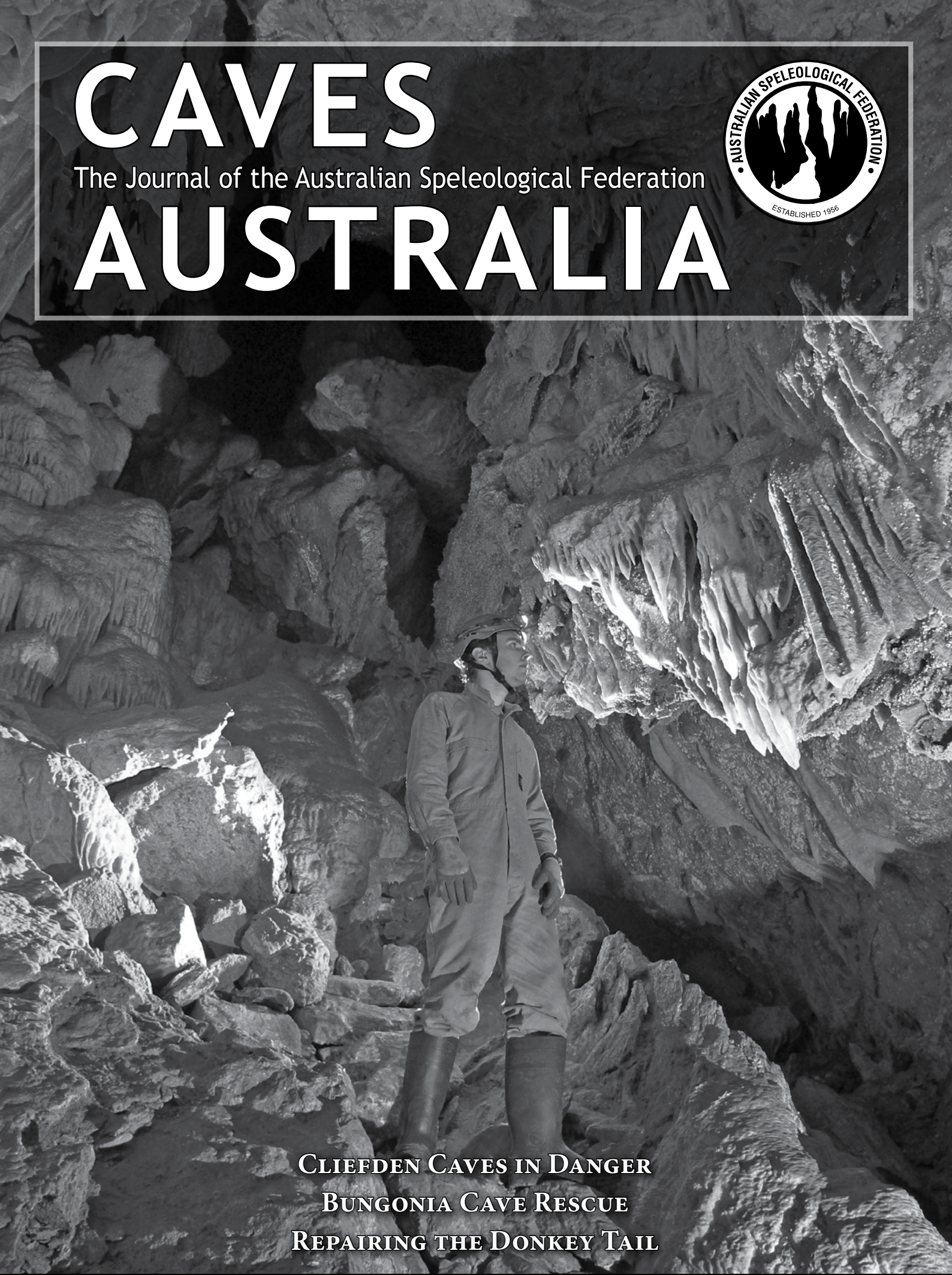
CAVES AUSTRALIA

The Journal of the Australian Speleological Federation



Cliefden Caves in Danger
Bungonia Cave Rescue
Repairing the Donkey Tail

No. 198 • SEPTEMBER 2014

COMING EVENTS

This list covers events of interest to anyone seriously interested in caves and karst. The list is just that: if you want further information the contact details for each event are included in the list for you to contact directly. A more extensive list was published in the last *ESpeleo*. The relevant websites and details of other international and regional events may be listed on the UIS/IUS website http:///www.uis-speleo.org/ or on the ASF website http://www.caves.org. au. For international events, the Chair of International Commission (Nicholas White, nicholaswhite@netspace.net.au) may have extra information. This looks like a very busy 2014 and do not forget the ASF conference in Exmouth in mid-2015. I hope we have time to go caving!

2014

October 13—16

5th International Symposium on Karst SIKA Málaga, Spain .For additional information and registration: cehiuma.uma.es/en/sika2014.asp

October 17—19

Yarrangobilly Caves 60th Anniversary of the Canberra Speleological Society Weekend at Caves House. This will be an opportunity for relaxing and reminiscing, a dip in the thermal pool, a wander through the fabulous show caves, or perhaps even some wild caving. For more details see ASF or CSS website. Please note: CSS is handling the bookings (ie don't try to book separately). Please register your interest in either event (or both) by contacting: canberracavers@gmail.com or by filling in the tick box reply form (available on the web) and sending it to the CSS email address.

October 19—22

Geological Society of America Convention 2014 Karst Sessions, Vancouver, British Columbia, Canada. Five karst or karst-related sessions are offered this year. The first two are sponsored by NCKRI and the three that follow have related themes involving speleothems as records of paleoenvironmental and paleoecological changes. One karst field trip will be offered (402. Karst Lands of Central Vancouver Island). Registration and general information on the conference can be found at community.geosociety.org/gsa2014/home/

October 25

Canberra Speleological Society 60th Birthday Lunch. Yowani Country Club, 455 Northbourne Ave, Lyneham ACT.11.30am for a 12 noon start. Buffet lunch with some drinks provided. Bar facilities available. Cost: $35 per person. Payment is required by 30th September, 2014. Should you need to cancel, a full refund will be available until Wednesday 16th October.

November 2—8

7th International Show Caves Association (ISCA) Congress: Jenolan. The theme of the Congress will be 'The Challenge of Sustainably Showing Caves in the 21st Century'. Details, including registration and costs, are available on the ISCA website http://www.i-s-c-a.com/event/39-isca-7th-congress.

2015

May 10—15

ACKMA Conference, Naracoorte, SA. Details available soon.

June 21—26

Ningaloo Underground 30th ASF Conference: Exmouth, Western Australia. Escape the southern winter (or the northern hemisphere) to enjoy a packed conference program and explore range, reef and gorges with the benefit of local knowledge (always a plus). Details on facilities, accommodation and papers are available on the website http://ningaloo.wasg.org.au The registration form is expected in mid-2014. Abstracts for papers are due in by 31 March 2015.

Caves Australia Online

Alan Jackson
Production Manager

IN JANUARY 1905 Gilbert H Grosvner, editor of *National Geographic,* published 11 pages of photos (the first ever photos in the magazine) and expected to be fired. [1]

In July 1906 he published another 74 photos (the first wildlife photography ever featured in NG) and two board members resigned in disgust, claiming the magazine was turning into a picture book.[2]

When the *Sunday Times* introduced a colour supplement in 1962, thousands of subscribers cancelled and there were tales of elderly ladies using tongs to drop it into their dustbins. Advertisers shunned it because it was a break from the stuffy traditions of British Sunday newspapers. But the public liked it and advertisers soon cottoned on; it became a major cash cow and every Sunday paper rushed to copy the idea.[3]

Recently elements of the *Caves Australia* production team have been thinking about the future. This process has involved a theorised use of the c-word—change.

It can be a scary concept even for young people, so expecting the average (aged) ASF member to even consider such evil intentions is understandably fraught with danger.

We invite your feedback on our proposed changes to methods of *CA* distribution. An online version of the journal has been created for your review, which will complement (and hopefully one day largely replace) the existing hard copy model of distribution. We've included all the articles from the previous issue *(CA*197) as well as a selection of historic articles, particularly those that we thought best demonstrated just how much better they are with loads of colour photos rather than the limited layout they received when first published in mono or with limited colour in hard copy.

Warning: this website has the potential to induce acute attacks of Perceived Change Hysteria, a condition often induced through ignorance.

Please, please, please read the first article on the website titled "The new 'old' Caves Australia" before providing any feedback as it contains essential information that will hopefully prevent people jumping to incorrect and irrelevant conclusions; the proposed changes, if pursued, would be optional and those unwilling to embrace any change will still be able to operate in a bubble of old-fashioned denial. We are proposing a change that doesn't have to happen even if it happens! I guess a better c-word to describe the situation is choice.

Please provide your opinions on whole of concept, design/layout and functionality of the site via the feedback tab on the site. Keep it rational and civil. We welcome all criticism, from the predictable 'I don't like reading things on a screen' and 'What's the internet?' to 'Wow, fabulous, love it', but what we'd particularly appreciate are things along the lines of 'I like the concept but found the website difficult to navigate – I suggest you change the following …' I think more c-words are in order—constructive criticism.

www.cavesaustralia.com

REFERENCES

1. press.nationalgeographic.com/about-national-geographic/milestones/
2. petapixel.com/2014/09/08/first-wildlife-photographs-published-national-geographic/
3. www.campaignlive.co.uk/news/1173406/

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ASF

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WANTED
ARTICLES FOR *CAVES AUSTRALIA!*

Whether caving, cave diving or generally just caving, *Caves Australia* readers are interested in YOUR story. It is only with YOUR contribution that we can produce a quality magazine for all to enjoy. For writing and style guidelines, contact the Editor or Production Manager for further information.

EDITORIAL

How you can help

IT'S very busy in OSS's neck of the woods at present, as this edition of *Caves Australia* testifies.

The threat to build the Needles Dam has seen club incorporation (we are now OSS Inc.); updating club policies and procedures; getting Cliefden documentation (lazily avoided) up to scratch; and slotting in with the newly established Save Cliefden Caves Committee. The learning curve is steep.

As well as 'paper' work, much practical work is rushing through: getting feature/cave documentation finished; updating map information and looking at filling holes in area studies and scientific knowledge.

Sandwiched in is media consultation, ongoing communication with the ASF and the NSWSC and, equally importantly, liaising with local landowners, always keeping in mind that the Cliefden Caves are on private land and stakeholders must be kept informed.

Other caving areas are being neglected. May the campaign be successful and long, lazy caving days return.

You can help. Check out the SCCC website and don't forget to sign the petition.

* * *

■ **Cathie Plowman asks for help with Field Excursions at the 2017 IUS Conference. Don't hang back. Help out if you can.**

If you can't help in this area consider contributing in some other area. It will be a great way of making new caving friends.

President's Report

AS spring has arrived with its warmth and vigour I can only hope the arthritic stiffness of my aging joints is replaced by flexible ability to walk and crawl in places dark and deep.

ASF has been thrown another gauntlet by a damnable damming menace. The story continues with the resurrection of a twice-ridiculed and defeated idea by politicians and the minions of movers and shakers that whisper in their ears, to place a dam in a strategic site to collect surface water.

If this is allowed to happen many of the caves in the Cliefden karst area may become drowned caves.

Habitat loss will affect the lives of cave-using vertebrates, including endangered bat species and invertebrates, all needing air to breathe and specific cave-related requirements.

The landowners who have caves and karst features on their farming properties are outraged and fearful of the consequences to caves and their livelihood if a dam is constructed. ASF has risen to the occasion, as we have many times before, to oppose development threatening karst as a major part of our core business.

What is required of us to fight the dammers and conserve our caves? There is a Save Cliefden Caves committee in place with keen and active members from a number of caving clubs and individuals who are developing strategies and plans. I ask you all be supportive and involved, and let there be a unified approach.

Also coming up is the hosting of a major visitation of UIS executive members who will be attending a bureau meeting in Sydney at the end of October. Part of the agenda will be discussion and inspection of the site for the 2017 UIS Congress.

As I often observe, we are a collection of

people who are passionate about pushing the boundaries and the inner landscapes of caves as well as minimising the impact of cave destroyers.

I wish all clubs well in their business of being a group that shares the Spirit of caving around Australia.

I know some clubs are shrinking and the aging of members and loss by attrition of mature members is inescapable. Some clubs are oppressed by the systems and constraints imposed on them by external managers of their club space or managers of the caves they visit.

Speleology is far from a dead science and caving is not just a pastime of us oldies. I see families joining in on trips, cave managers working with cavers to better manage and make cave access and interpretation safer and more information rich.

I see new caves discoveries jumping out of pages to thrill fellow hunters. I see the passing of notable people and announcements welcoming new members in most clubs around the country.

Let us keep united in our quests, challenges and directions in speleology.

Getting down and getting dirty,

In Caving
Stan Flavel

Cliefden Caves

Repair of the Donkey Tail

Garry K Smith
NHVSS

WHAT exactly is this 'Donkey Tail'? It is a stalactite which formed in a passage initially above the water table and was then submerged in a pool of calcite-saturated water for a long time.

As very slow CO_2 degassing and water evaporation has occurred, over time the calcite coming out of solution has been deposited as spar crystals. These crystals have completely covered this and other stalactites as well as the surrounding walls of the passage.

At some point after the crystals had been deposited there would have been a flood event which deposited a very fine film of orange-brown clay over all the speleothems in the passage.

I am assuming this particular decoration is named 'Donkey Tail' because it looks hairy with all the needle-like spar crystals and has a lump on the end just as some breeds of donkey have on their tail.

BACKGROUND

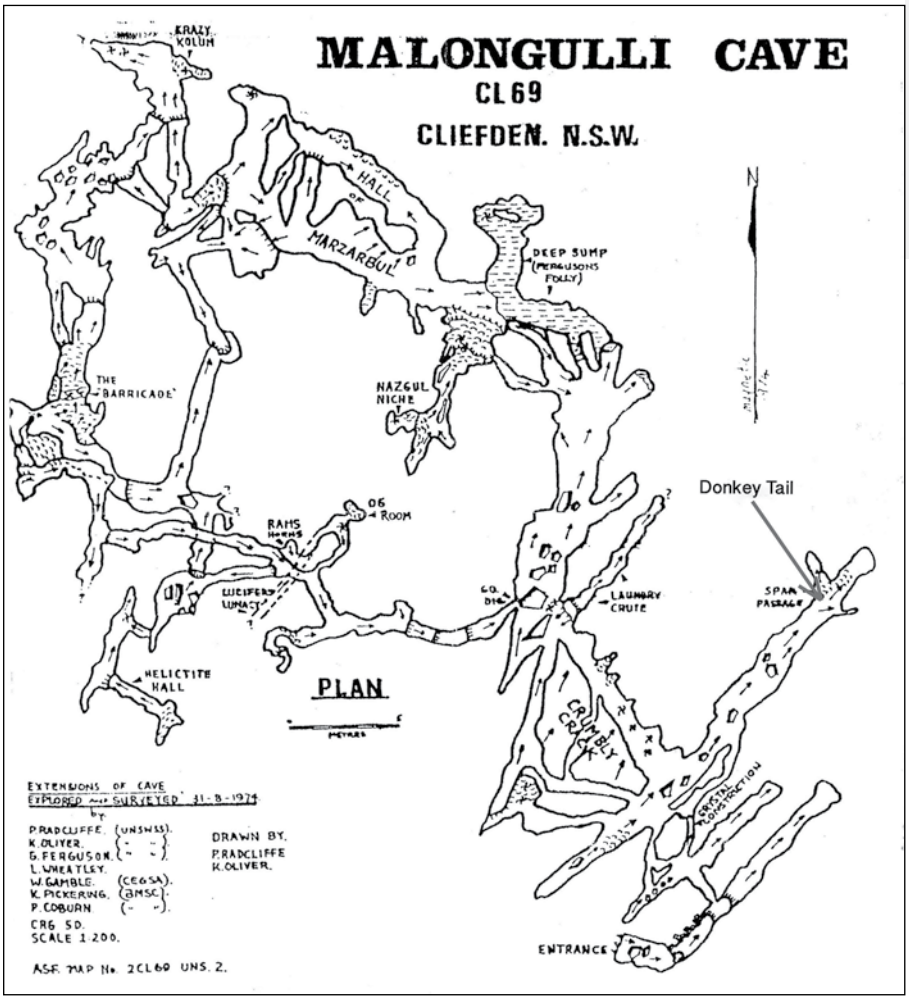
During a visit to Malongulli Cave (CL 69) in 2005, I noticed that the decoration known as the 'Donkey Tail' had been broken—cause unknown, though suspected to have been accidentally knocked by a caver getting too close.

I am told that the breakage had occurred somewhere between 2000 and 2005. The broken piece lay on the floor for a number of years before Denis Marsh retrieved it for safe keeping in early 2011.

At the end of the 29th ASF Biennial Conference in January 2013, held at Galong in NSW, a sizeable contingent of attendees travelled to Cliefden Caves for a week of post-conference caving. This was the perfect time to undertake the repair, so I prearranged with Denis to do so. Here is the extract from my trip report (Smith 2013) describing when and how the repair was undertaken.

Tuesday 15th January 2013

Today we set out for Malongulli to repair the broken 'Donkey Tail'. Those in the group were Denis Marsh (T/L) (OSS), Harry Burkitt (HSC & NHVSS), Tom Porritt (VSA), Lance Hoey (CEGSA), Greg Thomas (WASG) and myself.



Map of Malongulli Cave showing location of Donkey Tail repairs

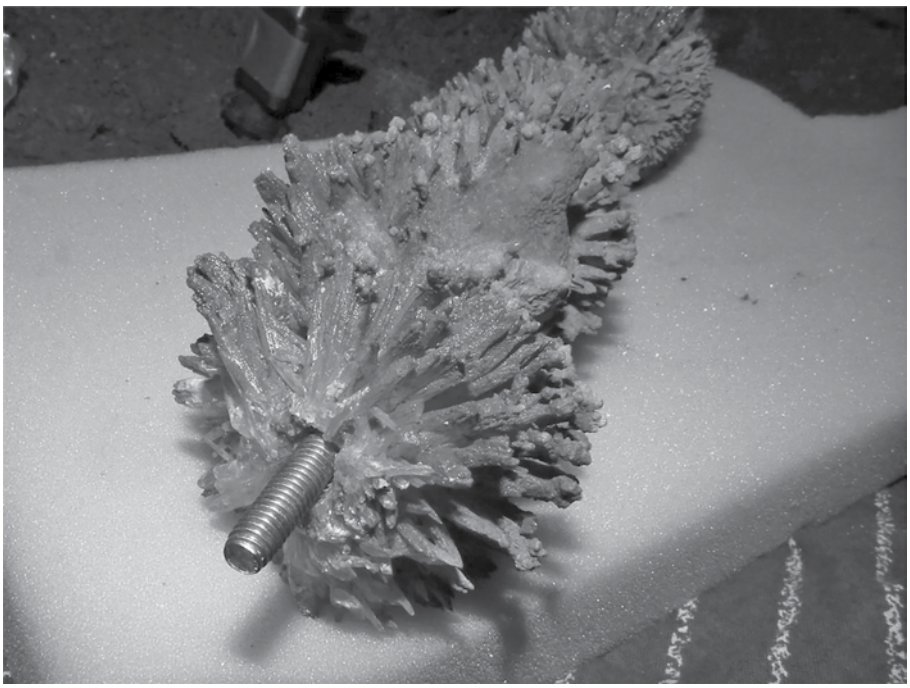
The cave ladder was tied off and lowered down. Denis and I carried two heavy packs laden with the broken stalactite, tripod, glue, battery drill, drill bits, spare batteries, cloth, camera and flashes.

We entered at 9.45am and soon made a chain of people to pass the heavy packs through the cave to the repair site.

The broken stalactite was photographed at various stages during the repair and on completion. There were a number of difficulties which had to be overcome; the most annoying was the constant drip of water which came from the end of the section of broken stalactite still attached to the ceiling.

This meant that while I was pre-drilling the hole for the pin overhead, a cloth had to be held on the stalactite next to the rotating drill to soak up the water.

This situation posed a danger should the cloth catch on the rotating drill bit and wrap itself around it, potentially with dire consequences for the remaining part of the stalactite attached to the roof of the passage.



GARRY K SMITH

The broken stalactite ready to be installed in situ

DENIS MARSH

Garry repairing the broken Donkey Tail stalactite

Then there was a small 6 mm long straw, which had started to grow on one side of the stalactite and prevented the correct alignment and fitting of the broken piece. This calcite deposit was ground away with a small grinding wheel inserted in the battery drill.

Keeping the grinding process cool was not a problem as the water continued to flow from the end of the broken stalactite. While I was undertaking these operations, Denis took plenty of photos with my camera for the records.

Eventually I was completely ready for the glueing process, having made a final check to ensure that everything fitted and that the camera tripod was able to support the broken piece while the glue set.

At this point, Denis took the others for a tour of the rest of the cave and that gave me more time to take stock of the last stage of the glueing operation.

As mentioned in Smith (2010), there is not much time between mixing the high strength polyester resin (rock bolting glue) and when it goes hard, so once I started, I had to work quickly.

For those interested, the composition of the Dywidag-Systems International Pty Limited (DSI) rock bolting glue is between 6.9–11.9% polyester resin, 78–87% calcium carbonate and 4.4%-6.0% water.

Anyway, the operation went smoothly and the glue set hard. I then set about photographing the final result of the repairs. I had almost finished packing up when the others could be heard returning.

Perfect timing, I thought—the others could help carry all the equipment back out of the cave.

It was a job well worth doing and it gave me great satisfaction to see the elegant speleothem back together.

We placed a row of rocks on the floor as a visual barrier so that cavers would be more aware of the delicate formation above.

We emerged from the cave at 1.30pm in time for Greg to depart for Canberra and the rest of the group to return for lunch back at the hut.

EQUIPMENT USED

Ground sheet, packing foam, DSI chemical anchor glue, battery drills and extra batteries, good quality HSS drill bits, small rotary grinding bit, 316 grade stainless steel 6 mm threaded bar, surgical gloves, glue mixing spatula and mixing tin, cloth rags and camera tripod.

A camera with slave flashes was also handy to document the repair.

316 stainless steel threaded rod was used as this grade of stainless is salt water resistant and as such will not corrode in cave conditions.

EQUIPMENT SELECTION AND METHODOLOGY

Surgical gloves were used to reduce contamination of the speleothem from skin contact and perspiration.

The DSL chemical anchor tube containing the glue is the type used in coal mining for rock bolting and is manufactured by Dywidag-Systems International Pty Ltd. It is a high strength polyester resin, which sets quickly in water and sticks to almost anything.

The composition varies with the grade of DSL anchor tube and generally fits into the range quoted above. The DSL chemical anchors used for this repair contain two colours (green and brown) of glue and a white internal hardener tube, all contained in the one plastic tube.

When the green and white agents are mixed together they set in about two minutes, while the brown and white set in about ten.

Obviously, the cave temperature will have some bearing on setting times.

High speed steel (HSS) metal cutting drill bits were used at low speed to drill a hole in the end of the mating ends of the speleothems so that the threaded stainless steel rod could be glued inside.

The drilling speed was slow to reduce heat generation in the speleothems and reduce wear on the drill bit cutting edge. The hammer (percussion) setting on the battery drilling machine was not used to reduce vibration of the fragile speleothem segments.

Cooling water can be used if the speleothem or drill bit starts to warm up.

GARRY K SMITH

Camera tripod used to hold broken piece in place while glue sets. Photo by self timer.

REPAIR SEQUENCE

To allow the two faces to sit together as they were when first broken, a small calcite deposit which had grown on the stalactite still attached to the roof was ground away.

A small hole was then drilled in the centre of the mating faces, along the axis of the speleothems to accept the threaded rod, which was to act as a strengthening pin.

Once both mating pieces were drilled, the pin was inserted without glue to check that the adjoining outer surfaces of the speleothem could be aligned exactly. The holes had been enlarged to allow room for the pin to float more freely, so as to align the outer surfaces.

When all mating parts could be easily aligned, the glueing operation commenced. The appropriate quantity of glue was squeezed out of the DSL chemical anchor tube on to the bottom of an empty fruit tin for mixing with a spatula.

On this occasion the slower setting chemical anchor glue was mixed up and smeared on the pin and inserted into the hole.

A piece of soft foam was placed on the top of the tripod—the camera attachment pad—and the tripod was wound up to take the weight of the speleothem while the glue set.

This allowed a better glueing operation as holding the pieces steady while the glue sets is very difficult.

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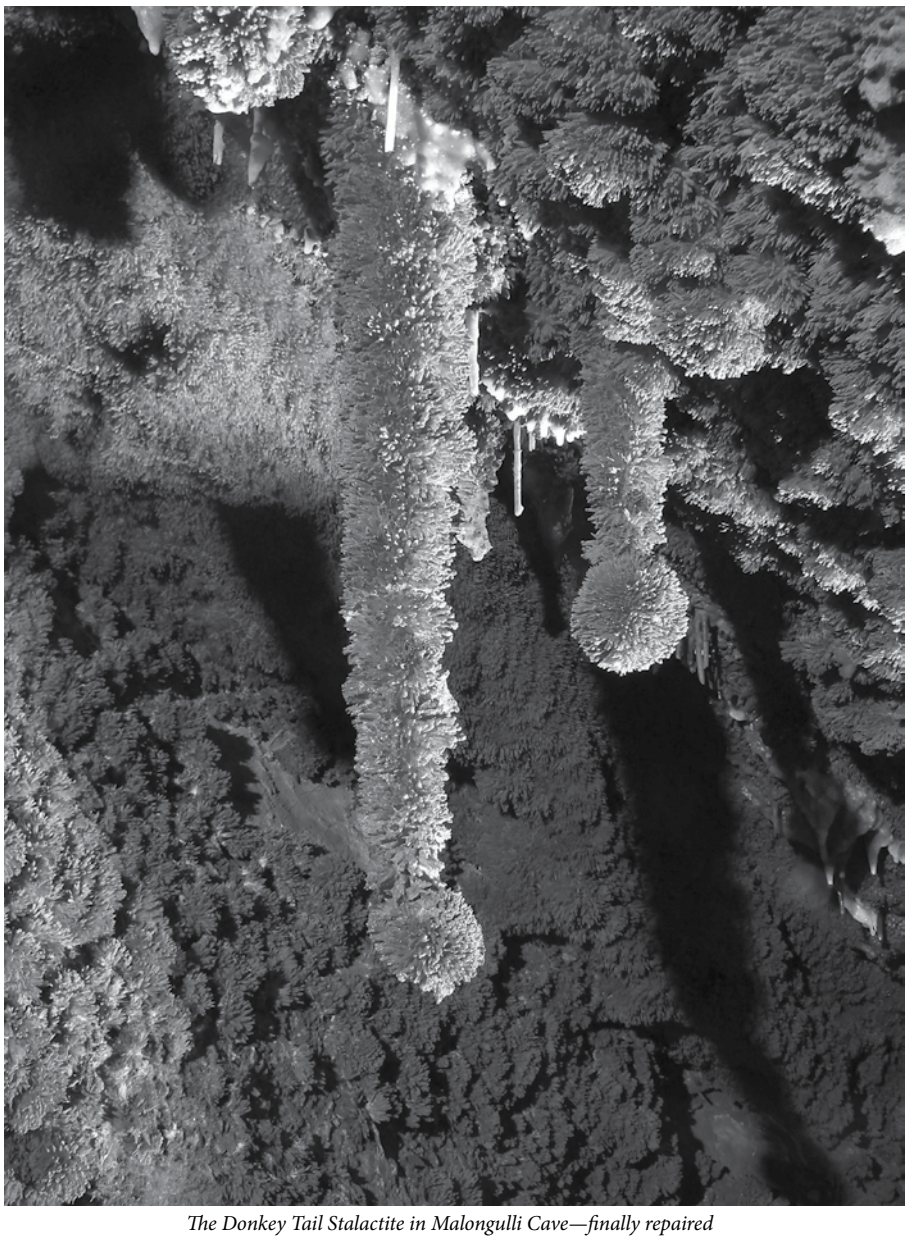
Smith, Garry K. 2013 29th ASF Post Conference Trip to Cliefden Caves, 11th -16th January 2013. *Newcaves Chronicles* 40: 9-14.



GARRY K SMITH

The Donkey Tail Stalactite in Malongulli Cave—finally repaired

Rescue of Trapped Cavers at Bungonia

Andrew Baker and Michael Fraser
NSW Cave Rescue Squad Inc.

ON MONDAY 17th February 2014 three missing cavers were rescued from a flooded passage in Bungonia Caves, south of Sydney. This article provides an overview of the NSW Cave Rescue Squad's involvement in the rescue and notes lessons learned.

Just prior to midnight on 16th February 2014, members of the NSW Cave Rescue Squad (CRS) were made aware of a possible callout involving a search for a small group of cavers who were reported overdue in Bungonia Caves.

An hour later a CRS first response team, consisting of seven CRS personnel, was dispatched in response to a request for assistance from the Goulburn Police Rescue Squad (PRS).

Initial details of the incident were scarce, with reports of a group of three cavers overdue in the well-known Fossil Cave-Hogans Hole cave system, B4-5, possibly as a result of flooding.

A fourth member of the group, who remained above ground as the emergency contact person, reported a large volume of water flowing in the B5 entrance.

Goulburn PRS had established a command post and performed a preliminary search of the popular route through the cave prior to CRS arrival.

Three of the first CRS members on the scene were then tasked with conducting a thorough search of B4-5 to rule out any possibility that the missing group were in this section of the cave.

During this search, three cave packs were located in Junction Chamber near the start of the B4-5 Extension, which was completely filled with water, indicating the missing group had probably entered the B4-5 Extension.

Meanwhile, a second team consisting of two CRS personnel and two Special Casualty Access Team (SCAT) paramedics entered Flying Fortress Cave (B17), a cave that has a locked gate and restricted access due to its scientific significance.

B17 provides downstream access in the B4-5 Extension with rescuers aiming to head upstream in the Extension, with the expectation of locating the missing group. Adjacent to B17 is Shaduf Cave (B15); however there is no access to the B4-5 Extension via this cave due to the unstable nature of the entrance series.

As planned prior to entering the cave, one SCAT paramedic on the rescue team waited at the junction of B17 and the B4-5 Extension, with the remaining three of the rescue team making their way upstream in the B4-5 Extension.

This section of the cave is relatively small and requires an extensive amount of crawling on one's stomach. Unfortunately, after a considerable effort, progress was blocked by a sump and the rescuers were forced to turn back.

On returning to the B17 junction, they were met by a third CRS team, some of whom had conducted the earlier search of B4-5.

This third team had begun the process of setting up the Michie phone (a single wire communications system) by running a wire down B17 to the B4-5 Extension junction to keep the surface command informed of the situation.

News of the sump complicated the rescue effort substantially as there was now a very real possibility (as turned out to be the case) that the missing cavers were trapped in a flooded section of cave.

This was a chilling thought and everyone hoped they were in an air pocket with sufficient air supply.

A further implication was the realisation that this rescue could take days to complete, so one of the SCAT paramedics exited the cave to organise additional paramedic resources.

Above ground, the CRS surface coordinator advised the PRS command post of the possibility that using cave divers might be the only way of locating the missing cavers.

As a result, four highly skilled and experienced cave divers were notified and immediately made their way to Bungonia. Additional resources were also sought from other squads within the NSW Volunteer Rescue Association (VRA), with members of the Bushwalkers Wilderness Rescue Squad (BWRS) called to attend.

In consultation with members of the team who had seen the flooded passage in Junction Chamber, the CRS underground controller determined that rescue from the downstream side of the B4-5 Extension was more feasible than from the upstream (Junction Chamber) side.

Accordingly, two CRS personnel extended the Michie phone wire from B17 up the B4-5 Extension to the upstream sump, in preparation for either lowering the water level using pumps or siphons, or using cave divers.

Meanwhile, another team of two CRS personnel performed a search from the B17 junction downstream into the B4-5 Extension in the unlikely event that the missing group would be located further downstream.

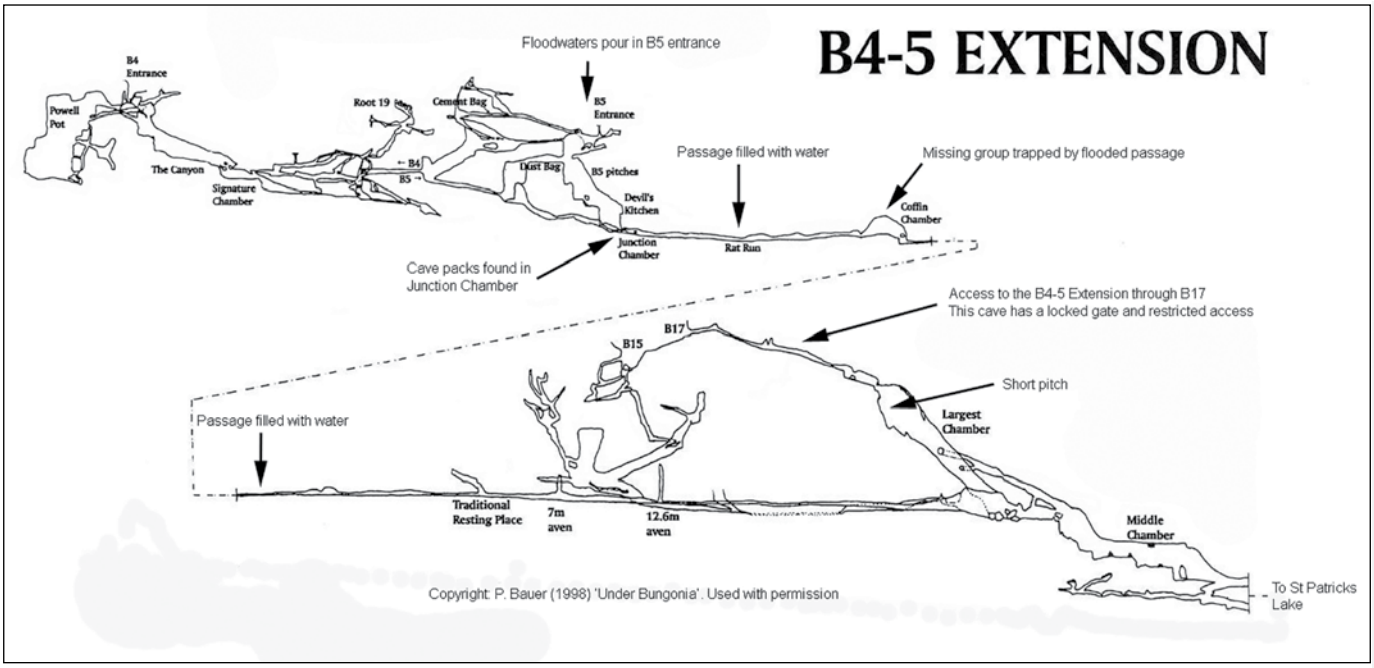
Upon completion of laying the Michie phone wire to the upstream sump, the two CRS personnel enlarged the natural drainage line, using rocks and their hands to dig a deeper channel.

This quickly started a reasonable flow of water out of the sump and down the formerly dry streambed. As the water continued to flow, other rescuers assisted in the effort to channel the water further downstream.

By this stage the majority of the rescue team had been up all night, followed by considerable effort underground for at least four hours.

Since the missing cavers had not yet been located, Goulburn PRS surface command requested all personnel, with the exception of the Michie phone operators, to exit the cave for a break and to reassess the situation.

However, by this stage the upstream sump was now a passable 'roof sniff', and given the best time to get wet and cold is just before exiting the cave, the two CRS



personnel at the upstream sump proposed and were given permission to conduct a quick reconnaissance beyond the sump prior to exiting.

In the meantime, two other CRS rescuers moved upstream to man the Michie phone and ensure the outflow from the sump remained open.

After passing the sump, the two CRS reconnaissance personnel crawled along the stream passage until a much larger sump was encountered.

This situation appeared grim, but then suddenly, and much to their relief, voice contact with the missing group was established.

They confirmed that all three members of the missing group were present, uninjured, dry and relatively warm in Coffin Chamber, but trapped by flooded passage either side of them.

This message was relayed back to the Michie phone operator, who then notified the surface.

In the space of a few minutes everything had changed.

The search was now over and the exact situation was known. The focus could now shift to the actual rescue and the more immediate challenge of draining a much larger sump.

Fortunately, although a lot more effort was required to dig through the considerable gravel bank that was holding back the water, the gradient was steeper, and ultimately a much higher flow could be achieved here than at the first sump. In many places, access was very tight and awkward.

This required pushing the gravel on the floor to one side, then squeezing themselves into the channel until firmly wedged, then digging to allow water to drain out of the sump.

Initial attempts to 'roof sniff' through the sump were unsuccessful due to insufficient air space, but eventually, and with considerable digging, shivering and patiently waiting for the water level to drop, one CRS rescuer was able to negotiate the sump and reach the missing party.

After being provided with a soggy muesli bar each, the relieved missing party were rather keen to exit and crossed the now somewhat smaller sump successfully. The CRS rescue team continued to escort the group through the second sump and along the long, and now very wet, crawl back down the B4-5 Extension to the B17 junction.

Two SCAT personnel were staged at the B17 junction and kindly provided everyone with large quantities of chocolate and lollies. It was around this time that the cave divers arrived on scene to the news that the cavers had been found safe and well.

Rescuers facilitated the ascent of three cavers up the short pitch in B17 by way of an assisted prusik.

Each of the three cavers prusiked up the access line but were also clipped to a counter balance haul line to assist their ascent. This dramatically increased the efficiency of ascent, given they were using unfamiliar gear and were fatigued, having been underground for more than a day.

Finally, they emerged from the cave and were reunited with their eagerly awaiting families.

LESSONS LEARNED

Reports of the situation were widely broadcast on news and media, with the rescued party widely praised for their experience and actions. This included their basic actions of devising an effective emergency action plan and appointing a reliable person on the surface.

Furthermore, they retreated to a safe place within the cave when it unexpectedly flooded.

While waiting, the group huddled to stay warm and conserved resources such as the batteries for their lights, which meant that later on they were in a position to exit the cave 'under their own steam', making for a much simpler, quicker and easier rescue.

Moving a stretcher-bound casualty along the low crawls of the B4-5 Extension would have been an incredibly difficult, strenuous and slow task, which thankfully was not required.

Throughout the operation, CRS members displayed a high degree of professionalism in their conduct. This included the way they worked as a team and with other agencies.

It is a credit to the effort and dedication that has gone into the squad's training in recent years. In this respect, turning up to the scene and being greeted by familiar faces in other agencies that have participated in CRS training exercises, was invaluable for establishing great rapport and effective working relationships both under and above ground.

CRS wishes to acknowledge the invaluable multi agency collaborations, in particular Goulburn Police Rescue Squad and the Ambulance Service of NSW, which enabled the successful search and rescue of the three missing cavers at Bungonia.

For more information on the NSW Cave Rescue Squad, please contact the secretary at secretary@caverescue.org.au or visit http://www.caverescue.org.au/

Cliefden Caves in Danger

Ian Curtis
OSS

CLIEFDEN NSW, with its caves, world-renowned Fossil Hill, tufa dams, hot spring and cultural sites is in danger of being flooded.

The NSW government is proposing to build another dam on the Belubula River and money has been set aside for a feasibility study and construction.

Where has this idea come from? Surely the age of dams has passed.

How can the Federal government, on one hand, be trying to return water to the Murray-Darling and the State government, on the other, be considering extracting it?

The idea was publicly raised by the Federal National Party Member for Calare, John Cobb. Several major industries in the Central West are contracting or closing down—Electrolux at Orange; Simplot and Downer EDI at Bathurst; and the Wallerawang Power Station at Lithgow. Mr Cobb has been under political pressure to come up with some employment strategies. His solution was to propose building a dam: it would, he argued, assist with job creation, encourage existing industry expansion and attract new industry.

No money was forthcoming in the May Federal budget but the NSW Coalition put the idea firmly on the table in their June budget. $1 million was allocated for a feasibility study and $150 million earmarked for the construction.

Response was swift and expected. Jeremy Buckingham (Greens, NSW Legislative Council) called it the 'stupidest idea in the state's history' and 'policy jotted down on the back of a beer coaster'.

Inland Rivers President Bev Smiles was more measured in her response, arguing that 'water efficiency, demand management and recycling are cheaper and less damaging [options] than building new dams'. 'The policy', she agreed with Jeremy Buckingham, [showed] 'a lamentable lack of imagination'.

ISN'T THE BELUBULA DAMMED ENOUGH?

The Belubula rises between Bathurst and Orange and travels 165 km before it enters the Lachlan near Goolagong. The Lachlan eventually feeds into the Murray-Darling. Canowindra (population 1500), famous for its Age of Fishes Museum, is the major town on the river.

The Belubula is already a well-dammed river: Carcoar Dam, built in 1970 and holding 38,000 Ml, is in its headwaters. The proposed Needles Dam is a few km further down the river and a storage capacity figure of 90,000 Ml is tossed about (depending on dam wall height).

On a tributary, Coombing Creek, is Lake Rowlands [dam], (built 1949-1954) and holding 4,500 Ml. Lake Rowlands supplies water for nearby Blayney. Enlargement of this dam has been a preferred storage option for several years.

A few kilometres downstream Cadia Valley Operations (CVO), (the largest gold mine in NSW which uses 1.5% of the NSW electricity grid) has two dams on lower tributaries as well as an overflow dam on Flyers Creek. That makes five dams on one short river, not counting the 19th Century dam built to supply water to gold mines at Junction Reefs.

Make that six dams.

HISTORY OF DAMS ON THE BELUBULA

The Needles, on the Belubula, has long been viewed as a potential dam site. A quick net search brings up several early plans for a dam.

First, the idea was to generate electricity. In 1903 a 'water conservation weir' was mooted to give 'ample power for electric lighting' *(Sydney Morning Herald,* 10th August 1903).

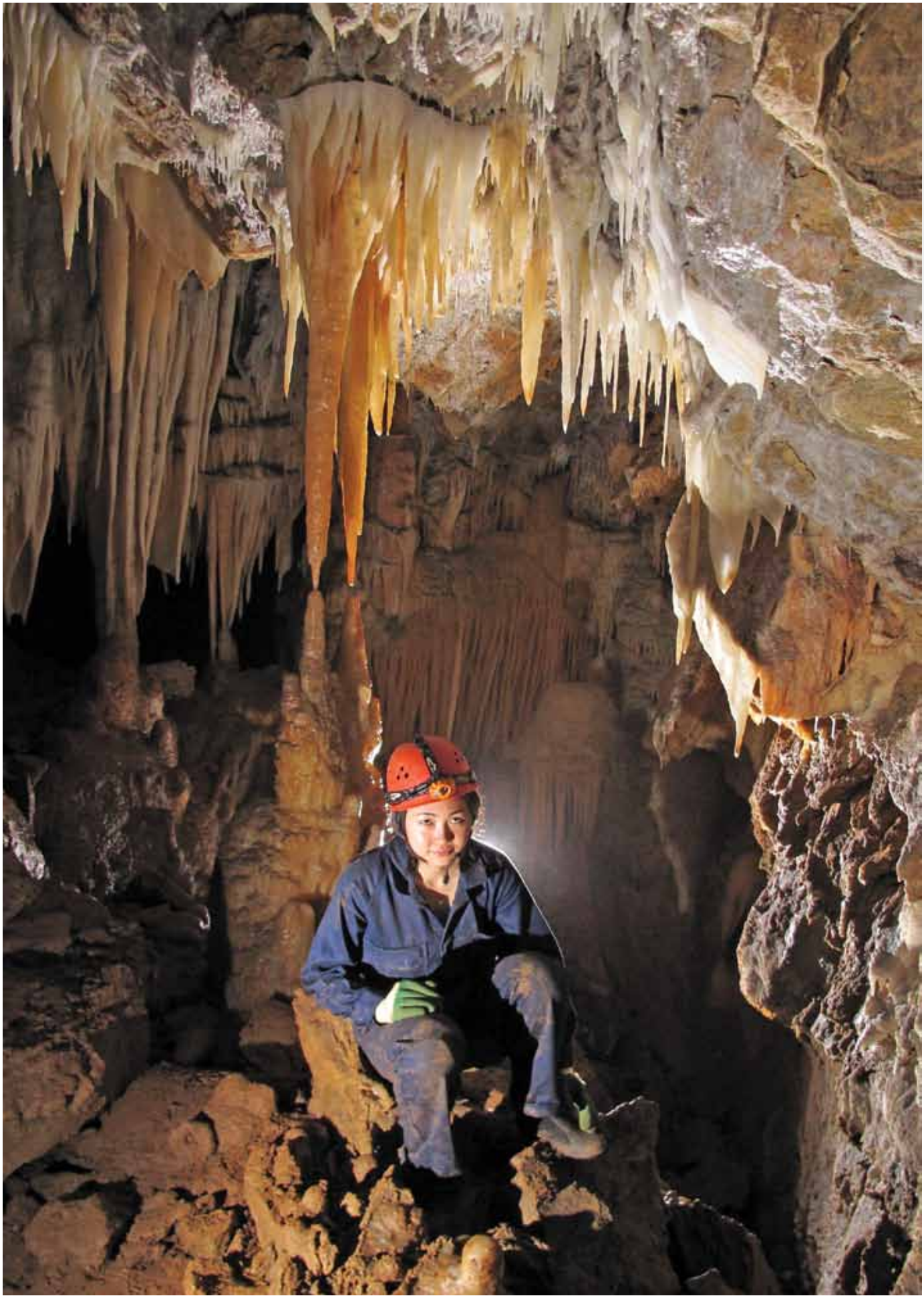
Then it was to be for irrigation. In 1910 the Canowindra Progress Association proposed approaching the Minister for Works with a view to damming the gorge: '…millions of gallons could be stored up at a not very heavy expenditure and some miles of country could be irrigated. *(Sydney Morning Herald,* 15th December 1909)

In 1913 a Mr W T Harris saw a dam as advantageous to mining. He was mining barytes in the area and was trucking away the 'raw component'. He wished to crush on site. His weir proposal would 'back up the water for miles and give power for crushing the barytes and supply electric light for the mine.'

Local papers waxed lyrical about the site: 'walls of rock 500 feet high … dam the river back for at least 9 miles'.

Enough pressure was exerted on the NSW government for it to undertake several studies. In 1931 Mr L F Harper examined the Needles site. In 1941 the Government Geologist, E J Kenny, too, wrote his report on dam sites on the Belubula. Both reports rejected the currently proposed Needles site. 'I am of the opinion,' summed up Mr Kenny, 'that this site is not suitable for the construction of a major masonry dam for the principal reason that to attain a reasonable wall height and make use of the sandstone for abutments it would be necessary to found the structure upon a mass of shales, which, although essentially sandy, embrace clayey layers liable to induce slippage when lubricated by percolating waters. Moreover, the thickness of shales beneath the cliffs does not impress from the viewpoint of strength to resist abnormal pressures.'

That really should have been the end of it, but in 1946 Cranky Rock sites (further down the river than The Needles) were re-examined. In 1952, a year of floods and flood mitigation, there was again a call for new dams.



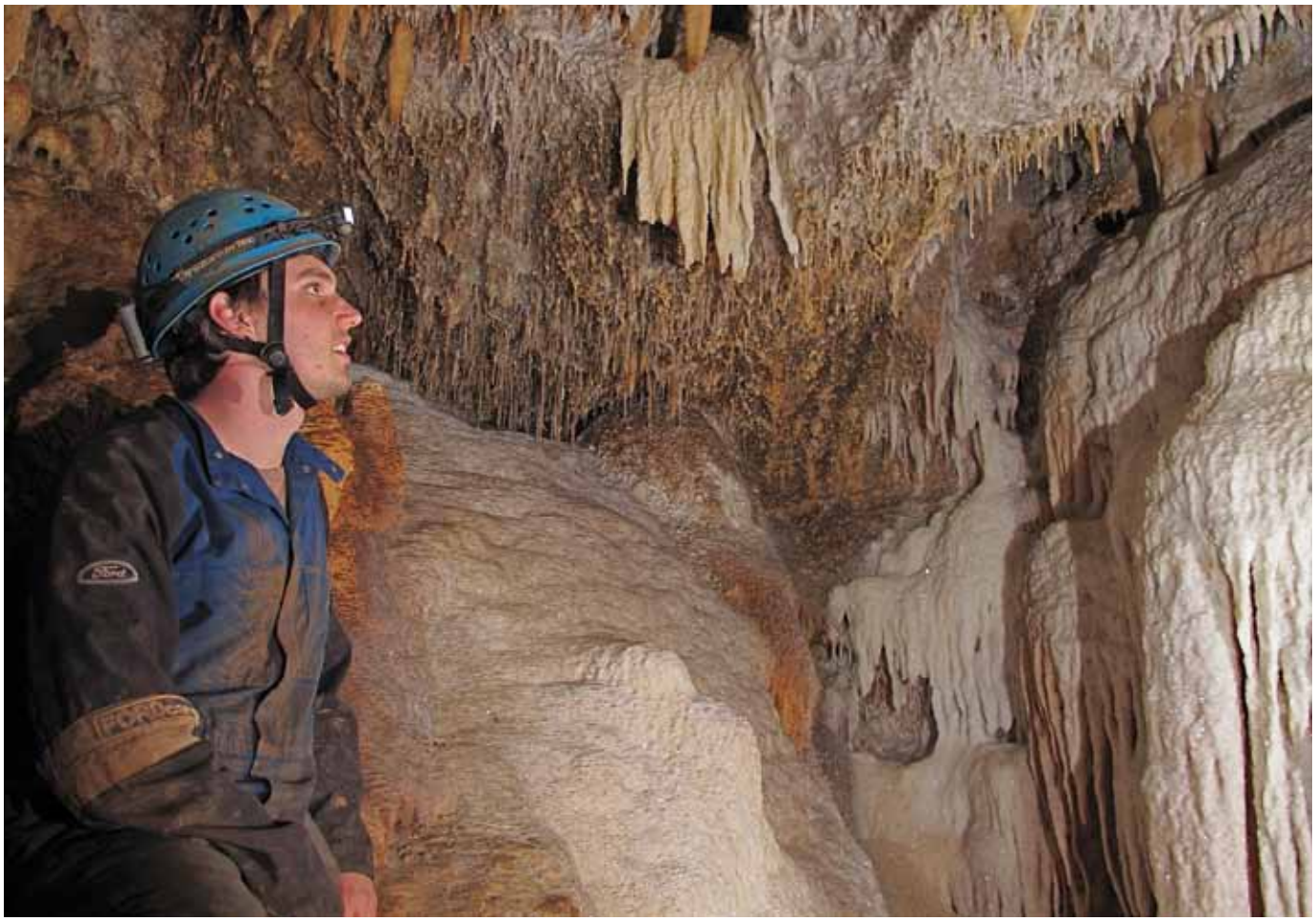
PHILIP MAYNARD

Flora Lin in CL13 Yarrawigah cave

Cliefden Caves in Danger

THOMAS WILSON

Dragon formation in Murder Cave



THOMAS WILSON

Thomas Cunningham in Murder Cave

THOMAS WILSON

Kevin Moore with 'Lot's wife', Main Cave

CHRIS NORTON

Formations in Murder Cave

GARRY K SMITH

Cliefden blue stal

Earlier proposals for a dam had been frustrated by unsatisfactory geological findings and in 1962 the NSW Department of Mines undertook a further study of the geology of the area: *Geology of the Cranky Rock and the Needles Proposed Dam Storage Areas, Canowindra*.

During the 1970s a dam at The Needles was again proposed. This was to be an as yet unfounded city's water supply. The Whitlam government envisioned a Bathurst-Orange growth centre. The idea was to decentralise and bring a new city into being in the Central West. Land was compulsorily acquired, water sources examined, and again the plan was to dam the Belubula—at The Needles—to provide water.

This time there was vocal opposition. Caving clubs had formed since the early 1940s and environmental groups were organising.

The local caving club, Orange Speleological Society (OSS), formed in 1955, working with the ASF, planned strategies and worked to fight the proposals.

Experience gained at Texas, Colong and Mount Etna was put to good use. Growth centre officials were taken through Main Cave ('impressed').

Local landowners, the Blayney Apex Club and National Trust representatives were taken through Main too, 'after which they firmly indicated their support for the preservation of the caves' (OSS Meeting Minutes).

The National Parks and Wildlife Service (NPWS) was informed. The CSIRO, with whom the club had worked for many years with their bat programs, was contacted; the importance of Fossil Hill was widely publicised.

OSS garnered support from local bodies. A public meeting was called at which various experts spoke.

At this meeting a motion was carried: '…that this public meeting request the Minister for Planning and the Environment to give a public assurance that any future water storage scheme proposed for the Belubula River be designed to provide for the preservation in perpetuity of the Cliefden Caves System.'

Momentum was building to save the caves when the growth centre was suddenly shelved. New governments had new priorities. And now, a new proposal.

WHAT WILL BE LOST IF THE PROPOSED DAM IS BUILT?

Caves

The current proposed dam wall height is 49 m and full storage level would see water rise to the 421 m contour line. The projected contour flooding in the 1970s was 450 m. At 421 m many of the major cave entrances would be flooded.

It might well take many years for the dam to fill but one flood event would silt the caves as many of them drop to river level. OSS is currently determining the depths of all caves. Extracts from a 1995 survey of cave entrances will give the reader

some idea. Measurements are ASL.
CL 1 Main Cave (Upper entrance) 445 m; (Lower entrance) 415 m
CL 2 Murder 424 m
CL 3 Boonderoo 427 m
CL 4 Trapdoor 428 m
CL 5 Taplow Maze 410 m
CL 6 Island 412 m
CL 7 Gable 416 m
CL 8 Transmission 404 m

There are currently 118 tagged caves and features. A glance through the Australian Karst Index will give readers an idea of the treasures within the caves. 'The Helictites in the Jewel Chamber could be the best in the Southern hemisphere.' *(Speleo Handbook* 1968) A look at the gallery on the Save Cliefden Caves website will be instructive.

Fossils

'The Fossil Hill site is one of the best exposed sequences of Ordovician fossiliferous limestone in Eastern Australia …Fossil Hill is truly a site of geoheritage significance.' (Margaret Brocx, *TAG Newsletter* 168, 2013).

Thirty-two species of fossil corals, stromatoporoids, trilobites, brachiopods, bryozoa, echinoderms and graptolites are found there. *(Australian Heritage Database)*

Features

The Hot Spring (Thermal springs are found in NSW only at Cliefden, Wee Jasper and Yarrangobilly)

The Tufa dams

Endangered bat habitat and nursery

Scientific research site

The Blue Stals

Cultural sites (indigenous and early settler)

The possibility of, in future, linking Wellington Caves, The Age of Fishes Museum and Fossil Hill as a tourist destination.

Agricultural land

All potentially flooded land is on private property of high agricultural value.

WHAT IS BEING DONE ABOUT THIS THREAT?

First, Save Cliefden Caves (SCC) website was put up by Bruce Welch (SUSS) the day the NSW budget was announced. This website is clear and informative. Bruce has managed to locate many documents long out of print and with the help of Harry Burkitt, produced clear maps which have been of great assistance to the caving community. Bruce, along with Armstrong Osborne, has fielded Sydney media requests. To quickly get up to date on all things speleological, go to the website.

In Orange, the local caving club has fielded media and local requests for information. Denis Marsh has been the public face at the OSS end, though all club members have been engaged.

A meeting of all cavers was called in Sydney on July 6th to discuss this issue. Twenty-seven cavers attended from all over NSW. Clubs represented were: OSS, SUSS, BMSC, HCG, HSS, CWCG, SSS, RSS, CSS, MSS, NHVSS, Jenolan Caves Historical and Preservation Society and CEGSA (ASF President, Stan Flavel). A Save Cliefden Caves committee was formed and members have been in regular contact with the ASF and NSWSC.

THE SCC COMMITTEE

Overall Co-Ordinator
Denis Marsh (OSS)
Coordinator of Submissions
Denis Marsh
Website
Bruce Welch (SUSS/OSS)
Media
Bruce Welch (city); Denis Marsh (local)
Social Media:
Harry Burkitt (NHVSS/OSS)
Funding
KCF, ASF
Liaison with Stakeholders
Denis Marsh
Hydrology
Denis Marsh to stand in until an expert is found.
Cave Mapping
Bruce Howlett (OSS); Phil Maynard (SUSS)
Area Mapping
Harry Burkitt
Research and Coordination of Scientific Information
Armstrong Osborne
Email Database
Tim Gartrell (OSS)
Secretary
Ian Curtis (OSS)

HERE IS A TIMELINE THUS FAR

3rd October 2012

Infrastructure NSW review of the state's 20 year infrastructure strategy: idea of a dam at the Needles Gap ('New Carcoar' dam) initiated.

Early 2013

NSW State Water canvasses support for Needles dam from Central Tablelands Water (CTW).

13th December 2013

CTW commissions brief conceptual report/scoping study for Needles dam, subsequently provided to John Cobb, Federal Member for Calare.

14th January 2014

Cobb meets CTW and NSW State Water, states intention of lobbying Federal government for $3 million for feasibility study.

21st January 2014

Cobb holds a press conference at The Needles flanked by local mayors and CTW.

24th February 2014

Cobb addresses Parliament supporting the proposal and seeking $3 million for a feasibility study. Unsuccessful.

13th June 2014

Announcement at National Party Conference that a dam will be funded ($150 million).

CW Environment Council has media release critical of proposal. Supported by Nature Conservation Council and Inland Rivers Network.

14th June 2014

Articles in *The Australian* and local regional newspapers.

16th June 2014

OSS media release to all local and Sydney media.

17th June 2014

Announcement in NSW budget that $1 million is being allocated for a feasibility and scoping study and $150 million set aside in Reserve Funding.

Save Cliefden Caves website set up in Sydney by Bruce Welch.

19th June 2014

Armstrong Osborne on ABC radio.

20th June 2014

Media interviews begin on TV, radio and in newspapers—Prime 7 at Cliefden; 2BS at Bathurst; CWD Orange; phone interview with *Sydney Morning Herald* (Welch, Osborne, Marsh).

Jeremy Buckingham (Greens) speaks on the issue in the Legislative Council.

23rd June 2014

Wikipedia site set up by Bruce Welch.

3rd July 2014

Facebook page set up by Harrison Burkitt.

6th July 2014

Inaugural Save Cliefden Caves meeting at Bankstown. Defence Committee formed.

12th July 2014

State government allocates another $3.5 million to scoping study.

14th July 2014

Prime 7 News interview, Orange.

Media release by Bruce Welch.

20th July 2014

Skype meeting of SCC Executive.

10th August 2014

Second Skype meeting.

CONCLUSION

This is a struggle we must win. Cliefden is too important to be lost. Go to the website and study the documents.

There are suggestions there for getting involved in what may be a long campaign.

Exitravaganza 2013 and 2014

Sarah Gilbert and Tony Veness
STC

DURING the summers of 2013 and 2014, week-long expeditions were run once again as part of the ongoing Exit Cave Mapping Project at Ida Bay in Southern Tasmania.

STC, in conjunction with the Tasmanian Government Department of Primary Industries, Parks, Water and Environment (DPIPWE), organised these third and fourth summers of surveying and sketching.

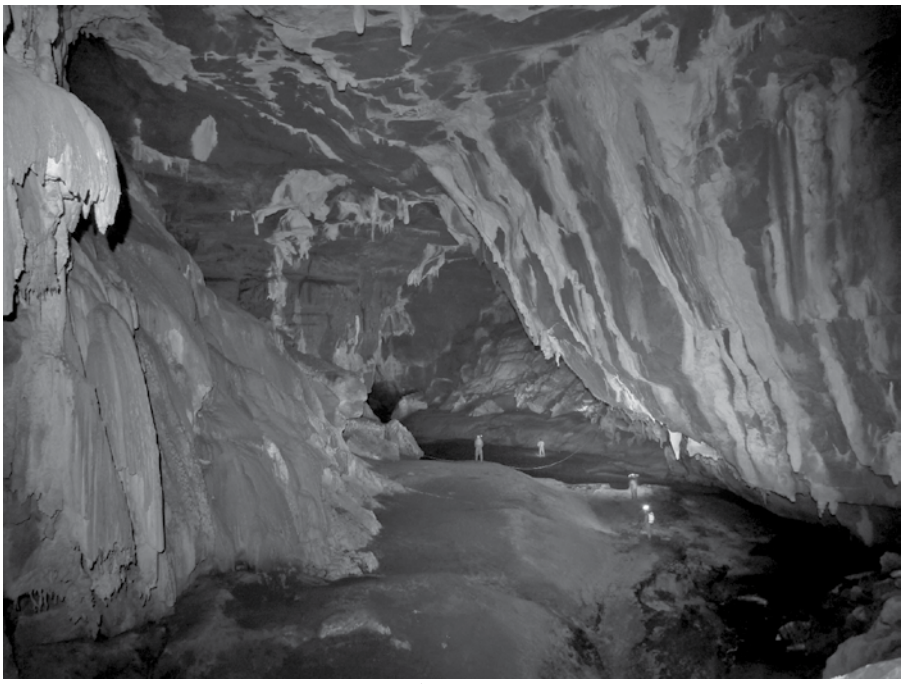
A comfortable base camp was established outside the Exit Cave resurgence to support the main periods of work.

This article details the achievements of the 2013 and 2014 expedition seasons. Readers are referred to background information in the Exitravaganza 2012 article for background to this project and the surveying protocols developed (Veness 2012).

The overall project aim is to survey the known passages of the Exit Cave system to ASF 5.4 using modern survey equipment and practices, whilst incorporating as many existing datasets as possible.

Multiple generations of survey markers exist throughout the cave system but often little survey data remains from these previous survey trips.

Using modern technology, we have created an electronic archive for use by future surveyors. Cave surveyors in 50 years' time will no doubt see our efforts as antiquated and will want to survey it again using their latest and greatest technology. Such is life.



PETR SMEJKAL

Second River Crossing

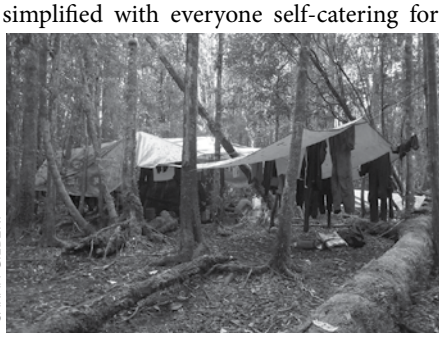
E2013 OVERVIEW

E2013 was a much smaller and less international expedition than the 2012 expedition and 14 cavers from STC and Northern Caverneers answered the call-to-arms (well, in reality a call to sketchbooks and instruments). The hardy few—Tony Veness, Geoff Wise, David Butler and Sarah Gilbert—stayed the whole week whilst others joined us as time allowed.

During the weekend before the main event we carried much of the communal gear to IB-14 via a 90-minute walk through the rainforest from the car park. We re-established Camp Gumboot at the main resurgence entrance to Exit Cave (IB-14) as in previous years.

To sighs of relief from some, the additional smaller Camp Dairy Boot (aka Camp Misery) at Valley Entrance (IB-120) used in 2012 was not re-established, due to the smaller survey party numbers.

Our base camp, with its essential mosquito shelter, under-cover communal cooking area, pit toilet and natural cold water bathroom was more than adequate. This year's pre-expedition organisation was simplified with everyone self-catering for meals, although the group supply of cooking gas bought in 2012 will last us a few more years yet.



SARAH GILBERT

Camp Gumboot

The surveying and record-keeping protocols were already in place, tried and tested (detailed in Veness 2012). This year's focus was to sketch areas surveyed in 2012 and to continue surveying and sketching the numerous side extensions. For areas to be sketched to scale, we used pre-printed sketch sheets which displayed all existing shot data.

This enabled small teams of sketchers to work in one area while another group of more active cavers collected shot data nearby. This approach was designed to keep everyone happy.

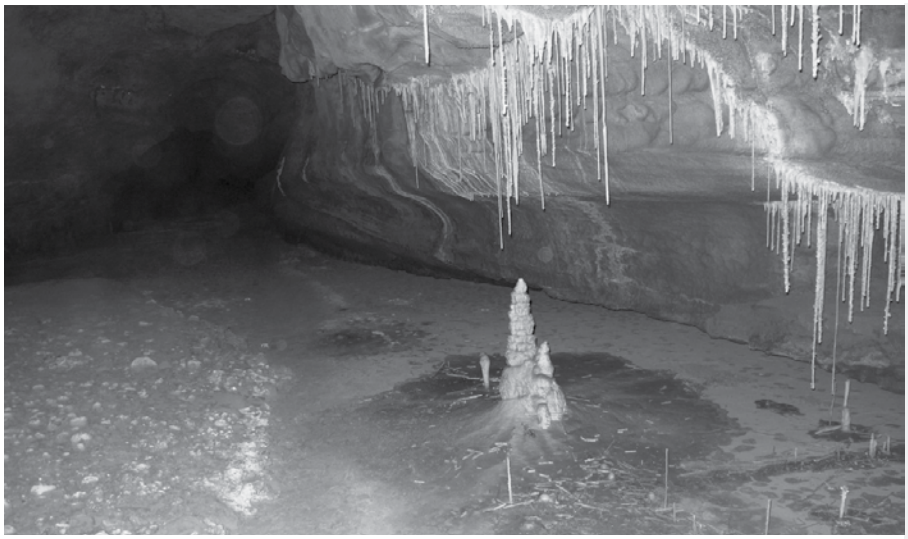
Sketchers were able to take the time required while other team members were active and productive rather than sitting around waiting in the cold.

HIGHLIGHTS AND ACHIEVEMENTS 2013

- We completed the re-surveying and re-sketching of Conference Concourse in

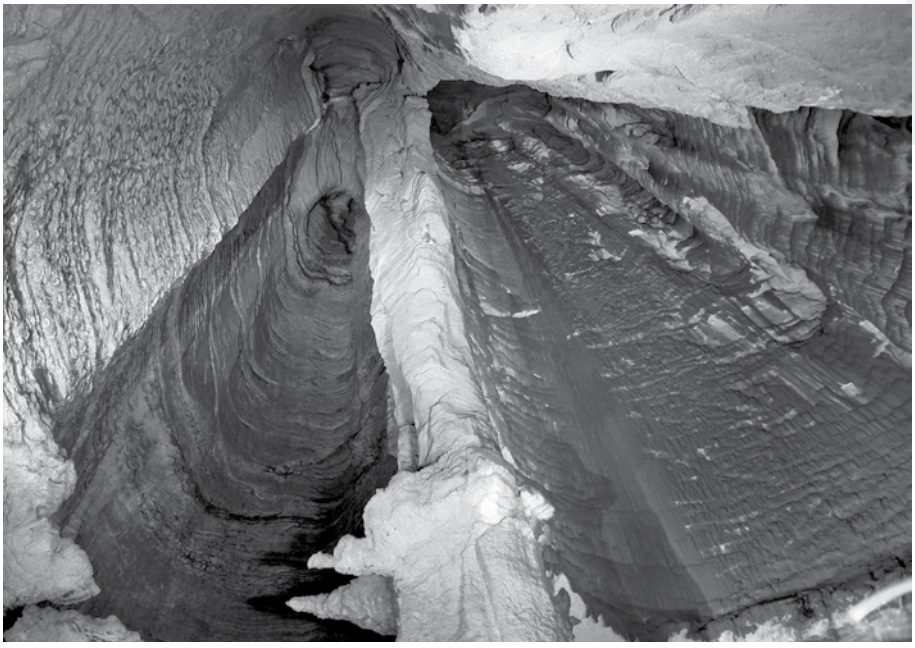
the far north-eastern region of the cave system. This was in very good agreement with the original 1971 survey with the addition of several side passages and loop closures. The agreement is a testament to the 1971 team who worked without the luxury of equipment from companies such as Leica, Scurion and Petzl.

- The discovery of the wet and crawly passage Hard Mans Way (otherwise known as Where Hard Men Weep). This rather unenticing passage leads towards the hydrological connection between Conference Concourse and the streamway north of the Grand Fissure. Unfortunately, it ends in a large rockfall chamber similar to all the other passages leading towards this region—the mysteries of where the water flows through the Bermuda Triangle remain for a small, agile caver of the future.
- Inevitably, while finishing a small job on the afternoon on the final day we rediscovered an additional side passage in Dribble Loop to be sketched and surveyed. It was well worth it though, as the impressive 50 m plus high double aven of the Devils Stovepipes was visited for the first time in many years and linked into contemporary survey stations.
- In conjunction with the main E2013 expedition Janine McKinnon and others pushed the D'Entrecasteaux River sump in February 2013. Their cave diving exploration is outlined in more detail in Janine's previous *Caves Australia* article (McKinnon 2014).



YOAV BAR-NESS

Conference Concourse



PETR SMEJKAL

The Devils Stovepipes

PETR SMEJKAL

Eastern Passage

E2014 OVERVIEW

The format for this year's work was slightly different to previous years. E2014 was held over two five-day extra-long weekends in February and March 2014. This allowed more flexibility and time for people to recover between rounds. There were only nine cavers this year with the dogged main crew and a few new faces continuing the five-year-long battle.

The expedition was run similarly to E2013, with base camp at the IB-14 resurgence. On the first day, with the welcome help of a few additional hands, we carried all our personal, communal and surveying gear over Marble Hill and set up Camp Gumboot once again.

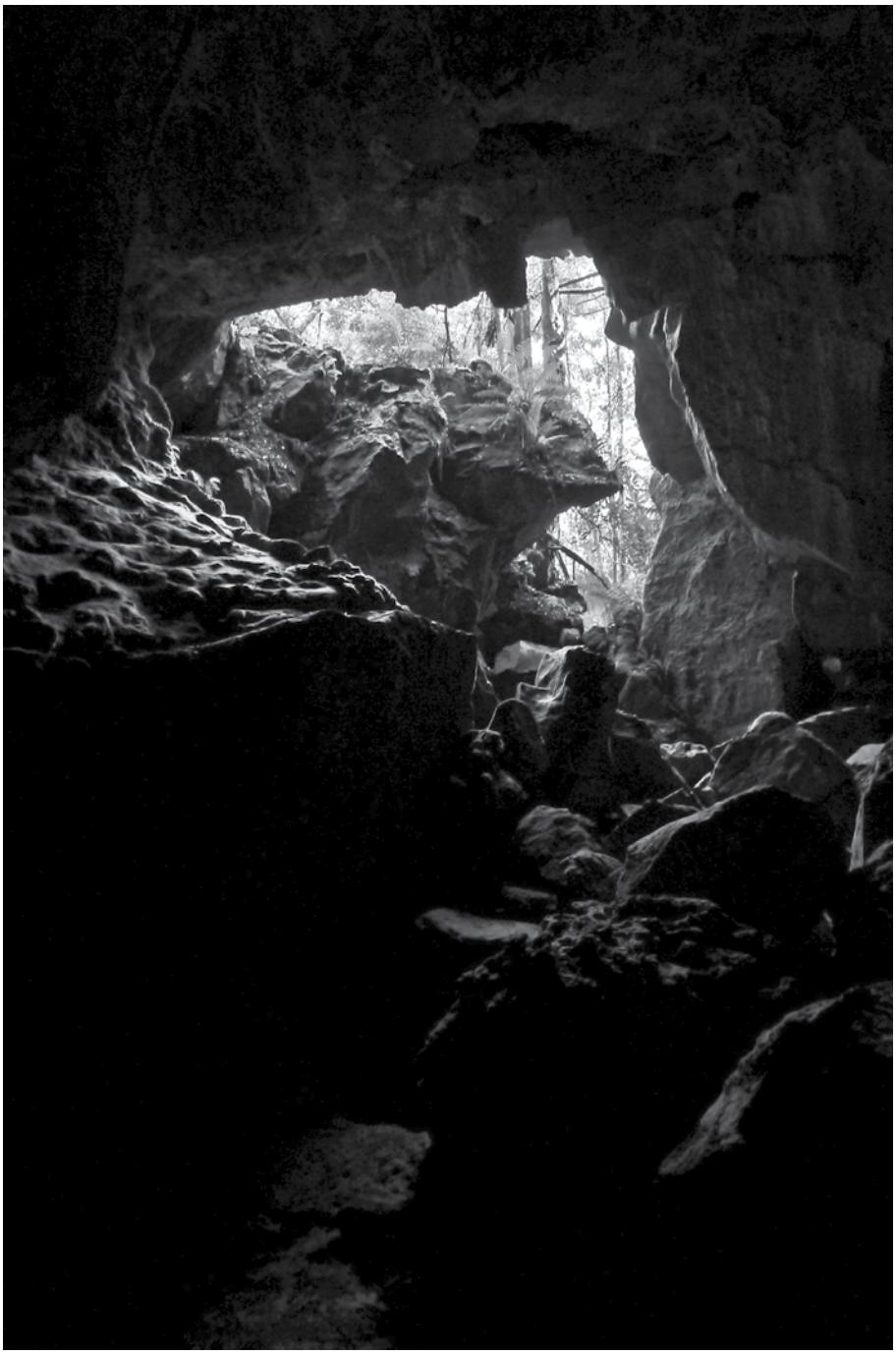
We strung up tarpaulins, constructed tables, set up the essential mosquito shelter and dug the pit loo. With our now well-practised team, camp was set up quickly with enough time for some cave sightseeing and survey equipment organisation before dinner.

E2014 was planned to be the final expedition of the five-year-long project. The aims of this year's expedition were focused

primarily on finishing the sketching of the main passageways and extensions, and exploring and tying in several loop closures, if they existed …

HIGHLIGHTS AND ACHIEVEMENTS 2014:

- Surveying the loop closure at the southern end of Conference Concourse; connecting two separate surveys from 2012 and 2013. This ended up requiring one survey leg which was only 20 m and one year apart. Another potential connection from Conference Concourse towards Hard Mans Way remains elusive, ending in a very fresh and unstable breakdown chamber. Surveying of this connection has been left to future younger, bolder and smaller cavers.
- The survey and sketching of the Eastern Passage extension was almost completed using some of the existing data from 2005 and by resurveying and sketching the remainder. A return trip will be needed next year as our surveying was halted by a lack of rope at a 10 m pitch in an otherwise horizontal extension. The previous survey data for this area continues for another few hundred metres, so it will be well worth returning for.
- Finishing the sketching around the Mini Martin entrance (IB-8) and Inner Base Camp chamber. This work ties in the previous surveys of Western Passage, Dribble Loop and the main streamway.
- Final decommissioning of Camp Gumboot. Some of our equipment had remained in the bush for the previous four years, no worse for wear. Thankfully, with the recruitment of a few additional Sherpas, we were able to carry everything out back over Marble Hill and on to the car park in one load.



SARAH GILBERT

Entrance

FUTURE WORK

Nearly all the in-cave surveying and sketching has been completed in this impressively large cave system over the past five years. A few jobs still remain, however:

- Replacing the old, deteriorating track marking through the well decorated sections of the Ball Room and Eastern Grand Fissure extensions.
- Many hours of computer time to digitally sketch all of the survey data from 2012-14 onto several overlapping A0 map sheets at 1:1000.
- Several weekend trips in summer 2014/2015 to ground truth digital surveys, if required and to finish the Eastern Passage sketching.
- To photo-document the main survey stations and remove temporary flagging tape survey markers placed over the last five years.
- Production of the 'final' Exit Cave map.

ACKNOWLEDGEMENTS

This project has been a massive joint effort over five years and is the culmination of many long, cold days of hard work.

Thank you to all those who have contributed to the exploration, surveying and mapping of Exit Cave throughout the current project and over the past 40 years.

STC would like to thank the following organisations for financial or logistical support of the Exit Cave Survey program over the past five years:

- Department of Primary Industries, Parks, Water and Environment, Tasmanian State Government
- Parks and Wildlife Service Tasmania, Tasmanian State Government
- ASF Grants Commission, Conservation and Environmental Grant
- Wildcare Inc. Karstcare program grant
- Department of Sport and Recreation's Minor Grants Program, Tasmanian State Government

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Veness, Tony 2012 Exitravaganza 2012. *Caves Australia* 189: 8-11

Permanent line replacement in Junee Resurgence (JF 8) first sump

Janine McKinnon
STC

THE PERMANENT line that runs through the first sump of JF8 was laid by TCC (Tasmanian Caverneering Club) in 1981 and 1982, over many dives.

It has certainly stood the test of time. The resurgence takes extremely high flow and fierce currents for much of the year and it is a testament to how well they did the job that the line has remained intact and taut for three decades.

However, all things decay with time, and this line reached the end of its useful life in the summer of 2013, when a section broke whilst we were in the cave. Given the age of the line, this meant the whole line was now no longer trustworthy and needed replacing. That summer came to an end before I got the job planned.

I applied to ASF for a grant to fund the purchase of the new line.

The sump has a surveyed length of 230 m so I anticipated that I would need at least 400 m of line. The number of tie-offs required, where the optimal position to lay the line is, and several other factors can markedly increase the amount of line needed beyond the actual length of the passage.

I asked for money to fund a purchase of extra line to be available if needed, or used on other projects in the pipeline if surplus to this job.

The ASF Grants Committee was kind enough to support my application.

So, with the next summer here, line purchased, and plan for how to re-line determined, it was all go in early January 2014. I had expected to have to do this job alone, but fortunately Ken Murrey (Cave Divers Association of Australia (CDAA) and VSA member) was visiting from Victoria and offered to help with the first trip, and Michael Packer (Pax), a diving buddy and CDAA and ASF member, bounced with enthusiasm (literally) when I mentioned it and asked if he were interested in being involved.

It was looking like a lot less solitary task than I had thought.

JANINE McKINNON

Pax, Ken and Peter getting organised for the first dive

The overall plan was to lay the new line alongside the old one first, secure it properly, and then remove the old line. This was envisioned to take at least four trips to accomplish, maybe more. Each diver would dive independently on all trips.

I cut 100 m from the 400 m roll of line, and put that aside. I then found an old travel bag large enough to fit the spool of line still coiled as I had bought it.

Three hundred metres of line filled this bag, and it was quite heavy and bulky, so I thought that would be enough for the first trip.

I didn't expect it to reach the full length of the sump, but there is only so much you can do each trip in 6°C water temperature, poor visibility and high current. The whole job was going to take many trips, and Pax and I were happy to take a couple of trips to lay the new line if necessary.

Ric Tunney and Peter Freeman joined us on the first trip to help sherpa gear to and from the start of the sump, which is a couple of hundred metres inside the cave.

The line laying went so smoothly that we reached the end of the sump and surfaced in For Your Eyes Only (FYEO) chamber. It was even more surprising that we still had a little line left in the bag. The job was starting much more easily than I had envisioned.

Two weeks later Pax and I were back to start removing the old line and finish securing the new one.

Pax was on new line duty and I drew the short straw of removing the old line. This old line was of several types throughout the sump, but was never less than 9 mm rope, and about 60 m was 11 mm rope. In contrast, the new line we had laid was 7 mm.

I carried two caving packs to stuff the old line into and when I had filled these I turned for home.

I had managed to remove 70 m of line in a 55-minute dive. I was happy to call that enough for the day as I was getting cold in the 6°C water, but my patience was the real bit that had been exhausted by then. Cutting and stuffing thick rope into packs underwater in a current was annoying, to

say the least. Pax had tidied up about a half of the dive, by his 'guesstimation'.

Two more trips, at two week intervals, were needed to finish removing the old line and properly secure the new one. Pax stayed on new line duty, and me on old line removal duty, for all the dives.

Much as I was really developing a dislike of stuffing thick, stiff rope into packs underwater (and not getting much better at it with all this practice), it made sense to stay with the jobs we were doing.

I removed three cave packs of line on the third trip, for a dive time of one hour, and the last dive was 100 minutes for me, with two bags of rope (it had proved a little more complicated than previous dives getting some of the line at the far end of the sump cut and bagged). Pax had spent similar times in the water each dive.

I measured each length of rope removed: total line removed from the sump was 215 m. I did not measure, or remove, tie-off loops and knots, or measure the lengths with precision, so I would allow for 10% more line to have been removed. This makes the total closer to 235 m.

JANINE McKINNON

A lot of gear to carry to the sump

I will be very happy if our job lasts half as long as the original line. The first test will be to see if our new line survives its first winter floods.

I will breathe easier if it is intact next summer.

Thanks must go to Ric Tunney who helped carry gear (well, my gear specifically) to and from the start of the sump for every trip.

He also doubled as emergency surface guy, in case this was needed. This is a very important role and made both Pax and I feel psychologically much happier.

FURTHER READING

McKinnon, J. 2013. JF8 Junee Cave, 16-17 Feb 2013. *Speleo Spiel* 395: 5-6.

McKinnon, J. 2014. JF8 Junee Resurgence Permanent line replacement, 11 Jan. 14, *Speleo Spiel* 400: 1011.

McKinnon, J. 2014. JF8 Junee Resurgence Finishing the reline of sump 1, 28 Jan. 14, *Speleo Spiel* 401: 5.

McKinnon, J. 2014. JF8 Junee Resurgence—Old line removal and tie-off refurbishment dives, 1 & 10 February 2014, *Speleo Spiel* 402: 4-5.

Here's your 2015 calendar

A NUMBER of the spectacular 2015 calendars are available without having to deal with international money transfers.

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Twelve stunning images take you on an enchanting subterranean journey to caves around the world.

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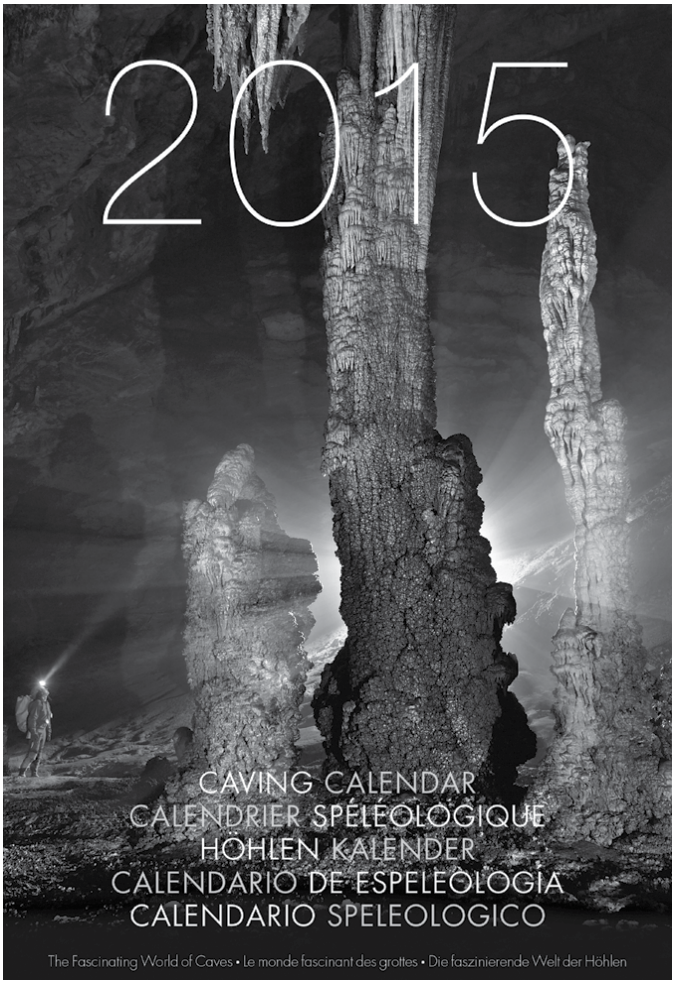
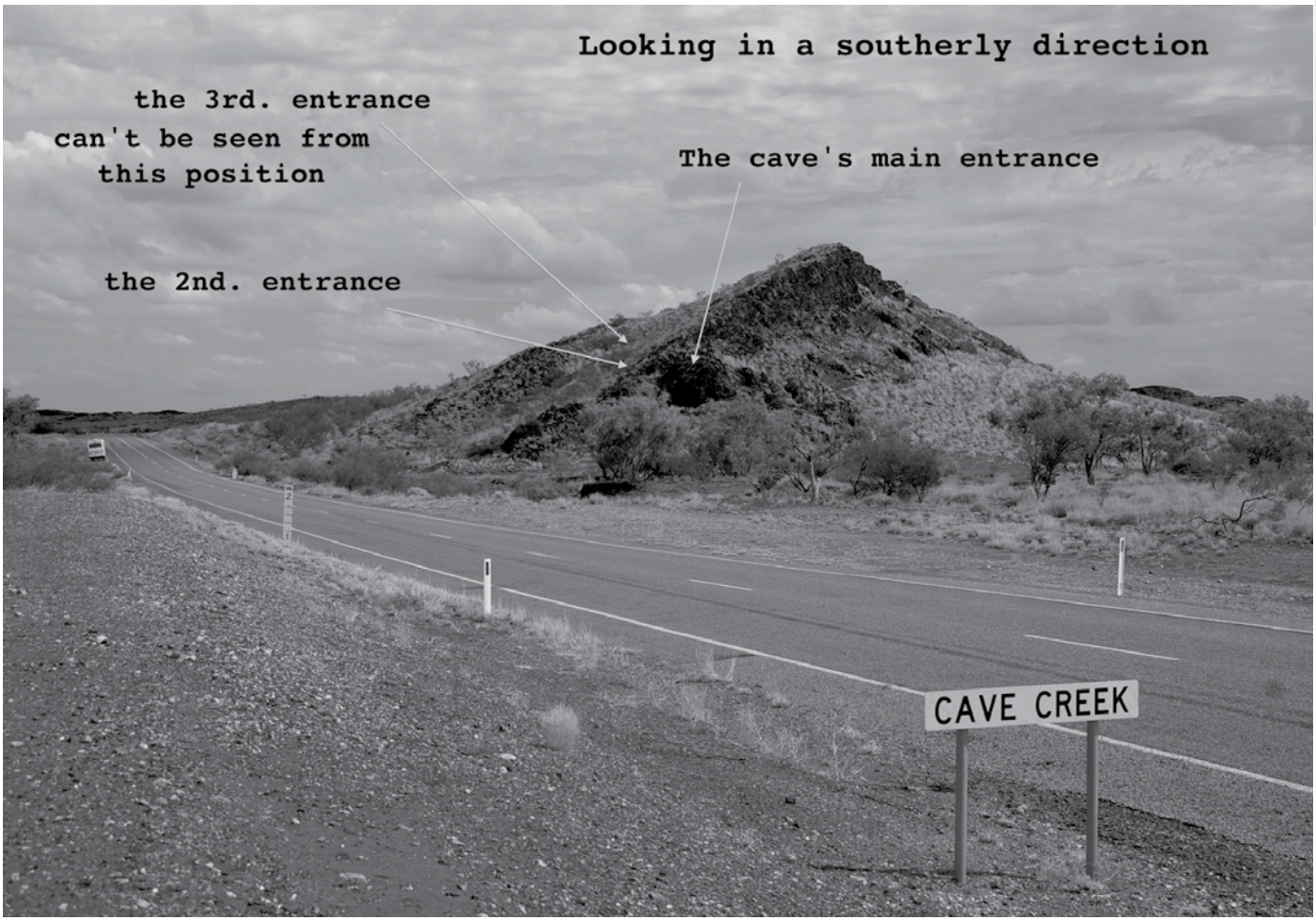
Robbie Shone, United Kingdom
Max Wisshak, Germany



Unusual Caves of Australia – 3

Cave at Cave Creek, Cane River Conservation Park, Western Australia

Norman Poulter OAM
NC, SRGWA



NORMAN POULTER

BARRELLING down the North-West Coastal Highway towards Coral Bay in Western Australia and through the Cane River Conservation Park, neatly bisected by the highway, I passed a sign indicating that I was about to cross Cave Creek.

I automatically looked across the creek to a low remnant hill with a relatively large, dark hole in the side facing me. 'Wow! How convenient—a cave right beside the road'. Convenient indeed, as it was also time for a lunch break.

Lunch was a hurried affair. Then, armed with bits and pieces of my camera and caving gear, I set off for the one-minute walk to the cave, the only hazard being the periodic whiz of very fast-moving cars, caravans and extra-long trucks.

The cave is about 15 m above road level and seems to be formed from very tortured and tightly folded shale. It is located at 50K-HTM 0319895 x 7482338 and is approximately 120 m above sea level.

The cave has three entrances, of which two are readily negotiable, especially the main one, which is huge and has obviously been periodically used as a picnic shelter, evidenced by the remains of a couple of fireplaces and heavy smoke staining on the adjacent rock faces.

The cave is dominated by the tight folding; in parts of the cave the former bedding planes have been folded almost vertically.

The cave itself slopes 10 m up the hill with a 'step' partway back which leads to the second and third entrances.

I did not investigate the third entrance other than being aware that it was 'very small', allowed the entry of light and was at the 'back' of the cave, uphill and adjacent to the second entrance. The main entrance faces east. The second entrance acts like a picture window over the surrounding easterly countryside. The main 'passage' of the cave is about 5.5 m wide and 4.5 m high. The rock joints are fretting so bits continually break off. Is this how the cave formed?

As the huge entrance presents itself as a 'frame', I used it to good effect for several pictures. Birds use the cave for nesting.

NORMAN POULTER

Looking down at the main entrance from the 'step' of the second/third entrance

Unusual Caves of Australia – 1

The 'Big Hole' – postscript #2

DOROTHY ROBINSON has unearthed more details on Norm's big hole (Poulter 2014 & Poulter 2014a)

'Dave Dicker said that the hole formed in 1982. He had Joe Jennings as a passenger that year and they looked it up on the way home.

'I found Lloyd's picture of the hole in the road.

'I think Norm's picture shows a lower treeline where the road had been. The truck driver at night noticed that his lights did not pick up the road. There was a dark area that he stopped to investigate.'

LLOYD ROBINSON

REFERENCES

Poulter, N. 2014 Unusual Caves of Australia – 1. The 'Big Hole', Tablelands Highway, Northern Territory. *Caves Australia* 196: 17-18.

Poulter, N. 2014a Unusual Caves of Australia – 1. The 'Big Hole' - postscript. *Caves Australia* 197: 6.

Speleo 2017 Field Excursions

Cathie Plowman
NC

***Caves Australia* June 2014 featured an overview of the 17th International Congress of Speleology, to be held in Sydney in July 2017, written by Denis Marsh who is the president of the Organising Commission.**

Earlier this year, I accepted the role of chairing the Field Excursions Committee and I'm now looking for other cavers who would like to be part of organising and/or leading field excursions for the Congress.

Field excursions will include: caving excursions during the Congress; pre and post-congress trips; and caving weekends and day trips before and after the Congress trips.

July brings a range of weather conditions: 20–25° in the Chillagoe area; it is snowing at Jenolan Caves as I write this and there are minus temperatures and heavy rain at Mole Creek.

Weather will need to be carefully considered for field excursions. If you're wondering 'why have the Congress in winter', that's something that is out of the hands of the organisers; it needs to be held in the European summer.

I am in the process of writing to all ASF clubs and I hope club members will consider if there are field trips that they can offer or assist others with, either individually or collectively as a commitment by a club. I am available to discuss ideas, thoughts and drafts to help interested people decide if these ideas can be turned into a suitable trip. Besides weather, practicalities such as cost, access, transport and accommodation will need to be considered.

International caving colleagues will be travelling a long way wanting to see Australia's caves and to experience wildlife, culture and world-famous locations such as Uluru and the Great Barrier Reef and much more. The Pilbara has been mentioned to me by a couple of international cavers, as has MONA in Hobart. Our caving friends in New Zealand are also planning to host a pre or post-Congress excursion there.

If you're interested in helping to showcase Australia and its caves and karst, please watch for more details in a letter being sent to your club. Please get in touch with your initial ideas. I look forward to hearing from you. I can be reached at: lueena@bigpond.com

If assisting with organisation of field excursions is not something you can help with, perhaps you might consider other ways to assist the organisation of the International Congress.

Stay tuned for opportunities where you can make a contribution to the success of the 2017 UIS Congress.

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