

# SEGMENTS

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The Scientific Expedition Group (SEG) came into being at a public meeting on 21st August 1984. Members receive regular information on SEG activities and expeditions. Membership is open to any persons, family or organisation interested in the following aims:

- \* The promotion and running of expeditions of a scientific, cultural and adventurous nature.
- \* The furthering of knowledge, understanding and appreciation of the natural environment.
- \* Promotion of the values and philosophy of wilderness.
- \* Enabling people to learn the skills required for planning and running expeditions, and to develop sound field techniques.

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# SEGMENTS

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*Cover : Malleefowl confronts king brown snake on a mound. Photographed by a Stealthcam at Gluepot Reserve 2013.*



The Journal of the Scientific Expedition Group has a excellent role as a science communication medium since SEG'S beginning 30 years ago. The role of the journal is not to make the argument about the science of conservation but to frame the articles that helps people to get past their pre-existing beliefs.

However we need to find ways of making our survey discoveries resonate more effectively with the values and politics that people hold and to get them to think about a different point of view. It is our perception that surveys help shape policies about sustainability which cause individuals to take some actions for the good of the planet.

When I was on the April Hiltaba survey this year there were nine University students on the team. (see SEG Journal Vol.29, No.1 p.11 for the student reports). In my first editorial I wrote about the need to educate the next generation about the finite resources on the planet and how to establish a plan for sustainability.

As the students concur, you can read the textbooks, you can consult the experts, you can search the internet, but when you start fieldwork you soon realise that due to climate variations some plants have extended their ranges and therefore the animals have moved into these new communities. You may or may not find animals that the textbooks state exist there? This field work experience is unique.

When you read the student reports you realise that the future of ecology will be in good hands.

I was asked to be the editor and graphic designer of SEGMENTS in December 2008. During this time I have had the privilege to work with many good authors, educators, students and photographers.

I want to give specific praise to my associate editor Helen Johnson, who has been a hard working colleague. Chasing stories, proof reading and giving good advice about content with a cheerful attitude. I shall retire as editor with this edition but realize that the journal will continue in good hands into the future.

Thank you readers for your support in the past and please continue your support for the journal.

The lead article by James Smith is about the importance of tree hollows and the wildlife which are dependent on them within South Australia. James has provided much interesting and new information, along with the latest understanding about the importance of hollows.

SEG's Chairman Alun Thomas has written about his trip to the western edge of the Strzelecki Desert with the Waterhouse Club for a biodiversity survey. Birds were plentiful with about 76 species identified, and a number of species of reptiles were caught.

The spring biodiversity survey was held at Minnowarra and two exciting finds are described in Janet Furler's article.

SEG's student member Kate Matthews has written about her experiences on the annual Malleefowl survey and has once again delighted readers with her lively style.

In this edition, SEGMENTS has included a book review by John Love. Alastair Woods has written two books about the River Murray and the Murray Mouth.

Finally several advertisements for our members

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**Figure 1: Brushtail Possums are a common obligate hollow user of the region.**

## Introduction

Tree hollows are a critical resource. Most environmentally minded individuals accept this as a self evident truth. Yet how much do we know about hollows? How are hollows formed and over what timeframe? How do current hollow numbers compare to those seen historically? What is the most widely accepted myth about hollows in Australia? Though recognised as an essential asset, hollows are often overlooked and the trees that house them are undervalued in developmental or economic terms.

Historically, naturally occurring hollows were abundant. With undertakings such as urban development, agricultural clearance, mining and firewood harvesting, native forests, woodlands and their associated hollows have declined significantly.

It was recognised over 20 years ago in South Australia, that a number of hollow dependent wildlife species were struggling to find adequate nesting/denning resources. Consequently artificial hollows in the form of nest boxes were developed

and installed in many locations across the state. More recently “habitat hollows”, created by trained arborists in living tree stumps or dead standing timber, are augmenting the reduction in naturally occurring hollow numbers.

## Why are hollows important?

A vast array of native Australian fauna are dependent on natural hollows. The majority of these hollows form in eucalypt species, but a range of other trees may also contribute to hollow availability (e.g. mangroves).

The proportion of Australian fauna that use hollows includes<sup>1</sup>:

- Approximately 1/3 of the terrestrial mammals.
- 2/3s of the Micro-bat species.
- 15% of Australia’s birds (vs. 10% USA or 9% Southern Africa).

Many other species use natural hollows, including reptiles, frogs, fish, as well as a range of invertebrates. This article will however focus on bird and mammal species.

Just over 300 terrestrial vertebrates use hollows. Almost one-third of these species (~100) are considered threatened, endangered or critically endangered.

By comparison to other regions of the world, no Australian vertebrates are able to create hollows themselves. Many species are however, able to modify hollows once they have been formed.

It has been postulated that hollows benefit not only the fauna species that make use of them, but also the trees themselves. Eucalypts, and other hollow bearing trees, may take advantage of the additional nutrients provided, via fauna waste products, in exchange for providing various resources to these animals, including hollows.<sup>1</sup> Hollow users also include amongst their numbers, pollinators, seed dispersers, as well as species which prey on the herbivorous insects or browse mistletoe, which left unchecked could seriously reduce the health of the tree.



**Figure 2: Exposed heartwood shrinking and cracking**

### How Are Hollows Formed?

Hollows develop primarily in heartwood, not the sapwood. They are created by insects, usually termites, along with beetle/moth larvae, as they feed on the wood. Certain fungal species and a range of bacteria also contribute appreciably to hollow development. Hollow formation typically takes 120-150 years<sup>1</sup>, however these rates may vary depending on the tree species involved, damage (human or natural) and the local conditions.

After a cavity has been created within the tree, for it to become a viable hollow, it needs to be exposed to the external environment. This typically occurs by way of insult or injury to the tree, be it natural (e.g. storm damage, fire) or man made (e.g. pruning), although further processes may be necessary.



**Figure 3: Fire enlarging a hollow**

Once heartwood is exposed to the external environment it starts to lose moisture. This results in the wood shrinking and cracking. Certain fungi (e.g. *Phellinus* spp.) feed on dead wood and become established in these cracks.

The fungi then accelerates the hollow formation by breaking down the wood through decomposition. The final mechanism which assists with hollow formation is fire. It does not form hollows, but can be the insult which causes the exposure of a hollow or increase in size of either a hollow or hollow entrance, which is already in existence.

### Occurrence of Natural Hollows.

There has been extensive clearance across South-eastern Australia. In South Australia over 90% of the native forests have been removed or drastically altered.

In Adelaide the figure for retained remnant vegetation is around 3%, however because of how the city was planned, it is now one of the most treed metropolis' in the world. Unfortunately, most of those trees are exotics and the hollow resources they provide can differ significantly from Australia's native eucalypts. Some of the areas surrounding the city has fared marginally better, with the Adelaide Hills retaining about 10% native vegetation. Hence good quality hollows are often at a premium.

Historical records for the prevalence of hollows across the Adelaide region are not available. It has been suggested that woodlands interstate may support on average 17 hollow bearing trees per hectare.<sup>1</sup> Across Adelaide, be it in urban, peri-urban, agricultural or modified natural areas the numbers of natural hollows likely to occur is less than five per hectare. Additionally many of these hollows form in exotic trees, where the quality and longevity of the resource is considerably reduced.

### Wildlife Reliant on Hollows?

Many different species are reliant on hollows literally from below ground level through to the upper canopy. Some species are known to be obligate hollow users (e.g. Common Brushtail Possum or Crimson Rosella), while other species are less dependent, but certainly take advantage of such resources where they exist (e.g. Ringtail Possums, Welcome Swallows).



**Mammals:** within this Class a range of species use natural or artificial hollows across the Adelaide region, including possums, micro-bats and *Antichinus sp.* Farther afield gliders, *Phascogales*, numbats, dunnarts, rodents and many other mammals take advantage of hollows in a wide variety of forms.

**Birds:** within this Class certain Families are highly dependent on hollows, particularly for nesting, these include the parrots, kingfishers and owls. Other groups that utilize hollows, to varying degrees, include ducks, geese, owl-nightjars, martins, swallows, pardalotes, falcons, thrushes, treecreepers, thornbills and woodswallows.

**Other Species:** many other vertebrate and invertebrate species rely on hollows. Numerous invertebrate taxa are particularly important due to their role in creating natural hollows.



**Figure 4: Kookaburras are a common urban and peri-urban hollow user.**

### Living vs. Dead Trees

Natural hollows occur in both living and dead trees. Both provide important habitat and are used by a range of species. Informal discussions with a number of interested parties have taken place since this topic was first presented at a TreeNet conference in 2009. These discussions have raised questions about the conventional wisdom relating to perceived value of dead trees.

The study of hollow dependent fauna and hollows themselves, is a relatively young science, not just in Australia, but worldwide. Much of the initial work originated overseas, particularly in North America. The predominant forests in the northern hemisphere are arboreal pine forests, and discussions with Scott Hyde<sup>2</sup> highlighted that pine forests rarely, if ever, develop hollows in living timber. The mechanisms which create hollows in these pines work on dead standing timber, not living trees.

Is this where the perceived importance of dead trees here in Australia has arisen? So, has there been an over emphasis on dead standing timber in Australia to-date?

Living trees offer a number of advantages that dead trees do not. Hence I would suggested that there is no substitute for live trees containing hollows, for species dependent on these resources.



**Figure 5: A hollow, large enough to house a Brushtail Possum will probably have taken several hundred years to develop.**

Living trees regulate their own temperature and as a consequence the internal environment of a hollow, within such a tree, is also moderated. Work by Richard Geytenbeek<sup>3</sup> has found that the temperature inside a hollow can be tempered by as much as 12-15° above or below ambient in the Adelaide region. This is a considerable advantage to hollow dependent species, in both very hot or cold weather. Neither natural hollows in dead trees nor nesting boxes are able to offer such a buffer, although the thicker the walls of the dead tree hollows, the slower the impact of the temperature fluctuations. Live trees are also able to regulate the humidity and often provide better shelter, depending on their location and canopy.

It is essential that large living trees, particularly eucalypts, are retained wherever possible. They add significantly to the available habitat, even if for safety or development reasons their size needs to be reduced or managed. Exotic trees certainly contain hollows which are of habitat value. Many such trees populate the urban forest, but they do not offer the longevity or stability provided by the native eucalypts.

### **Artificial Hollows - Nest Boxes and Habitat Hollows**

Nesting boxes have been used as a way to supplement natural hollows for more than two decades.

A new approach is currently being investigated in relation to artificial hollows. Over the last five years arborists have started creating habitat hollows - species appropriate hollows cut or bored into standing trees - using chainsaws. This approach has included hollows in both dead standing timber, as well as the terminal stumps or branches of live trees, in very specific situations. Many trees have also been pruned and managed to enhance their potential for subsequent hollow development and increase their wildlife value.

Habitat hollows created in dead (or living) trees can augment degraded habitat in much the same way as nesting boxes have for the last few decades. Indeed they are likely to provide better habitat than nesting boxes, so long as a number of considerations can be addressed.

For both hollow habitats and nesting boxes, siting the hollow is an important component of its success. Here in South Australia one would typically avoid placing the hollow on the hottest face of the tree (unless the taxa of interest is micro-bats), usually north or north-west. Also the entrance needs to face away from the wettest winds, which come from the south-west and west. However, local conditions may vary, so the requirements will need to be assessed on a site by site basis.

Nesting boxes, habitat hollows and natural hollows are not mutually exclusive, but rather form part of a continuum. Ideally, future generations when planning across the landscape will manage the urban forest so that naturally occurring hollows

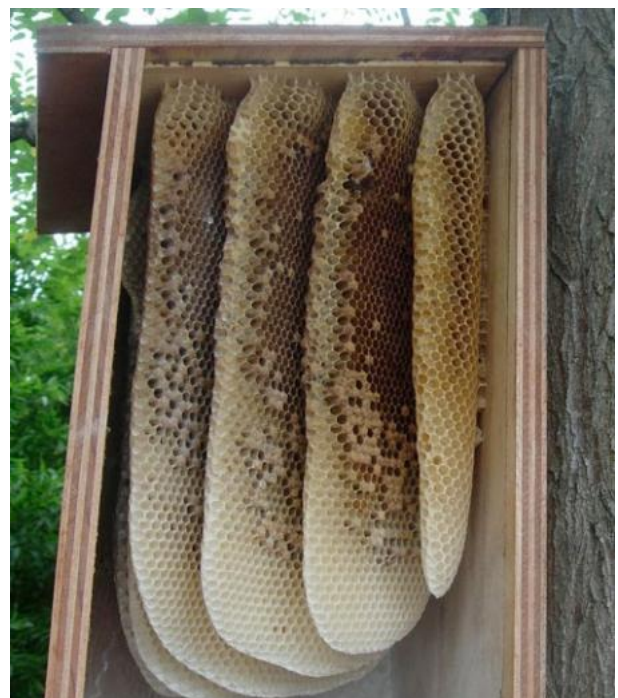
are a key consideration. Until that time however, nesting boxes provide habitat for hollow dependent species over the short to medium term, and where appropriate, habitat hollows provide it in older trees for the medium term.

These resources offer tremendous educational opportunities that are only just being realised. The combination of better education and improved habitat may provide the understanding and awareness necessary for us to retain species such as Brushtail Possums in the urban environment.

### **Threats to Hollow Dependent Fauna**

Unfortunately neither habitat hollows or nesting boxes, are “create and forget” resources. Hollow dependent fauna face various threats and need to be managed, if they are to be successful.

Cats and foxes are both well known threats to native wildlife. Artificial cavities need to be located, so they don't facilitate easy access for these species. Suitable location, cavity height, depth of chamber and surrounding vegetation are just some of the aspects that need to be considered to mitigate for these predators. The most serious threat to hollow dependent fauna, outside of habitat clearance, are feral honey bees. This is the only species of eusocial bee present in Southeastern Australia, and none of our native



**Figure 6: Bees are just as likely to invade a hollow, be it natural or artificial.**



vertebrates can defend a hollow if a swarm of bees elects to take up residence. Unfortunately no-one appears to be responsible for “escaped” feral honey bees; not the apiaries they escaped from, not the Department of Environment Water and Natural Resources, and not the Department of Primary Industries (state or federal). Once bees swarm, and a successful hive can release a number of swarms each year, they are no longer anyone’s property or anyone’s responsibility. From that point on they become a tremendous threat to wildlife, with estimates suggesting they take over between 1% and 20% of appropriate sized hollows. Averages would probably be between 10-15% of available hollows.

Exotic birds are also an issue, but unlike either the east or west coasts, South Australia has only a few avian species to deal with in this regard, European Starlings and House Sparrows; although Indian Mynahs are of potential concern in the South-east. Such species should be dissuaded from nesting where possible and if they do manage to nest, be it eggs or chicks, need to be dispatched.

## Conclusions

Vast tracks of land have been cleared across South Australia. This is particularly true around Adelaide, where on the plains less than 3% remnant vegetation remains. The artificial forest which cloaks Adelaide unfortunately does not replicate the natural systems which occurred historically.

Sizable hollows can take centuries to develop. Eucalypts containing large hollows or numerous smaller cavities are an essential component of the landscape. The retention and management of such trees is of paramount importance, if we are to successfully support the associated hollow dependent fauna in perpetuity.

While the preservation of hollows is essential, so is the creation of new hollows, given that over 300 native vertebrate species are reliant on them. Indeed, Australia has amongst the most hollow dependent species in the world; including mammals, birds, reptiles and many other taxa. To date, the management of these important resources has been limited or undertaken on an ad-hoc basis, particularly in South Australia.

As our understanding of hollow dependent fauna requirements improve, this will slowly change. Nest boxes can provide short to medium term assistance to hollow dependent wildlife. They have been shown to assist many species, however they are not self sustaining. Management of these artificial hollows is essential, so native fauna can achieve the greatest benefit from such resources. Threats to hollow dependent fauna, such as cats, foxes, exotic birds, feral bees or vandals all need to be recognised and addressed.

The idea of enhancing local habitats through innovative tree management and pruning is worth pursuing. Given the challenges facing dependent species, the creation of habitat hollows and/or pruning to accelerate hollow formation are exciting opportunities which may contribute to the retention of native fauna across Southeastern Australia. This approach is relatively young and although not widely practised, does show tremendous promise in bridging the resource gap between naturally occurring hollows and nesting boxes.

Anthropogenically altered environments need to be managed if we are to maximize the number of hollow dependent species we retain. An integrated approach incorporating nesting boxes and habitat hollows is key in the short to medium term. In the long term, planning for and maintaining naturally occurring hollows is likely to be the best solution.

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Gould Group. “The Nestbox Book.” Wilkinson Publishing (1997).

Birds Australia: <http://www.birdsaustralia.com.au/resources/info-sheets.html>; Info Sheet numbers 9 & 10.

fauNature website: [www.faunature.com.au](http://www.faunature.com.au)

**Email contact: james.smith@faunature.com.au**

# A Trip to the Edge of the Strzelecki Desert

Alun Thomas



**Figure 1: Dingo sighted near Lake Boolcaltaninnia.**

Kathleen and I recently took part in a Waterhouse Club biodiversity expedition to the Lake Gregory region on the western edge of the Strzelecki Desert. The Waterhouse Club is a group associated with the South Australian Museum which organizes interesting expeditions all over the world and raise funds for the museum in the process. Museum scientists are involved with planning of the scientific work undertaken on the expeditions.

We spent the first night at the Prairie Hotel at Parachilna before driving up the Birdsville Track to Etadunna. From there we headed east for about 40 km to our camp site which was near Lake Boolcaltaninnia. There were about 20 expeditioners, 5 scientists, an amateur Aboriginal historian and a camp and cooking team of 4. The scientists were Cath Kemper (mammals), Helen Owens (reptiles), Jan Forrest (insects), Graham Carpenter (birds) and Nick Birks (spiders). The aboriginal historian was John McEntee. The camp and cooking team were Mal and Val Hansen, Brett Alcott and Shirley Gibbs, and they did a magnificent job producing three-course meals every night. Even though we were very active we managed to put on weight.

Lake Boolcaltaninnia is an ephemeral lake, and as there had been a significant rainfall event

last year there was still some water in the lake. Generally there was up to half a metre of water of which several hundred millimeters was black mud. With care one could have a refreshing dip, although any vigorous swimming raised a significant cloud of black mud. Fortunately, about 4km away there was an out-station which had artesian bore-heated showers, and so we were able to enjoy a reasonable standard of cleanliness.

Eight lines of pitfall traps were set up in sand dune country, on gibber plains, in saltbush country and in sedge next to Lake Boolcaltaninnia. Catches were lighter than expected but there were a few highlights. Several crest-tailed mulgara (*Dasycercus cristicauda*) were caught in Elliot traps and hopping mice were caught in the sand dune sites. Dingoes were seen but we did not see any kangaroos in the vicinity. Twenty five Elliot traps were set across a gibber plain in an attempt to catch a kowari but unfortunately none were caught. Elliot traps were also set along a bore drain in an attempt to catch the last of any long-haired rat (plague rat) (*Rattus villosissimus*), which might have been left from the population eruption which followed the good rains last year. Unfortunately we did not catch any.





**Figure 2: Flock bronzewing pigeons drinking at the lake**

A number of species of reptiles were caught, and of particular interest was a Lake Eyre dragon (*Ctenophorus maculosus*) found opportunely on Lake Kopperekoppina. This record was a significant range extension from its previous known location on Lake Eyre.

Birds were plentiful, and along with a range of water birds on the lake, about 76 species were identified. Of particular interest was a large flock of about 20,000 flock bronzewing pigeons which descended on the lake each evening to drink. We also saw brolgas (seventy eight were counted one morning), and large flocks of pink eared ducks and grey teal. Around camp there were deafening

often flying over the camp. Of particular excitement to the ornithologists amongst us were letter-winged kites nesting about 15 km north of camp.

One day we visited the old Bethesda Lutheran mission at Killalpaninna on the shore of Lake Killalpaninna. The mission was set up in 1867 and operated until 1915. The missionaries while trying to convert the aborigines of the Dieri Nation, studied the local Dieri language (also known as Diyari) and recorded the language and many of the dreamtime legends. These were written in old High German and have recently been translated into English. A vocabulary of over 5000 words has also been translated. The mission was originally called Killalpaninna Mission but while the missionaries were learning the Dieri language they found that the word Killalpaninna translated as a private part of the female anatomy. The name was quickly changed to Bethesda Mission.

Our amateur Aboriginal historian John McEntee has made a particular study of the Dieri language and dreamtime legends. He took us to a number of sites of significance to the Dieri and read us the relevant dreamtime legends. These excursions were very interesting and gave us a very good understanding of the landscape as viewed by the Dieri. Some of the legends relate to significant geographical features visible from long distances, and knowledge of these legends enabled the Dieri to navigate around their country.



**Figure 3: Brolgas walking by the lake**

flocks of little corellas, and a pair of rainbow bee-eaters had a nest in a low sand bank in the middle of camp. They did not seem to be phased by people walking all around them. Birds of prey were quite common with black kites and wedge-tailed eagles



**Figure 4: Author negotiating a creek bed**

Another excursion was to Lake Gregory, a large salt lake which was completely dry when we visited. While we were there an attempt was made to look for more Lake Eyre dragons, but none were located. On the way to Lake Gregory we followed

fence lines which gave quite a circuitous route. On the return journey we attempted a more direct course cross-country and this involved some very interesting four-wheel driving into and out of creek beds. All vehicles and drivers performed well.

Of serious concern for the ecology of the region is the existence of a number of red deer and fallow deer. Apparently a previous manager of Etadunna Station attempted to farm deer and when this was not successful the deer were released. While we were there herds of up to 20 deer were spotted. As there is permanent water in the form of bore drains and stock troughs in the vicinity there is nothing to prevent the deer proliferating even if there is a drought. Etadunna is owned by BHP Billiton Ltd and it is disappointing to see their acquiescence to this potential ecological damage from feral animals.

The weather was generally good with temperatures in the high twenties and low thirties with only one day in the high thirties. Nights were generally quite cool.



**Figure 4: Male emu and chicks**

After eight days in camp we sadly wended our way back to civilization, but not before a final party night at the Prairie Hotel, Parachilna.

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## ***Request for photographs for thirty year book***

As part of our thirtieth birthday celebrations, we are planning to publish a book telling what SEG has done and is doing. We want plenty of illustrations. If you would like to offer photos for inclusion, please put them on a CD or DVD for us. If you have pre-digital photos, we want to borrow original negatives or prints or colour slides, which we will return to you.

Email transmission is not satisfactory - low definition. To be usable, they must be identified: date, place, what is happening in the photo (and ideally, names of people in the photos). Authorship of all pictures included will be acknowledged. We are not asking you to assign copyright to SEG.

***Whatever you have, please post them to John Love, 17 Lascelles Avenue, Beaumont 5066, or get them to John somehow.***





**Figure 1: Pygmy Possum (*Cercartetus concinnus*)**

Another Minnawarra Biodiversity Survey has been successfully completed (September 29<sup>th</sup> to October 2<sup>nd</sup>). Numbers were generally lower for the mammals, and very low for the lizards and frogs.

We had two very exciting finds – a bat and a pygmy possum. The bat, (*Chalinolobus gouldii*) Goulds Wattle bat was caught following a hunch. I had seen a blur on a picture of ducks grooming on the smaller dam near Site 4, taken by our recently purchased wildlife cameras, and set the harp trap accordingly. This is the first capture of this species for us. As you can see in the picture it is a microbat. Our identification challenge was to check his second incisor for a notch. We



**Figure 2: Goulds Wattle bat (*Chalinolobus gouldii*)**



**Figure 2: Native Orchids**

needed the glasses *and* the magnifying glass!

There was also a good show of native orchids as a change of pace from furry beasts.

The Pygmy Possum (*Cercartetus concinnus*) was in a pit at Site 3 (hillside, relatively clear with patches of yacca) and caused my team to look at me strangely as I got rather excited and then melt as they saw what I had. He is full grown, and ridiculously cute. We have had 2 previous sightings of pygmy possums. A mother and baby were found at Site 9 about 10 years ago and a poor drowned one was found in the dog bucket 25 years ago.

## People

We had a smaller group this time, with most of the volunteers being Willing/Furler family and friends. Numbers ranged from 7 to 17, which was manageable. We had a visit from Lynne Kajar, wearing her 'Mum' hat as well as her Wildlife Ethics Committee Executive Officer hat. Ishtar was fascinated to see what her Mum does for work and Lynne was impressed with what we do.

As always, thank you to all for your interest and help.

## Weather

The weather began a little cool and cloudy (14°C) with a brisk W-NW wind and a small amount of rain overnight (5mm). Then followed 2 warm and windy days (22°C and 10-65 km/h). A cool change and showers later on Day 3 led to a cool but fine Day 4 (12°C) and night (7°C), still with winds of 25-30 km/h. Day 5, pack up day, blessed us with heavy showers and strong winds, (14°C, 35-60 km/h, 7mm rain).

## Mammals

The numbers of individuals caught at each site ranged from 4 (Site 7) to 16 (Site 2). This contrasts with the results from the April 2013 survey which ranged from 9 (Site 3) to 27 (Site 5). This reduction in numbers by 30-50% is almost solely due to the small numbers of *Antechinus* caught – 14 instead of 84. The numbers of the two native rat species are very similar to last survey.

Counting the repeat captures of critters through the survey (the ones that like the peanut butter) we emptied 175 Elliott traps, over twice the number of individuals caught. This is a very good indication of the importance of being able to identify who we are handling, to avoid overestimating the population numbers. The microchips are proving to be very useful and convenient for doing this.

As well as the bat and pygmy possum, an echidna was observed, but no feral *Rattus* or house mice.

I would like to say thank you to Dr Steven Donnellan (Adelaide University and South Australian Museum) for clearing up our pale bellied feral rat conundrum. Over the years we have caught pale bellied feral rats and have been unsure of what to call them, with alternatives including *Rattus rattus*, *R alexandrinus* and *R tanezumi* being suggested. At the AGM in August this year Dr Donnellan gave a fascinating talk on the complexities of the *Rattus* genus, with the conclusion that ours are a variant of *R rattus* after all. As well, he pointed out that our native rats possibly shouldn't be called rats anyway!

## Birds

Brian and Jo Blaylock surveyed the birds for us again. They found an Elegant parrot (*Neophema elegans*) at Site 4, which is a new species at that site, although they are reasonably common on the property. We have had this before, with

common species not listed in survey data because they are not at a site. This can be overcome with recording of opportunistic sightings.

## Reptiles and Frogs

We caught only 3 garden skinks (*Lampropholis guichenoti*), and 8 common froglets (*Crinia signifera*). This may be because the weather went from warm and dry to cold and wet, or they have got good at eluding us.

## Of Interest

I have come across two articles which may be of interest to readers. I found this one after we'd caught our tiny chap.

<http://newswatch.nationalgeographic.com/2013/02/27/what-makes-the-western-pygmy-possum-mighty/>

And this is about the *Antechinus*. We catch *A flavipes*.

<http://phenomena.nationalgeographic.com/2013/10/07/why-a-little-mammal-has-so-much-sex-that-it-disintegrates/>

Contact Email: [thefurlers@gmail.com](mailto:thefurlers@gmail.com)

## Autumn Survey

Wed 23 – Sun 27 April 2014

This is the last weekend of the school holidays.

## Spring Survey

Sat 27 Sept – Wed 1 Oct 2014

This is the 1st weekend of school holidays, middle weekend of the uni holidays.





**Figure 1: Malleefowl displaying at mound**

Off we set, ready, prepared and focussed, in fact we were so focussed on the GPS that we walked right through the first nest. Good start! Over the course of the two days 88 known nests were surveyed by a team of about 22 people. The survey was carried out on Bakara Conservation Park and Henry Short's farm, about 30km east of Swan Reach.

When surveying the nest we were looking out for signs of recent activity such as tracks, scats and egg shell remains. Other aspects such as the profile of the nests were also recorded. After a hard day's work of beating through dense Mallee and spear grass, the group returned to camp on Henry's farm. It was fairly basic with just a drop toilet but it was pleasant and a nice place to come back to at the end of the day.

Over the course of the survey I got the opportunity to learn how to use the new GPS systems that are being brought in for future use, the Mobile Mappers. They allowed us to locate the nests and record all the required data on one small hand held device, how very nifty! Out of the 88 nests that were checked three were found to be active. On one day, we revisited an active nest that my group had located earlier in the day and found that the fowl had been back and had been tending the nest. This was to make sure that the eggs remain at the correct temperature throughout the day. It's amusing that the fowl go to so much trouble throughout the incubation period, as when the eggs hatch the chicks are completely on their own.



**Figure 2: Malleefowl chick**

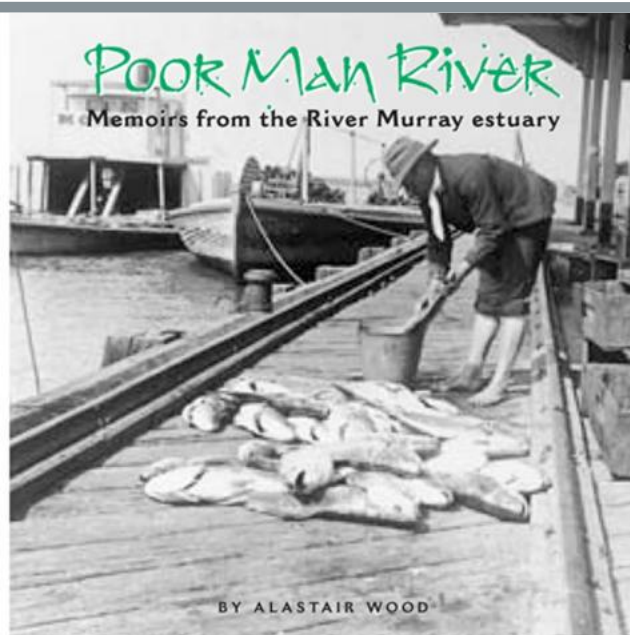
When we first started on Saturday morning I was unsure if I would be able to tell an active nest from an inactive nest, but it soon became clear that this would not be a problem at all. The difference between the two is astounding: active nests are built up into massive mounds that sit well above ground level, while inactive mounds are either flat or sit below the natural ground level.

I really enjoyed the experience and learnt a lot about a bird which I hadn't really encountered before. Like any of my other experiences with SEG, the people on the trip were great and everyone had a story to share. I look forward to taking part in this particular survey again and seeing how things have changed at these sites next year.



**Figure 3: Malleefowl and Sparrow hawk.**

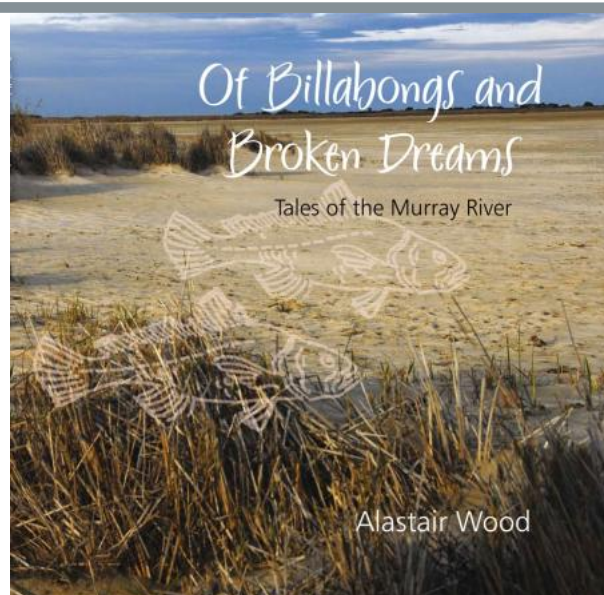
**Photographs captured by Stealthcam at Gluepot Reserve 2013.**



**Poor Man River: Memoirs from the River Murray estuary** (Adelaide, Digital Press, 2007, ISBN 9781921207167).

To fish or not to fish. In his first book, Alastair Wood writes mainly about fishing and other escapades in the waters near the Murray mouth, particularly on the ocean side of Younghusband Peninsula, avoiding repeated use of 'I' by disguising himself as 'Matt'. A loner, he managed his own net from the shore, using the ebbing tide to carry it seawards, allowing it to drift at the end of a long line and then hauling it in. He took enormous personal risks and survived, apparently making a modest living from water that is more fickle than predictable. There are interesting technical details about handling boats and nets. A recurrent theme is the ill effects of the barrages on the Murray estuary and its fish. Another theme is that the mouth itself is a very dangerous place.

The second book is a polemic against misuse of the Murray. The author takes two imaginary case studies: 'Gilargan', a pastoral station turned orchard between Swan Hill and Echuca, and 'Millewa', a dairy farm on the shore of Lake Alexandrina. Both begin happily in the 1880s and, so far as there is a time scheme in the book, end in the late twentieth or early twenty-first century in dreary aridity and hopelessness. Perhaps these worst-possible scenarios are intended to shock into action the politicians whom he castigates. The author's justifiable anger and frustration come across forcibly.



**Of Billabongs and Broken Dreams: Tales of the Murray River** (Adelaide, the author, 2008, ISBN 978-0-9775208-3-1)

However, the book shows signs of hasty composition and inadequate planning. It is not intended to be read as history but obvious anomalies of time and place do not help the author's cause.

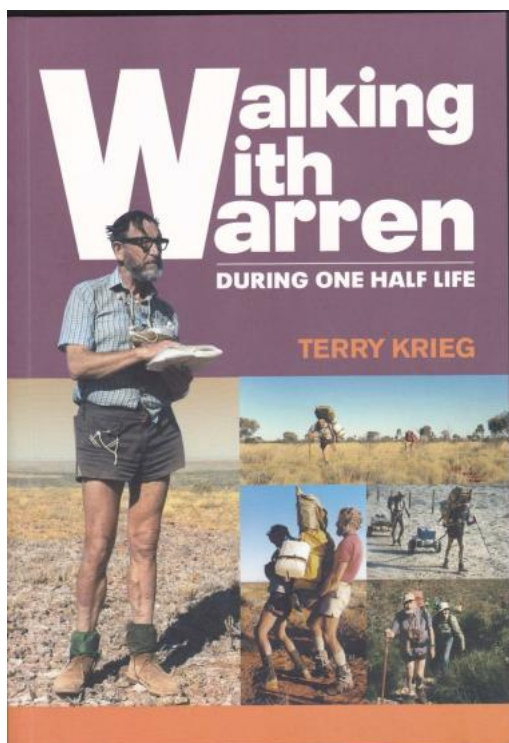
The author is at his best writing of his own adventures, rewards, mishaps and narrow escapes. His love of the area centred on the Murray mouth, his knowledge of the water and its fishes and his compulsive urge to go fishing are expressed in lucid, lively narrative, accompanied by some superb black-and-white photographs. Mister Wood can look back on an honourable occupation catching and selling fishes.

On the back cover of both books is a note that in the 1990s Mr Wood was involved in an aquaculture program that pioneered the breeding of mullet in captivity. It is a pity he did not work this into his narrative. Here is the fishing industry of the future: not the lone figure swimming his net into the surf, not the super-efficient trawler exploiting a dwindling resource, but controlled breeding and nurture, providing the right food and habitat for the selected species, protection from diseases and predators, regular seasonal marketing – fish farming.

#### Author Contact for books:

accwood@bigpond.com,  
MOB. PH 0421977615





## “Walking With Warren”

Terry Krieg’s new book

The price is \$30 each

[2 copies for \$50] plus postage

**Contact the author on**

**Phone: 86821571,**

**Mob 0428834141**

**Email: [patez1@yahoo.com](mailto:patez1@yahoo.com).**

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## ***LOGO COMPETITION***

SEG has had the same logo for nearly thirty years and as part of our 30 year celebrations we are having a competition to design a new logo. The logo competition is open to all SEG members.

A new logo should be able to be used in colour and black and white on the website and on printed publications. It should also be able to be used on the sides of our trailers and truck.

A prize will be awarded to the entry which in the opinion of the judges best embodies the aims and objectives of SEG.

Entries which must include the name and address of the author should be sent to the Chairman, Alun Thomas at [athomas6@bigpond.net.au](mailto:athomas6@bigpond.net.au) by the end of January 2014.

# VOLUNTEER OPPORTUNITY

## Reintroduction of the Western Quoll



An opportunity exists for a keen and dedicated volunteer to assist the S.A. Department for Environment, Water and Natural Resources with an exciting plan to reintroduce the western quoll to South Australia in April 2014. Enquiries and applications (CV and cover letter outlining experience) to **Robert.Brandle@sa.gov.au** by Jan 31st 2014.

**Duration:** 3 months, 24th March-24th June 2014

**Location:** Wilpena Pound, Flinders Ranges National Park, South Australia

**Accommodation:** provided in fully contained shearers quarters with toilet, showers, kitchen, lounge and own room

**Food:** \$200 a week provided for food expenses

**Travel:** \$400 supplied to assist with travel costs to and from the study site

**Duties:** radiotracking quolls, feral animal control, data entry, trapping, habitat assessments, DNA sampling, aerial radiotracking from light aircraft

**Experience:** Experience in radiotracking, remote field work, off-road driving and/or camera trapping is desirable but not essential. A manual drivers license and moderate to high level of fitness are required.





# SCIENTIFIC EXPEDITION GROUP INC.

The Scientific Expedition Group (SEG) came into being at a public meeting on 21st August 1984. Members receive regular information on SEG activities and expeditions. Membership is open to any persons, family or organisation interested in the following aims:

- \* The promotion and running of expeditions of a scientific, cultural and adventurous nature.
- \* The furthering of knowledge, understanding and appreciation of the natural environment.
- \* Promotion of the values and philosophy of wilderness.
- \* Enabling people to learn the skills required for planning and running expeditions, and to develop sound field techniques.

## APPLICATION FOR MEMBERSHIP AND MEMBERSHIP RENEWAL for 2014

### SUBSCRIPTIONS rates

Adult member - - - - - \$30.00

Concession cards/ student-----\$15.00

Family membership - - - - - \$35.00

Corporatemembership - - - - - \$35.00

Name. ....

Address .....

.....

...

Telephone (H) ..... (W) .....

E-mail .....

Details of scientific, cultural, and adventuring or other relevant skill or interests you may be prepared to share with the group:

.....

Send a cheque ( Scientific Expedition Group Inc.)

with a Photocopy of this page to

The Secretary

Scientific Expedition Group Inc.

P.O. Box 501

Unley S.A. 5061.

## Some Associated Organisations



<http://www.naturefoundation.org.au/>

### **SA Herpetology Group Inc.**

The SAHG is a group of people dedicated to the study and conservation of reptiles and amphibians through regular meetings, field trips, educational displays, talks and involvement with government and non-government conservation groups.

<http://www.swiftpages.com/sahg/index.html>

### **Wetlands & Wildlife**

Wetlands & Wildlife is a conservation company that was founded by Mr Tom Brinkworth to hold land of significant conservation value for the benefits of future generations. It is hoped that it will prove a viable model for conservation in the private sector to complement the National Park systems.

<http://www.wetlandsandwildlife.org.au/>



<http://www.gluepot.org/>