



SEGMENTS

Journal of the
Scientific Expedition Group



SEG AGM

Friday August 26, 7:30pm
Fullarton Park Centre

Guest Speaker Chris Wenham
Friends of Simpson Desert

Topic "Simpson Desert & the Friends Group"

Moonabie Expedition, Nov-Dec 2005

The Scientific Expedition Group (SEG) 2005 annual expedition will be to Moonabie, which forms part of the Munyaroo Conservation Park and is located on the coast between Whyalla and Cowell on Spencer Gulf in the north of South Australia.

The first week will involve the study of a range of subjects and collection of scientific data under the guidance of the expedition's scientists. Survey areas to be covered in this phase include:

- Mammals
- Birds
- Reptiles
- Invertebrates
- Vegetation

The second week may involve an Adventure Phase where small groups led by experienced leaders, undertake a bushwalk through the area.

Further information can be obtained by contacting Trent Porter Ph. 8278 9078.

SEG 2005 Calendar

July
July 15-20 GRaSP Cross-over Trip
August
August 26 SEG AGM
August 29 SEGments articles due
September/ October
Mid September SEGments Vol. 21 No. 2
October 13-17 GRaSP Spring Trip
Sept 29 to Oct 3 Minnowarra Spring Survey
November/ December
Nov 27 to Dec 7 Moonabie Expedition
November 28 SEGments articles due
Mid December SEGments Vol. 21 No. 3

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PO Box 501
Unley SA 5061

Minnawarra Biodiversity Project, Autumn Survey, April 21 to 25, 2005

Information provided by Richard Willing

Sixty people contributed 628 voluntary hours towards preparation and implementation of the April survey.

Although the survey had beautiful warm autumn weather, it was the hottest, driest April on record, which no doubt affected the species found. Friday and Saturday (April 22 & 23) had temperature ranges from 15 to 22°C. Sunday was a little warmer with 27°C. A change on Sunday night brought a few light showers (total 2mm) with cooler temperatures on Monday when the traps were closed. There was a full moon on Saturday April 24.

The warm dry weather probably contributed to the small numbers of rats captured. After slight rain on Sunday night there were more new animals in the traps on the Monday. The most prolific capture sites were no. 1 (swamp), 4 (gully near creek and dam), and 2 (near swamp). Sites 3 (gully) and 9 (hill), previously prolific were quiet this time.

A total of 73 new native mammals were trapped, and 29 recaptured.

Species were as follows:

Mammals

- Bush rat (*R. fuscipes*) 34 new, 7 recaptured
- Swamp rat (*R. lutreolus*) 10 new, 0 recap
- Marsupial mouse (*Antechinus fuscipes*) 29 new, 8 recap. (16 male +13 female)
- Black rat (*R. rattus*) 5
- House mouse (*Mus musculus*) 9 (there has been a minor mouse plague around the house and sheds)
- No bat nets were set up on this survey

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Minnawarra Biodiversity Project, Autumn Survey, April 21 to 25, 2005

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Amphibians

- Brown froglet (*Crinia signifera*) 13

Reptiles

- Garden skink (*Lamphrolis guichenotii*) 25
- Skink (*Hemiergis decresiensis*) 1
- Skink (*Bassiana duperreyi*) 2

Birds

List not available at time of print, but the usual approximately 30 species were sighted, with no unexpected findings. These will be published at a later date.

Invertebrates

For the first time the SA Museum has become involved in the collection of certain invertebrates, in particular spiders, insects, ants, robber flies and native bees. Representative collections were made and will be reported at a later date. A good collection of spiders was on view with the warm weather.

Vegetation

A simple "belt survey" at each of the 8 sites was undertaken on Saturday and will be compared to previous surveys.

Over sixty people were involved in the autumn survey at some stage. Many different types of fauna were trapped. The mammals gave no surprises, but the addition of invertebrates means a lot of laboratory work ahead to identify the specimens. The findings will be reported on in the future.

A working bee on the preceding weekend saw the repair and maintenance of the Elliott traps completed, the building of a "long-drop" dunny and preparation of the permanent pit fall traps for the forthcoming survey.

An Envirofund grant has made it possible to extend the scope of the biodiversity surveys, at least for the next year. This has meant increased activity with both scientists and volunteers, and a very busy time for organisers. An encouraging sign is the increasing popularity of the surveys and the attendance of quite a few young people.

Apology from the Editors

*Apologies for the lateness in getting the June 2005 issue of SEGments completed. Our precious little son, Ryan Dylan McDowell passed away at the start of June. We have included a tribute to him on page 4.
Regards Linda-Marie and Matthew McDowell*

GRaSP – A General Description

Information provided by John Love and Chris Wright from details written for the SEG website

The Beginning

This project arose out of curiosity - how did the Gammon Plateau support such a dense growth of vegetation in a low rainfall area. This curiosity was heightened by an experience in which extremely heavy rain in the ranges was observed to be confined almost entirely to the ranges.

It was soon recognised that the only way to get an answer to the question of exactly how much rain actually falls in the ranges would be to establish a long term rainfall monitoring project. It was also recognised that this could provide a different and valuable opportunity for SEG to assist in the training of young people in field science activities. From this rather humble start and with the help of many people and organisations this project has now grown into a significant, broad environmental monitoring exercise which will provide valuable information to organisations such as National Parks and Wildlife Service, and other relevant agencies in government and private enterprise, as well as providing training and wilderness experience for expeditioners.

On 11 September 1988 the project officially commenced with the turning on of a pluviometer which had just been installed on the Plateau. The project was dedicated to the memory of Louise Grandfield, a SEG member and leader on the Expedition Freeling Plateau in 1986, who devoted much of her short career to caring for the Flinders Ranges. Tragically Louise was killed in a car accident on a field trip to the Flinders just one month after the Expedition.

The Gammon Ranges in the far northern Flinders Ranges consist of a deeply dissected quartzite plateau with steep gorges and spectacular cliffs. The sites for the SEG project are all located towards the western end of the Gammon Ranges and are reached from a camp site off the Mt Serle to Yankaninna road. This area was selected because it is less popular than the eastern part of the park which means that the scientific equipment is less likely to be disturbed and the data collection trip is in an area of near wilderness which adds to the experience for participants. It is intended that the project will continue for at least 20 years (ie until 2008). Four data recovery trips are made to the area each year.

The program has gradually expanded to include seven activities:

- Pluviometers (recording rain gauges) at eight sites
- Botanical monitoring at six sites
- Aquatic biology monitoring at two sites
- Human impact monitoring at three sites
- Stream-flow monitoring and electrical conductivity recording at one site
- Yellow footed rock wallaby colony monitoring
- Feral animal counts, numbers and locations.

A native vegetation monitoring program has been run by Robert Henzell, of the Feral Animal and Plant Control unit since the early 1970s. He has set up fenced exclosures to investigate the regeneration of native grasses, shrubs and trees when all grazing pressure is removed. During the 1996 Expedition Gammon Ranges SEG helped construct a series of exclosures at key sites on Arcoona Creek. They can be seen during trips to and from the Plateau.

A pitfall trapping program began in 1996, and has come to an end. The pitfall buckets were removed in 2001 and the sites restored.

Rainfall Monitoring

Little is known about the variability of rainfall with height in this semi-arid climate, although orographic effects can cause an increase in the rainfall at favourable locations.

The eight pluviometers maintained by SEG are located :

- on the Plateau between North Tusk Hill and Four Winds Hill
- at the foot of North Tusk Hill, near Lower Sambot waterhole
- near the camp site on Arcoona Creek at the western boundary of the Gammon Ranges National Park
- in the middle of Arcoona South sub-catchment
- on a spur of Arcoona Bluff
- near North Moolooloo homestead
- at Pfitzner's well, south-east of North Moolooloo homestead
- near Maynard's Well homestead.

The initial rainfall monitoring site, on the Gammon Plateau, is at an elevation of approximately 930m. This makes it the highest automatic recording rain gauge in South Australia. The others are at various elevations, down to 320m. These eight instruments are ideally located to investigate the orographic effect of the ranges on the

rainfall. They can also be compared with recordings from Balcanoona, Arkaroola, Leigh Creek and other daily read stations on pastoral properties. Because of the random and infrequent nature of the rainfall, it will take many years before sufficient data have been collected to enable an accurate comparison with adjacent stations, however a general understanding of the differences and similarities is already starting to develop. The five sites within the catchment of Arcoona Creek will also provide a good estimate of the total rainfall in the catchment for comparison with stream-flow.

Since the beginning of the project in September 1988, the quality and capability of the monitoring of rainfall, using tipping bucket rain gauges, has improved considerably. In the early days, there were frequent occasions when the data loggers failed to record, or data was overwritten. The pluviometers are now performing consistently within the 3% error bounds used by the Bureau of Meteorology. Currently the data is recorded using dual data loggers at each site.



Servicing a pluviometer

The instrument on Arcoona Bluff has a modem and CDMA phone facility so that it can be interrogated by the Bureau of Meteorology each day to find out whether rain has fallen. This is vital information for Robert Henzell who manages the Feral Animal Research Project (exclosures), as he needs to know when there has been sufficient rainfall to cause germination of mulga (*Acacia aneura*) seedlings. It is also a useful indicator of whether there is likely to be water in the creeks, which will reduce the amount that must be carried in by expeditioners.

The remaining issues of SEGments for 2005, will include further extracts from the description of the Gammon Ranges Scientific Project (GRaSP).

As Winter turns to Spring
A tribute to Ryan Dylan McDowell
Stillborn 12/6/05

A spring baby you were to be
We were hoping to hold you in our arms around
Father's Day
But with the start of winter your heart stopped.

It rained for almost 14 days as our tears fell for
you
And the life you would not live.

Each day of winter
And throughout the year we will remember you
In our hearts you will always stay
We mourn for the life we did not share with you.

As spring approaches
Instead of preparing for your birth
And new life
As we had planned
We will remember you in our hearts
As each new flower bud unfolds.

With loving thoughts from
Ryan's parents
Linda-Marie and Matthew McDowell

GRaSP Data Recovery Trip
21 to 25 April 2005

Information provided by David Kemp & John Love

Party Members:

- David Kemp (Party Leader)
- John Love
- Christine Arnold
- Trent Porter
- Peter Love
- Christopher Kemp
- Bruce Gotch
- Raylene Klinger
- Perry Klinger

Transport

Vehicles were provided by:

- Bruce Gotch (Landcruiser)
- John Love (Prado)
- Trent Porter (4WD Triton)

The party split into two groups. The walkers included David and Christopher Kemp, Peter Love and Bruce Gotch. The wallaby search party included John Love, Christine Arnold, Trent Porter, Raylene and Perry Klinger.



Walking Party, April GRaSP trip
L-R: Chris Kemp, Bruce Gotch, Peter Love & David Kemp. Photograph taken by John Love

The Walking Party

The walking party left camp at Arcoona Creek on April 22 and proceeded via Arcoona South to Wild Ass Creek. There was no water in Wild Ass Creek waterhole. Before the day was out the group had set up camp at Vandenberg Camp, exchanged the data logger at Sambot, installed the box made by John Love (featured in the photos) and visited Sambot waterhole. There was also no water in Sambot waterhole, nor anywhere else.

On April 23 the group walked to the Plateau via North Tusk Hill. The logger was exchanged and vegetation monitoring done before returning to camp that evening.

On the last day of walking the group returned via Wild Ass Creek waterhole to the cars at Arcoona Creek. Peter Love and David Kemp then went on a wallaby walk, while others in the group drove for an investigation of the access tracks to Mount McKinlay.

Numerous goats were seen at Woodcutter's Well and the nearby seep. This was probably due to the lack of surface water elsewhere.



Box made by John Love for the Sambot data logger to protect the equipment from animals. The box was carried up Arcoona Creek by Peter Love. Photograph taken by John Love



Inside the Sambot data logger box. Photograph taken by John Love

The Wallaby Survey Party

John and Peter Love travelled via Port Augusta both ways to pick up and return Christine Arnold. David Hulet, a bird watcher operating independently of SEG, shared our camp and his chocolate.

On Friday April 22, Christine, Trent, Raylene and Perry did a morning wallaby walk. After lunch everyone, plus John and David went to Crowbar Springs Creek. David and Perry looked for birds near the car while the others looked for wallabies in that creek and an unnamed creek north of it.

On Saturday April 23, the wallaby party went west of Mount Rose Mine to wallaby country along the Frome River. Several euros, about 150 goats and two ducks were seen near waterholes in a tributary to the Frome. There was a small amount of water at the foot of a cliff on the Frome and a large pool at what is known as the salt hole (although the water tastes quite fresh).

On Sunday April 24, the wallaby part search for rock wallabies in parts of Gammon Creek. After a late lunch, the group plus Bruce Gotch and Chris Kemp went in two vehicles to investigate the track leading to Mount McKinlay from the south-west. Gathering darkness cut the journey short but it was evident that it is possible to negotiate the track as far as it is shown on the map. One section of the track, in a creek bed, is extremely rough. Perry's mobile phone was useful in communicating between vehicles on the journey. There was some confusion in locating places because Bruce was using Geocentric Datum of Australia 1994 while the map is based on Australian Geodetic Datum 1984. Wallabies were seen on all excursions except Sunday afternoon.

Upcoming GRaSP Trips

July Crossover

There has been a lot of interest in a crossover trip in July, covering a traverse of the Gammon Plateau, over Mount Change-weather, Octopus Hill and onto Mount McKinlay and back down to Italowie Gap. It will be a mid-winter trip and potentially very cold at night, but if there isn't too much cloud, the views should be fantastic.

The July trip will involve two walking groups and take four days. The east group will be led by Peter and John Love, starting from south west of Mount McKinley. The west group will be led by Chris Wright and Phil Davill.

October GRaSP Trip

This trip will involve walking up Arcoona Creek to the Gammon Plateau to change rainfall data loggers, search for Yellow Footed Rock Wallabies and other botanical and biological survey work.

For further details on GRaSP trips contact Chris Wright (ph. 8278 8818).

Kids Corner

The hidden words are taken from the articles in this issue. The words are hidden in all directions. Can you find them all?

Word List

BASSIANA	BIRDS	BOTANICAL
DATUM	DESERT	EUROS
GEOCENTRIC	GEODETC	HEMIERGIS
INVERTEBRATES	LAMPHROLIS	MAMMALS
MOONABIE	MUNYAROO	OVERWRITTEN
PLATEAU	QUARTZITE	REPTILES
SIMPSON	VEGETATION	

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



SCIENTIFIC EXPEDITION GROUP - Membership

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 receive regular information on SEG activities and expeditions

Patron: Her Excellency, the Honourable Marjorie Jackson-Nelson, AC, CVO, MBE, Governor of South Australia

COMMITTEE

President Emeritus

C. Warren Bonython AO

		Phone	Fax	E-mail
President	Dr Richard Willing	8558 6381	8558 6212	willingr@comstech.com
			Mobile 0408 807 517	
Chairman	Alun Thomas	8296 9453	8223 2588	alun@madderns.com.au
Vice-Chairman	John Hayes	8234 6017		
Hon. Secretary	John Love	8379 1172		jsp@senet.com.au
Hon. Treasurer	Graeme Oats	8278 3179	8278 5577	oatsgd@senet.com.au
Committee:	Phil Cole	8390 0250	8303 9555	pjcole@senet.com.au
	Duncan MacKenzie	8332 1204	8364 5527	dmackenzie@iname.com
	Chris Wright	8278 8818		c.wright@bom.gov.au
	Judy Mack			
	Peter Bailey	8370 2464		elainpeter@picknowl.com.au
	Trent Porter	8278 9078		trentasaurus@bigpond.com
	Linda-Marie McDowell	82784795		c/- matthew.mcdowell@flinders.edu.com.au
Editors	Linda-Marie & Matthew McDowell			
	ph. 8278 4795, e-mail matthew.mcdowell@flinders.edu.com.au			
	Address: 5 Roseberry Ave, Eden Hills S.A. 5050			
SEG WEBSITE	www.communitywebs.org/scientificexpeditiongroup			
SEG EMAIL ADDRESS	segcomms@telstra.com			

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Telephone (H) (W)

E-mail

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