



# SEGments

*Journal of the Scientific Expedition Group*  
Volume 26 Number 4



# SEGments



## Scientific Expedition Group Inc.

Volume 26 Number 4, March 2011.

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## Contents

Volume 26 Number 4, March 2011.

	Page
<b>Editorial</b>	<b>1</b>
<b>Antro: The Shearer's view</b>	<b>2</b>
<b>Antro: The Sheep's View</b>	<b>5</b>
<b>Malleefowl Monitoring</b>	<b>8</b>
<b>Minnawarra</b>	<b>11</b>
<b>Book reviews</b>	<b>12</b>
<b>Expedition 2011</b>	<b>16</b>

# Editorial: The planet's future?

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Over the Christmas period, I read two noteworthy books, Tim Flannery's *Here on Earth: An Argument for Hope*. and Richard Dawkins's *The Greatest Show on Earth*.

What themes kept coming back to me when I reflected on their writings were: how old the earth is and how short a time human beings have been changing the planet's environment. In the last two editorials, for example, it has been noted that Europeans were responsible for bringing many feral plants and animals which have had a large destructive effect on Australian ecosystems.

We could say that the planet Earth has responded positively during the geological time span to many changes and cataclysmic events such as asteroids, ice ages and climate change. Some could argue that the human race is becoming another type of cataclysmic event because we are depleting our ecosystems by using our earthly resources beyond sustainable levels.

Tim Flannery's book has a subtitle: *An Argument for Hope*. What seems to be the main problem for "Hope" and our planet is the inactivity of political decisions, on a global scale, to help restore the damage to the ecosystems that the humans are causing. Given that, in a democratic society, citizens are allowed to debate the issues of sustainability, climate change and population control, it is important debate to be based on scientific information or facts rather than scare mongering, or scoring political points by vested interests. Global action is required very soon to avoid many ecosystem collapses.

For more than twenty years, the Scientific Exploration Group (SEG) has played an important part in establishing the measurement of the health of ecosystems in South Australia by doing biological surveys.

Two years ago SEG did a survey of the Arkaroola Wilderness Sanctuary after many years of sustained drought. This area is a fragile ecosystem with low rainfall and marginal soils. This year after the major rain events of the summer months, SEG is going back to Arkaroola to conduct another survey to see how the recovery of flora and fauna has progressed.

In a previous edition (Vol 25, No. 4) an article by Richard Willing, *Seeking a Balance for Arkaroola*, was also submitted to the South Australian Government about our organisation's opposition to mining Uranium in the wilderness sanctuary.



**This campaign will continue.**

It is through important scientific field work like these surveys that organisations like SEG can influence politicians to preserve wilderness areas of significance for the health of the planet.

There is "Hope" for the planet's future if we humans reduce our consumption, reduce our population growth and preserve forest habitat which helps to reduce carbon dioxide.

As a Science educator, I want our school children to understand that we are an important part of the planet's ecosystem, not separate or above it. We need to be custodians, not exploiters for short term economic gains.

The SEG annual trip in 2010 was to the Bimbowrie Conservation area. In the first two articles, John Love has written about the ANTRO shearing shed from two perspectives, man and sheep.

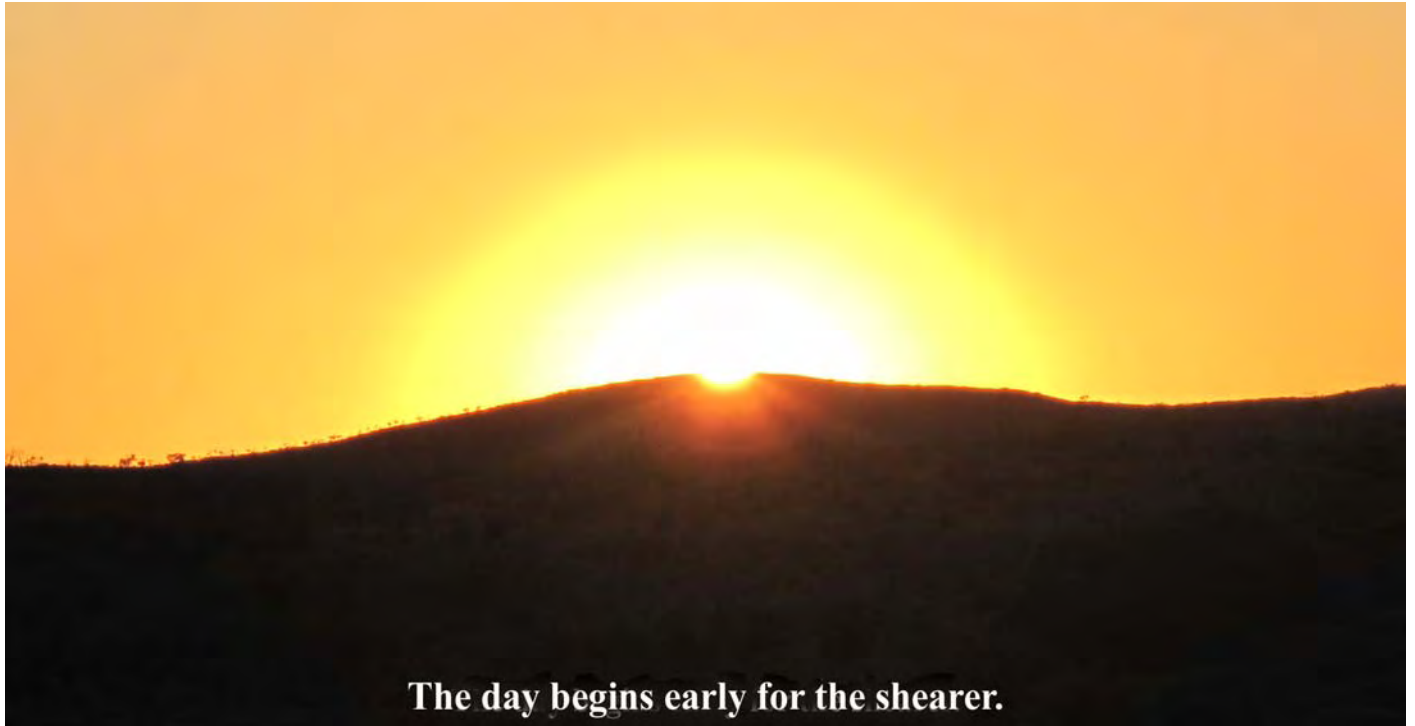
Malleefowl monitoring has been undertaken in the Bakara Conservation Park for two years by SEG volunteers and DENR personnel, and the two reports are written by Ray Hickman and Dave Setchell.

In this edition there are a good series of topical book reviews that have been written by various authors.

There is a short notice of the Expedition 2011 to Arkaroola by Richard Willing and Marg Sprigg.

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The day begins early for the shearer.

Jane has cooked a hearty breakfast. (Figure 2) Whether male or female, the shearers' cook has a separate bedroom, bathroom and, usually a separate toilet. At Bimbowrie, Michelle and Garry Trethewey slept in the cook's hut and the bathroom was in a corner of the ablution block with its own external door. The cook's toilet was probably the one round the corner from the other two in the toilet block.



Fig. 2. Graffiti in the wool room, including Jane.

The shearer enters the woolshed, the grazier's cathedral, where an annual ritual brings employment for hundreds and warm garments for thousands. (Figure 3) He is confronted by a shed full of hundreds of sheep that the station owner has brought up from distant paddocks. At 7.30 the bell rings to start the day's shearing, and he drags the first sheep of the day out from the catching pen. He

works in two-hour shifts with breaks at 9.30, 12 and 3: one hour for lunch and 30 minutes for each 'smoko', when he has another substantial feed. In effect, Jane has to prepare five meals a day for all those working in the shed.



Fig. 3. Cathedral interior.

In 1878, when the shed was built, Bimbowrie was a much bigger property than it is now. There is evidence that, at some stage, there were stands for about forty blade shearers, arranged along two sides of the shed, each with its own count-out pen. The shed floor is above ground level and the part where the sheep stand consists of slats to allow their droppings to fall through. There are openings in the wall below floor level right along one side of the shed. As the temperature in the shed rises, fresh air is drawn through these openings and up between the slats. The large pile of dung that was seen near the shed was raked out through the openings.

There have been changes, inside and out. The two round tanks shown in the sheep's view of the shed are quite recent additions: that space was originally occupied by three count-out pens. With the coming of machines, an engine room was built as a lean-to against the wool room and the number of stands was reduced to about twenty along the wall from the engine room to the end of the shed. Later, this number was reduced to nine, as shown in Andrew Barr's cover photo.

In the shed, each man has his own place, his own handpiece, combs and cutters, oil can, and tool for changing combs and cutters. (Figure 4) These days the shearer may have a harness and strong spring suspended from above to support his back, relieving the strain of constant bending, but it is still hard work. He is not paid by the hour but by the sheep and will not brook interference or delay. At regular intervals the sheep in his count-out pen are counted and the number added to his tally. This is a very important procedure because the shearer's pay depends on the accuracy of the count.



Fig. 4. Shearer's tools.

The belly wool comes off first and is kept separate as 'bellies' after stained wool has been removed. The fleece comes off white side up. The rouseabout has learnt how to pick up a fleece the correct way and throw it to spread out on the table dirty side up. He must also gather up the scraps of wool on the shearing floor, dodging round the shearers, and put them in a bin or basket nearby, and run with antiseptic dressing to dab on any sheep with a bad accidental cut.

There would normally be a man on each side of the table removing the poorer wool round the skirts of the fleece (legs, crutch, etc) and throwing it into bins behind the table. (Figure 5) The fleece is then rolled up and passed on to the wool classer, who assesses it and puts it in the appropriate bin, 'AAA' for the best, AA for short fleece, BBB for coarse fleece, etc. . (Figure 6) The wool classer is important, in that he is responsible for all the different



Fig. 5. Classing table and bins for pieces, etc.



Fig. 6. Bins for classed wool ready for pressing.

lines of wool going into the correct bins, thus maximising the price the grower receives for each line when it goes to market. At the end of the day he writes up the wool specifications, which the buyer studies before deciding which wool to buy and how much to pay for it.

In the 'wool room' the presser opens a bin and presses its contents into a bale not exceeding 204 kilograms. Wool is so resilient it can withstand very tight compression. The



Fig.7. Old wool press.

bale is weighed, labelled and stacked ready for transport to market. The press, scales and wooden ramp shown in figures 7 and 8 are obsolete: those most recently used have evidently been removed for use elsewhere. With hydraulic power, most modern presses have their own built-in scales. Stencils are still used for labelling bales (and, it would seem, for graffiti). The label on the bale could include the station name, Bimbowrie, the type of wool, such as AAA, and a bale number. Details of each bale are recorded in the wool book.



Fig. 8. Scales and stencils.

While all this is going on, the ‘expert’ must keep the engine running, (Figure 9) sharpen combs and cutters and put them in the appropriate pigeonholes, one pigeonhole for each shearer, (Figure 10) and keep up the supply of oil for the handpieces. (Figure 11) Figure 9 shows at left the single cylinder diesel engine with a tank and pipes supplying cooling water, and at right a bench grinder for sharpening combs and cutters, and beyond it the door and steps up to the woolshed floor.



Fig. 9. Engine room.

This team has been organised by the ‘contractor’ who brings his team to the property at a time arranged with the owner, while workers on the property bring the sheep to the shearing shed, keep the catching pens full and take the shorn sheep away from the shed.

Kenneth Duffield, in his book *Savages and Kings*



Fig. 10. Pigeonholes.



Fig. 11. Oil drum with tap.

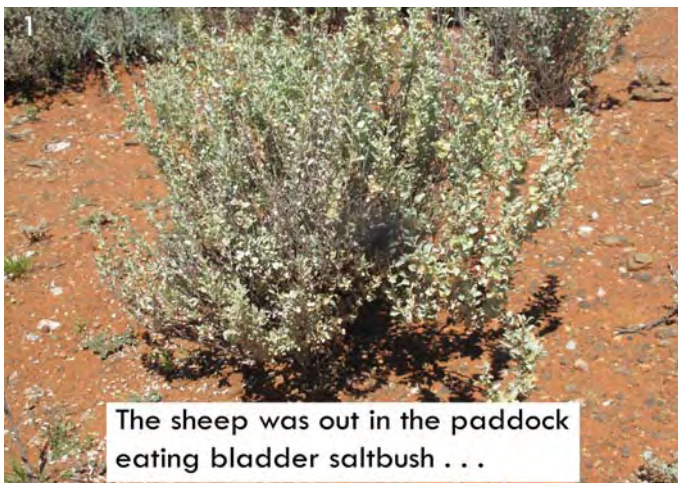
(London, 1946) vividly describes the sensations felt in a working shed. As a young man, Duffield worked on the family properties, including Winnininnie, about 60 kilometres south-west of Bimbowrie.

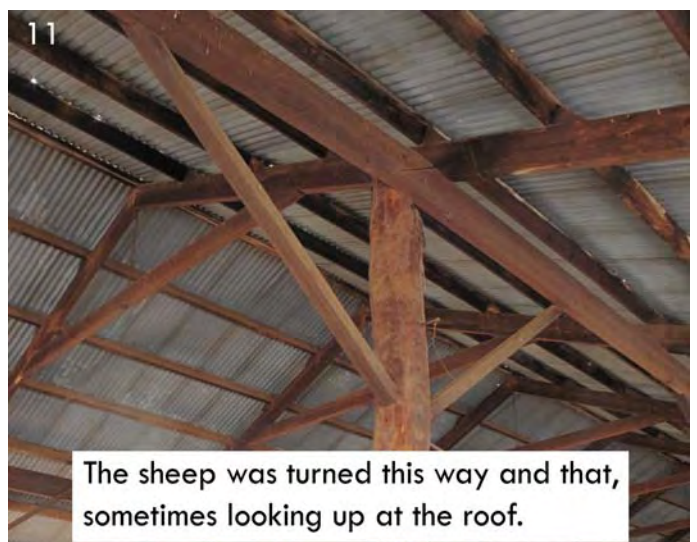
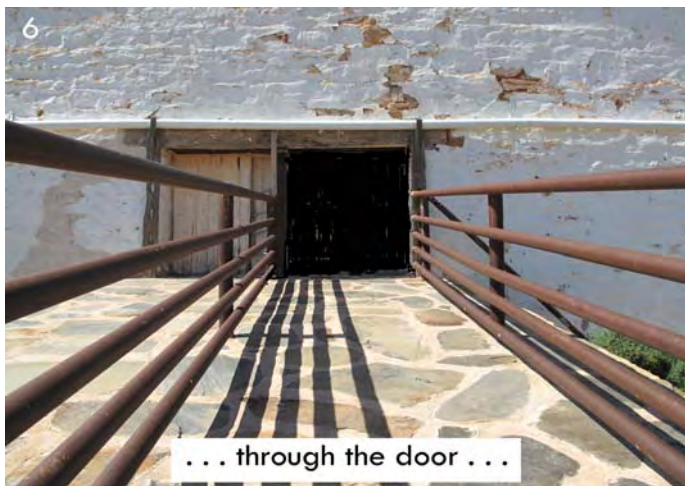
*“The atmosphere is heavy and humid. There is a hot, oily, sickly-sweet smell like that of a ship’s engine-room in the tropics. This comes from the grease in the wool (from which lanoline is made) and the breath and urine of the thousands of sheep congregated there. ... There is a din of whirring machinery, the ‘sizzing’ of the clippers as they peel off the wool. ... There are other noises too - the stamping and bleating of the harassed sheep (old ewes, like little girls, always stamp their feet when exasperated); the ‘Hoys’, the ‘Heigh-yars’, the ‘Whoas’, the ‘Whoops’ and the rest of the unintelligible jargon used by the roustabouts packing the stubborn, panting animals into the ‘sweating-pens’; the grinding of the emery- wheels on steel which sharpens the teeth of the shears and sets one’s own teeth on edge, the babel of the wool-boys as they run to and fro carrying the shorn fleeces - resembling huge thick loosely-knit rugs, snow-white underneath - to the wool tables, on to which they are dextrously flung, all ready to be graded ... the rattle and the groaning of the steel wool-press dumping the long unwieldy woolpacks into neat, steel-bound bales ready for shipment overseas.”*

Thanks to Richard Willing for additions and corrections.



Imagine you were the leading sheep in a recent year's shearing. There was an unusual growth of sheep food in the yards but what was not eaten was soon trampled by thousands of small hoofs. There was no rain so there was no delay. Everything went as usual.







Thanks to John Morley for advice on sheep and shearing.  
With kind regards from your humble servant - **The Sheep.**

**Contact email:** [jhlove@internode.on.net](mailto:jhlove@internode.on.net)

## Wanted

### A waterbug expert for a few hours work a year.

SEG's Vulkathuna/Gammon Ranges project includes a survey of macro-invertebrates (waterbugs) in two ephemeral pools. We've decided that we untrained amateurs can't really identify waterbugs adequately for a serious scientific project, so we're trying to find someone more qualified, so that perhaps we can collect a bottle of waterbugs in a preservative for them to identify at home.

If you know of anyone who might be interested, please contact Garry Trethewey 8390 3011 [garrytre@bigpond.com](mailto:garrytre@bigpond.com)

# Malleefowl Monitoring

Ray Hickman



*The malleefowl is one of those vital iconic species which has become a flagship for the cause of conservation in its environment. Not for being big and scary like an elephant or a tiger, but uniquely, for its stoic ability to survive and thrive in a harsh environment. The malleefowl can be a catalyst for reaching balance between economic and ecological imperatives, because people in the bush identify with this stoicism and feel an obligation to conserve it.*

Ross Macfarlane, Newsletter of the Victorian Malleefowl Recovery Group Inc, January 2007

In recent years SEG members have been participating as volunteers in a *Department of Environment and Natural Resources (DENR)* program of malleefowl monitoring. This is being conducted in conservation parks, and on private properties, between Murray Bridge and Loxton in the Riverland. One of the private properties is owned by SEG stalwart Henry Shorts. The organizer of the monitoring activities is Dave Setchell who is based in the Riverland and works under contract with DENR. The activities have involved both camping overnight and day trips from Adelaide.

Monitoring involves two distinctly different activities. In the first type of activity numerous mounds are visited briefly to look for signs of recent activity. A GPS is indispensable to this process and Dave Setchell has set up a palm-pilot/GPS system that allows survey groups (usually 2 people) to locate mounds easily and quickly record observations for each one. Although the mounds are typically only a few hundred metres apart finding all of them in dense mallee without a GPS would be very time consuming (impossible). Some of the mounds visited are so degraded as to be barely recognizable even when you are on top of them.

Walking around in the mallee all day can be quite pleasant and relaxing when conditions are cool but on a hot, dry summer's day, in thick mallee, things are not so pleasant. Kevin Burrett has described the experience that he and Brian Swann had on a survey activity of this type in November last year.

*"On the weekend of 5th and 6th of November, a small but dedicated SEG team journeyed to Henry Short*

*property for the annual malleefowl monitoring survey. We divided into teams and, on the first day, Brian Swann and I bashed through some pretty dry and thick mallee and looked at about 30 mounds. Apart from the flies, there was nothing moving and we were glad to see the camp that evening for some round the campfire 'de\_briefing' (that's what we call it anyway!). The next day on another grid Brian and I were getting close to mound number 2 for the day, when Brian noticed activity at the mound. Sure enough, there were two birds working the mound. We got up to about 20 metres from them without their being alarmed. As we got a bit closer, the female decided that was enough and wandered off into the scrub, but the male stayed and worked before casually strolling away about 20 metres. He then skirted around us watching while we did the survey, and as soon as we moved away from the mound, he came straight back and got on with his job. We stayed for some time taking photos and enjoying the experience at close range. It must be a bit akin to swimming with dolphins or whale watching I suppose, a tremendous sensation just being there while they calmly went about their business. Both of us agreed that we could have stayed and watched all day. It sure made the scrub bashing of the day before all worth it! Around the fire that evening, we wondered if the couple had just laid an egg in the mound (it was about 9am), and the male needed to 'get on with' the process of restoration."*

The other type of activity involves excavating mounds that are known, or expected, to be active. Needless to say this is done carefully with the nest being restored to near its

original condition before departure. I participated in one of these excavation activities on 7th February. This involved leaving home at Modbury a bit before 7 a.m. and getting to a rendezvous point 30 km from Swan Reach along the highway to Loxton in time to meet Dave Setchell, Matt Humphrey from DENR and Luke Ireland, a volunteer based in the Riverland. making up the group for that day. We visited four nests, the first in the Bakara Conservation Park.

Having previously spent a day rather similar to the first day that Kevin and Brian had spent on their trip described above I was very interested to see that this mound was obviously being worked. There was a relatively sharp secondary mound of finely divided dirt crowning the



**Figure 1: Active malleefowl mound with the nest evident as a secondary mound in the middle**

primary mound and surrounded by a dry 'moat'. The secondary mound is the nest and it is excavated by careful sideways strokes of the hand and forearm. Eventually this uncovers the egg chamber and eggs. The extent of the chamber is evident in the change from the fine flowing soil of the nest to the compacted soil of the surroundings. One cannot help but marvel at the fact that a malleefowl chick must break out of its egg, find its way out



**Figure 2: Checking for the last egg**

of the nest through 50 cm or more of soil and then fend for itself until maturity. Very few make it from the egg to adulthood and yet the species is surviving. It is no wonder that the bird enjoys a special place in the affections of people who understand, and accept, the harsh disciplines imposed by life in the bush.

Each nest we visited had been excavated earlier in the summer at least once. Eggs seen on those occasions had been numbered in sequence with pencil and the sequence was continued for the newly laid eggs found. Some eggs had hatched and some debris from these eggs was found. The weights of all eggs were determined as well as the length and breadth of all new eggs. Where an egg has not decreased in weight since the last excavation it is likely that it is no longer viable. Once all measurements had been completed, and recorded, the eggs were returned to the nest and re-buried. One nest contained 36 eggs and this was considered to be an unusually large number.

We next excavated two nests on Henry Shorts' farm about 10 km distant. The last nest visited was another 10 km away on another private property. In this location the mallee was quite open compared to the other three locations. The property owner joined the survey group at the nest and so did the bird that was working it. He (a single bird working a nest is likely to be a male) approached to within about 10 metres and seemed unconcerned by our presence.



**Figure 3: So many eggs, so few adult birds**

Photos: B. Swann

After a few minutes he wandered away. We finished the day with a cup of tea and cake back at the farmhouse. I got home in the late afternoon very enthused by the day's experience. If you get the chance to go on a survey of either of the two types described I recommend you take it.

Contact email: [raywen@bigpond.net.au](mailto:raywen@bigpond.net.au)

# Malleefowl Monitoring

**Dave Setchell**



Spring 2010 saw the return of the Australian plague locust to the Murray Mallee. Although native, the Australian plague locust is a declared pest species, so a large control program was conducted across the region. The sprays used included non selective insecticides, which kill all insects that come into contact with the spray.

Malleefowl are a threatened species, listed as *Vulnerable* at both a state and national level. The diet of malleefowl includes insects and malleefowl are known to feed on crop margins where locusts form large bands. It is not well understood how agricultural chemicals affect the reproductive success of malleefowl. In order to better manage locust control activities and prevent impacts to threatened species, DENR Murraylands Region and Mallee Eco Services, with funding from Primary Industries & Resources SA, is conducting a research project to determine if malleefowl breeding activity is being affected by the insecticides used to control locusts.

The 2010/2011 malleefowl breeding season presented a unique opportunity to conduct this research, with the largest locust plague in decades and a good breeding season for malleefowl due to higher than average winter rainfall. The study is complementing the usual annual malleefowl mound monitoring program in the Murraylands Region.

The study is examining the reproductive output of malleefowl over the entire breeding season, including egg size, egg laying rate, egg hatching rate and clutch size to determine any changes after spraying occurs in nearby cropping areas. Mounds are being examined in both sprayed & unsprayed areas for comparison. Signs of predation, locust remains in scats and changes in mound temperatures are also being recorded. The study is also contributing to the work of Taneal Cope, a PhD student

from Melbourne University, who is studying the genetic variation in malleefowl populations across their entire range. Incidental feathers that have been shed by malleefowl around the active mounds are being collected for genetic analysis. After the field work is finished, egg, feather and scat remains will also be tested for insecticides.

Across 17 sites in the Murray Mallee, from Peebinga Conservation Park in the east to Ferries MacDonald Conservation Park in the west, mounds are being visited every 3 weeks on both public & private land. DENR staff and volunteers have been trained to excavate mounds by Dr Joe Benshemesh, Chairman of the Victorian Malleefowl Recovery Group, using the least disruptive techniques. These techniques have been proven to have no discernable detrimental effects on breeding success.

The amount of effort required to excavate 17 mounds every 3 weeks has been enormous & would not have been possible without the efforts of enthusiastic volunteers, including members of the SEG.

As many as 46 eggs have been recorded in individual mounds so far, reflecting the good conditions during this breeding season. Fox predation has been minimal, with only one instance of eggs being taken from a mound, probably while the mound had been opened up by the malleefowl for egg laying.

The results of the study will be presented at the 4<sup>th</sup> National Malleefowl Forum in Renmark later this year.

**Contact : Dave Setchell, Mallee Eco Services,**  
**email: [dnhsetchell@bigpond.com](mailto:dnhsetchell@bigpond.com)**

## HELPERS WANTED FOR THE AUTUMN SURVEY

**Kids, Mums, Dads, Grandies, Others**

### BIODIVERSITY SURVEY

For the

**SCIENTIFIC EXPEDITION GROUP**

At

**‘MINNAWARRA’, HINDMARSH TIERS**

**APRIL 16<sup>TH</sup> to 20<sup>TH</sup> 2011**

The next biodiversity survey in the “Minnowarra” scrub near Myponga is starting on the first Saturday of the school holidays. The project is to assess the long-term effect of fencing out cattle and sheep, and has been running for ten years. Traps will be opened on Saturday 16<sup>th</sup> April, checked twice a day for four days and nights, until Wednesday 20<sup>th</sup>.

Three different traps are used for mammals and reptiles. Pitfall traps are sunk into the ground with a fence running across them. Small animals and skinks run along the fence and fall in. Elliott traps are metal boxes with a bait of oats and peanut paste inside to trap small animals such as bush rats. Larger animals are trapped in cage traps at each end of the pitfall line. The traps are inspected each morning and evening, trapped animals identified, weighed, marked and released.

At the same time there will be surveys of vegetation, birds, reptiles and frogs at the eight sites. We expect to find bush

rats, swamp rats, antechinus (marsupial mice), as well as a variety of frogs and skinks. Other interesting captures have been pygmy possums, yabbies and echidnas. Results are entered into the South Australian Biological Survey.

SEG is a volunteer, non-profit organization aiming to encourage an awareness of the natural environment. Young people and adults are welcome to help with these surveys. Come for anything from half a day to several days. Camping is near a large shed with heater, electricity, barbeque, cooking gear and toilet. Bring your own food and camping gear.

Registration is essential to be covered by our insurance. A small donation would be welcome (suggest \$10 adult, \$5 students).

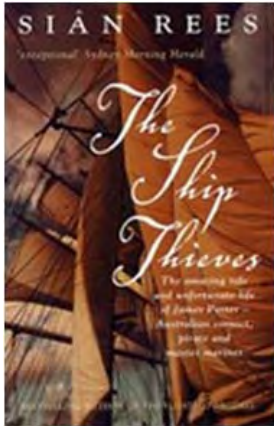
Contact information and registration please ring Janet 7329 8236, 0419842667, email [thefurlers@gmail.com](mailto:thefurlers@gmail.com) or Richard 8558 6381, 0408 807 517



A Scrub Wren

# Book Reviews

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**The Ship Thieves: The amazing tale and unfortunate life of James Porter**, Rees, Sian 2005, Hodder Australia, Sydney., 231 pages. ISBN 0-7336-2081-7 (paperback)

**Closing Hells Gates: The death of a convict station** Maxwell-Stewart, Hamish 2008, Allen and Unwin, Crows Nest. 312 pages. ISBN 978-1-74175-149-9 (paperback)

South Western Tasmania in the 1820s & 1830s was by all accounts a wild, isolated and inhospitable place. Therefore in the minds of the British Colonial Office it made a great spot for a prison for convicts who had committed further crimes after being sent to the prison colonies of Sydney and Hobart Town. These two books flesh out some of the incredible stories that arose from behind “Hell’s Gates”.

*Sian Rees* has previously written about early European experiences in the fledgling colony of Sydney and this book brings her to an amazing story from the prison colonies on Van Diemen’s Land. The story of James Porter is a tale of plotting to escape the clutches of the convict hell he so deeply despised. Eventually after many escape attempts he was transported to Sarah Island, in the Macquarie Harbour Penal Station on Tasmania’s west coast which was the prison from which there was suppose to be no escape.

But no one told Porter and with 9 other convicts he stole a ship and sailed away to Valdivia on the western coast of Chile, some 6000 miles away. Most of the convicts involved in the escape had worked on construction of badly needed new ships for the fledgling colony. The wood from the local area proved very useful in these building projects. Once

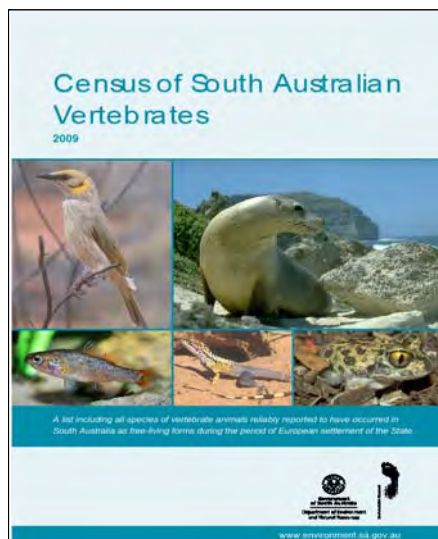
they had escaped the convicts enjoyed their freedom and the book details what happens to Porter during and after this amazing trip across the Pacific. Rees describes a gripping tale of adventure and survival with the authority of a great historian using an evocative narrative.

*Hamish Maxwell-Stewart* also focuses his attention on Sarah Island and the prison colony established there. He tells of the cruelty inflicted on the convicts through examining the writing of those that were there, both convicts and jailers. Maxwell-Stewart describes the end of this penal station and gives great insight into the minds and thinking of those that lived, survived and died there.

He also graphically details the vast and uncharted mountain range that runs down the western coast of Tasmania and which provides the eastern prison wall for those that were sentenced to Sarah Island. There was no easy way off Sarah Island and back to the populated south-east near Hobart Town. Maxwell-Stewart’s retelling of stories of escape plans, the desperate search for food and shelter and possible cannibalism underscore the harshness of a sentence to this most remote of British penal settlements. It was not only the prisoners who felt they had been sentenced when they arrived at Sarah Island!

These books illustrate the toughness of the Australian convict system but also help illuminate the strength of the human spirit when pushed to breaking point and beyond in isolated environments. Rees and Maxwell-Stewart have used their highly refined historical research skills and their writing craft to create two memorable and utterly *unputdownable* books.

**Conrad J. Denyer**  
**Flinders University**  
**Conrad.Denyer@flinders.edu.au**



**Census of South Australian Vertebrates:**  
Department of Environment and Natural Resources  
2009

The “Census of South Australian Vertebrates” was first published in 1985 in hard copy form as “A list of the Vertebrates of South Australia”. A second edition was published in 1990 and a third in 2000. The 3<sup>rd</sup> edition was the first to include distribution maps for all species based on records from the South Australian Museum and the Biological Database of South Australia (BDBSA). The Census provides users with a complete listing of the current taxonomy, conservation status and distribution of vertebrate species in South Australia

The 4<sup>th</sup> edition has taken on a new electronic (eBook) format, replacing the traditional hardcopy. This will allow the information to be updated more regularly, incorporating taxonomic changes and new discoveries. Of course there is still a need for a hardcopy, particularly for use in the field, so users are encouraged to print of the chapters and updates from the internet as required.

The 4<sup>th</sup> edition was first released in 2009 via the internet with the updated Amphibian chapter. A second update has just been completed which adds the Reptile taxonomy and distribution maps and recent taxonomic revisions to the Amphibian chapter. The next update is planned for 2011 and should add Bird taxonomy and distribution maps and Mammal and Fish taxonomy.

The reptile and amphibian maps represent a collation of over 118 000 records. A high percentage of these are verified by museum specimens (see pie chart), and all have been validated by vetting committees, resulting in the production of very high quality species distribution maps. Major sources of data include the South Australian Museum and the systematic field work of the Biological Survey of

South Australia carried out by the South Australian Department of Environment and Natural Resources, SA Museum personnel and volunteers over the past 30 years. Thanks also goes to groups such as SEG who contribute in a variety of ways to the collection of valuable field data that makes a publication such as this possible.

The Census is available for download through the DENR website  
<http://www.environment.sa.gov.au/science/bio-discovery/census-vertebrates.html>

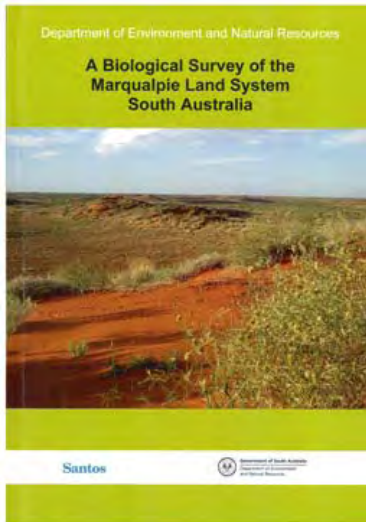
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South ,Australia  
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### **National Malleefowl Forum**

The Organising Committee of the 2011 fourth National Malleefowl Forum takes pleasure in inviting you to attend the above Forum to be held at the Renmark Hotel, Renmark, South Australia. The 2011 Forum will comprise of registration and pre-forum refreshments on the Friday evening; 2 days of presentations on Saturday and Sunday; and optional post-conference field trip on the Monday. We are now calling for abstracts for both oral and poster presentations, from interested individuals and community groups involved in Malleefowl conservation; academics involved in aspects of Malleefowl research; Government and Non-Government organisations involved in management and conservation of Malleefowl. Presentations should address at least one of the following main themes of the Forum, however, other topics will be considered:

- The role of community groups in Malleefowl conservation
- Adaptive Management for arid zone ecosystem management
- The role of fire in Malleefowl conservation; Malleefowl and remnants; or
- Landscape-scale restoration projects

For further enquiries and telephone registration call:  
**Holly Schleyer or Sharon Gillam**  
**Phone: (08) 8222 9308 Phone: (08) 8222 9459 /**  
**Email: [sharon.gillam@sa.gov.au](mailto:sharon.gillam@sa.gov.au)**



**A Biological Survey of the Marqualpie Land System South Australia.** Neagle, N. and Armstrong, D. 2010 Department of Environment and Natural Resources, South Australia.

A biological survey was conducted in the Marqualpie Land System in September 2008 with funding

received from the SANTOS Merninie Offset Fund. A significant rainfall event in the area three months prior resulted in favourable conditions at the time of survey, with many small ephemeral lakes and swamps still holding water, a flush of vegetation growth and a corresponding breeding response in fauna.

The Marqualpie Land System is in the far north-east of South Australia and mostly within the Innamincka Regional Reserve, a multiple use reserve where biological conservation is recognised as a legitimate land use alongside pastoralism and petroleum and mineral exploration and production. The region is characterised by low jumbled crescent-shaped and irregular dunes. Small claypans and lakes occur within swales and several watercourses draining gibber country to the north and east cut through the dunefield. The dunes become less distinct in the east and are replaced by an undulating sandplain.

While the 2008 survey is the main focus of this report it is important to recognise that it builds on the work of several previous surveys conducted in the general area. Data from these has also been summarised here and where possible used in analyses. The main aim of this survey was to sample the major habitats present in the land system to enable documentation of the range of communities of plants and animals they contain. A total of 32 sites were sampled for vertebrate fauna and vascular plants. Plant species data from these and two earlier surveys were included in a floristic vegetation analysis of site data for the area. This resulted in the identification and description of seven floristic vegetation communities which may be grouped into four broader clusters based on the landforms where they are found: dunes and sand plains; swales and sand plains,

floodplains (on the margins of the study area); and creeklines, floodouts and swamps.

A total of 322 distinct plant taxa were recorded during the survey, comprising 315 natives and seven exotics. Significantly, exotic taxa accounted for only 0.6% of all records and 2.2% of species. Two plant species of conservation significance were recorded - *Frankenia cupularis* and *Swainsona oligophylla* - both of which are considered Rare at State level. This was also the first record of *Frankenia cupularis* within the Marqualpie Land System. In addition a total of 87 plant taxa, or 27% of all taxa recorded during this survey, had not previously been found in the area.

Twenty four mammal species were recorded during the survey, including all previously known species for the land system plus seven new records. These comprised 18 native (one monotreme, five dasyurids, one macropod, five rodents, five insectivorous bats and the dingo) and six introduced species (two ungulates, two carnivores, one rodent and one lagomorph). The most frequently encountered mammal group was the rodents, in particular the Sandy Inland Mouse (*Pseudomys hermannsburgensis*), which was recorded at 75% of sites and accounted for 35% of all site records, and the exotic House Mouse (*Mus musculus*). The high numbers of these irruptive species was presumably a response to the significant rains that occurred three months prior to the survey.

Bird diversity in the Marqualpie Land System is surprisingly high given that dunefields and sand plains are the major landforms present. Few bird species that inhabit Australian deserts are restricted to these habitats, as most depend on the availability of free water. The 2008 survey recorded 106 bird species (all native), 40 of which had not previously been recorded in the Marqualpie Land System. Five species were of conservation significance – Brolga (*Grus rubicunda*) and Australian Bustard (*Ardeotis australis*) are both rated Vulnerable and Glossy Ibis (*Plegadis falcinellus*), Grey Falcon (*Falco hypoleucos*) and Flock Bronzewing (*Phaps histrionica*) are rated Rare in South Australia. The abundance of grass species present at the time of survey resulted in Budgerigars (*Melopsittacus undulatus*) being very prolific in the area. This was by far the most abundant bird species recorded.

Of the 38 reptile and two frog species known to occur in the study area prior to 2008 all but seven of the reptiles were detected during this survey, and a further four species were recorded for the first time. Skinks (Scincidae) were the most species rich of the nine reptile families recorded, accounting for 54% of all records and 15 of the 35 species (43%). Six species (five skinks and one gecko) were detected at more than a third of the sites, with the Eastern Desert Ctenotus (*Ctenotus regius*) being recorded most frequently (25 sites).

The total number of records contributed to the Department of Environment and Natural Resources Biological Databases of South Australia (BDBSA) from sites as a result of this survey were – 1283 plants, 330 mammals, 16018 birds, 485 reptiles and 200 frogs. A further 11816 records were collected away from sites as opportunistic sightings, comprising 316 plants, 48 mammals, 11401 birds, 49 reptiles and two frogs.

**Contact email: [nick.neagle@sa.gov.au](mailto:nick.neagle@sa.gov.au)**  
**Nick Neagle, Science Resource Centre, DENR**

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## GLUEPOT RESERVE – A RESERVE WITH A DIFFERENCE

Not long ago, one of Australia's most highly rated ABC journalists described Gluepot as "one of the conservation miracles of the 21<sup>st</sup> century".

**Birds Australia Gluepot Reserve** is Australia's largest community managed and operated conservation reserve. Situated 64 km from Waikerie on the River Murray in South Australia's Riverland, the reserve is managed and operated **entirely** by volunteers. Some 54,000 ha in size, it is home to 18 nationally threatened species of birds, 53 species of reptiles and 12 species of bats, some of which are nationally threatened. **There are few areas of the world that support such a concentration of threatened species.**



### Some program details for early 2011

#### **An Introduction to Scientific Botanical Illustration**

**14 & 15 May 2011 Code: BOT11**

**Facilitator: Bronwyn Bean**

'An Introduction to Scientific Botanical Illustration' will provide you with knowledge and practical experience to create your own scientific botanical illustrations. The two day workshop will take you step by step through the process of creating an illustration, from a beginner's level. It will focus on drawing and painting techniques, aims and components of an illustration. No prior drawing experience is necessary. The workshop aims to introduce participants to the beauty and enjoyment of botanical illustration. Participants will gain an understanding of scientific botanical illustration: History, advantages and applications; Components including use of dissections and annotation; Techniques and materials used; Create a scientific botanical illustration.

#### **GPS and GIS Workshop**

**28 & 29 May 2011 Code: GPS11**

**Facilitators: Dennis Matthews & Craig Oliver**

A workshop that will teach you the basics of your GPS. All GPS units have different functions and this course will explore the features and functions of a variety of GPS makes and models. If you do not presently own a GPS, we suggest that you do not purchase one until you have completed the course, and at that time, make a decision about which model will best suit your needs. If you really want to buy one now, give me a call and I can advise you - Dennis Matthews: (08) 8562 1666 or 0429 385 586. If you have a Garmin GPS and it accepts uploaded maps you will learn how to use them. Free maps for Garmin GPS units will be available to use. Using a GPS is one thing, but what can you do with the data?? We will explore the options of placing your GPS data on to computer maps using GIS software (Geographic Information Software). This will lead to an introduction of OziExplorer (GIS software) and a discussion on other GIS software packages. If you have a Laptop computer and a data lead for your GPS, bring them – it is always better to learn on your own system.

**Detailed course brochures are available in 'Pdf' format on the Gluepot Reserve website at: [www.riverland.net.au/gluepot](http://www.riverland.net.au/gluepot)**      **The Reserve can be contacted at: (08) 8892 8600**

# Expedition 2011



At every turn of every track, vigorous new life abounds. The beautiful and vulnerable yellow-footed wallabies have young in their pouches. Smaller marsupials and other animals have never been more plentiful. The many waterholes in their gum tree-lined creeks are abuzz with colourful dragon-flies and other fascinating native insects. Their waters swarm with tadpoles and tiny native fish. Along the creeks the nights are alive with the croaking of frogs, the buzz of cicadas.

Australia's 'jewel in the crown' of outback tourism, Arkarooola Wilderness Sanctuary in the northern Flinders ranges of South Australia, is bursting with life. Marg and Doug Sprigg, owners of the sanctuary, are excited!

Marg Sprigg said "After 11 years of severe drought, the rains of 2010 and early 2011 have resulted in an absolutely amazing scene." "Not since the early 1970s have we experienced such consistent, prolonged rains. Arkarooola averages only 175mm of rain each year, but we had steady rains in every month last year. And since last Christmas – in just 2 ½ months – we have had 333mm of rain at Arkarooola Village. Amazing!"

"Our big rain events – in those years when they occur – are in summer, resulting from the tail end of tropical monsoons and cyclones swinging south to dump rain over these high mountains. But we have been extremely fortunate this year in that the big rains have not been destructive storm events, but steady, soaking rains which have really benefitted the country."

"At Arkarooola Village, or local Wywhyana Creek has already flowed four times this year." "All the magnificent waterholes are brim-full. The huge, ancient gum-trees lining the major creeks were looking very tired and drought-stressed. Now they are bursting with new growth and looking better than ever." "The native grasses and small herbs are already flowering. They will be followed during the next few months by the many flowering shrubs and trees. Autumn and winter at Arkarooola promise to be scenically the most beautiful and spectacular for 40 years."

## Scientific Expedition Group Expedition 2011

When SEG went to Arkarooola to conduct the biodiversity survey in 2009 it was in drought conditions. Those who attended will recall the fierce winds and dense dust storms that blotted out the sun – and actually carried Ozzie topsoil over Sydney to New Zealand.

This past year has changed all that. Arkarooola has had its best season on record, with bursts of rain every few weeks over a long period, so that it has been green for many months. Since the beginning of the year Arkarooola has had more than 300 mm rain. As a result there has been an explosion of wild life. Instead of the small number of animals captured in the last survey dunnarts and hopping mice are now all over the place, reptiles and birds are plentiful, and the profusion of plants may well produce some that were not seen last time.

Arkarooola is going to welcome SEG back again during the last half of September to repeat the survey done 2 years ago, using the same sites and the same system as before. A small team will go there on a recce trip in a few weeks to find the sites and the pit fall traps.

**Richard Willing, SEG President**

**Contact Email: [willingr@aussiebroadband.com.au](mailto:willingr@aussiebroadband.com.au)**

**Further information: Marg Sprigg 8648 4848**



# SEGments



## SCIENTIFIC EXPEDITION GROUP

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 2011

#### SUBSCRIPTIONS

Adult member - - - - - \$30.00

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

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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**

# Visit the Scientific Expedition Group Website

<http://www.communitywebs.org/ScientificExpeditionGroup/default.htm>



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