

Friends of Mound Springs

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President's message

Good intentions notwithstanding, it has again been a long time between this Newsletter and our last one. Those of us who retired some years ago had dreams that we would find ourselves with abundant spare time to devote to good and rewarding causes like FOMS. Alas, those dreams have proven to be fantasies and as each year rolls by we seem to be ever more pressed for time.

I hasten to add though, that does not mean very little has been happening in the world of mound springs: on the contrary, there has been quite a lot of activity, the difficulty has been finding the time to report it all back to you. We will again resolve to do better over the next twelve months!

Much of what has been going on is reported in the following pages and, among other things, the many FOMS members who bent their backs and laboured long and hard to construct the self-guided walking tracks at Strangways and the Peake last year will be pleased to read that in spite of heavy summer rains over 2011-12 the tracks have held up very well, needing only minor maintenance. Likewise, the infrastructure that was installed remains in excellent condition.

It is pleasing also that after one or two false starts we have finally had a FOMS party visit a number of the Queensland mound springs. Numbers participating in the Queensland tour were down for various reasons, but those that did go found it a most informative (and enjoyable) exercise. One of a number of valuable outcomes has been the contact established with Dr Adam Kerezsy. Adam is a biologist with an expert knowledge of the native fish of Australian inland waters and is currently working for Bush Heritage at Edgbaston Springs, home to the endemic and critically endangered red-finned blue-eye fish. Shortly after the Queensland tour Adam was in Adelaide for a conference and a number of us were able to meet up with him and learn something of his work at Edgbaston. Our thanks to FOMS members Iris Iwanicki and Brian Donaghy for their work in facilitating the meeting with Adam. Those of us who weren't able to make the trip are hopeful of getting there in the not too distant future to take advantage of Adam's expertise and local knowledge.

President's message cont.

One of our members who had to be a late withdrawal from the Queensland trip was our hard working and popular safety officer Bruce Gotch. Bruce underwent surgery at short notice and in the end had to spend several weeks in hospital. Further surgery will be needed early next year, but in the meantime Bruce is up and about, under the watchful eye of his wife Sherrie. I know that I am speaking for all FOMS members in wishing him a full recovery and a speedy return to our FOMS trips! Whilst speaking of Bruce and Sherrie, our congratulations to their son Travis (a past Vice President of FOMS), his fiancée Davina White and fellow FOMS member Megan Lewis for their remote sensing award (reported in this Newsletter).

Members will be aware from discussion in previous issues of this Newsletter that with the completion of the management and interpretative work at Strangways and the Peake we are keen to move on to some new work with an emphasis on the management of springs. We expect our 2013 field trip to have a focus on this theme and our Vice President Anne Jensen will lead a discussion on this, and directions for FOMS more generally, at our first meeting next year.

My final observation is that there continues to be a high level of both community and professional interest in mound springs. A lot of the activity that is going on comes to our notice, but much does not. From the outset, one of our aims has been to use FOMS as a means for both disseminating information about springs and for co-ordinating the interest in them. If you become aware of anything relevant, be it academic research, community involvement or on-ground works draw it to our attention and we'll include it as a news item in this Newsletter.

Colin Harris,

President, Friends of Mound Springs

Vale Adam Plate

Many FOMS members will have been saddened to learn of the death of outback identity and owner of the Pink Roadhouse at Oodnadatta, Adam Plate. Adam died on 24 August 2012 after losing control of his rally car in a stage of the Targa Adelaide Car Rally.

Although most of our FOMS field work has been concentrated on springs south of Oodnadatta, many of us have known Adam for a very long time, in some cases since he and his wife Lynnie first moved to Oodnadatta over thirty years ago. A leading campaigner for remote outback communities, Adam was also a strong supporter of heritage and biodiversity conservation in the region.

A condolence message from sent from FOMS to Adam's wife Lynnie and their daughters Alice, Tilly and Ruby. Their son Jack had previously died in a car accident in 1999.

FOMS Members have successful trip to Queensland Springs

After some years of discussion and a good deal of organising, the FOMS visit to several mound springs in Queensland finally became reality in July 2012. As departure date for the trip approached there was some diminution of the number of participants but five FOMS members eventually set off – John and Leigh Childs and Anne Pye, heading across from Alice Springs and Iris Iwanicki and Brian Donaghy from Adelaide. Bruce and Sherrie Gotch and some of their friends were planning to go but as mentioned in the President's column Bruce unfortunately had a health setback that required urgent attention.

Following the trip, both John and Brian have put pen to paper describing the group's experiences and these are set out below. Thanks John and Brian.

Special thanks must also go to Dr Adam Kerezsy, inland waters fish expert with Bush Heritage Australia (BHA), who provided the group with a guided tour over Edgbaston, a BHA property in central Queensland. The group's experience at Edgbaston proved to be a trip highlight.

A Territorian Perspective – John Childs

After camping the first night on the bank of the (dry) Entire Creek, the Alice Springs party of Anne Pye and Leigh and John Childs reached Elizabeth Springs Conservation Park on dusk. A pleasant campsite was set amongst dwarf gidgee in an ephemeral creek line outside the Park.

In the morning we tramped around the mound springs. We reckon that substantial amounts of water in creek channels was more likely from recent rainfall than from the mound springs. In the reserve, flocks of budgerigars were coming in to drink, and we also saw a cat, a heron and several brolgas.

We picked our way somewhat damply through part of the extensive group of relatively low mounds. There was very little tall reed growth, with attractive low vegetation dominating the tops and flanks of the vents.

On the way through to Barcaldine we camped in the Diamantina National Park where a ranger described the park's feral animal challenges. Their big problem is feral cats: they have six vehicles out shooting every night, and the average nightly haul is 80! We also visited the Larks Quarry dinosaur stampede fossil footprint display and the very impressive, brand new, "Australian Age of Dinosaurs" complex.

In Barcaldine we caught up with Iris Iwanicki and Brian Donaghy and were pleasantly surprised to find that Adam Kerezsy was accompanied by his wife and daughters, taking advantage of the school holiday break. At Edgbaston the main access road was still underwater, so the convoy followed higher ground along a fence-line to the abandoned homestead. After visiting several springs we camped on a claypan in the middle of a spring complex.

A Territorian Perspective – John Childs cont.

The springs are not mounded like most of those in South Australia, perhaps because the water here is too low in salt. They have a broad range of small life: tiny shrimps, minute snails, small flatworms, etc. In particular they are the only home of a small fish found nowhere also in the world: the red-finned blue-eye, which is now threatened by the introduced gambusia or mosquito fish.

After dark, Adam gave us a new insight into the springs at night – a torchlight tour revealing a different assemblage of spring life.

Leaving Adam and family to do some repair work on the barriers intended to exclude mosquito fish from springs where they are not present, or have been eradicated, we set off towards Carnarvon Gorge.

At this point the long distance and the weather intervened and split the party up. Iris, Brian, Leigh and John arrived as the rivers were rising, and Anne was leaving. As the main river rose, access to the walks which included the springs which we had come to see was cut off! So we walked several short but scenic substitutes.

Overall the tour was very enjoyable even though the mound springs content was less than planned.



Elizabeth Springs



Edgbaston



Edgbaston Springs



A Territorian Perspective – John Childs cont.



Edgbaston Spring with Gambusia exclusion



Edgbaston campsite

Mud, mud, glorious mud - Brian Donaghy

It was always going to be a tremendous, if somewhat ambitious, trip.

Months, perhaps years of research, thought and interstate phone calls had gone into the planning. (Thanks, guys).

Two convoys, one from South Australia, the other from the Territory, were to head north and east and meet in the Queensland outback, a trip that was to take the best part of a month.

Alas, work commitments, health problems and the imminent arrival of a grandchild knocked out almost the entire South Australian contingent. Left standing were Iris Iwanicki, an expert in many things except mound springs, and Brian Donaghy, a journalist and therefore expert in nothing.

Iris was keen to learn more about the springs and visit them before perhaps they dried up completely, but she didn't have a four-wheel drive. Brian didn't know what a mound spring was, but he wanted to go anywhere with Iris and he did have a baby 4WD. (He also had a potential commission from *Upstream*, a major oil and gas industry newspaper, to write a piece if he found any evidence on the trip that the industry's activities in Australia were having an impact on the springs or the GAB in general).

So I & B stuffed a little Suzuki Jimny with camping gear, books, maps, plonk and a UHF radio (thanks, Colin, very useful a couple of times). Then they squeezed themselves in and set off. The Jimny performed magnificently throughout but being a baby 4WD it had a baby tank. To drive more than 350km between unleaded drinks was pushing it.

When Bruce and Sherrie Gotch had to drop out of the trip and withdraw their offer to carry 20L of extra fuel in their trailer for the Suzuki, I & B reluctantly had to forget about the western end of the planned tour. Bedourie – Boulia would have been a bowser too far.

Mud, mud, glorious mud - Brian Donaghy cont.

Their first springs were at Eulo, 66 km west of Cunnamulla in southern Queensland. Referred to locally as mud springs, they were spectacular large mounds of dried mud. One had a muddy hollow on top that may have been the last vestige of a dying spring or may have been the result of recent rain. One had a spectacular thorn bush growing near its top but there were no plants of any kind to be seen on any of the others.

These springs were close to the main road and accessible on foot down a clearly marked track. They even feature on a tourist trail map for that part of Queensland.

Finding the main "mound" spring on Bundoona Station, some 80km further north, was considerably more challenging, thanks mainly to a misdialled phone call and misleading instructions from someone on the other end who turned out to be on less than good terms with the station owner, Randall Newsham.

Randall himself, when finally contacted, was initially reserved, but the fact that he had had a phone call from Adelaide a week or so earlier (thanks, Simon) helped persuade him that the visitors were genuine. He then went out of his way to guide I & B, driving over several km of rough tracks and mud, past a couple of swampy springs and on to the big one: a large swamp of tall reeds, perhaps half a km across surrounded on most sides by trees and wild pig diggings. The edges in places had white crystalline deposits which, in the interests of science, Iris rashly tasted. (Not recommended).

The Adelaide pair linked up with the Northern T group – John and Leigh Childs and Anne Pye – at Longreach on June 22nd. Two days later they all met up with their Edgbaston guide, Dr Adam Kerezy, and his family for coffee and cake in the morning sunshine at Barcaldine's best bakery.

Edgbaston, a property owned by Bush Heritage, was the highlight of the trip, thanks mainly to Adam, who proved to be a cheerful, relaxed and highly informative guide. Recent rain made the shortest route to the springs impassable, but Adam found an alternative way in through a muddy swamp. His big project at Edgbaston is to try to save from extinction the red-finned blue-eye fish, which lives only in the springs but is under serious threat from the invasive *Gambusia* mosquito fish.

Careful poisoning of the *Gambusia* in selected springs and physical barriers to keep them out, followed by reintroduction of the red-fin, seems to be working, but it is a work in progress.

Edgbaston has numerous springs, ranging from the extinct to the bubbling. The water is clear, drinkable and around 26°C. The resulting pools, though shallow, are teeming with life: fish, freshwater shrimps, snails and even crabs. Adam demonstrated this after dark by paddling around barefoot, scooping up samples for inspection.

Tests of the water have confirmed that they are genuine GAB springs, yet the flow increases after recent rain. Why? It is a question Adam keeps asking the experts, but he has not yet received a satisfactory explanation. If the mechanics are not properly understood, it must be difficult to prove definitively what impact the petroleum and mining industries may have on the GAB.

Mud, mud, glorious mud - Brian Donaghy cont.

After camping at Egbaston, the FOMS group travelled on separately to camp at the Takarakka resort in Carnarvon Gorge – one of the recharge areas for the GAB. Heavy rain meant that the creeks were up, but fortunately by chance Iris and Brian caught up with the Childs, who were happy to go first and test the rapid waters in their high-clearance LandCruiser. (Thanks, guys).

Anne, who had already spent one soggy night under canvas at Takarakka, had had enough and was pulling out as they arrived. Only Brian had welly boots (and was frightfully smug about it) so the four new arrivals opted to share a cabin for the night. That became two nights, as the rain continued and the main road was closed. Escape on the third day was only possible by taking a back road north to Rolleston – a road that consisted almost entirely of liquid mud and pools of muddy water of uncertain depth.

Judging by the rain at Carnarvon, there should be plenty of water in the GAB under South Australia in a few thousand years' time.

Iris would like to do it all again, this time round the South Australian mound springs.



Iris Iwanicki scales a mud spring near Eulo



Spring at Edgbaston



Sample of snails, Edgbaston



A little wet at Carnarvon Gorge

GAB springs researchers win South Australian Spatial Excellence award for innovation

A collaborative project with industry partners from the Department for Environment Water and Natural Resources and researchers at the University of Adelaide has won the 2012 South Australian Spatial Excellence Industry Award for Innovation. The project titled 'Spatial Survey and Remote Sensing of Artesian Springs of the Western Great Artesian Basin' was awarded to FOMS members Mr Travis Gotch (DEWNR), Associate Professor Megan Lewis and Dr Davina White both researchers at the University of Adelaide. The work involved a comprehensive DGPS survey of the South Australian springs and evaluation of a suite of remotely sensed imagery for mapping the vegetation and surface expression of the springs and their surrounding environments. This project formed part of a larger multidisciplinary flagship project titled 'Allocating Water and Maintaining Springs of the Great Artesian Basin' funded by the National Water Commission. The Award for Innovation recognises organisations that have made a significant contribution to the industry through the introduction of a new idea, method, technology, process or application resulting in social, environmental and/or economic benefits. The winners will now go forward to the International Asia Pacific Spatial Excellence Awards. This project will be published by the National Water commission in the near future.



The winners receiving their award from Survey and Spatial Science Institute president Gary Maguire

Strangways and Peake Walking Trails in Good Shape

Members will recall the expedition by a team of FOMS members with expert assistance from Rob Marshall and Sue Barker to Strangways and the Peake in May 2011 to establish a series of self-guided walking trails.

In May 2012, Colin Harris, Elaine Smyth, Bernice Cohen and Simon Lewis headed north once again to check on the condition of the walking trails and to top up the supply of brochures. (Thanks must also go to Bill Giles who, a little earlier, checked on the situation at Strangways on a separate trip through the region.)

We are pleased to report that the trails are all in good shape. There were still brochures at each location but the topping up was timely.

We made some interesting but not unexpected observations at both Strangways and the Peake. At Strangways, the Springs Walk is clearly the more popular of the two and it appears that the majority of walkers are venturing as far as the cemetery, then retracing their steps back to the ruins. At the Peake there is a similar pattern on the Coppertop Smelter and Mine Walk, with many walking up the gully to the smelter site then returning to the ruins.

Strangways and Peake Walking Trails in Good Shape cont.

During our return journey, we stopped in at Wabma Kadarbu Mound Springs Conservation Park to remove vegetation growing through the ruins of the Mt Hamilton police station. Good progress was made, with the work to be completed at a later date by a work crew organised by Tony Magor of the Department of Environment, Water and Natural Resources (DEWNR).

Another trip highlight was the sight of Beresford Hill surrounded by water following recent good rains – see photo below.



A rare sight: water surrounding Beresford Hill, May 2012

Maintaining the trail, Strangway

New Access Facilities at Blanche Cup and The Bubbler

In an earlier newsletter we reported on plans by the (now) Department of Environment, Water and Natural Resources to upgrade access walks to Blanche Cup and the Bubbler in Wabma Kadarbu Mound Springs Conservation Park. This work is now understood to be virtually complete.

DEWNR also plans to rationalise car-parking arrangements at the two locations. There have been concerns that recent works on the car parks has not been as effective as it could be.



Access boardwalk, The Bubbler



Viewing platform, Blanche Cup

Roxby Buffel Busters take a stand – Reece Pedler

A newly formed group in Roxby Downs is tackling a plant destined to be one of arid Australia's worst weeds. The Roxby Buffel Busters aim to stop the invasion of Buffel Grass into their patch and have undertaken five working bees in recent months after some new infestations of the weed were discovered locally. The Buffel Busters are a special interest group of the Friends of Arid Recovery, with support from BHP Billiton.

Originally introduced as a pasture improvement in northern Australia, Buffel Grass has the potential to invade a range of arid ecosystems and is known for its ability to outcompete other species by forming thick stands which are highly flammable. Fire frequency and intensity is increased by Buffel Grass in comparison to native arid zone grass species, bringing frequent hot fires to landscapes which were previously not fire-prone. This can result in drastic changes to these ecosystems with some of the most visible effects being the death of long-lived trees which are not fire adapted. For these reasons, Buffel Grass has recently been nominated as a Key Threatening Process under the *Environmental Protection and Biodiversity Conservation Act*.

In the coming months the group hopes to continue to eliminate all the remaining areas of Buffel between Roxby Downs and Woomera, and then to maintain regular follow-up control of these infestations in the coming years. Local awareness raising activities are also planned, including signage, publicity materials and media articles to alert the local community about the existence and threat posed by this weed, which is tipped by many to be the cane toad of the plant world.



Volunteers at a recent Buffel Busters working bee tackling an infestation among mature Mulgas and Native Pines – species which could be wiped out by the hot fires caused by thick stands of Buffel Grass



A Buffel Grass plant on the Woomera to Roxby road

The Neales Catchment under Scrutiny

At the March 2012 meeting of FOMS, we enjoyed a presentation from Henry Mancini, Water Projects Officer with the SA Arid Lands Natural Resources Management Board regarding work commissioned by the Board on the aquatic ecosystems of the Neales River catchment, draining from the north-west into Lake Eyre.

The SA Arid Lands NRM Board has produced a number of interlinking reports on the Neales catchment, with a focus on waterholes and the biota supported by them. Those reports are:

- *Prioritising waterholes of ecological significance in the Neales and Peake catchments*. Glen Scholz and David Deane, May 2011.
- *Hydrological assessment and analysis of the Neales Catchment*. Justin Costelloe, May 2011.
- *Climatic variability, fish and the role of refuge waterholes in the Neales River catchment: Lake Eyre Basin, South Australia*. Dale McNeil, David Schmar and Amanda Rosenberger, May 2011.
- *Geomorphological assessment and analysis of the Neales Catchment*. Gresley A Wakelin-King, May 2011
- *Cultural landscape assessment and analysis of the Neales Catchment and Algebuckina Waterhole*. Gini Lee, May 2011.

Collectively, these investigations have provided critical information about the importance, functioning and variability of waterholes in the Neales catchment, including Peake Creek. For example, there is only one known waterhole that provides apparently permanent refuge for all of the native fish species found in the catchment – that is Algebuckina Waterhole immediately downstream from the Oodnadatta Track crossing at the well-known Algebuckina rail bridge. Reflecting this, Algebuckina Waterhole is known as an Ark Refuge. Baltucodna waterhole, immediately downstream from the Peake and Denison Range, is suspected of being another Ark Refuge.

This information highlights the extreme importance of Algebuckina Waterhole and the need to avoid any activity that could affect its values. The avoidance of human-induced siltation is one critical issue and there is evidence that this could be influenced by vehicle use around the Waterhole, vegetation clearance, rabbits or the way in which flows are managed across the Oodnadatta Track, immediately upstream. A further factor is the need to avoid water extraction (e.g. for pastoral or road-making purposes) at times when there is no flow through the Waterhole.

The work has described other relatively deep waterholes which hold water for a considerable time after stream-flows and which are also very important as fish refuges. Then there are other waterholes which tend to be quite saline for most of the time but which provide important habitat for salt tolerant fish such as desert gobies and Lake Eyre Hardyhead.

The timing of these investigations has been useful in that there have been good rains in the region over the past three years. This has enabled the work to shed light on how species of fish spread and recolonise in the good times.

A more sobering note is the presence in many waterholes of the pest fish, *Gambusia* (mosquito fish). Interestingly, the spring-fed waterhole at North Freeling (near the Peake ruins and familiar to many FOMS members who have been to the Peake) acts as a refuge for *Gambusia*.

This work has provided very important information to assist future management activities in the catchment. Further information can be obtained through the SA Arid Lands NRM Board.

FOMS Website now operational

In 2011, FOMS engaged website consultant Heath Vogt to help set up a specific FOMS website. This is now up and running and can be viewed on friendsofmoundsprings.org.au.

We hope you like it and would welcome any comments or suggestions.

First Aid Training for FOMS members

The FOMS executive has been very mindful for some time of the need for members who regularly journey to the Far North to have suitable training in first aid. Early in 2012 we applied for funds through DENR / DEWNR to enable members of both FOMS and Friends of the Simpson Desert to undergo certification through St John's. Unfortunately this was not successful.

Other opportunities for funding support should be available shortly and we will keep our eyes peeled for these.

Friends of Mound Springs

If you wish to become a member, please send \$10 together with your name, phone number, postal and email addresses to Tony Latz, Treasurer of FOMS, 10 Waratah Way, Stonyfell SA 5066. Membership runs with the financial year.

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