

CEGSA NEWS



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CAVE EXPLORATION GROUP (SOUTH AUSTRALIA) Inc.

PO Box 144, Rundle Mall, South Australia, 5000.

<http://www.cegsa.org.au>

Meetings held on the fourth Wednesday of each month, except December, at 7.30 PM usually in the Royal Society of South Australia meeting room, Natural Science Building, South Australian Museum.

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CDAA Liaison	Ian Lewis	As Above
SA Scout Liaison	Matt Smith	As Above

Cover Photograph: Action at Cave Communications Day.

Photo: Matt Smith.

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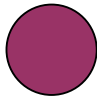
QUARTERMASTERS NOTE.

High usage equipment will now be stored at the quartermaster's residence. Please make arrangements with the QM well in advance of required date for equipment. The QM can be contacted at the telephone numbers on the previous page.

NEWSLETTER MATERIAL

The deadline for copy or background material for Volume 64 Number 4 (Issue 256) must reach the Editor by Wednesday **13th November 2019**. Material not meeting this deadline may be retained for possible use in a following issue. The preferred method is via E-MAIL to atholjax@adam.com.au as an **attachment** or on a memory stick or CD, in Word *.doc(x) or *.rtf files. Of course other forms of communication will still be gratefully accepted. Photographs are preferred to be in colour as separate files and note in the article where to be inserted. **(*jpg format** under 500Kb unless for the cover).

The views expressed in this publication are those of individual authors and not necessarily those of the Cave Exploration Group (South Australia) Inc., its Committee or the Editor.



EX PRESIDENTS SPOT

Hi everyone - this 'Ex-Prez' spot covers several underground research themes – fossils, dating speleothems and 3D cave presentations!

5L81 Fossil Cave (Green Waterhole) and Tank Cave, Mount Gambier

Fossil Cave is located alongside the Princes Highway east of Tantanoola and access is administered by National Parks and Wildlife SA. A shallow limestone doline reaches the local groundwater table via two clear freshwater pools at each end of the depression. This access has been relatively easy for native animals of Australia's past, then stock for the early European settlers and in recent decades for cave divers. In 1979 and 1987, Flinders University conducted a recovery of many Pleistocene fossils found in the southeastern underwater chamber and logged these discoveries against a radial grid system of fence droppers and stringlines. In 2018, cave divers dug through a constricted rocky connection from Fossil Cave into the much larger multi-fracture underwater Tank Cave system in the next paddock (~10kms of submerged passages). This also led to the discovery of some more fossils underwater.

However, disturbance or removal of fossils in NPWS sites is prohibited so Fossil Cave was closed by NPWS in early 2019 until a site assessment was recently made by Peter Horne and myself. The presence of these fossils has prompted Cave Diving Palaeontologist Dr Julien Louys to summarise



the regulations for minerals and fossils found under Crown and Private land in South Australia (laws vary in other States). Julien's article reprinted in this newsletter is an excellent guide to the propriety of below-ground items under the relevant Act and, while written for cave divers, has equal relevance to the speleological world. Fortunately, CEGSA has had an affiliation with the SA Museum since its inception in 1955 when Museum representatives were part of the foundation of CEGSA. I recommend Julien's article to you all as it is thoughtful, well-researched and clarifies information about our speleological responsibilities.

Sign at Fossil Cave (Green Waterhole) with warning about cave diving requirements and a rule about no fossil removal.

Dating older cave speleothems

On another scientific note, Russell Drysdale and John Woodhead from the University of Melbourne have been providing speleothem dating for samples from Naracoorte and the Nullarbor over recent decades, ranging from 0.5 million years (Naracoorte) to 10 million years (Nullarbor). However recently they asked to test small samples from caves in the far older limestone of the Flinders and Mount Lofty Ranges (the Adelaide Geosyncline). Where possible, they only collect from broken floor material. So far they have had a preliminary look at a tiny fragment of a straw from Mairs Cave which records multiple flooding events of the cave over many thousands of years. Mairs Cave was flooded halfway up the shaft in the very wet 1983 and I did a scuba dive in the main chamber! CEGSA has sent some more samples to them from Sellicks Hill Cave, Corra-Lynn (also part of the same geo-event) and Arcoota Creek Cave. They are also interested in the Mount Gambier sinkholes where we have straws now underwater after the last Ice Age.

Virtual caving and cave diving

Finally, at a recent CDAA meeting in Adelaide, we were treated to a 3-D cave diving experience where John Dalla-Zuanna of the CDAA put a video mask on our heads and we walked around a room doing a virtual cave dive in the tunnels of Tank Cave. I saw roof and wall features I had never been aware of and could stay there in one position for 10 minutes looking at them without worrying about my air supply! Truly this is a wonderful new technique to record, examine, and understand more about our subterranean environment.

Regards to all, Ian Lewis.

TRIP REPORTS

Sellicks Hill Trip Report August 2019.

In the last edition of CEGSA NEWS, Mark Corbett reported on a May the 4th (be with you) visit to cave 5A5 at Sellicks Hill, and began by checking his log book for notes about a trip to the cave he participated in back in January 1994. His report makes such good reading that I thought I might copy his style and begin this report by referencing the report of a trip to adjacent cave 5A25 back in February 1997. There were fifteen of us altogether on that trip, and the purpose of the trip was to pull buckets of rock from the depths of the cave so that we would have more room to stack rocks down there in future as we excavated our way ever deeper in search of the “stygian halls forlorn” that are almost inevitably just another bucket of rock away around the next corner.

Despite some minor glitches with the system, the day was very successful, with 70 buckets removed and suggestions noted for modifications which should make it easier for everyone to break this record next time. For various reasons, the record has not yet been broken, but we are grateful that on a recent reconnaissance visit, Mark and his party at least managed one symbolic bucket. Every bucket counts!



Mark's recent report includes photos of some decoration in what he describes as the final (for us) chamber. I am including Figure 1 which was taken a fair bit further down than that, but still at least five or six metres above the so far deepest accessible part of the cave. To progress further, we may have to work out how to guide buckets of rock past this point without damaging the decoration.

The main reason for this current report is that as some of you will know, Southern Quarries at Sellicks Hill has lodged an application for an extractive minerals lease which if granted would extend their existing quarry further to the south and closer to the known caves 5A5, 5A6 and 5A25. The application is obliged to consider environmental consequences, but has not, in my estimation, given sufficient consideration to historic or current knowledge of caves which could be

impacted. It is perhaps not surprising that the environmental consultants engaged by Southern Quarries were not aware of a substantial cave being found directly under the quarry 28 years ago, but quite concerning that no corporate knowledge of this event seems to have survived and that the indicators for the likelihood of further caves existing within the extended limestone bedding are

perhaps a bit too subtle to be appreciated by otherwise competent consultants when dealing with the mining of limestone. CEGSA lodged a comprehensive submission in response to the application in early March this year, and the process continues.

While it would be quite unreasonable to infer that caves do not exist or have no further extensions just because they haven't been fully explored or surveyed, there is no doubt that the pressure for proving the existence of what is suspected to be a major cave system that could be impacted by such a development has become more urgent.

Why am I so sure of the existence of a major cave system in this location? I won't go into the details here, but there are many indicators. One is that the same limestone extends across Yorke Peninsula and into the Flinders Ranges, and extensive caves are known in both those areas. Another is that 5A20, Sellicks Hill Quarry cave, first entered in 1991 and now largely removed by quarrying, included a chamber large enough to house a couple of Boeing 737 aircraft, and appeared to result from karst drainage processes one seventh of the scale of those which may be responsible for the system in the nearby catchment which includes 5A5 and 5A25. The third indicator is a stream sink in the valley floor below 5A5 and 5A25, and the fourth is the considerable airflows observed in 5A5 and 5A25.

It is to get a better understanding of those airflows and what they can tell me about the cave system that I am continuing to visit both cave entrances on a semi regular basis, measuring air flows, air temperatures, and barometric pressure. A consistent picture is starting to emerge, but I still need to take more measurements over a range of conditions.

I visited the 5A25 entrance, which is only 25 minutes from home, on August 8. The rain was driving too strongly for me climb up to the 5A5 entrance without getting soaked. The cave was breathing out strongly. The atmospheric pressure was very low and still dropping. The outside air temperature was only 10.2 degrees Celsius but the cave air temperature was its usual 17 degrees. Under such circumstances, especially if there is a second, lower entrance, the cave air will tend to be less dense than the outside air, and therefore rise up out of the upper entrance. On this occasion it was exiting the upper entrance through a 200mm diameter hole in the middle of the gate at about 20km per hour, which equates to 10 cubic metres a minute.

I visited the cave again a few hours later to check whether both the 5A25 and 5A5 entrances were breathing out at the same time, but the wind was so strong I couldn't stand up anywhere near 5A5 without a high risk of being blown off the cliff. When I went back a couple of days later the atmospheric pressure was only increasing very slowly, the temperature difference was still much the same, and both 5A5 and 5A25 were simultaneously breathing out. Combined airflow was calculated to be about 12 cubic metres a minute.

It will be important to carry out more measurements when the temperature of the outside air is the same as the cave air, and again when the outside air is substantially warmer than the cave air, as well as across a range of barometric conditions, but already we can say categorically that because rock is such a poor conductor of heat, when the cave is breathing out as fast as it was on August 8th and continues to do so for many hours, and the air coming out of the cave remains at 17 degrees for the whole period, despite much colder outside air temperatures, that is an unequivocal indication that the volume of the cave itself is at the very minimum, some orders of magnitude larger than the accessible volume of either 5A5 or 5A25.

An extensive search of the local countryside has failed to locate any possible lower entrances closer to 5A5 or 5A25 than the stream sink, which itself is partially blocked by coarse shale pebbles, but quite obviously takes significant flows of water, which it was doing over the weekend. It is certainly not impossible for cold air in the valley floor to be subsiding into the stream sink simultaneously with the flow of water into the sink, but more comprehensive measurements are needed to confirm this mechanism. If it does turn out to be the case, then the stream sink is about 90m below and 400m horizontally distant from 5A25. This again suggests the existence of a substantial cave system between the two, as well as the existence of a large outflow cave following the rock-bedding to the point at which it intersects the coast about 2.5 km further south.

While there will remain some uncertainties about the exact configuration of the cave that should eventually be resolvable by taking a sufficient range of measurements, as well as gaining physical access by pulling out a few more buckets of rock, the airflows already encountered leave no doubt that a substantial cave system awaits our exploration.

Grant Gartrell 14 Aug 2019

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Cave Communications Training Day

In the morning on Sunday the 11th of August, a group of cave communication enthusiasts from FUSSI were joined by Scout Caving Group and CEGSA members for some exercises with cave radios around the Flinders University campus. We started off the day with an overview of the cave communications techniques available to us, as well as a look at the Pannakin Plains news reports, which stressed the importance of having such devices available to us. We also took the opportunity to enjoy some wonderful cakes!



Heading into the library, our first device for the day was the Two-way through ground radio. This device consists of two large coils which need to be placed roughly over the top of each other - usually one underground, and the other on the surface. Given limited space, we deployed this device on the floor in a vacant computer lab, and successfully tested it.

Next up were the new Michie Phones that the SA Speleo Council has purchased. These devices are joined by a length of wire, and for this exercise we place a unit each side of the main plaza at the Uni. The results of this test was successful, with the new devices offering a much better quality signal, as well as a "call" function.

Our final exercise for the day was some radio training, where we all nominated a call sign, and roamed the university campus while attending to a few mock exercises. Despite a few technical hiccups, it was a fun exercise in exploring the campus, and learning how to communicate in a concise and consistent way over the radio.

Thanks to Clare from FUSSI for organising the day, and the cakes. Look forward to doing more training of this nature in the future!

Matt Smith

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Past Trips from General Meetings

May 2019

- **Matt Smith** and **Heather Siebert** visited Wee Jasper caves with the Scout Caving Group in late April.
- **Graham Pilkinton** reported a trip to Corra-Lynn cave on the 25th of April. A report can be found in the latest CEGSA news, and will be the focus of a presentation at the next meeting.
- **Mark Corbett** reported a group CEGSA, FUSSI and Scout Caving Group members visited A5 cave on May 4th - report in the newsletter
- **Grant Gartrell** visited Naracoorte for the ACKMA AGM and Guide School. Various caves were visited on the National Park.
- **Stan Flavel** visited the Flinders Ranges. Visited a number of properties. Putting numbers on old features including Saltbush Gorge Cave. 8 new features found in the Angorigina and Narrina areas. 150th anniversary of the Blinman Hotel. Keen to go back to the area.
- **Ruth Lawrence** and **Ian Lewis** ran a trip to Naracoorte with LaTrobe University students. Visited Joanna Bat Cave Last one after 18 years as Ruth is retiring the program

June 2019

- **Grant Gartrell** lead a Kangaroo Island caving trip, and this was very successful. Three CEGSA members attended Grant, Ken Smith & Pam Payne. Trip report will be presented at a future meeting.
- **Neville Skinner** went cave diving on the Nullarbor with Tim Featonby and Thomas Varga.

July 2019

- **Grant Gartrell** reported on trip to A5 recently when landowner came by and left his phone number. Grant has since spoken to him and he is happy for Grant to look for caves on his property. Grant has provided some info to him re the quarry problems.

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TECHNICAL and OTHER ARTICLES

MEMBERSHIP FEES

CEGSA MEMBERSHIP FEES become due on January 1st. To ensure continuity of membership and privileges (particularly insurance) please pay before March 31st.

Joining fee applies to renewal after March 31st.

CEGSA MEMBERSHIP FEES FOR 2019 YEAR

Full Membership	\$ 45.00
Full Country Membership	39.00
Associate Membership	37.00
Long Term Associate	45.00
3 Month Introductory	5.00
Joining Fee (N/A to 3mth Intro)	12.00
Discount for Country Membership	6.00
Print Form CEGSA News	25.00

ASF LEVY FEE FOR 2019 YEAR

Single	\$ 63.00
Family	114.00
3 Month Introductory	20.00
Journal Subscription	25.00

2019 YEAR FEES

	CEGSA	+ASF	TOTAL
Full Membership	\$45.00	\$ 63.00	\$108.00
Full Country Membership	39.00	63.00	102.00
Associate Membership	37.00	63.00	100.00
3 Month Introductory	5.00	20.00	25.00

Variation for Family Membership

1 st Full Member + 2 nd Full Member	\$90.00	\$114.00	\$204.00
1 st Full Member + 2 nd Associate Member	\$82.00	\$114.00	\$196.00
1 st Assoc Member + 2 nd Assoc Member	\$74.00	\$114.00	\$187.00

Discount for Country Membership applies for Family Memberships.

Please make sure your payment of fees includes CEGSA and ASF, if applicable.

Membership Fees can be paid direct into CEGSA Account BSB 105-900 Account No 950661040 and reference with your Name, CEGSA Fees or Membership Number.

Graham Pilkington. Membership Officer.

Approved CEGSA Trip Leaders

Name	Caving Leader level
Marie Choi	Horizontal and Laddering
Stan Flavel	Horizontal and Laddering
Grant Gartrell	Co-ordinator
Paul Harper	Horizontal and Laddering
Richard Harris	Horizontal
Peter Horne	Horizontal and Laddering
Peter Kraehenbuehl	Horizontal, Laddering and Vertical
Ian Lewis	Horizontal and Laddering
George MacLucas	Horizontal, Laddering and Vertical
June MacLucas	Horizontal
Steve Milner	Horizontal, Laddering and Vertical
Tim Payne	Horizontal, Laddering and Vertical
Graham Pilkington	Horizontal and Laddering
Eddie Rubessa	Horizontal and Laddering
Mark Sefton	Horizontal and Laddering
Neville Skinner	Horizontal, Laddering and Vertical
Matt Smith	Horizontal and Laddering
Tom Szabo	Horizontal and Laddering
Michael Woodward	Horizontal, Laddering and Vertical

All the above named are also CEGSA Trip Coordinators.

Members may query the classification of any Trip Leader at any time with the committee.

It is a requirement that each trip be organised by an approved Trip Coordinator to be classed as an official CEGSA trip. It is also a requirement that dependent party trips be led by an approved Trip Leader at the appropriate skill level for the cave being entered. Trip Leaders are expected to maintain their First Aid training.

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A cave diver's guide to fossil discoveries – our obligations and responsibilities.

The following article was written by the author, a palaeontologist from Australian National University and Griffith University and also a CDAA cave diver, and was published in the Cave Divers Association of Australia's (CDAA) June newsletter 'Guidelines' #146, a copy of which is in CEGSA's Library. While written for cave divers, the information is relevant to South Australian dry caving too. Please also refer to the 'Ex-Prez' spot in this issue. Many thanks to Julien and to the CDAA for permission to reproduce this article. Ian Lewis

Julien Louys PhD

Fossil protection legislation and regulations

It is not unusual to come across an interesting fossil find while cave diving in Mt Gambier. Our natural curiosity makes us want to know what it is and how it got there, and instinctively we want to pick it up and take a closer look. However, rules and regulations are in place to protect these finds. It is our responsibility, as cave divers, to be aware of them and act accordingly. Here, I outline what our obligations and responsibilities are.

Federal legislation for protecting all Australian fossils does not exist, and responsibility for looking after our geological heritage is largely the purview of individual states and territories. As such, considerable variability exists in the legislation and regulations that control collection, ownership, and protection of fossils and fossil sites. Some states and territories in Australia can have ambiguous or uneven treatment of different fossil types and their protection in different situations. This is certainly the case for South Australia.

The flooded caves and sinkholes around Mt Gambier are found on private land, Crown land, Forestry land, and in National Parks. While different pieces of legislation cover each of these different property types, it is understood that all fossils found in South Australia are owned by the Crown as stipulated in the *Mining Act 1971*. While the Act does not specifically refer to or define 'fossils', fossils will likely fall under the definition of 'minerals'. The *Mining Act 1971* defines a mineral as "any naturally occurring deposit of metal or metalliferous ore, precious stones or any other mineral (including sand, gravel, stone, shell, coal, oil shale, shale and clay)" (*Mining Act 1971* Pt 1 s. 6). If this definition is accepted as inclusive of fossils, then the legislation is clear over ownership, namely that "the property in all minerals is vested in the Crown" (*Mining Act 1971* Pt 3 s. 16). Because the *Mining Act 1971* does not specifically refer to 'fossils', it could be argued that fossils don't fall into this category. However, the wording of 'minerals' has been kept deliberately vague, allowing the definition to be set by case law rather than specifically through legislation (Bradbrook, 1987). This allows the term to be given a broad or specific meaning based on the intention in which the word is used (Bradbrook, 1987).

The state repository for fossils is the South Australian Museum, thus, as all fossils technically belong to the state they should be deposited there. However, the South Australian Museum, like all museums around the world, have limited storage and curatorial resources and usually only accept fossils into their collections on the recommendation of palaeontologists. Some fossils occur in their tens of thousands, and not every single fossil ever found needs to be made available for scientific research. Of course, common fossils can be, and often are, of huge scientific value – their richness can be the very thing that makes them valuable. Knowing which fossils are important and need to be properly recorded, extracted, curated, and preserved is the job of palaeontologists.

Despite the relatively ambiguous wording regarding fossil ownership in South Australia, regulations regarding fossil protection are much more explicit. Fossils found on Crown land, such as Fossil Cave and Gouldens Hole, are specifically covered by the *Crown Land Management Act 2009*. There, it states that a person who, without authority or excuse, damages or removed fossils from Crown land is guilty of an offence (*Crown Land Management Act 2009* s. 61 (1)). Regulations regarding fossils found on National Parks, such as Piccanninie Ponds, is even more explicit. Under *National Parks and Wildlife (National Parks) Regulations 2016*, fossils cannot be removed, displaced or intentionally disturbed (s. 21 and 30). The *Forestry Regulations 2013* covers fossils found on Forestry land. Section 17 states that without authority, one cannot intentionally destroy, damage or disturb any fossil or remove it from Forestry land.

Regulations regarding fossil conservation on private land are not explicitly addressed in any legislation, and hinge on who the caves hosting the fossils belong to. How much of the land under the surface is owned by the landowner is a question without a simple answer. While it is commonly referred to the maxim *cujus est solum*, roughly meaning that everything from the sky to the centre of the earth belongs to the landowner, things are not that simple. Case law over the years has established that this only really applies to subsoil on the property (Bradbrook, 1987). Subterranean caves, formed in hard rock and thus well outside any definition of any soil horizon, do not belong to private landowners but instead to the Crown. Fossils found in caves on private land are therefore covered under the *Crown Land Management Act 2009*, as detailed above.

The Cave Diving Association of Australia has its own specific set of regulations, and clauses pertinent to fossil preservation can be found in the Member Code of Conduct. Specifically, all CDAA members are expected to understand and apply the Australian Speleological Federation's Minimal Impact Caving Code. This code states that: *If bone material is found on existing or proposed tracks, the area should not be disturbed, but be taped off pending consultation with the land owner/manager towards timely assessment of the find*. The Member Code of Conduct also outlines the responsibility, shared by all divers, to avoid caving practices that compromise the value, environment, and the surrounds of caves, including fossils.

So what do I do if I find a fossil?

Fossil deposits are a limited resource – they won't be made again any time soon! Each fossil represents a unique snapshot of past life that, once disturbed, can be lost forever. It's therefore in our interests, as well as our responsibility as cavers, divers, and explores, to make the most out of what is found. Information from fossils allows us to build an understanding of what life was like back then –

fossil sites are past laboratories where a one-off biological experiment has been run, and all we need to do is read the results. We can't waste this enormous potential, which can literally rewrite our understanding of Australia and our unique biota.

Fossils are not just objects, they are the remains of once living creatures that fascinate and captivate the imagination. For palaeontologists, however, it's often more than the fossil that we're interested in. For us, the context of the fossil find is just as important, if not more so, than the fossil itself. This is one of the primary reasons that fossils should not be disturbed once they're found. If moved or handled, valuable scientific information is lost. We're interested in more than knowing 'what species is it'? We need the context of a fossil to answer questions like: How old is it? What sort of environment did it live in? Is this leg from the same animal as this skull? How did this fossil get here? etc. In many ways, how a palaeontologist approaches a fossil find is similar to how a crime scene is examined. We're trying to work out exactly what happened, and we need as much information for that as possible. Unlike a crime scene, though, we're working on a case that's been cold for thousands if not millions of years. To unravel the mystery behind every fossil, every bit of data counts.

The best thing to do when finding a fossil is to take a picture of it without disturbing it, preferably with a scale (metric is best, but anything whose dimensions are easy to visualise can be used). This will allow a palaeontologist to at least estimate what the organism is, and how significant it might be. If the fossil has already been unintentionally disturbed, where possible and safe make detailed notes and diagrams and take photos of its original position/location, so that this can be reconstructed. For mammal fossils that have already been disturbed, if the grinding (occlusal) surfaces of the teeth are visible, photographs of these will help enormously with identification to species. However, if taking photos at this angle requires movement of an undisturbed fossil, it's best to leave it where it is.

It's important to note that almost all fossils found in caves have been lying there undisturbed for tens of thousands of years and are thus rarely in any imminent danger. If there is a remote chance that the fossils are at risk of future damage/disturbance, the first step is to make other divers aware of their presence (for example, by using cave line to create a perimeter around the fossil or area, attaching a wet note to a nearby rock). These finds should then be reported to the CDAA National Committee to determine what further protective measures would be suitable. These steps observe the Minimal Impact Caving Code directly and are considered best practice.

If the fossil is in imminent danger of being destroyed or damaged, it's best to move the fossil to a safer, nearby area within the cave. However, the threat of damage to fossils, and indeed to any the cave's values, should never stem from a diver's actions or aspirations. We are but temporary visitors to these places, with the rare privilege of accessing these unique sites. Above all else we share a responsibility to ensure that our impact on these fragile environments is minimised. If a fossil must be moved, they should be kept submerged if at all possible – the drying out process can damage and could potentially destroy valuable palaeontological information. Again, if moved, detailed notes, plans, and photographs should be taken where possible and safe.

Photographs can be sent to any vertebrate palaeontologist for identification. There are many excellent palaeontologists working in universities and museums around Australia, and most are happy to help identify fossils and evaluate significance. Determining species from photographs is not an exact science, and it can be difficult to be accurate, however, we can generally get it in the right ballpark. It's important to note that not all fossils should or would be removed from a cave for scientific study. Palaeontologists weigh up the scientific versus aesthetic value of removing a fossil, and oftentimes it's preferable to leave a fossil in its natural state, for people to enjoy, rather than remove and potentially ruin the site.

In short, here are the six key steps to follow when you find a fossil:

- 1. Do not disturb the fossil and the area around it;
- 2. If at risk, mark off the area to indicate its presence to other divers;
- 3. Take photographs and/or video, use a scale;
- 4. Take notes regarding location, orientation, and depth;
- 5. Report the find to the CDAA executive committee;
- 6. (optional) Approach a palaeontologist for potential fossil identification.

Ultimately, fossils are part of Australian geological and biological heritage. It's heritage that belongs to all of us, and that should be shared widely for all to enjoy. New fossil finds are dependent on the new explorers and pioneers, people who spend considerable time and effort to probe the unknown, who in turn stand on the shoulders of past explorers and their efforts. However, even explorers need to be mindful of the irreversible impact their actions may have on the cave value. It's our duty to make the most of all this effort, and not waste the precious and irreplaceable resources fossils represent.

Note: The information contained in this article is for general guidance only, as the application and impact of laws can vary widely based on the specific facts involved. The information in this article is provided by a professional palaeontologist with the understanding that the author and publishers are not engaged in rendering legal advice or services. As such, it should not be used as a substitute for consultation with professional legal advisers.

Reference:

Adrian J Bradbrook, 'Relevance of the Cujus Est Solum Doctrine to the Surface Landowner's Claims to Natural Resources Located Above and Beneath the Land' (1987) 11 *Adelaide Law Review* 462, 462

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Thai Cave Rescue talk by Dr Richard "Harry" Harris OAM

The SA Speleo Council is please to announce details of a special talk by Dr Richard "Harry" Harris OAM specifically for the caving clubs of South Australia. Harry will talk about the Thai Cave Rescue in 2018 in which he joined a team of international experts and helped extract a group of trapped cavers.

This talk will be held Monday the 2nd of September at:

Joe Verco Lecture Theatre
Adelaide Health and Medical Sciences Building
North Terrace (Western End, near SAHMRI & Royal Adelaide Hospital)
Adelaide, SA 5000

Doors will open at 6:40pm with Harry kicking off around 7pm. Drinks and nibbles will be provided. Entry to this event is \$15, and tickets can be booked online at the link below. Money raised from the night go towards supporting Operation Flinders.

<https://www.eventbrite.com/e/sa-speleo-council-dr-richard-harry-harris-talk-tickets-68723332337>

Matt Smith

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2018 FLINDERS ALUMNI AWARD

Dr Richard Harris SC OAM was awarded a 2018 Distinguished Alumni Award for outstanding service to the international community through his specialist response role during the 2018 Tham Luang cave rescue in Thailand.

flinders.edu.au/alumni-awards

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From shy schoolboy to international action man in last year's Thai cave rescue, Flinders University graduate Dr Richard Harris SC OAM (BMBS '89) has returned to reality at his high-pressured job as a specialist anaesthetic expert.

Facing life or death is an everyday occurrence for Dr Harris who works at Specialist Anaesthetic Services, as a Retrieval Consultant for MedSTAR, and as medical lead for the SA Urban Search and Rescue Task Force. These roles follow years of experience in critical care and retrieval services in the UK, New Zealand and the Pacific.

Since his highly celebrated role in rescuing a boys' soccer team and their coach from a flooded cave in Thailand last year, Dr Harris has received joint OAMs, Stars of Courage and the coveted Australian of the Year with his dive partner Dr Craig Challen.

In 1982 Dr Harris started his Bachelor of Medicine and Bachelor of Surgery at Flinders University, where he met people from different walks of life and discovered new ways of thinking.

'I went to a private boys' school in Adelaide and on arrival at Flinders I soon realised what a sheltered life I had lived; says Dr Harris. 'Not only was the University modern and progressive, but at such an inclusive campus I soon experienced different viewpoints, cultures and lifestyles:

Dr Harris reflects that a major highlight of the Flinders medical degree was having the final exams at the end of the fifth year, followed by a final year working as a student intern at the Repat Hospital, ahead of the real intern year that was to follow.

'I was so grateful on my first night shifts as an intern when I realised I was already prepared to insert drips and catheters in my patients without supervision -life-saving skills for a young doctor:

As well as expertise in anaesthesia for breast and endocrine surgery, ear, nose and throat, and acoustic neuroma surgery, upper gastrointestinal surgery and endoscopy, Dr Harris' love of adventure has combined medical practice with a lifelong interest in diving.

His 30-year passion for exploring underwater caves has led him to work as a cameraman, diver and medical support on National Geographic documentaries and feature films.

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Citizen scientists study microbats

By Elisa Rose, Mount Barker Courier, Mount Barker, 14 AUG, 2019

A two-year local citizen science project has gathered more information about microbats than ever before, creating community awareness about how to protect the often unseen native species. Hundreds of citizen scientists contributed to the Mega Murray-Darling Microbat project, providing more than 3000 records of at least 13 microbat species across a wide variety of property types, ranging from Mt Barker backyards to grazing land, woodlands and a parcel of land at the Macclesfield Primary School.

Microbats range from 4–16cm in length and feed on insects. There are dozens of microbat species in Australia – 35 of which are threatened, with habitat loss a big contributor to declining numbers.

The microbat project was supported by the Goolwa to Wellington LAP and involved using Anabat units, which record ultrasonic bat calls. Four to five different species were detected in most areas, making the Hills a hotspot for the tiny mammals. A spokesperson from the Department for Environment and Water said the project had created awareness among the citizen scientists, particularly about what could be done to help conserve microbats – from keeping cats indoors at night to protecting trees with hollows and native plants that attract insects.

Lead researcher from the SA Museum Dr Kyle Armstrong said he was amazing at the amount of information collected through the project. “The good news is that it looks like we have relatively healthy populations of microbats in the region, being found in all habitat types including farmland, woodlands, and urban backyards,” he said. “Some species are much more widespread than others and this project has discovered some previously unknown locations of the threatened species that have more specific habitat needs. “It is heartening to know that bats are everywhere, with every participating property having at least one bat species recorded.”



Reprinted with permission from the “Mount Barker Courier” 14th August 2019.



READY TO GO: Member for MacKillop Nick McBride with Climbing Tree director Simon Hutchinson, Naracoorte Lucindale Mayor Erika Vickery, Natural Resources South East parks and wildlife services manager Nick McIntyre and Naracoorte youths at the opening of the Fossil Hunters Playground

Playground to entice young fossil hunters

CHILDREN now have more adventure options at the Naracoorte Caves after the Fossil Hunters Playground officially opened this week. The unique facility encourages children to engage in hands-on exploration with a focus on adventure in nature and also serves as a community meeting point. Made possible through donations of time, materials and labour, as well as State Government funding, it is a new attraction for children alongside the World Heritage listed caves. Limestone Ladies Country Women's Association (CWA) spokesperson Katie Dawkins said the group was pleased with the outcome for the community. "This has all been achieved through collaboration and funding for the project," Ms Dawkins said.

"Generating community ownership and building a participation approach was key to its development. "It was the community's generosity that allowed the scope of the project to grow and provide a substantial attraction for the region." Boandik Elder Aunty Penny Bonney said the importance of Naracoorte's history as a meeting place was now echoed in the philosophy behind the playground. "Naracoorte has a history as a meeting place where people and children come together to play, share, respect, accept and learn together," Aunty Penny said. The CWA representatives have worked in close quarters with Naracoorte Caves management for two years helping gather support

for the project. Natural Resources South East parks and wildlife services manager Nick McIntyre said the playground highlighted important aspects of the cave environment at Naracoorte. "From fossils, epikarst, to cave strata, this project supports the existing science themes at the park," Mr McIntyre said. "The playground also features interpretation on Aboriginal cultural connection to caves such as the Wonambi rainbow serpent, native plant usage and movement of Aboriginal people in the landscape. "It provides a great learning space through play for children and will be there for many years to come as well as engage a new range of visitors to the site."

Reprinted with permission from the "PENOLA PENNANT" 7th August 2019.

FUSSI PROGRAMME Aug 2019- March 2020

Note: FUSSI holds a general get together/meeting on the Third Thursday of each month except where notified. Programme subject to change.

Sun, Aug 11 th	A Comms Day	Walkie Talkies, Michie Phones, Cave link. On Campus. Flinders Uni. Start time 10 am Full Details available later.
Thurs Aug 15 th	6.30pm	General Meeting. On campus. Future plans etc
Aug 24/25		Naracoorte Trip. A training weekend. RSVP 19th July 12 Noon. Don't miss out put your name down, Clare Coordinating.
Mon, Sept 2 nd	6.40pm	Harry Harris. Cave rescue. Venue: Adelaide Uni. Fundraiser for Operation Flinders. NOTE: This Event is ticketed and costs.
Sept 14-15		ASF ACRC training weekend. Flinders Ranges. Clare Co ordinating.
Thurs Sept 19 th	6.30pm	General Meeting. On campus Post Rescue training Discussions.
Sept 21-22		ASF National Rescue talk fest weekend Glenelg SASC coordinating.

Mid Semester Break 23 Sept - 7 Oct

Sept 27 to Oct 6 Nullarbor research trip – Trip is **FULL**

EXAMS 11 - 22 Nov

YEAR BREAK 25 Nov – 22 Feb 2020

Thurs Nov 21 st	6.30pm	Map reading, with compass and paper. NO GPS allowed. On campus in the Uni forest. Sarah and Tania coordinating
Nov		Kangaroo Island Trip. Janice and Clare Coordinating. Dates TBC
Dec		Mt Gambier trip. Sarah Coordinating Dates TBC
Sun Jan 12 th	11am onwards	New Years get together. Venue to be decided
Jan 18 th – 26 th . 2020		Buchan Caves Vic. Vertical experience would be useful. Sil and Clare Coordinating <i>Dates to be Confirmed.</i>
Feb 24-28 th		O'Week, Stalls. Help needed.
March 1 st		Murray River Beginners Trip. Thomas Coordinating

March 2 - 2020 SEMESTER STARTS

CEGSA members are welcome to attend. Contact Mark Sefton or Neville Skinner.

CALENDAR OF EVENTS

Date	Type of Event	Description	Contact
28/08/19	General Meeting	Royal Society Room, SA Museum, Adel. Bunda Cliffs update	Steve Milner
02/09/19	Talk	"Harry" Harris on Thai Cave Rescue See article P64 for details \$15 fee.	"Harry" Harris.
??/09/19	Committee Meeting	TBA	Mark Sefton
14-15/ 09/19	Training	National SAR Workshop	Matt Smith
25/09/19	General Meeting	Royal Society Room, SA Museum, Adel. TBA	Mark Sefton
??/10/19	Committee Meeting	TBA	Mark Sefton
23/10/19	General Meeting	Royal Society Room, SA Museum, Adel. TBA	Mark Sefton
First two Weeks Nov	Caving	Old Homestead Cave, Nullarbor	Graham Pilkington
??/11/19	Committee Meeting	TBA	Mark Sefton
13/11/19	CEGSA NEWS	Articles due	Athol Jackson
27/11/19	General Meeting	Royal Society Room, SA Museum, Adel. End of year BBQ. BYO drinks.	Mark Sefton
??/12/19	Committee Meeting	TBA	Mark Sefton
25/12/19	No General Meeting	No General Meeting	
	Caving	Continuing Fleurieu Peninsula Exploration	Grant Gartrell

****Extra trips will be notified in the Calendar on the Website or at General Meetings****

To be covered by insurance it is mandatory that caving trips involving club members must be registered as CEGSA Trips. To do this, the nature and timing of the trip must be entered in the Calendar of events in CEGSA NEWS, minuted at a General Meeting of Members or entered in the Website Calendar. The member registering such a trip must be an accredited CEGSA Trip Coordinator and must agree to act in this capacity for the trip. There must also be an accredited trip leader with the appropriate skill endorsement to take a dependent party caving.

Also, please ensure that a report of the trip is submitted to the Records Officer and editor in a timely manner.

Notes.