



SEGMENTS

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PO Box 501, Unley, SA 5061

GLUEPOT 2000 EXPEDITION

By Duncan MacKenzie - Expedition Leader

During November and December 2000, the Scientific Expedition Group (SEG) conducted a two week scientific expedition on Gluepot Reserve, Australia's largest community owned and managed conservation reserve.

Situated in the Murray mallee – sixty four kilometres north of South Australia's Riverland town of Waikerie – Gluepot Reserve covers 544 square kilometres and contains populations of seven nationally threatened species of birds and a further seventeen species which are threatened in one or more of the Murray Mallee States. There are few areas of the world that support such a concentration of threatened species. Additionally, Gluepot has a diverse and abundant population of reptiles, some of which are nationally threatened.

Gluepot also contains some of the last remaining old-growth mallee in Australia - much of the Reserve has not been burnt for over fifty years. Some trees are hundreds of years old and the vegetation and fauna on the Reserve is a significant national biological resource.

The Reserve is being developed as a "Quality Centre for Scientific Research" and through its' research, monitoring, training and educational programs, Gluepot is contributing to the conservation of landscapes, ecosystems,

and species and genetic variation which are directly related to regional, national and global conservation and sustainable development issues. The data obtained from the SEG expedition will be included on the Reserve's biological databases and will assist Reserve managers in future planning.

Sixty people attended the expedition, participating in ten separate research projects. Full biodiversity surveys were undertaken at forty eight sites and included birds, mammals, reptiles, invertebrates and vegetation. During the surveys, forty species of reptiles were recorded, taking the Reserve species list to over fifty.

During the evenings, bats were surveyed using mist nets, Harp traps, and ANABAT systems to record echolocation calls. Trapped bats were identified, weighed, measured, marked and released and the study took the known number of species occurring on the Reserve from six to twelve. Studies were also made on the movement of bats within the Reserve and opportunistic discovery of water by bats.

Curators from the South Australian Museum undertook day and night surveys of invertebrates across the Reserve and their vehicle was often seen travelling along the roads with a funnel net billowing out on the roof, to catch high-flying insects -- an insect collector's dream of "Pricilla, Queen of the Desert".

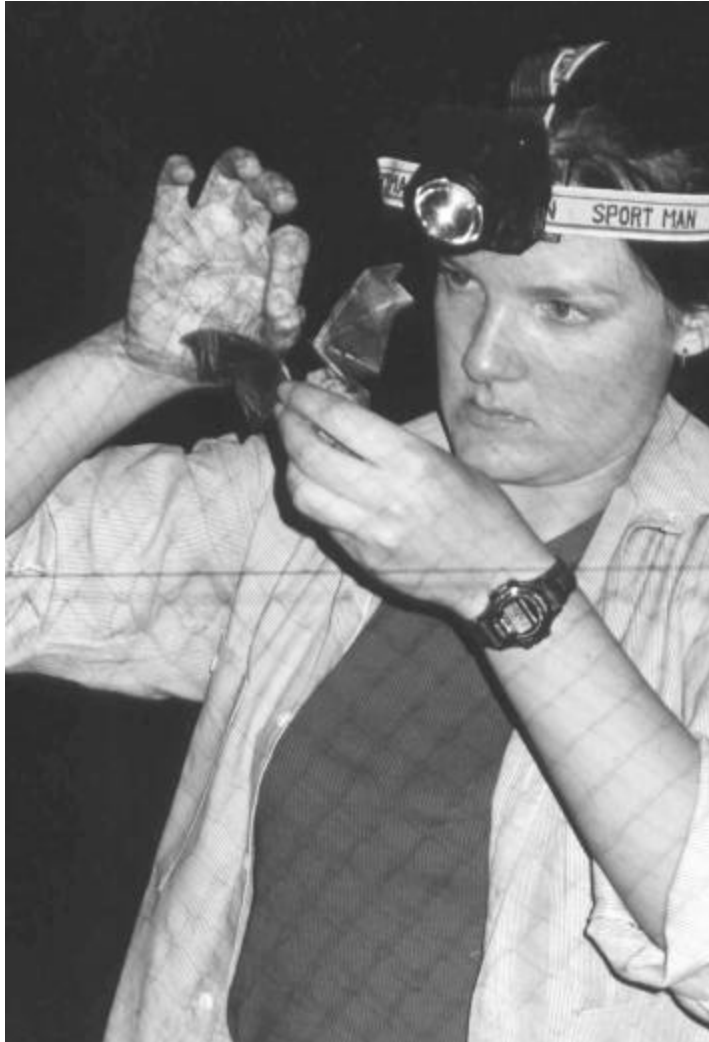
Bird banding was undertaken at selected Malleefowl grid sites as part of the Reserve's long-term study of species that are threatened in Australia and yet abundant on Gluepot, ground-dwelling species which are likely to respond first to a marked reduction in grazing pressure and poorly-known species which are common on the Reserve. There were 368 birds banded of which twenty three were re-traps from previous bandings.

As part of the Reserves' long-term monitoring of land changes, three 50m x 50m vegetation exclosure plots were erected. Botanists mapped, measured and photographed the plants within these plots and University of South Australian students will annually re-survey the plots to evaluate the effect of different classes of herbivore on the vegetation.

A survey of the soil landscape units on Gluepot was undertaken, led by scientists from CSIRO, Department of Primary Industries and the Department of Mines. Utilising a drilling rig, soil samples were taken at a wide variety of sites across the Reserve, and were analysed for texture, profile, colour, drainage characteristic, depth of root zone etc. The final report on this project will include a land unit map, soil descriptions in each landscape unit and a discussion on special features including the gypsum deposits. These features can then be associated with vegetation associations and will assist in the overall understanding of the ecological systems of Gluepot.

A special survey was undertaken of the gypsum lake systems and their rare plant

associations. Geologists studied the underlying stratigraphic formations while the botanists described the various plant associations and set up a number of new photo-point sites for long-term monitoring.



Removing bat from mist-net

An orienteering event was conducted over one day and the participants then undertook kangaroo transect surveys over the next three days, to plot kangaroo numbers.

This expedition was the largest ever conducted by SEG. In some ways, the expedition was a logistical nightmare, in that three separate and provisioned base-camps, were set up at the Reserve's

camping grounds. As SEG expeditions are catered, occasional runs into Waikerie were necessary for fresh food and ice. A fifty page Expedition Manual was given to each Expeditioner prior to the expedition and contained information

on the scientific programs, personnel who would be acting as leaders, information on Gluepot Reserve and various segments on health, safety and minimum impact camping.

Each site had its' own Camp Manager and scientific leaders, and daily, separate groups "fanned out" across the Reserve to work on their prescribed projects.

Expeditioners came from a diversity of backgrounds and included scientists, university graduates and undergraduates, people interested in the mallee environment and wildlife and those who were interested in expanding their knowledge in a variety of areas. Participants were mainly from South Australia and included one Expeditioner who travelled from Geelong in Victoria and another from Melbourne.

On the second Saturday evening, all expeditioners gathered at Babbler Campsite for a joint barbecue and to discuss progress to-date.

The youngest expeditioners were Samuel (5) and Josephine (6), the children of Camp Managers Mary and Peter Newbery. The oldest Expeditioner was David King (76) who came from Geelong (during January and February 2000 David, along with wife Betty, was the Volunteer Ranger on Gluepot).

GRaSP Report

At a meeting on Wednesday 14th February 2001 at the Bureau of Meteorology Project Leaders and Trip Leaders from the Gammon Ranges Scientific Project decided to hold annual meetings to review the project and to plan expeditions for the following year.

At this meeting Project Leaders gave a short presentation on the current

It is hoped that in a later edition of SEGments we will have a report on the first ten years of GRaSP but a brief report can be given here.

Rainfall - Project Leaders - Chris Wright and Linton Johnston
 This project has grown from two pluviometers to four pluviometers and a streamflow measurement gauge. While 10 years is by no means long enough to obtain

vegetation at six sites on North Tusk Hill and near the plateau pluviometer. Photographs have been taken at the sites at three month intervals for twelve years. As may be expected for that arid region change in perennial vegetation has been subtle except where there has been regrowth after a bushfire. It has now been decided that vegetation monitoring will only be done at six monthly intervals, in spring and



state of the various projects. Since its inception more than 13 years ago when the projects were rainfall, vegetation, human impact and aquatic biology a number of additional projects have been added. These are pitfall trapping, feral animal counts, fox baiting and yellow footed rock wallaby counts. SEG has also assisted Bob Henzell with his exclosure projects.

meaningful data interesting trends are being observed. There is a string of other pluviometers between the Gammon Ranges and Leigh Creek and along with the GraSP equipment a valuable sample of rainfall time series record for the semi-arid region is being provided.

Vegetation - Project Leader - Annie Bond
 The aim of this project has been to monitor long term changes in

autumn.
 Human Impact - Project Leader - Paul Wainwright
 This study has used photography to monitor changes in regions of high potential human impact, the Vandenburg Campsite, North Tusk Hill and the plateau pluviometer site. There have been some changes observed at the campsite but very little at the other sites.

Aquatic Biology - Project Leaders - Graham Blair/Paul Harvey

This project aimed to observe change in aquatic biology with change in water quality. Dip netting and artificial substrate sampling have been used and while results have been interesting it has been decided to simplify this project. Some work is to be done to decide what level of work can be achieved to give value to expeditioners and to provide meaningful results.

Fox Baiting and Yellow Footed Rock Wallaby Counts - Project Leaders - Peter Bird and Trent Porter and Christine Arnold

The aim of this project is to observe changes in yellow footed rock wallaby numbers with regular fox baiting. Although some increase in wallabies has been observed numbers are not consistent and more work on areas to be baited and watched needs to be done. National Parks are also doing fox baiting in the same area and hence the project may revert to rock wallaby counting only.

Pitfall Trapping

This project started with the Gammon Ranges 1996 Annual Expedition of SEG and was repeated in 1997 and 1998. Eight pitfall lines of six buckets each have been installed. One survey requires that the pitfalls be opened for up to six nights which does not fit in well with the normal three or four day GRASP

trip. The bucket lids which are left on the pitfalls between surveys are now deteriorating and there is now a danger to walkers and to animals. It has been decided to remove the buckets and to cease this project..

Feral Animal Counts

This project is opportunistic only. Observations are made during travel between the car park and Vandenburg Camp and up onto the plateau.

Adventure and Outdoor Education

The value of providing adventure and challenge while carrying out scientific field work for young people should not be underestimated. There

27th September to 1st October - Rainfall, vegetation, fox baiting and wallaby counts - details not yet finalised.

April Expedition

There will be one group, led by Christine Arnold locating Rock Wallaby colonies and doing Fox baiting into Gammon Creek and Mainwater Pound. A second group, led by Linda Marie Hall and Linton Johnston, will be doing the Rainfall and Water flow monitoring work, and the vegetation photography.

The groups will travel up together and meet again on the last evening before

returning to Adelaide.

There are still places available for expeditioners,

prepared to backpack for 3 days in wild arid mountain scenery, doing useful scientific work at the same time.

Contacts:
Christine

Arnold 8204



An Expeditioner Hard at Work Counting

have been over 60 expeditions and many hundreds of expeditioners. This part of the project will continue.

In the year 2001 there will be expeditions as follows:

April - Either Easter or ANZAC Day to 29th April - Rainfall, vegetation, fox baiting and wallaby counts. See below for details of this trip

July 13th to 17th - Pluviometer maintenance - Leader Graham Blair

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SCIENTIFIC EXPEDITION GROUP

The Scientific Expedition Group came into being at a public meeting on 21st August 1984. 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.

Members will receive regular information on S. E. G. activities and expeditions

SUBSCRIPTIONS (Including GST)

Working adult member -----	\$16.50
Pensioner student or unemployed -----	\$11.00
Family membership -----	\$22.00
Organisation membership -----	\$22.00

APPLICATION FOR MEMBERSHIP AND MEMBERSHIP RENEWAL

Name

Address

.....

Telephone (H) (W)

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

.....

Applications should be addressed to : The Hon. Secretary
 Scientific Expedition Group Inc.
 P.O. Box 501
 Unley S.A. 5061

Patron: His Excellency, the Honourable
 Sir Eric Neal, AC, CVO.
 Governor of South Australia

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Kids Corner

This time the hidden words are to do with biodiversity surveys. They are hidden in all directions. Can you find them all?

X	F	O	F	Z	B	T	L	R	X	T	X	Q
K	N	T	W	B	I	P	K	E	Y	Z	U	O
R	Z	C	B	U	O	L	N	P	K	S	T	T
F	T	E	I	C	D	L	I	T	Q	N	Z	R
E	A	S	R	K	I	A	K	I	A	A	M	A
N	T	N	D	E	V	F	S	L	T	I	B	N
C	I	I	U	T	E	T	P	E	S	I	L	N
E	B	R	F	D	R	I	F	T	O	A	I	U
I	A	W	O	Z	S	P	N	L	M	Z	Z	D
S	H	B	A	T	I	E	O	M	H	F	A	A
G	E	C	K	O	T	G	A	N	I	M	R	L
T	R	A	P	M	Y	M	E	T	I	S	D	C
F	T	A	R	D	A	U	Q	F	J	S	D	J

WORD LIST

- | | |
|--------------|---------|
| BAT | MAMMAL |
| BIODIVERSITY | MISTNET |
| BIOLOGY | PITFALL |
| BIRD | PLANT |
| BUCKET | QUADRAT |
| DRIFT | REPTILE |
| DUNNART | SITE |
| FENCE | SKINK |
| GECKO | TRAP |
| HABITAT | |
| INSECT | |
| LIZARD | |

EDITORIAL

Following on from the success of the Gluepot 2000 Expedition the Scientific Expedition Group is now going to proceed with a long term biodiversity monitoring project nearer to home. On Dr Richard Willing's property "Minnawarra" there are a number of Heritage Blocks which have been recently or are in the process of being fenced to keep stock out. By carrying out a long term study SEG will be able to observe changes in biodiversity and at the same time carry out some of our most important aims, to encourage young people to be interested in scientific field work and to give them an opportunity to practice scientific field work. There is more about this project in this issue and we will report as the years progress as to how the project is going.

There is a first report from the Gluepot Expedition in this issue and later this year when the individual reports have been written we will publish them in SEGments.

In this year of the volunteer we recognise and give thanks to the many volunteers who have helped and continue to assist with the expeditions and the running of the group.

Alun Thomas

Just A Thought

Why didn't Noah swat those two mosquitoes?

Why do they sterilize the needle for lethal injections?

FUTURE PROGRAMME

The Scientific Expedition Group (SEG) welcomes enquiries from all members and friends who are interested in participating in one or more of our projects or expeditions. Please contact the leader or convener of the project or expedition that interests you for more information.

We welcome enquiries from anyone from 16 - 60 years (or more) who would like to participate in our scientific, environmental and educational projects.

Current recurring project

Gammon Ranges Scientific Project (GRaSP) is now in its thirteenth year. The project involves a four or five day trip to the Gammon Ranges about four or five times a year. A data collection project involving flora and fauna and rainfall gauging which also involves bush camping and trekking. Other activities include feral animal counts, fox baiting and yellow footed rock wallaby counts. Expeditions are being planned for April-ANZAC weekend, July and September 2001. See the article on Pages 3 and 4. Contact Chris Wright 8278 8818

Future Expeditions

An expedition to Eyre Peninsula is in the early stages of planning. For information contact Richard Willing on mobile phone 0408 807 517

SEG is also planning a biodiversity project in the Spring Mount area near Myponga based on a number of Heritage Sites on Richard Willing's property, Minnowarra. . For information contact Richard Willing on mobile phone 0408 807 517 and see the article on page 8.

We welcome proposals from members for regions for our major expeditions

HEROIC SLEEPIES

ROBERT SHARRAD

I can't understand these sceptics Why won't they accept the wonderful story of Noah's Ark?

Noah and his family must have witnessed some heroic deeds and amazing achievements.

Consider, for example, the little Aussie sleepy lizard. Capable of speeds of just over 500m a day, these apparently dull creatures must have realised they needed to leave 60 years or so early to get to the Ark in time.

Now, sleepies don't live that long so they would have had to breed on the way. I also suspect several hundred left together because they had to allow for a lot of deaths and injuries during the long trip.

You can imagine the intrepid battalion of sleepies plunging into the Timor Sea — possibly clutching little snorkels fashioned from hollow reeds. How their stubby little arms churned as they swam the 500km to Timor. Then on and on from island to island, into the Malaysian jungle, through Burma, over the mountains and across the rivers.

The Himalayas may have been something of a challenge but have you noticed how the sleepies' little claws are rather like

crampons — can't you picture squads of sleepies scabbling up the icy slopes?

Once over the Himalayas the rest of the journey over hills, deserts and rivers would have been relatively easy and taken only 20 years and two generations to complete.

You can picture the surviving lizards approaching the Ark with the other 30 million or so animal species. No doubt they overtook slower creatures who had to leave even earlier — some say that the three-toed sloths had to set off within hours of being created!

The actual boat trip lasted only a few months and then the brave little beasts had to head back home (another 60 years or so). I suspect the sloths are still slowly moving to their real homes

Well, what could be more straight forward? I can't understand these sceptics.

MINNAWARRA PROJECT



SEG is commencing a new project to monitor long term change in the ecology of blocks of remnant vegetation.

The South Australian Government has financed the fencing of privately owned areas of remnant vegetation in various parts of the State in order to encourage the maintenance of biodiversity. These blocks are known as Heritage Blocks. The idea is to keep stock out of these areas. The fencing will, of course, only keep out the larger herbivores and hence at best can only be partially effective in this aim. Little is known whether biodiversity loss will be halted or slowed or what rates of regeneration might be expected.

This new project will investigate and record changes in the biodiversity over a long period of time in recently fenced blocks on the property called "Minnawarra" near Myponga. Surveys will be carried out every six months in autumn and spring. The project was started last year with the installation of the pitfall buckets and will have its first survey over the Easter long week end.

Volunteers from the Scientific Expedition Group are invited to take part in this project. This is an opportunity to take part in a scientific expedition close to Adelaide. It is a chance for some of us armchair expeditioners to see what actually goes on on a biodiversity project.

The survey will involve pitfall trapping to record small mammals and reptiles, vegetation surveys and bat observations. Expeditioners with skills in these area will be especially welcomed.

The survey will run from Thursday 12th April to Monday 16th April 2001 although expeditioners could arrive in the Friday morning. There is camping available and expeditioners are expected to be self catering and provide their own transport to the site.

If you are interested please contact Richard Willing on 8558 6381, mobile 0408 807 517 or email willingr@intertech.net.au for details and a map of how to get to Minnawarra.

