255 or: amrshire@amrshire.wa.gov.au. Or you could contact me on: 9752 5533 or: cherie.kemp@dpaw.wa.gov.au.

Cherie Kemp



Some birds.

Photos: David Newton



State NRM Conference: "The Tipping Point"

7-9th May 2014

Abbey Beach Resort, Busselton

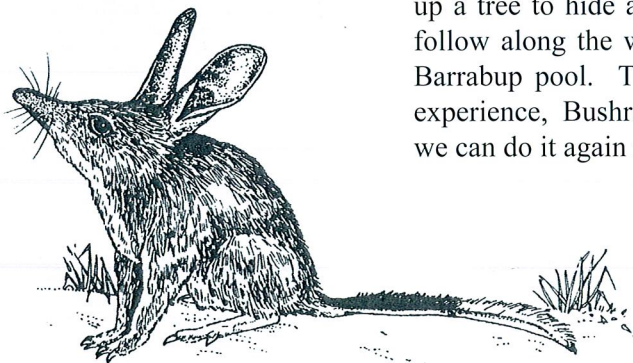
For further information, contact: Sarah Molloy, Community Engagement Facilitator, South West Catchments Council

sarah.molloy@swccnrm.org.au

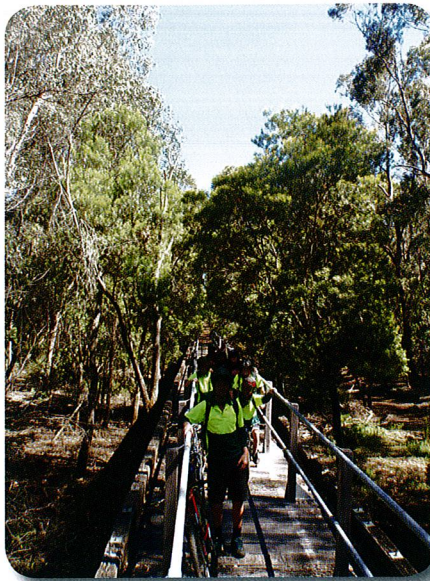
HORSEBACK BILBY MUSTER – LORNA GLEN

In WW 17/2 there was an article by Neil Burrows on using horses to survey for bilbies on Lorna Glen station in the Murchison. Another survey will be run this year on 9-17 June. Neil is still looking for a few more volunteers – they will need their own horse, transport and camping gear (swags, tent). Riders need to be experienced and horses accustomed to walking through the bush. Parks and Wildlife will pay for fuel and provide food for people and horses. It is apparently a really fascinating exercise!

Please contact Neil on: neil.burrows@dpaw.wa.gov.au



BUSHRANGERS ENJOY THE BUSH



Parks and Wildlife's Busselton High School Bushrangers not only give up their time to make possum boxes, do weed control and plantings on Shire reserves and LFW sites, and undertake spotlight surveys for possums and other nocturnal fauna, they also enjoy recreation activities in bushland. Recently I joined them and their teachers on a campout and cycle along the Munda Biddi Trail.

Each day's ride was 50km or so, and often hilly – quite a challenge for the young riders. But it was also very beautiful with banksias and WA Christmas Trees in full flower, many birds calling, a Black Goanna running up a tree to hide and a creekline to follow along the way with lunch at Barrabup pool. Thank you for the experience, Bushrangers, hopefully we can do it again next year.

Cherie Kemp

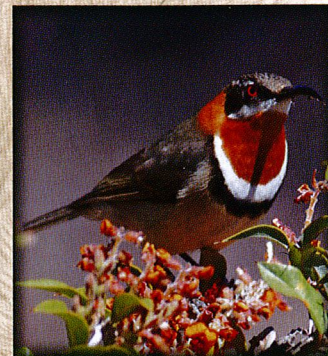
Birds of Western Australia

Simon J. Nevill

Simon Nevill Publications.

Cost \$39.99 Available at good bookstores, or contact the author directly on:

snpub@bigpond.net.au



Birds of Western Australia

FIELD GUIDE

SIMON J NEVILL

This Field Guide is an expanded publication of the author's first bird book 'Guide to the Birds of the Greater South West'. It includes an additional 189 species and now illustrates and describes the vast majority of species that are either resident or are regular migrants throughout WA and Christmas Island.

As with the earlier book, the photographs are of a very high standard, the distribution maps useful (though small) and the text accurate and readable, often containing personal observations especially relevant to WA. If you are looking for a field guide that is purely West Australian, then, beginner or expert, this book is for you.

Penny Hussey

PLEASE NOTE: If you change your postal address, phone number or email, please let LFW know.

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 Parks and Wildlife.

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