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Scientific Expedition Group

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By Andrew Barr

Editorial

Welcome to this edition of **SEGments**. First of all on behalf of the SEG Executive we want to thank the editors Linda-Marie and Matthew McDowell who are retiring after many years of service to SEGments. This edition will have a new editorial team and a range of articles that will report on activities of SEG over the last year. Starting with this editorial comment.

Raising the awareness of biodiverisity....

The popular press (TV, newspapers and magazines) have had a constant stream of articles about climate change, global warming and habitat destruction and their effect on the biodiversity of the planet. The latest scientific evidence suggests that our climate has been going through constant changes throughout geological history. But the three big political questions today are;

1. How much of this climate change is due to human activity?

2. Can we as a society reverse or slow the change with a carbon trading scheme?

3. What effect will climate change have on the biodiversity of Australia?

In Australia the biodiversity of our environment has been changed dramatically by land clearing and the introduction of many feral species of plants and animals. After many years of grazing and drought are our native plants and animals suffering due these constraints of the habitat? This question and many others need to be answered if we are to plan good conservation strategies for the future. We therefore need some modern information about the health of South Australian biodiversity.

The Department of Environment and Heritage and the Scientific Expedition Group have been undertaking joint biological surveys in remote parts of SA for over 25 years to establish a baseline and monitor changes in plant and animal population. This years expedition was to Marqualpie area about 70 kms north of Innamincka.

Coming up next year we will also take a look at what changes we can make to the SEG website, so we shall seek comments from the readership about links to like minded organisations. The new content, up coming trips and sponsorships are some of the new ideas. The feature article by John Love will cover an extensive pictorial and descriptive record of Pine Lodge built by A. J.C. Brodie in the 1930's in the Gawler Ranges. This valuable work demonstrates the need to document history before it is lost to time. The project was undertaken as part of SEG's expedition to Scrubby Peak in September 2007.

The next article is the Chairman's report given at the SEG AGM by Alun Thomas on 17th October 2008 which gives an overview of the years activities and some plans for the future of the organisation.

The students who participated in the expedition to Marqualpie area this year will be interested to read the next article by Phil Cole the expedition leader. One of SEG's goals is to encourage school and university students to learn more about Australian biodiversity by participating in these expeditions.

The latest biodiversity survey was held at Minnawarra prior to the public holiday in October is reported next by Richard Willing. There were 10 teenagers this year on the trip who worked hard and enjoyed the chance to be on a exciting field trip.

Trent Porter reports on SEG's contribution to the National Malleefowl recovery program. This was another joint venture between DEH and SEG in November in the Murray Mallee adjacent to the Bakara Conservation Park near Loxton.

The final article is a report by Gary Trethewey on the latest GRaSP expedition to the Gammon Ranges.

We hope that you enjoy reading the articles in this edition and the new look. If you receive the SEG journal by post and are able to receive it by email in colour in a PDF format then please advise our Treasurer Graeme Oats (gdoats@bigpond.net.au)

You can email information, comments and articles to the

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Pine lodge and A.J.C Brodie

John Love

The purpose of this project, as part of Scientific Expedition Group's expedition to the Scrubby Peak area of the Gawler Ranges National Park in September 2007, was to make a pictorial and descriptive record of the house known as Pine Lodge and related structures made by A.J.C. Brodie. Photography was with a 35mm film camera. No excavation was done. In the captions the symbol > is used to indicate the direction to which the camera was pointing; thus >SE means looking south-east.



Figure 1: Pine lodge Chinney >SE

A.J.C. Brodie is referred to as 'Jim' by M. Eatts and J. Starkey, and as 'Sandy' by his son Jim. G. Bishop uses 'Jim' at first and then 'Sandy' in additional notes written after he had interviewed Jim the younger. In this report he is referred to as 'Brodie'.

Alexander James Cuthbertson Brodie was born in Parkside in 1893, a son of Alexander William and Louisa Brodie. Father and son spent most of their working lives on pastoral properties, including the Gawler Ranges. A.J.C. Brodie worked for three years on the McTaggart property Nonning, where he gained experience in every aspect of station life.¹ He was appointed a justice of the peace in November 1925 while living at Kolendo, presumably employed by the lessee, Harry Boully.²

In 1926 he became manager of Yardea, which Boully had bought from the McBrides. While there, Brodie's wife Sarah operated the party line telephone exchange, which served stations in the vicinity. (Boully, who had been manager of the Elder, Smith and Co. Port Augusta office, also held land at Nectar Brook as well as Kolendo and Yarna.)³

During the economic depression of the early 1930s Harry Boully was in financial difficulties. It appears that he retained some of his properties and maintained his membership of the Stockowners Association but lost Yardea to his creditors, Elder, Smith and Co. Brodie lost his job as manager but secured a lease of Pine Lodge Paddock after it had been excised from Yardea, and moved there in 1932. He also secured land further west, including Mount Centre. His total holding then was 106 square miles (about 27,500 hectares - not very big for a sheep station in fairly rough country).⁴ The paddock was named after the well - a common practice. The well was probably sunk in the early 1880s - it appears on an official map of pastoral leases in the area dated about 1882⁵ - but the origin of the name Pine Lodge Well is not known.

The western fence of Pine Lodge Paddock was originally part of the vermin-proof fence round the Yardea Vermin District and is still shown as such on the 1:100,000 topographical map.⁶ The District was proclaimed in 1901⁷ and the fence built in 1904-06.

The government subsidised the construction of vermin proof fences in pastoral as well as agricultural areas. They were effective against dingos but not rabbits. Local vermin fences became redundant when the Dog





This map is adapted from the 1:100,000 topographical map sheet 5933, Yartoo, edition 1, 1984. The positions of Pine Lodge, Pine Lodge Well, the dam (figs. 20-23) that Brodie made in the creek north of Kododo Hill, the tank (fig. 25) down-stream from the dam, and the fence running north-east from the vermin-proof fence and then south-east to the tank, were plotted using the global positioning system. The cairn (fig. 24) is a little south of the dam. The wool-shed and sheep dip (figs. 26-28) are between the road and the creek west of the house, and the target (fig. 37) is directly across the creek from them. The exact position of the fence from the tank to the south-east corner of the paddock is not known. Kododo Water was probably within Brodie's property but the fence follows an easier route than climbing over the hill.



Figure 2: Discarded gate on South boundary >NW

Fence was built across South Australia from the Great Australian Bight to New South Wales and Queensland.⁸

The Pine Lodge Paddock fence is now simple wire and steel droppers. The rough track along it gave access to some of the survey sites during the SEG expedition in 2007. A north-south road in quite good condition bisects the paddock, with Pine Lodge and Brodie's Dam east of it.

For his homestead Brodie chose a picturesque site on gently sloping ground facing west. Behind it to the east is a low hill, rising to the summit of Kododo Hill south of the house, while other parts of the Gawler Range form the western horizon. The outlook to the north is fairly level. A small creek runs down from Kododo Hill passing south and then west of the house. Waterholes in this creek are probably the 'Kododo Water' shown on early maps. A few metres up the hill from them stands a small cairn, partly concealed by bushes, with a tree branch standing up in the middle of it (figure 24). It would have been more conspicuous when built. Bishop records that cairns were used to mark cadastral boundaries or water sources.⁹

The following are Brodie's recollections as recorded by Molly Eatts when Brodie was living in a nursing home: 'When we got the block in 1932, Janet was twelve months old. We had to scrape clear a patch of ground to set up camp. We pitched three tents - there were three children. Then I built three log cabin affairs as we had time and cut timber. Then a thirty-foot by eighteen-foot cabin of which we were very proud. Then we built a spare room.'¹⁰



The large room was built of native pine logs, some of which are still on site. It had a stone hearth and chimney and iron roof. The logs were cut on the property, shaped with an adze and held in position by round pegs.¹¹ Figures 3 and 4 show some of the logs with holes at one end and mortices at the other, and figure 5 is presumably one of the posts to which the logs were attached.

The eastern end of the house is flush with the ground but the large room at the western end is about 70 centimetres above ground level, supported by a well-built stone retaining wall. This was dressed with plaster, which is breaking away. There must have been a lot of carting of stones and earth for the floor, which is still in surprisingly good condition. Semi-circular concrete steps lead up to a door in the west wall. Lines of stone



Figure 3: Pine logs morticed.



Figure 4 : Pine logs showing holes at ends.



Figure 5: Pine log post with holes for pegs.

The grooves where the bottom course of logs lay in the concrete floor can still be seen. Brodie's daughterin-law, Mrs V. Brodie, said he was 'very particular in everything he did'.¹² This is evident in the masonry of the hearth and chimney. However, it is an unusual shape: in stead of tapering inwards to the chimney, the hearth is square at the top with the chimney rising abruptly from it. The plaster on the chimney shows where the apex of the roof was.



Figure 6: Fragment of wall still standing in 1987. Photograph by: M. Eatts.

and concrete mark what were evidently garden beds on either side of the steps. The steps and retaining wall are now partly concealed by bushes. Figure 47 shows one of these bushes in its infancy in 1987 but



Pine Lodge floor plan, September 2007



Figure 7: Pine Lodge >NNW. Main room on left, others to the right of it.

otherwise bare ground around, and to the west of, the house. The foreground in figure 47 is now covered with a dense stand of bushes. There is also a row of bushes against the north side of the house.



Figure 8: Details: Hearth, Mantle piece, Plaster crumbling, Apex of roof near top of chimney.

At the eastern end of the house is a concrete block about 30 centimetres higher than the floor - perhaps the foundation for a stove. There is a similar block in an extension running south from the eastern end of the



Figure 9: Details: grooves and corner post socket in concrete floor.

house. Near it a small gutter runs south-west, apparently for carrying away waste water. The earth terrace on the north side of the house, east of the main room, is more or less flush with the concrete floor. The small retaining wall and post hole shown on the floor plan indicate that at least part of this terraced area might have been roofed. (The iron for the roof of the house came from Yartoo. It was later used to build a hut near Progress Dam on Hiltaba.)¹³ A separate room a little to the east of the house might have been the 'spare room' that Brodie mentioned. Disturbed ground north-east of the house, near the back fence, might have been the latrine - quite a long walk from the house!



Figure 10: Kerosene Lamp on mantlepiece.



Figure 11: Steps and retaining wall >E.

The Brodies obviously took a pride in their home and went to a good deal of trouble to make it look pleasant. There are terraces which would have held garden beds, a break-wind of oleanders on the north side, and up near the back fence, a rockery and a stone circle that would have surrounded a tree. (There are two similar circles with healthy young eucalypts growing in them in front of the house at Pondanna.) About 5.4 metres from the west front of the house, running north-



Figure 12: Concrete Block >W (Hat as scale)

south the full width of the house, is what appears to be a retaining wall the width of one brick, topped with cement, flush with the present ground level (figure 14). Its purpose is unknown - perhaps the edge of an attempt at a lawn. A few metres north of this are scraps of a wire netting fence, and beyond that, another retaining wall of corrugated iron sunk vertically in the ground forming a terrace (figure 48) purpose unknown.



Figure 13: Gutter >N



Figures 16 to 19 show a vehicle shed about 25 metres south-east of the house. It had a concrete floor and a mechanic's pit about 1.4 metres deep, neatly squared with no steps! A westward extension from the concrete floor appears to have been made of tar and beach sand, including small sea shells. A short length of tencentimetre bore casing is set in concrete in the ground beside the shed. Its purpose is unknown - there is no indication that it was a water bore.

Domestic water was obtained from the waterholes mentioned above, about a kilometre from the house. To begin with, Brodie's two sons, Jim and John, carried



Figure 15: Stone circle and Rockery >NE.

the water using buckets and yokes - heavy work for boys. Later he built a dam round the lip of the largest hole, using curved corrugated iron and improvised concrete. From it a 50mm pipe ran down to a squatters tank, six metres in diameter, at the mouth of the gully.¹⁴ It seems likely that a pipe ran from there to a smaller tank near the house. However, no dam of this design could withstand the floods that sometimes occur in this country. The corrugated iron has been washed several metres downstream, where it now lies.

Figure 14: Retaining wall (?) >SSE



Fig. 16. Vehicle shed >WSW.



Fig. 17. Mechanic's pit >E.



Fig. 18. Bore casing.

Fig. 19. Floor with shells.



Brodie probably modelled his arrangements for water storage on those at Yardea, which was originally supplied from a substantial stone dam, and later from another dam and a long pipe to a tank at the homestead.¹⁵

Just across the north-south road, about 200 metres west of the house, stood a small woolshed with its own engine, and a sheep dip close by. Artefacts found in the vicinity include a comb from a shearer's handpiece, glass from a welder's eye shade, a drive belt, possibly from the shearing engine, its two ends joined with wire, and what appears to be a home-made cement mixer. The latter consists of a rectangular steel frame and a central rod with two arms attached. The top end of the rod is squared to take a handle which would have turned the rod and arms within the outer frame. Sheet metal blades might have been attached to the arms. There are traces of cement or mortar adhering to the implement. Various pieces of machinery are scattered about the vicinity of the homestead. A turn-table for a light horsedrawn vehicle lies on a terrace north of the house.

A four cylinder crank shaft lies among bushes south of the house. The remains of a motor car are in three places. Part of the body is near the woolshed. The bonnet, now leaning against a tree in front of the house, shows the shape of the car's front end. On a flood plain of the creek, near the road, may be seen a six-cylinder engine and the chassis and front half of the cabin, including the front seat. There is no sign of the back seat. It was evidently a heavy, comfortable American car, probably quite suitable for out-back travelling in the 1930s. It was not uncommon for country men to replace the back seat and boot with a tray, thus converting a car to a light truck. Another chassis on the flood plain still has its engine of an unusual design, with six cylinders in two blocks of three.



Figure 20: Kododo Water, remains of Dam >NNE



Figure 21: Gap for outlet >N



Figure 22: Detail: Rusty iron and concrete >N



Figure 23: Iron in creek bed (Hat as scale)



Figure 24: Cairn near Kododo Water >S



Figure 25: Squatters Tank stand >SSE



Figure 26: Woolshed and engine block >NNE



Figure 27: Sheep dip entrance >NNE

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Also on the flood plain is a seed drill. The hay rake shown in figure 47 is not there now. A depression in this flood plain might have been a trial hole for a well. Directly across the creek from the woolshed, about 50 metres up the hill, stands an improvised target made from a fortyfour-gallon drum flattened out and tied with wire to a tree. Bullet holes are scattered at random all over it.

Figure 28: Sheep dip exit and drainage floor >SSE



Figure 29: Drive belt



Figure 30: Cement Mixer (?).



Figure 31: Light Vehicle Turn - Table



Figure 32: Car Bonnet



Figure 35: Unusual Engine design



Figure 33: Car Cabin, front part.



Figure 36: Seed Drill



Figure 34: Car Engine

A map of the Pondanna lease dated 1887¹⁶ shows a 'cultivation paddock' near the homestead. Oaten hay was grown there to feed horses and cattle on Paney and Yardea until the early 1970s.¹⁷ The presence of a seed drill and a hay rake near Pine Lodge might indicate that Brodie tried growing his own hay.

The original Pine Lodge Well and associated stone trough were on another flood plain of the same creek,



Figure 37: Target

about 700 metres west-north-west of the house. The well had fallen in by 1932 so Brodie sank another one beside it on top of the creek bank (figure 39). This was fitted with a windmill, a squatters tank (figure 40), a concrete sheep trough down on the flood plain and a small loading ramp nearby. This well has also fallen in. Between the original stone trough and the original well is a bore, still containing water, and the four stumps of a windmill.



Figure 38: Original Pine Lodge Well (behind Bushes and stone trough) >E.



Figure 39: Brodie's Well and windmill Fan >WNW



Figure 40: Squatter's Tank >SW

Brodie's Dam, presumably sunk by him, is another example of careful work, with its neat bank set back from the edge of the dam to prevent the spoil from being washed back in by rain. A row of trees, most of them still flourishing, was planted along the top of the bank. The dam and the creek leading into it are now dry.



Figure 41: Bore head and Windmill stumps (indicated by <) Original Pine lodge Well behind.



Figure 42: Brodie dam, west bank >SE

Brodie sold his Pine Lodge property to H.C. Nitschke of Hiltaba in 1942 and spent the war years on a dairy and piggery at Telowie, near Port Pirie. After the war he worked in an office for Broken Hill Proprietary at Whyalla for three years and then went back to the pastoral life at Millers Creek. Nitschke sold Pine Lodge to A. Hutchings of Scrubby Peak in 1973. By that time the house was in poor condition, the iron having been removed some years earlier.¹⁸

Brodie had pleasant memories of Pine Lodge: 'We were all happy and working hard'.¹⁹ No doubt they were sorry to leave but they had the satisfaction of building and living in their own house. There is a final quirk in this story. *The Penguin Australian Road Atlas*,1993 edition, shows some of the homesteads in pastoral country but not Yardea, Paney, Pondanna, Yartoo, Hiltaba or Scrubby Peak. The only homestead in that part of the map is Pine Lodge - fiftyone years after the Brodies left!

Acknowledgements

The writer is grateful for help from Geoffrey Bishop,²⁰ Michelle Trethewey, Gina Breen, Sue Kneebone, Graham Miller, A. 'Sandy' Morris of Yardea, Molly Eatts of Kimba, whose contribution included brief notes by John Starkey, and John Hayes.

Endnotes:

¹ M. Eatts.(Interview with Molly Eatts)

- ² South Australian Government Gazette, 19 Nov 1925 p.1357.
- ³ A. Morris: personal communication. See also Sands and
- McDougalls South Australian Directory, 1919 to 1943.
- ⁴ Bishop p.34.
- ⁵ Bishop, facing p.30.
- ⁶ Australia, Division of National Mapping, National

Topographic Map Series Sheet 5933, Yartoo, edition 1, 1984. (see map page, 3 this article)

⁷ South Australian Government Gazette, 12 Dec 1901 p.1203 ⁸ See *The Wakefield Companion to South Australian History*, Wakefield Press, 2001 p.151 and *Australian Encyclopaedia*, Angus and Robertson, 1958, v.4 p.34-36.

⁹ Bishop p.34.

¹⁰ A footnote by M. Eatts reads 'Notes taken by Molly Eatts during a conversation between Jim Brodie and Lindsay Eatts. Mr Brodie's daughter Janet was also present at the nursing home. Date uncertain.

¹¹Bishop p.33.

¹²Bishop p.33.

¹³A. Morris

¹⁴ A squatters tank is made of heavy gauge steel sheets riveted together and set on a firm concrete foundation. Typically, the diameter is greater than the depth. They are used to store larger quantities of water than can be held by the lighter corrugated iron (or steel) tank. See figure 40. Plastic tanks are beginning to replace steel.

¹⁵A. Morris

¹⁶ South Australian Parliamentary Paper 56 of 1888.

¹⁷ A. Morris

¹⁸ John Starkey. Notes supplied by Mrs Eatts: Bishop, p33.¹⁹ M Eatts.

²⁰ '...a good supply of stock water... ', Pastoralism in the western Gawler Ranges, a Historical Survey of the Gawler Ranges National Park, 2001. By Geoffrey Bishop.

Pine Lodge around the compass



Fig. 45. >N. Earth terrace in foreground.





Fig. 48. >S. Oleanders on left.

Chairman's report

Introduction

2008 has been another busy year for the Scientific Expedition Group. GRaSP has continued its expansion, the Minnawarra Biodiversity Project has continued and we have just completed a successful major expedition to the Marqualpie area. A mallee fowl survey which is expected to become a long term project is due to commence next month. We have also purchased new equipment and located a good storage area for it.

Major Expedition to Marqualpie

The major expedition this year has been an Expedition to Marqualpie. This is a region about 100 km north of Innaminka, in the far north east of South Australia. There were over 30 expeditioners and leaders and the reports I have had is that other than weather which we cannot control it was a success.

I must particularly thank several people but in nominating them I must also say that organisation and execution of the expedition was a great team effort. Phil Cole has acted as a excellent conduit with the Biological Survey Branch of the Department of Environment and Heritage and was able to obtain a grant from them for the survey in return for providing them with our survey results. This gives great kudos to SEG as a provider of high quality scientific results and puts us in good stead for further projects.

I must also mention Trent Porter without whom the expedition would be an ill-equipped, hungry rabble. Well at least they were well equipped and well fed.

Planning for next years expedition has started and as it will be our twenty fifty anniversary expedition great things are planned. As soon as a venue and date are set details will be sent to members.

GraSP

Chris and his team have continued to develop the Gammon Ranges rainfall project. This year they have been faced with the problem of changing over the phones which relay rainfall date from the now phased out CDMA to next G. They are also planning a small rainwater catchment to ensure a good rainwater supply for expeditioners in the Gammons.

Minnawarra Biodiversity Project

This project which has been going for over seven years continues to chart the progress of wildlife in natural heritage areas. Richard Willing has make a concerted effort to include people from the Fleurieu Peninsula and has had considerable success.

Mallee Fowl Survey

Mallee fowl surveys will be undertaken as part of a national Mallee fowl Monitoring Program. Mallee fowl mounds, which are located and mapped within permanently marked grids, are surveyed regularly to determine changes in breeding activity over time. Surveys have been carried out in the South East of South Australia since 1985. We will monitor two sites, Bakara Conservation Park and a nearby property of one of our members, Henry Short. Bakara is located 32 km East of Swan Reach on the Swan Reach to Loxton Road and was established to conserve the mallee fowl habitat. If you have not yet indicated your interest in these surveys and you would like to be involved please register you interest with Bruce Gotch. The first training and survey will be on the weekend of 8th and 9th November. It is expected that this will become a ongoing project.

New Equipment

The SEG Committee has decided that with the number of different activities going on we did not have enough scientific and camping equipment. We have, therefore, purchased a second set of Elliott traps and cage traps. With improvements in technology and miniaturisation it is now possible to have an emergency safety beacon small enough to carry on hiking expeditions. We have therefore purchased an EPIRB (Emergency Position-Indicating Radio Beacons) which will be taken on GRaSP trips and the major expeditions.

SEG has also obtained use of a shed in Blackwood to store our camping and scientific equipment. We had a working bee late last year to make the shed waterproof and secure. In the process we had to expel a very indignant possum. We will now be in a better position to assess what gear we have and insure it fully when we have it all in one place. Working bees will be organised by Trent to build shelves and the like. Notice will be sent by email.

Presentations

John Love has again organised a display for Science Week at the South Australian Museum and attended it nearly every day. Thank you John.

SEGments

Linda-Marie McDowell has continued to edit our quarterly newsletter. We send out about half of SEGments by email. This enables savings in postage and for the email editions many of the photographs are in colour. If you would like to receive SEGments by email please give us your email address when you pay your subscriptions later tonight. Linda Marie has decided that after 5 years the trials of editing SEGments along with working and raising a family something has to go. It is unfortunately SEGments. We are looking to set up an Editorial Sub-Committee and for a volunteer to continue the editing. If anyone here wishes to be included please see me or Linda-Marie after the meeting.

Website

I have continued to edit the website but it is time that someone else knew how to do it. Michelle Trethewey has offered to assist and at a suitable time I will give her the necessary training and hand over the reins. The Editorial Sub-Committee I mentioned earlier may also include management of the website.

Committee

In my fifth year as Chairman I have been ably assisted by a hard working committee. I thank all of the committee for their work.

I particularly thank John Love. After many years as Secretary and making the Chairman's job a lot easier John has decided to retire from the position. Fortunately he has agreed to remain on the committee. We will not lose his fount of knowledge. Gina Breen has offered or perhaps been persuaded, to be the new Honorary Secretary and has attended a committee meeting earlier this week and I do not think that she was scared off.

I have continued to give notice to the committee that I do not wish to remain as Chairman for a long period. The committee are ignoring my pleas and so for the present I remain the Chairman.

You will see from the Agenda that we have a full committee and co-opted members but there is room for further people to be on sub-committees. The Planning Sub-Committee for the next expedition would be delighted to have further assistance. Please see the convenor, Michelle Trethewey after the meeting if you are interested.

Summary

As I think I have said in all my reports as Chairman, SEG continues to provide interesting and challenging scientific field work to young people of all ages. I see no sign of that abating. I think that with its twenty fifth year coming up SEG has a great future.

Annual General Meeting 17th October 2008 Email: Alun thomas@maddern.com.au

Marqualpie Expedition 2008

Phil Cole



Figure 1: Marqualpie dunes in September 2008

The Scientific Expedition Group (SEG) has a good working relationship with the Biological Survey Group of the Department of Environment and Heritage (DEH), and in 2007 conducted the Scrubby Peak survey and expedition with DEH support. In 2008 the Marqualpie sand dune land system on Innamincka Station (within the Innamincka Regional Reserve), was to be surveyed by DEH Biological Survey, and we were invited to develop a proposal to support this survey through our 2008 expedition.

This is a very diverse area. The Marqualpie land unit, which is 60 - 100 km north of Innamincka, consists of a pattern of low, stable, crescent and irregular shaped red dunes, up to seven metres high, with numerous small interdunal claypans and lakes. Some areas within the dunes are swampy. The land system is dissected by the Montecleary Creek and tributaries, which originate not from the Cooper Creek system, but from the stony tablelands to the north. Heavy rain fell over the area in June 2008, filling the swales and waterholes, setting the scene for breeding cycles in birds and mammals, and a flush of growth in the vegetation. The area is grazed, and has a number of oil or gas wells. Public travel into this area is normally restricted.

The reconnaissance trip. It is our practice to send a small team to the expedition area to sort logistics, mark survey points, select a campsite and so on. With an expedition this remote a reconnaissance trip was essential to resolve water and fuel supply. In July a group of five in two vehicles spent three days on site alongside a team of DEH scientists and ecologists. We discovered a lot of water, mostly over the tracks requiring many detours, but clearly the expedition location was exciting. We were also able to sort fuel and water needs, and test meal availability at the Lyndhurst Hotel, and accommodation at Mt Lyndhurst Station, which we would use for the overnight stay on the two day drive from and back to Adelaide. **Final planning – equipment, science leaders, expeditioners:** The expedition leader was Phil Cole, supported by Bruce Gotch and Trent Porter. Science leader was Duncan Mackenzie, with Lorraine Jansen (mammals), Brian Blaycock (birds), Jarrod Eaton (reptiles), Margie Barnett (botany), Nick Birks (spiders) and Annette Vincent (ants).

There were up to 27 expeditioners and visitors, including five young students. Stuart Pillman from DEH coordinated both the SEG program and the DEH program, but camped with us. DEH provided 1000 litres of diesel on site, plus much essential equipment, including trailers, rainwater and water tanks. Innamincka Station kindly allowed access to rainwater and borewater. DEH also provided training for some of our team, and the data sheets for data recording. Nature provided flies.

The trip north: The expedition travelled mostly in loose convoy, with an overnight stop at Mt Lyndhurst Station, and without major mishap. Rain water was collected at DEH tanks at Innamincka en route, and by the end of day 2 the camp established on the Keleary Road. The camp site itself was in an open swale, selected during the reconnaissance trip. Unfortunately the soft sandy surface seen then had become a sea of fine prickles which caused many some discomfort.

The camp: Expeditioners bring their own tents, while SEG provides centralised kitchen and cooking, a science tent, and a meeting shelter. We also have pit toilets and a hot shower setup. All meals are prepared by the day's cooking team and, as the norm, were interesting and appreciated.



Figure 2: Campsite at Marqualpie

The survey sites: Sixteen different habitats were to be surveyed, eight in week one and eight in week two. Habitats ranged from low, open claypan, to coolabah and lignum swamp, to steep sand dunes. The first task at each site (and eight sites are set up at a time) is to establish pitfall lines which requires the sinking of pitfall traps and fences. Sinking the pitfalls can be very tough work, especially in some of the claypans. Each site had 2 sets of (pitlines with 6 pits, 15 elliott traps and 2 cage traps), as well as micropits for ants. On a few selected sites harp traps, for bats, were set up. Small animals fall into the pitfalls, and larger animals might be captured in the elliot or cage traps. The pitfalls are then checked twice daily for four days, and the sites are subjected to bird counts, botanical survey, and a landform description. All the data ultimately is entered into the SA Biological Survey database. The expeditioners worked in teams with one of the science leaders.



Figure 3: G. Breen and M.Trethewey setting up pitfall traps and fences

Over 400 plant specimens from 'a wildflower garden' were collected from the 16 sites, from small herbs to large trees. All are now with the State Herbarium for formal identification, although most were identified daily by Margie, often working very late at night. Around 80 different bird species were seen, some breeding, and some outside their expected range, like plumed whistling ducks. One of the highlights was to see some small groups of bustards, although not at the survey sites. 13 small mammal species were trapped in pitfalls, and 3 bat species in harp traps. We saw a few dingoes, a fox, a cat, and a few red kangaroos. And around 40 species of reptiles were captured. The mammals and reptiles were identified by Lorraine and Jarrod, and weighed and measured, and released apart from voucher specimens which were retained and sent to the SA Museum. Some interesting spiders (including what was described as a bird eating spider, whose capture required extensive digging), and thousands of ants were also collected.

Special events: On the Saturday night mid expedition, SEG hosted a bbq and invited the regional Park rangers, Innamincka Station managers, and the DEH survey team working to the north of us. This was a pleasant evening and we were able to share some of the survey results with our hosts.

The following Tuesday had an ominous weather forecast – thunderstorms in the north east, but at camp in the morning we didn't sense much local weather activity. At around 5pm we were hit with a violent storm bringing wind and rain, which demolished the science tent and did considerable damage to other tents and gear. Most expeditioners were still away from camp at the survey sites but fortunately the few on site were able to save the data sheets and most of the samples and records before these could be blown away, which would have been a disaster. By nightfall, most of the other damage had been patched.



Figure 4: Approaching storm front at Marqualpie

Some expeditioners discovered the shower at Mulga Bore, and although this was a 20 km drive, a few trips were made over there particularly after the weather turned very hot towards the end of the second week. Others found the local water hole and cooled off there.

The survey work finished mid-week of week 2, so on the following day we explored a little more widely, visiting a number of waterholes and bores, climbing some higher dunes, and generally enjoying the wider landscape that we now knew something more of.

The students: One of SEG's goals is to bring science to young people and on this expedition five young students were with us. They were enthusiastic, worked hard, helped whenever, participated wherever they could, and made a great contribution to the expedition. We hope that we can continue the involvement of young people on future expeditions. Thanks also to Jarrod for mentoring some of the boys.

The trip back: On Saturday morning the camp was dismantled and gear loaded back on to trailers, for the long trip home. An hour into Innaminka and a quick bite to eat, and our first serious mishap – one car with engine problems, and unable to continue. Some reloading, and Garry remaining behind with car while the rest went south. Then, at Montecolina bore, a trailer carrying about a tonne of gear with a broken spring,



Figure 5: Repairs to the vehicles

and unable to be moved – requiring Bruce, plus others, staying behind while John sought (unsuccessfully) parts from 300km south. In the end, with some reloading, backtracking, bush repairs and a bit of good luck (and the unexpected appearance of Garry, limping his car slowly south), the group was able to move. The full team made it back to Adelaide without further mishap, with the last returning in the early hours of Monday morning or, if they slept on the roadside, later that day.

Expedition Marqualpie, 13 to 28 September, 2008

Email: cole.phil@saugov.sa.gov.au

Next year: Planning is already underway for the 2009 expedition, so look in SEGments for the time and locale.

Minnawarra Biodiversity Survey

Richard Willing

A successful biodiversity survey was held at Minnawarra prior to the public holiday in October. It was aided by an Australia Post Community Development Grant to purchase a new set of Elliott traps.

Personnel

So far 24 volunteers have donated 420 volunteer hours to complete the survey of mammals and reptiles. Importantly there were 10 teenagers and a handful of youngsters involved as well. Mammals were identified and processed by Janet Furler, Richard Willing and Jill Tugwell. Vegetation and bird surveys are being completed. Grateful thanks are due to all the volunteers who worked so hard to make this such a success.

Weather

Tues 30th September 08: 6-19, fine, light N wind, light cloud. Wed 1st October; 15-20, Strong NW wind, change to W midday, thick cloud, thunder, occasional light shower Thurs 2nd: 10-17, mod NW wind, partial cloud. Fri 3rd: 9-15, scattered showers, calm, overcast Sat 4th: 6-13, fine, calm, light cloud Sun 5th: 6-15, fine, calm, clear

Mammals

139 native small mammals were captured during the 4 days that the traps were open. Of these 52 were new, 36 were recaptures from previous surveys, and 47 revisited the traps more than once. Bush rats (*Rattus fuscipes*) produced 18 new and 21 recaptures; Swamp rats (*R. lutreolus*) 27 new and 10 recapt; Marsupial mouse (*Antechinus flavipes*) 7 new and 5 recaps. These numbers are down on last autumn when 39 new Antechinus were captured. Swamp rats are the only one who have shown increased numbers this time, Total numbers are similar to last spring.

Other findings

It appeared to be too cool to capture many skinks – only 5 Grass skinks (*L. guichenoti*) and 12 Brown froglets (*Crinia signifera*) appeared in pit traps. Birds took an interest in the baited traps, though, with a superb blue wren in an Elliott trap, and 1 raven and 3 grey currawongs in cage traps.

Summary

Seasonal variation must be playing a part in these numbers. Once again lower than average rainfall has reduced the number of breeding animals. In contrast, last autumn when there was a population explosion among the antechinus following a rain event some time before the survey. This time it was notable that 70% of the captures were in sites close to swamps or creeks, suggesting refuge areas for when times are tough. With these variable seasons it looks as if it is going to take a long time to demonstrate an increase in fauna due to fencing out cattle and sheep from the scrub.



Figure 1: Jill Tugwell and friends with captured mammal. Photo by A. Ruler

Spring survey October 1-5, 2008 Email: willingr@aussiebroadband.com.au

Malleefowl Monitoring

Trent Porter

After lots of preliminary work by Bruce Gotch, the time for SEG's contribution to the National Malleefowl Recovery Plan arrived on the weekend of the 8th and 9th of November 2008 and 13 people from SEG plus DEH contractor David Setchell and his well known assistant for the occasion, Dennis Mathews, gathered on Henry Short's property for the hunt.

Henry's farm is adjacent to the Bakara Conservation Park in the Murray Mallee region south of Loxton and he was kind enough to allow us to camp in the mallee forest near the farmhouse. He had even set up a toilet and running water for our convenience.

Most people arrived on Friday night and a very pleasant evening around the camp fire was enjoyed with lots of reminiscences and tall stories shooting back and forth.

Saturday morning began, after a leisurely breakfast, with David and Dennis explaining how the hunt was to work and showing us all how the equipment he supplied should be used. We were divided into three groups, each with a GPS and Palm Pilot (PDA) which are linked together, a UHF radio and a map showing the numbered mounds and the sequence in which they should be visited. There were also some other recording aids, such as (camera & blackboard etc.) so each person had responsibility for a section of the operation. Each searcher took turns in using the equipment so that all quickly became proficient in all areas.



Figure 2: Recording malleefowl mound characteristics

The rest of Saturday was spent visiting the mounds in our respective areas in the Bakara park and recording all the characteristics of each nesting mound as we came to it. The GPS points were preloaded so it was easy to move from one mound to the next (about 300m apart on average) and answering the standard questions on the PDA

Part of the very comprehensive kit supplied was a great book covering scats and tracks and a lot was learned about the difference between cat, dog and the all too common fox sign on almost every mound.

On Sunday, after breakfast, we set off again, this time to visit three circuits of mounds on Henry's well



Figure1: David Setchell instructing the Survey group



Figure 3: Mark Darter inspecting an active mound

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preserved property and the group commanded by Dennis had the good fortune to locate a mound which was actually being used to incubate eggs and Bruce actully spotted one of the elusive birds nearby.

Considering that we visited 97 mounds in total and found only one active nest is a bit depressing really but we can only hope that when the rains return, the birds will have enough moisture in the leaf litter to allow them to incubate more eggs in the decomposing debris.



Figure 4: Mound partly prepared for incubating eggs

When the survey proper was over, Henry was kind enough to give us a guided tour of his farm which was most interesting with many unexpected plants and birds (Rainbow bee eaters among others) being discovered.

Note: Thanks must go to Bruce for the organizing and Henry for the campsite and I'm sure those who were there (plus new volunteers) will be back next year at about the same time, hopefully, to find more active nests.

Email: trentasaurus@mail.bigpond.au



Figure 5: Part of group surveying old farming relics on Henry Short''s Farm.



SEG'S Coming Events

Marqualpie 2008 /Scrubby Peak 2007 Reunion

contact: trentasaurus@mail.bigpond.com

GRaSP trip, April 2009 contact: Chris Wright 8366 2669 or email: C.Wright@bom.gov.au

Minnawara Survey, April 2009

contact: willingr@aussiebroadband.com.au

Major Expedition for 2009

contact: trentasaurus@mail.bigpond.com

GRaSP Expedition

Garry Trethewey

Summary of the Expedition

Our team of Carly Tozer, Michelle Ho, Garry & Michelle Trethewey retrieved and replaced data loggers from all pluvios, took vegetation photopoint photos, did a wallaby walk, gathered GPS waypoints, retrieved three yellow footed rock wallabies (YFRW) carcases for confirmation and donation to SA Museum. Overall, the trip was smooth and incident free, all members being experienced, enthusiastic and easy to work with. Carly & Michelle particularly wanted to practice their navigation skills, so we spent a bit of time on this.



Figure 1: Solar transmitter brings Arcoona Bluff rainfall to the internet

The weather was strange. It was hot and humid on Friday, and about 1500hrs the air got very dusty, but with only light wind. The young guy at Owiendana said this was the third day in a row that had come in dusty after lunch. It was less hot the next couple of days with intermittent sun & cloud cover, and with occasional light showers (drops covering <50% of a flat surface) irrespective of whether cloud was present or not. Finally Monday just before dark, it rained enough to completely cover a flat surface, x 2. That probably accounts for the 1mm in Arcoona Bluff pluvio. On Monday at about 1100hrs on top of North

Tusk we saw that some great celestial artist had taken a clear blue sky and put three lines of dots right across, each dot a cylindrical smoke ring blowing downward.

Friday was our travel day, leaving Adelaide just before 6.00am. After lunch at Copley, we changed the loggers at two of the station pluvios (Pfitzners and North Moolooloo).

Saturday, we did the now standard water walk, dropping water at Vandenberg and returning to the cars. For the return trip, we took a different route to include Arcoona South where we changed the logger. There was some very pretty gibber plain and some great ridgetop views.

Sunday we did the Wallaby Walk, got back to the cars, packed up, had a quick lunch and then walked to Vandenberg. We did Sambot logger that night. On the Wallaby Walk we found two fresh Yellow Footed Rock Wallaby (YFRW) scats - moist, sticky, pleasant potpourri smell.



Figure 2: Thirty metre swimming hole, but not this year

I also picked up 3 mummified partial carcasses near the seeps. We've walked past these every trip since November 07 and it never occurred to me they could be YFRW but after John Love identified one last trip, I wanted to learn more. It turns out the SA Museum wants every skull except sheep and goats, and they want good position data, ie GPS and brief site description. Monday we walked up the hill to The Plateau, did all photo points and the logger, then returned via a pretty route down Grandfield Creek.

Tuesday we walked out, did Maynard's Well Pluvio and went home.

HELP WANTED

If anybody has 1:50,000 topo maps of the North Flinders on CD, I'd love to talk to them. Phone: Garry Trethewey 8390 3011 There continues to be a dearth of all animals, native and ferral. We saw 3 euros, probably one wedgie twice, 3 sleepy lizards, and bits of 3 or 4 mummified YFRW's. SEG has just bought a new GPS EPIRB, ie a beacon that talks to satellites, so that when you break your leg you can expect help in a day or two. I hope we never need it.

Full report available <u>garrytre@bigpond.com</u> Trip on October 3-8 2008

Birds Australia Gluepot Reserve

Gluepot is Australia's largest community operated conservation reserve, situated 64km north of Waikerie and the River Murray in South Australia's Riverland. Comprising 54,000ha of prime mallee country much of it old growth the Reserve is managed exclusively by volunteers with the aim of effectively managing a large, internationally significant area for biodiversity conservation.

Amongst the 18 nationally threatened species of birds resident on Gluepot are the Black-eared Miner, Red-lored Whistler, Regent Parrot, Striated Grasswren, Major Mitchell Cockatoo and Malleefowl that are only a small section of the 197 bird species so far recorded. Gluepot is also home to 53 species of reptile and 12 species of bats (some of which arenationally threatened) and there are few areas of the world that support such a concentration of threatened species.

Environmental Education Courses 2009

The Art of the Ant	An Introduction to Bird Banding
4 & 5 April and 7 & 8 November 2009	29 & 30 August Also 31 October & 1 November 2009
An Introduction to Nature Photography	An Introduction to Birds & Birdwatching
18 & 19 April and 22 & 23 August 2009	19 & 20 September 2009
An Introduction to Macro Photography	Painting Nature
25 & 26 April 2009	10 & 11 October 2009
25 & 26 April 2009 An Introduction to Scientific Botanical Illustration	10 & 11 October 2009 The Bats of Gluepot Reserve
 25 & 26 April 2009 An Introduction to Scientific Botanical Illustration 13 & 14 June 2009 	10 & 11 October 2009 The Bats of Gluepot Reserve 4, 5 & 6 December 2009

GPS and GIS Workshop

27 & 28 June 2009

Further Information

For additional information, including a detailed brochure on each course, location map of Gluepot and Registration and Payment form, the following alternatives are available:

Detailed course brochures are available in 'Pdf' format on the Gluepot Reserve website at: www.riverland.net.au/gluepot For a 'hard-copy' of course brochures, please contact:

By Post: Mrs Anne Morphett, Environmental Education Centre Administrator Birds Australia Gluepot Reserve

- 61 Sturdee Street, Linden Park, SA 5065
- By Phone: (08) 8379 3865 or 0421 582 710
- By Fax: (08) 8364 5527
- By Email: anne_morphett@yahoo.com.au

Or alternatively contact Duncan MacKenzie on: Phone: (08) 8332 1204 Fax: (08) 8364 5527 Email: dmackenzie@iname.com

EGments

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.

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