

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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Science Officer	Ian Lewis	As above
Training	Matt Smith	As above
New Member Liaison	Pam Payne	As above
Website Trip Log	All Trip Coordinators	See list p87

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ASF	Graham Pilkington	As above
SA Speleological Council	Mark Sefton	As above
Kanawinka Geotrails Liaison	Ian Lewis	As above
CDAALiaison	Ian Lewis	As above
SA Scout Liaison	Matt Smith	As above

Cover Photograph: The Kelly Hill Visitors Book – Done to a Crisp.
Photo: Grant Gartrell.

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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 66 Number 1 (Issue 261) must reach the Editor by Wednesday **17th February 2021**. 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.



PRESIDENTS SPOT

Wow I never expected to be writing a Prez Spot for CEGSA News under these circumstances. 8 weeks ago I woke up in the night with both arms aching from shoulder to wrists. By breakfast I had a broken night's sleep so decided to go in to work despite the arm aches. Within half an hour my work colleagues said you look crap and drove me straight to RAH emergency, luckily only a few blocks away. Within an hour I was in surgery and a stent installed in the most blocked coronary artery of several that showed on the angiogram. I didn't know about any of this as I was under but the surgeons later told me they considered commencing open heart surgery on the spot. They decided not to and had me in the cardio ward for a week to stabilise before undertaking a triple bypass. While awaiting this I didn't know how successful that would be (or *if*) so am immensely grateful to CEGSA's Pete 'Puddles' Horne and 'Whispering' Nev Skinner for coming in during that holding week and organising lots of life stuff for me as this whole thing happened with no notice.

We later figured out that my Mum had survived a major stroke at the same age as I am now (68) and her father (my Grandpa) died of a heart attack also at 68. So that's the genetic number in our family. The next generation (my nieces) are now having careful checks done. Importantly, I didn't recognise the sore arms as a heart attack symptom as there was no chest pain or breathing/sweating/pallor associated with it and I'm a non-smoker or drinker. So I am now spreading the word about other symptoms when and where I can. I have a big chest scar and a much bigger leg scar where the bypass veins were taken so I don't expect to go back to work until after Xmas and a good long break. The surgeons said I "should have 20 good years of geology left in me". Thanks to everyone from the caving world who have wished me well. That includes Noel and Cynthia Mollett who must have heard about this via pigeon post out there in the Mallee! Many thanks to Athol who's been through all this before (a quad, not triple, so I'll have to catch up..) and has been giving me great encouragement about recovery.

Thanks also to our hardworking CEGSA Committee who have been proceeding with competent management of CEGSA's business throughout a non-contact year and more recently without a Prez. This clearly shows that a committee can function effectively via email contact (despite the occasional comments about email limitations) and utilising the specific skills of each for the offices they hold. Perhaps they don't need a Prez except to cut ribbons at cave opening ceremonies! Team, good on you for navigating 2020 so well.

What a year we have endured in 2020. FUSSI have run a monthly series of ZOOM presentations for their meetings – all very interesting (Koonalda, Bats, Fossils, 3D cave surveys etc). But dear old CEGSA went one better and managed to recommence actual face-to-face meetings from July, relocated to the Museum Armoury building close to our original 1955 Inaugural Meeting spot. Good to see our faces again! Caving-wise it's been really bad for cavers in NSW where that government has shut down all normal caving access permits so that speleology on all National Parks (ie most of their stuff) has ground to a halt there. Some brilliant NSW apparatchik obviously decided that climbing, hiking and crawling through caves is less safe from COVID-19 than cramming drinkers into a pub at Bondi. Thankfully here in South Australia we have not been treated in this way. KI have been the opposite allowing a combined SASC team (CEGSA, FUSSI and SCG) to work across the Kelly Hill Caves burnt region to locate and relocate exposed sites, log it with Nick from National Parks there and contribute rehab ideas etc. Hi and many thanks to KI karst geomorphologist Dave Gillieson for providing broad background and bio-knowledge to assist the various KI landscape recovery endeavours. And Naracoorte are allowing SCG visit to Fox Cave again. Thanks, Naracoorte! Caving is working well here in South Australia.

Cheers from Ian, President, CEGSA

Ian Lewis

TRIP REPORTS

Corra Lynn Cave with Mercedes College.

On Thursday 3rd September 23 Mercedes College Year 9 Students along with three teachers visited 5Y1 Corra Lynn Cave

CEGSA Members Damien Pilkington, Neville Skinner, Graham Pilkington and Michael Woodward led the four groups on a three hour exploration of the cave.

The toilets at the usual pre caving meeting place were under repair and so the bus was directed to the conveniences behind the town hall in the main street of Curramulka.

The combined State Government and extra Mercedes School COVID 19 Risk Management Strategies five page document proved to be challenging to complete but manageable in practice - available from Michael if you are interested.

Each student was issued with overalls, gloves, a face mask and one of the school's caving helmets pre- washed in soapy water then air-dried,.

Most cavers found that the restricted inflow of air through the masks was not sufficient when caving energetically so they were placed in overall pockets.

All the students had a good introductory caving experience – most had never been adventure caving before.

Thanks to Damien, Neville and Graham for enabling this valuable caving activity to go ahead in COVID 19 times,

Michael Woodward.

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NOT ONLY A TRIP TO KANGAROO ISLAND BUT ALSO DOWN MEMORY LANE

I began to be worried by the weirdly intermittent warnings from the temperature gauge in my car as I was driving to my appointment with the ferry at Cape Jervis. Surprisingly I made it on time and mistakenly thought my luck must have been improving. I was put straight about this when loading the car on to the ferry. One of the blokes supervising the loading drew my attention to a new tourist feature under my car, a spectacular green waterfall straight on to the deck of the ferry. Luckily, when we arrived at Penneshaw I was able to hire a cute little Mazda, forget about car radiator problems for a few days and enjoy a really great trip to Kelly Hill. While Penneshaw was probably not the place anyone would choose to have radiator problems, one of the reasons that I was able to relax was a couple of really nice people who were just finishing off some mechanical work on a tourist bus in a shed behind the servo. As soon as the bus was clear we were able to put the car over their pit and have a good look underneath. The mechanic soon identified the problem. Although it wasn't fixable without waiting a long time for a new radiator, which these days probably has to come from Melbourne, he was able to apply enough silicone sealant to patch it up well enough for me be able to at least get the car back home. I couldn't have had better service anywhere. Thanks fellas! I had memories of a Chinese student many years ago who unsuccessfully tried two times to drive his Morris Minor up the big hill out of Cape Jervis, and ended up selling it in Cape Jervis to get rid of the problem. I need not have worried. By the time I was ready to hop back on the ferry, the sealant was nicely cured, and the radiator held its water all the way home. A big relief and a happy ending to a great trip!

Although I had been over briefly back in February and had seen the severe impact of the bushfire on Kelly Hill already, the principal purpose of this trip was to make the best of a bad situation and search for previously unknown karst features during the limited window of opportunity made available by the pretty much total conflagration of the normally dense undergrowth.

The achievements of the trip exceeded our expectations, and the social side was great as well, boosted by perfect weather and the home from home hospitality and great facilities of the Western KI Caravan Park. Thanks to the proprietors, Fiona and Mark Jago. Without a facility such as theirs at

this time our visit would have been much more problematic. It was good to catch up with Kelly Hill senior guide Nick Heath again. Nick has had a good deal of work to do following the fire, including sorting out a replacement for his house, but has already walked extensively in a couple of areas and recorded GPS locations for some new features. It was also good to catch up with Professor Dave Gillieson who I first met many years ago through ACKMA. Dave is currently the ACKMA Treasurer, a role that I also carried out a number of years ago. Most importantly Dave and his wife are now Kangaroo Islanders themselves. Clare Buswell had arranged with Dave to open with a presentation on the geology of Kangaroo Island aimed particularly for those who hadn't been to Kelly Hill before. It was very comprehensive and interesting even for old hands. Thank you Dave, and thank you also to Clare for the slices of fruit cake that accompanied it.

It was pleasing to see the early signs of widespread regeneration, and numerous wallabies and kangaroos as well as their frequent tracks across numerous new sand patches that had been exposed by extensive incineration of leaf litter. Thanks to comprehensive high resolution aerial photography following the fire we will still have the opportunity to record GPS locations for prospective features we have not yet had the chance to check out, and expect to continue adding to the database well into the future.

Without counting too carefully, there are so far about 40 new features at Kelly Hill. Some have existing holes that simply need investigating by appropriately sized humans, and others have quite impressive blind dolines that experience has shown are indicative of past collapses into equally impressive cave tunnels or chambers below.

Probably one of the unexpected highlights of the trip for me was observing a strong flow of water into the main Kelly Hill system influx. This flow kept up for the full duration of our visit and was a result of a heavy rain event a few days before we arrived.



Aluminium Adventure Cave Ladder in Original Kelly Hill Entrance



Interesting Sink West of K11.



Ken Smith and Kevin Mott Check Out Large New Sugar Gum in Entrance to Frite-Nite.



Large Blind Sink Further West of K11.



Sinkholes are where you find them.



The Hanson Bay Track.



The Main Kelly Hill Influx Flowing Steadily.



What's Left of Kelly Hill Tourist Entrance.



Trigger Plant Rises From the Ashes.

A couple of weeks later at the October General Meeting of CEGSA Mark Sefton briefly referred to an email from Mark Corbett concerning our lack of access to the Town Well Cave in Curramulka, and as frequently happens these days I was transported back in time to memories of many of the things I would have liked to achieve over my time as a caver (a bit more than 60 years) and as a CEGSA member (about 57 years) but for which I have so far not found the time.

About ten years ago Steve Bourne and I collaborated in the preparation of a comprehensive but ultimately unsuccessful submission to the Yorke Peninsula Council to reinstate the entrance gate and re-establish access for CEGSA to the Town Well Cave in the heart of the Curramulka township. The principal reason for turning us down at the time was probably simply that the Council in their view had a string of higher priority projects that would consume all of their limited funds and that there was little point therefore in considering tacking this one on to the end of the list.

The unresolved access situation for Town Well Cave reminded me of two other shafts in Curramulka that CEGSA has not to my knowledge visited in recent times that we should also be keeping in mind.

The first is 5Y3, a cave just west of the township on the corner of the road into Curramulka, on the property of a Mr Twelftree, as I recall. This consists of a vertical shaft which descends from memory a number of metres before a short gallery enabling a sideways shift to a second shaft heading a bit deeper. Either or both of these shafts need lots of loose rock removed, which should not be all that hard to do, with the object of getting down to the water table, 35 to 40 metres down. It would not be beyond the capacity of CEGSA to eventually achieve this, although it would obviously take time.

Particularly once getting close to the water table there is every likelihood that sideways extensions will be found that don't need a great deal more rock removed.

The other shaft, in what we referred to as Mrs Goldsworthy's paddock to the east of the township, has already been deepened by CEGSA by 6 to 10 metres, and hopefully we could also continue this project over time. Again, once the water table is intersected at roughly the same depth sideways extensions can be expected.

It is very clear from the history of pumping at the Town Well Cave that the lateral extent of this system is vast compared with the currently recorded horizontal tunnel. The same should be expected at 5Y3 as well as Mrs Goldsworthy's, so the rewards for such expenditure of effort are potentially enormous.

This limestone is of Cambrian age, and identical to that at Sellicks. The Corra Lynn cave is already the longest surveyed cave in SA, and quite clearly has a good deal further to go. Box work maze passage is widespread throughout the area, and therefore highly likely to be encountered both at the bottom of 5Y3 and at Mrs Goldsworthy's, and even at perhaps other locations as well.

Perhaps one of the reasons that such projects seem attractive to me is because I once upon a time spent a fair bit of time in Town Well Cave and found it to be a very sporting and interesting cave with a good deal more potential.

While advocating the alternatives I do not suggest for one minute that it should be an "either – or" situation. We should be totally serious about pursuing access to Town Well. We might be able to secure some grant funding that would take almost all of any financial burden from the Council, which should surely be enough to overcome any reticence on the part of Council in its support for the project.

I have always been an inveterate digger, and amazed that my enthusiasm wasn't more widely shared and that I couldn't talk sufficient numbers of other people into hauling sufficient buckets of rock. Despite that, the list of South Australian caves that have grown substantially in size and importance due to quite minor digging includes, but is not limited to, Blackberry Cave, Fox Cave, Sand Cave, Cathedral Cave, Robertson's Cave, S102, SOS, The Victoria Fossil Cave, Kelly Hill Cave, Frosted Floor Cave, 5A5, 5A20 and 5A25 at Sellicks Hill.

It is not clear to me why digging projects do not seem to be as popular a pastime currently as they were much earlier in my caving career. The common factor in every one of these projects has been that the site of the digging has been very carefully chosen, and indicated by tell-tale airflows. The result in each case has been much improved knowledge about each of the cave systems involved, in one case leading to South Australia's only World Heritage listing.

The typical dig we have generally undertaken to improve access is most unlikely to affect even complex cave microclimates. Air flows travel through caves in response to barometric pressure change, which itself is transmitted at the speed of sound (about 340 metres per second) except in circumstances where the air itself may be passing through the interstices of porous rocks such as some Gambier and Nullarbor limestones. The determinant in this distinction is that whether the scale of the spaces in the air-path is comparable with the mean free path of the air molecules, normally roughly about one ten thousandth of a millimetre. Generally, where there is a detectable breeze the scale of the opening is already well above this threshold and any such moderate enlargement of the passage cross-section we might wish to make to be able to follow such an air-flow will have minimal impact. The classic comparison is demonstrated by large caves such as Mulla-mullang on the Nullarbor, where airflows through the Southerly buster, an easily accessible minor restriction in the main passage, not far from the cave entrance, have been measured as high as 35 knots, but by far the larger volume of air accessed by this cave system lies within the porosity of the rock itself, within which significant impedance introduces rock surface airflows along the entire length of the cave that would be barely measurable except through significant phase lags to the cave breathing. While it takes only about 10 seconds for any pressure changes to be propagated from one end of Mulla-mullang to the other, it can take several hours for those same changes to be propagated significant distances sideways into the surrounding rock. The same principles apply to cave breathing at Kelly Hill and Naracoorte.

So there are good reasons for undertaking well-considered cave digs, and no fundamental reason as to why we should not undertake them. There is one more compelling argument as to why such digs

are not only desirable, but downright urgent, particularly in South Australia. That argument is that we have lost outstanding caves at both Myponga and at Sellicks Hill because we were unable to prove in time when problems first arose that they were there. The governments of the day, per the Mines Department, made no significant attempt to ascertain the karst development of the limestones before approving projects which effectively precipitated their (at least partial) destruction. While all this happened 40 to 50 years ago, not all that much has changed in their attitude to caves, even today, as far as we can ascertain.

Yet even so, and particularly because of the new discoveries at Kelly Hill, it is timely for me to urge caution, and tell a few stories illustrating why.

Story number 1: Many years ago it was fashionable when visiting Curramulka to drop into the local quarry after hours and see what cavities they had recently broken into. On one such occasion, and I was on my own, as I recall, I entered into what looked to be an interesting fissure that I could stand up in, about 700mm wide with a floor of broken rock. As I proceeded to explore the fissure there was a bit of a rumble below me, and the floor fell away, re-settling about 10 metres lower down. Luckily I was able to brace myself above the hole and chimney back out of there instead of falling down and becoming jammed down the narrowing slot.

Story number 2: During exploration of both 5A5 and 5A25 at Sellicks Hill we came across two places where we found alternate ways onwards, thereby avoiding digging out rocks which would in each instance have found us at the top of shafts in excess of 20 metres. It is expected that one day both of these caves will progress deeper, and discovery of further similar shafts is both likely and a good reason for being careful.

Story number 3: Many years ago, when we first visited Sand Funnel Cave at Naracoorte, it was simply a shallow conical depression on Crawfords' property. Being a bit of a young smart-arse at the time I actually stood in the middle of this hole and jumped up and down a few times, joking that it was one way of making a new cave. Some 6 weeks later we revisited the spot, and instead of the same depression, we found a clean shaft in excess of 20 metres deep. I will never know whether one more jump might have made the difference, and I am glad I didn't find out. When we dropped a ladder down and first set foot in our new cave, we found a pencilled inscription at the bottom of the shaft: "J M 1908", which indicated to us that the shaft had been open almost 100 years earlier and had been descended then by James Mason, a contemporary of William Redden, the forester in charge at the time. This highlights the phenomenon that was so important in the accumulation of bones in the Victoria Fossil Cave, the natural opening and closing of sink-holes that were acting as animal traps.

The moral of these stories: We should never forget that these surface features we have been finding from time to time, whether in Curramulka, the Nullarbor, the Flinders Ranges, the Fleurieu Peninsula, the South-east, or Kangaroo Island, have in many or most instances been developing from the bottom up. The deeper portions of the caves have been eroding, collapsing, dissolving away, and whether it is a shaft, or a collapse dome forming, for our purposes it is prudent to remember that as the underneath bits succumb to the forces of nature, including gravity, they tend to migrate towards the surface.

When we walk around on the surface looking for them, and find them, we tend to assume that they are stable, and that we can pull the odd rock out without upsetting the apple-cart. This may well be the case with some of the new features which we have recently recorded at Kelly Hill. There is one such hole at Delamere that first appeared in a paddock about a decade ago, when the land surface dropped about 3 or 4 metres. At present the centre is getting slightly deeper, and of course we are interested to see if we can accelerate the process by pulling a few rocks out. Those of us who are keen diggers, anyway. My advice is to be a bit more cautious than we have in the past and take the trouble to use a belay when working on such a hole. Although it would undoubtedly be a slim chance, there is a possibility that underneath that hole, instead of the 300 mm waterfall discovered under my car, there would be enough limestone to accommodate an actual 300 metre waterfall. If so, you would definitely want to go back and get your camera before falling down it.

Grant Gartrell

November 2020

Past Trips from General Meetings

August 2020

Nil trips

September 2020

- *Neville Skinner* discussed a Mercedes College trip to Corra-Lynn Cave. 22 students had a good day!
- *Joel Dillon* visiting Corra-Lynn with Scout Caving Group members. Ran a series of navigation exercises.
- *Neville Skinner* visited Broken River Province. Similar karst to Bullita. Fantastic campsite. Mapping with Alan and Megan Pryke, Andrew Stempel, Phil Maynard and others. Also spent a week at Chillagoe - big and beautiful caves. Will present a slide show at the October meeting.
- *Mark Sefton, Graham Pilkington, Neville Skinner, Andrew Stempel* and others visited Bullita. A lot of mapping was done, including tidying up of old surveys. About 1500 new survey stations were added to the data. New permit had 19 new conditions added to it! Many of them are common sense. Management are keen to see the surveys develop, and are interested in investigating using caves for the purposes of tourism. Still plenty more to do in the area!

October 2020

- An unknown guest tried to go to Flinders but there was too much snow, went to Coffin Bay- several caves along railway tracks along to Lincoln National Park, thick Mallee but has some potential. Gawler Ranges- got flooded in, made it to the Flinders- Spear Creek has some interesting geology with old and new limestone- contains caves, some with flowstone and formations. Will need further exploration.
- Minky, Grant, Andrew, Pam, Matt Smith, Neville and Heather went to Kelly Hill Caves on Kangaroo Island exploring potential features identified on satellite pictures and previous potential cave locations. Approx. 50 new caves found and many more karst features. Exploring the possibility of forming a "Friends of Karst" group or similar to facilitate access to surveying and conservation of caves.

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 2021 YEAR

Full Membership	\$30.00
Associate Membership	25.00
Long Term Associate (more than 2 years as an Associate)	30.00
3 Month Introductory	5.00
3 Month Introductory family	10.00
3 Month Associate Membership (including joining fee)	19.00
Joining Fee (not applicable to 3 Month Introductory)	12.00
Country Membership discount (residing more than 80 km from Adelaide GPO)	
Single member or one-parent family	6.00
Two- parent family	12.00

ASF LEVY FEE FOR 2021 YEAR

Single	\$70.00
2-parent Family	123.00
1-parent Family	88.00
Retired, pensioner, student, or unemployed	46.00
Honorary (not caving)	21.00
12 Month Introductory	20.00
12 Month Introductory family	35.00

Example 2021 YEAR FEES

	CEGSA	ASF	TOTAL
Full Membership	\$30.00	\$70.00	\$100.00
Full Membership retired	30.00	46.00	76.00
Full Country Membership	24.00	70.00	94.00
Associate Membership	25.00	70.00	95.00
Associate Membership student	25.00	46.00	71.00
Inactive Full (needs Committee approval)	30.00	21.00	51.00
3 Month Introductory	5.00	20.00	25.00
3 Month Associate Membership	19.00	18.00	37.00

Examples for Family Membership

1st Full Member + 2nd Full Member	\$60.00	\$123.00	\$183.00
1st Full Member + 2nd Associate Member	55.00	123.00	178.00
1st Assoc Member + 2nd Assoc Member	50.00	123.00	173.00

NOTE Country Membership discount on the above examples would be \$12.

Full Member 1-parent Family	30.00	88.00	118.00
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Please make sure your payment of fees includes CEGSA and ASF, if applicable.

Membership Fees can be paid directly into CEGSA Account

CEGSA

BSB 105-900

Account No 950661040

reference with your Name or Membership Number and fee year; eg 7201-21.

Graham Pilkington. Acting Treasurer

Approved CEGSA Trip Leaders

Name	Caving Leader level
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
Steve Milner	Horizontal, Laddering and Vertical
Tim Payne	Horizontal, Laddering and Vertical
Graham Pilkington	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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Fossil fissure Kilsby's Sinkhole 5L46

While reviewing my pencil cave maps looking for those which needed either ink or digital versions, I found this gem from the 1990's.

This is most likely the site of fossils identified in the Cave Divers Association of Australia Research Group Report No.1 Kilsbys Hole Study 1983, by Robin Garrad, Jenny Hiscock, Peter Horne and Peter Stace.

The authors mention:

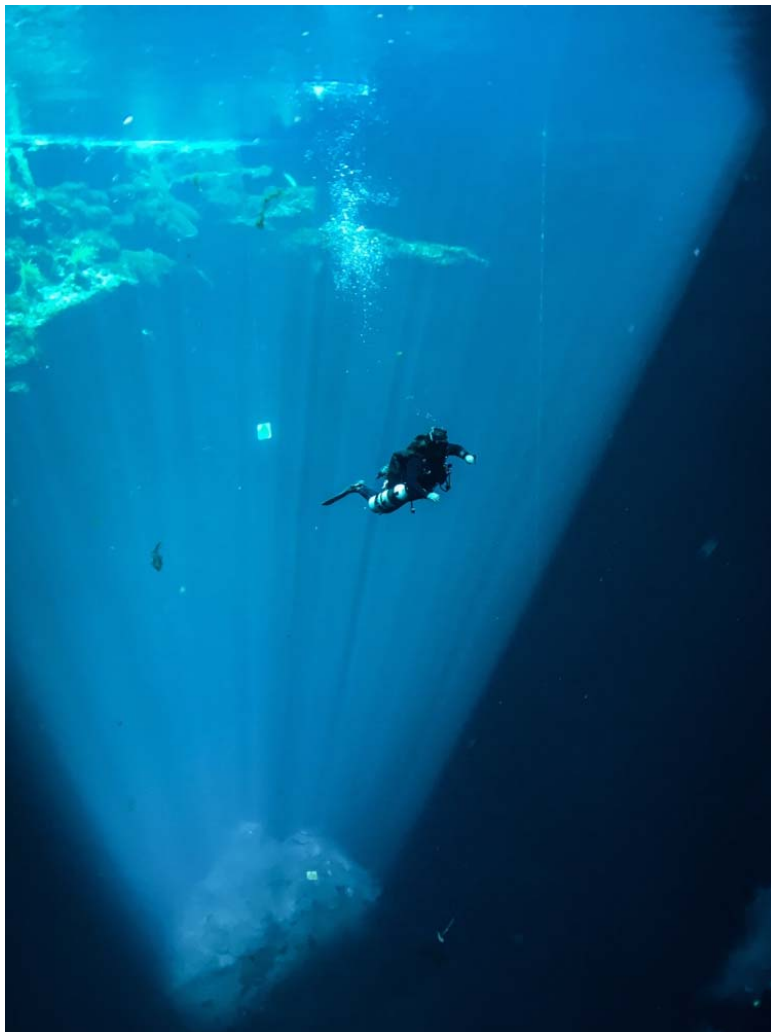
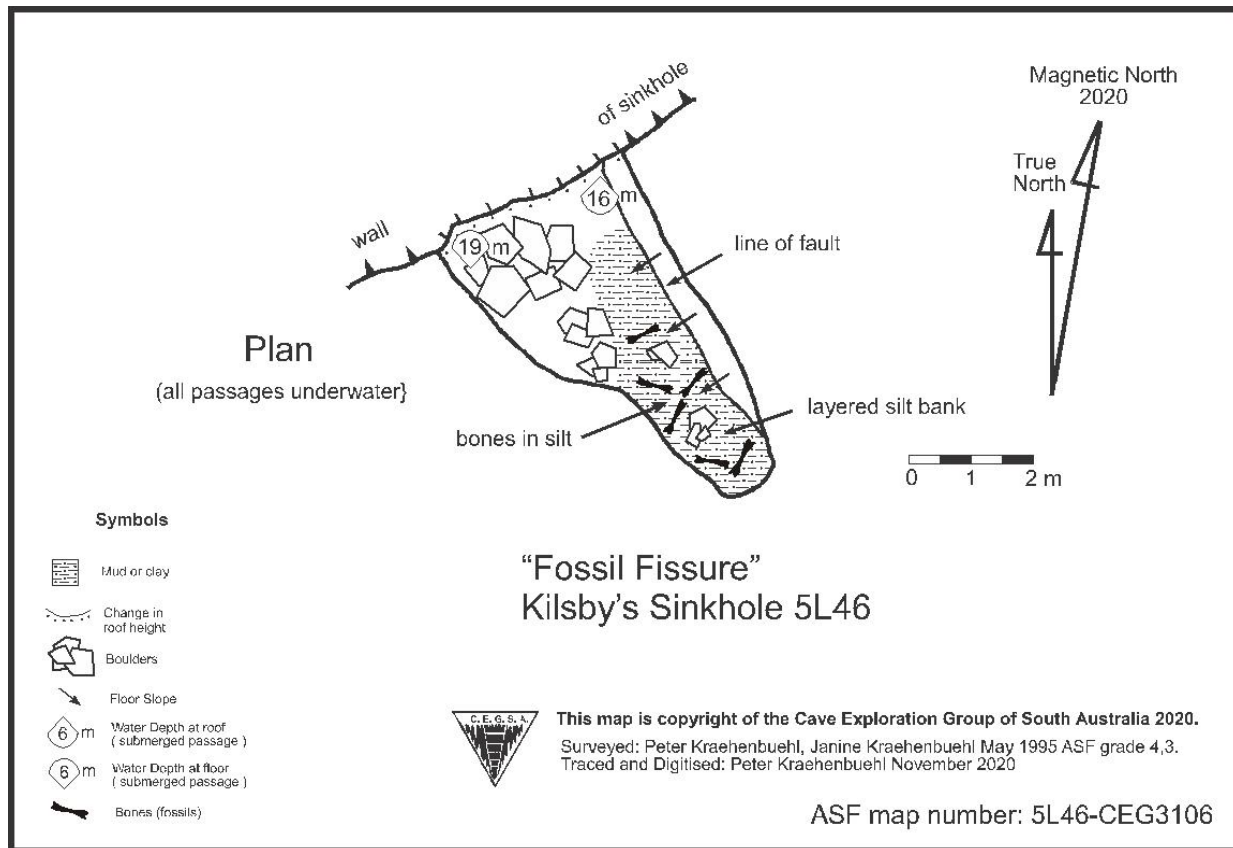
"A crack extends in a southeasterly direction adjacent to the underwater tower; it is continuous from the surface to the bottom. At depths of 18m and 21m, there are two ledges in the crack, one above the other."... "The dimensions of the site have yet to be measured..".

Janine and I mapped this fissure in 1995, as we were surprised it was not on the 1983 map of the cave.

The 2007 mapping project of 5L46 led by Richard Harris and Peter Horne concentrated on the deep passages in the cenote and on relocating survey markers from the 1983 survey. The "fossil fissure" does not appear to have been mapped in detail at that time.

I have drawn the fissure at a scale sufficient so that the position of material insitu can be marked in any future recovery of bone deposits. The layering of the silt makes this a particularly interesting underwater fossil deposit, as there may be more than one period of silt infill which has occurred in the cave, which could be identified from the deposit. The fossils most visible appear to be long bones. A tie-in to the 2007 survey is still needed to place this feature on the main map. I have relocated the fissure two times in the last three years, but did not have survey instruments with me at the time. To have a relatively intact fossil deposit within a regularly visited cenote is quite remarkable, and very special.

Peter Kraehenbuehl



Janine Kraehenbuehl in the shafts of light in Kilsby's Sinkhole

A new map for Murra El Elevyn 6N47

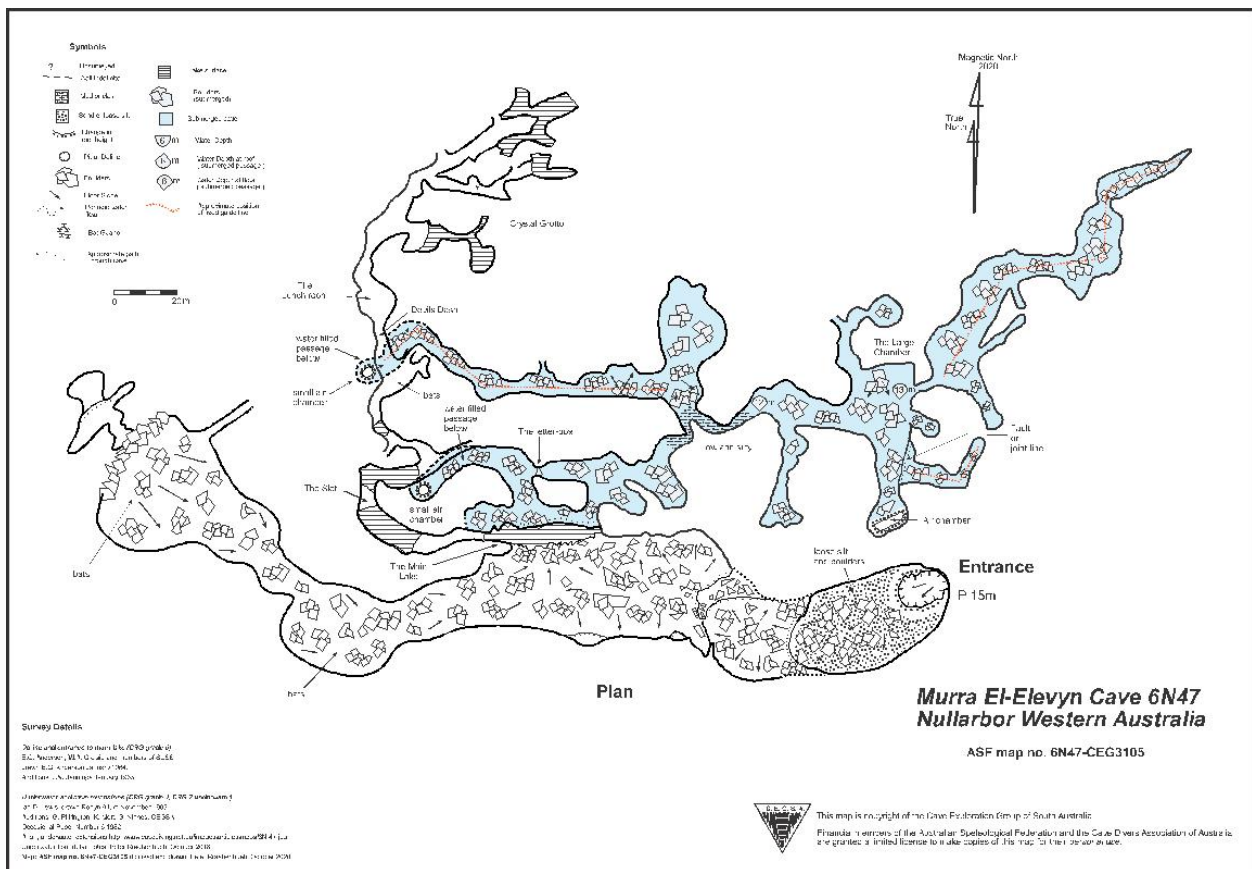
A new map of Murra El Elevyn has been on my “hit list” for a while now. The current maps “in the wild” are showing the wear and tear of too many laps of the photocopier.

For this map I used some floor detail notes I made in October 2018 and blended this with the better surveys I could find to make a composite map.

The cave is certainly due for a systematic survey, but I have tried to correct some of the over simplification which has developed over time.

If members would like a digital version send me an email and I'll attach the A3 pdf version for you.

Peter Kraehenbuehl



Peter Kraehenbuehl on the way to one of the air chambers in Mulla El Elevyn.



Janine Kraehenbuehl negotiating the “letter box”
Murra El Elevyn.

Orchardists eye growing bat threat.



Migrating fruit bats are emerging as a threat to local orchardists, the head of the region's fruit growing industry body has warned, adding to mounting pressure on local growers to net their orchards.

Grey headed flying foxes haven't always called Adelaide home, but habitat disruption and falling food supplies in the eastern states have pushed the vulnerable-listed native species into SA over the past decade. With numbers now in the thousands in Adelaide, the bats' natural food source is nectar from native trees and native fruit - particularly figs.

But Apple and Pear Growers Association SA chief executive Susie Green has warned that increasing populations and limited wild food sources meant they posed a risk to the Hills fruit growing industry, with some growers already being affected.

"There's certainly a lot more sightings in orchards and they are getting into the fruit," she said. Natural Resources Adelaide and Mt Lofty Ranges species ecologist Jason van Weenan said the bats didn't pose as big a risk as existing threats, such as lorikeets, because of their apparent preference for native food sources.

They're also highly mobile - flying up to 50km a night — so have the ability to travel as far as the eastern coast in search of food when local resources decline.

Risk factors

But they could still pose a risk in years when native food sources across SA and the eastern states were particularly low, he said.

Because they fly and feed at night, Ms Green said methods including noise and light deterrents weren't options for growers seeking to protect their fruit.

She said they had been known to eat fruit on the trees, sometimes taking the whole piece off, and also damaging the bark and branches. And while she said they didn't pose as big a risk to crops as birds, as populations increased they could eventually pose the same threat. "Certainly some of the experiences from interstate are that when they come into an area they completely wipe out a crop," she said.

"So it is an emerging threat that's only going to get worse."

She said bats were one of the many reasons more growers were erecting netting - which also protect against birds, hail, sunburn and water loss. That's a method that Mr van Weenan agrees could be a way for orchardists and the native mammals to co-exist. "There are so many challenges for growers but the use of netting for orchards does provide a number of benefits," he said.

Last year it was announced that Hills growers would share in \$14m in Federal funding to help them net their crops to protect them against increasing threats including hail, birds and bats.

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Photographer Timothy Lindner captures beauty of underground caves in Flinders Ranges

By Shannon Corvo

Posted Tue 25 Feb 2020 Permission from ABC North and West SA.



Photo: Some underground caves in the Flinders Ranges boast a wide range of brightly-coloured patterns and nocturnal creatures. (Supplied: Timothy Lindner)

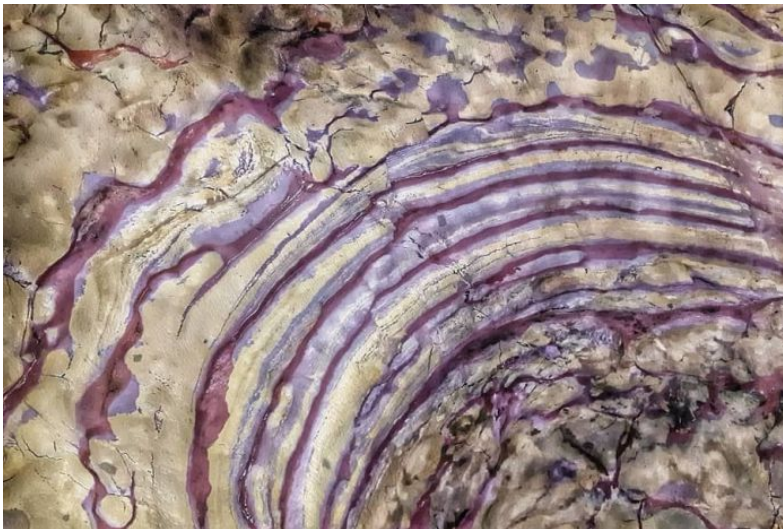


Photo: Mr Lindner was 'blown away' by the colours and patterns he saw in the underground cave near Blinman. (Supplied: Timothy Lindner)



Photo: Photographer Timothy Lindner enjoys photographing underground caves and abandoned mines. (Supplied: Timothy Lindner)

Not many people are lucky enough to see the beautiful patterns in the underground caves of the historic Flinders Ranges. Photographer Timothy Lindner has captured the beauty of the underground caves near Blinman in the Flinders Ranges. People previously mined for copper, lead, manganese and iron in the area, SA Museum's Ben McHenry said the bright colours were caused by groundwater passing through the sediments.

But for Pitjantjatjara man and keen hobby photographer Timothy Lindner, the opportunity came in 2017 when a friend took him underground near Blinman, about 510 kilometres north of Adelaide. "We walked over the edge of a hill, down a creek, and all of a sudden there was a big cavity in the creek," he said. "Walking in there and looking at the ceiling, there were big domes that reminded me of being in a cathedral or something." Mr Lindner, who normally uses a middle-of-the-range DSLR camera, was not expecting to be shown the cave, and had to rely on his phone and its torch function to capture what he saw there. "There were gold colours, yellow colours and then, in amongst that, you had like, stalactites or stalagmites," he said. "As the sun shone through the opening, even the lighting in there was different — that little bit of sunlight coming into the cave was reflecting the colours."

Mr Lindner said he had been exploring old mines and caves in outback South Australia since he was a boy. "I grew up with Aboriginal kids over at Yalata (200 kilometres west of Ceduna)," he said. "We didn't have any TV and we never listened to the radio so we were always out on foot, going out for a day exploring, getting witchetty grubs or climbing down wombat warrens. "It's always

interesting to discover something somebody else hasn't seen." He said he began taking photographs of his finds when he was younger, but did not really get into it again until 2010. "There's lots of black and white photos which I actually used to develop myself," Mr Lindner said. "It wasn't until later in life that I sort of picked up on it again."

Senior collections manager for earth sciences at the South Australian Museum, Ben McHenry, said rock and sediment in the Flinders Ranges was created more than 540 million years ago. Mr McHenry said during the 19th century, people were mining near Blinman — for copper, lead, manganese, and iron — which are partly responsible for the bright colours in Mr Lindner's photographs.

"In these photographs, with these wonderful colours, that's actually the effect of groundwater leaching out of these wonderful minerals that people were mining for," he said. "They've probably been coloured by groundwater passing through the sediments, picking up the ore minerals and redepositing them in various sedimentary layers." Mr McHenry said the colours — reds, blues, yellows, and purples — are most likely due to elements such as iron and manganese, and a little bit of copper. "Perhaps these layers, where you have this pink or purple banding, had a greater porosity so the groundwater was able to pass through a lot easier," he said.



Photo: Mr Lindner said he often had to use his phone torch to see the colourful patterns on the cave walls. (Supplied: Timothy Lindner)

Mr McHenry said it would be better if the rocks and sediments were left alone as they are not worth much.

"It doesn't look as though it's good enough to be mined for," he said. "The amounts of these elements that you would have in these layers, we're talking parts per million, we're not talking about a valuable resource that we can exploit for the copper, iron, manganese, or lead. Why not leave it alone and let other people enjoy it?"

More of Mr Lindner's photography can be found on his Instagram account.

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Bat rescue - young Flying Foxes find a home in Mylor

By permission of Weekender Herald, Adelaide by Nick Ward

13 Feb 2020

Katrina Boardman has spent 30 years caring for wildlife and now her property in Mylor is home to over 120 baby bats. "I'm very passionate about helping these bats recover so they can spread their wings in the wild," Katrina said. "These bats were born between the end of October and early November. They had fallen off their mothers, or were found still attached to their mothers who had perished during heat stress events. They never had the opportunity to learn to groom, which they learn from their mothers. I help groom them, toilet them, give them milk and feed them."

Katrina is part of Adelaide Bat Chat, a group of 20 vaccinated volunteers partnered with Fauna Rescue SA, who monitor the bat population around Adelaide's Botanic Park. "We count their numbers once a month - we counted 18,000 last week compared to 30,000 in November," Katrina said. "400 bats have been rescued by the group - mostly orphans from the catastrophic heat days that began in November. "We've estimated that between 8 000-10 000 bats were lost during those heat stress events from November to December."

The Bat Chat team are concerned that bats, which are vital components of the native ecosystem through seed dispersal and pollination, are doing it tougher than ever. "In the last 3-4 years we have seen big population fluctuations due to the effects of drought, particularly on the eastern seaboard," Katrina said. "They are vulnerable, their habitat is disappearing and they are starting to move further afield and out of Adelaide - there have been sightings of lone bats as far as Port Augusta and Ceduna."



Katrina Boardman with one of the juvenile bats in her care. Photo by Phil Martin

Katrina will nurse the bats until March, when she hopes to release them back into the colony at Botanic Park.

She feeds her bats around 45kg of produce a night and she is always on the lookout for more. "We need people to help by donating when they can; red apples, pears, rockmelon, grapes, bananas, peaches, apricots, figs and mangoes are all appreciated. "Pears and red apples make up about three quarters of their food while I'm looking after them but once they're wild they go for mainly nectar juice, their main food source." Hills residents who are able to assist with fruit donations are encouraged to contact Katrina on 0488 518 615.

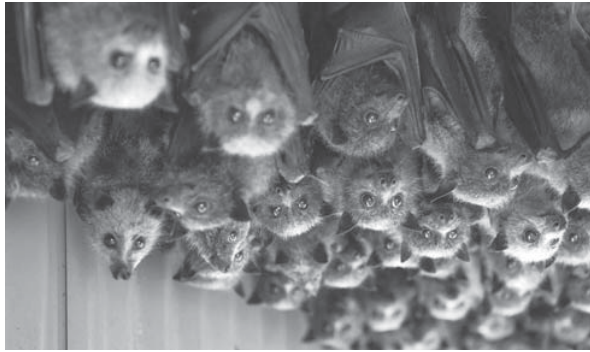
"If you find one during the day outside Botanic Park, you know something is very wrong," Katrina said. Netting around fruit is a big problem for the bats and other wildlife, they don't often go for it but if they do, they often get caught. It is important that growers use bat-

friendly nets that you can get from most hardware shops - if you can fit your finger through the holes, it's no good." Katrina's

husband Dr Wayne Boardman, a senior lecturer at the school of animal and vet science at the University of Adelaide, studies the ecology and epidemiology of Australian bats, amongst other things. "I love looking after them at home, they're pretty cute when they're young and they're very intelligent," Wayne said.

He has used GPS collars to track their vast movements across the country. "There wasn't much of a permanently based population around Adelaide before 2010, where they have since based themselves in Botanic Park," he said. "For 150 years before that they have mainly stuck to the eastern states. They move depending on resources and we find they eat from a lot of plants that have been introduced to SA from other states such as lemon-scented gum, figs and canary palms.

Pollen and nectar are their main source of food, there isn't much evidence of them eating farm fruit."



The bats resting at Mylor

The pteropus poliocephalus (literally wing-foot, white head in Latin) as the flying foxes are scientifically known, have been struggling in the frequently hot weather. "On days when it's 42, they'll die day after day," Wayne said. "We're currently in talks with SA Water and the Environment Department to install sprinklers in the trees where they live. With the continuous hot dry weather, we're seeing their populations declining across the board. They may be aborted, starving, under heat stress and the fires this summer have greatly diminished their habitat. I feel as though they could go from being

classified as 'threatened' to being 'endangered'. Climate change has also affected their food sources they've been eating the blossoms of gum trees for millions of years which are being affected. These bats are really important to the ecosystem and we need to work with them, incorporating what they need into our landscape and contributing in any way we can."

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Vulnerable grey-headed flying foxes shot and bashed in regional Victoria

By Rhiannon Tuffield and Sarah Maunder Tue 10 Mar 2020

Permission from ABC Shepparton

WARNING: This story contains graphic images



Photo: Bats found with gunshot wounds on the side of road in Bairnsdale.
(Supplied: Wildlife Victoria)

Several flying foxes have been discovered shot and bashed to death in separate incidents across regional Victoria. Six dead grey-headed flying foxes have been found shot and with broken bones in Victoria's Gippsland. In a separate incident a mother and daughter witnessed a bat beaten to death at a private residence. Bohollow Wildlife Shelter has blamed the incidents on the public's perception of bats as "diseased" when in fact they play a crucial role in the ecosystem as pollinators. On Friday, six grey-headed flying foxes were found with gunshot wounds on the side of a road, about 1 kilometre from Bairnsdale in the state's Gippsland region. In a second incident at Tatura in the Goulburn Valley on the weekend, a bat was beaten to death

after being caught in a fruit tree net.

Wildlife Victoria has reported a spike in brutality towards the bats, which are relying on fruit trees for food after catastrophic bushfires over summer devastated their habitat. It comes after more than 2,000 flying foxes died from heat stress last month in eastern Victoria, destroying a suspected third of the local flying fox population. Across the country, it has been estimated that about 100,000 bats perished during the bushfire season as a result of heat, fires and drought. According to the Australian Government Department of Environment, the creatures are listed as vulnerable.

Megan Davidson, chief executive of Wildlife Victoria, said the bats discovered near Bairnsdale on Friday still had fruit in their mouths. She said the animals appeared to have been shot and had broken bones. "They were killed while they were just trying to eat to survive," Dr Davidson said. "This is an extremely cruel act and I think

the community would be shocked to think someone is going around killing wildlife. We lost 1 billion animals in the fires. Every animal that we have is important."

In Tatura, a mother and daughter were reportedly left traumatised after they witnessed the second bat killing at a private residence, which has been reported to police. The incident occurred not far from Cussen Park, where hundreds of flying foxes congregate each year, often prompting a closure of the area. It is estimated about 250 bats reside at the park from February to May, but the number may have increased after bats flocked to the unburnt land in search for food.



Photos: The bats sustained gunshot wounds and were found to have broken bones. (Supplied: Wildlife Victoria)

People 'Go out of their way' to disturb Bats

Kirsty Ramadan, who operates the Bohollow Wildlife Shelter in the Goulburn Valley, says she has seen bats with horrific injuries from barbed wire and fruit netting. She said she hoped stronger varieties of bats would adapt to hotter weather in the future. "We've had a lot of trouble in Numurkah with people disturbing them on high temperature days, which can make the difference between life and death," Ms Ramadan said. "People go out of their way to make noise, bang drums and make them take flight, when they're obviously extremely heat stressed."

She said the public misconception towards bats needed to change. "There's a lot of fear-mongering about viruses," Ms Ramadan said. "People think bats are diseased, they don't like the noise, [and] they say they smell, but they perform an important and vital role in our environment for pollination."

Crucial to the Environment

Fruit Growers Victoria director, Gary Godwill, said growers had not reported an increase in bats eating their crops. He says the animals may become an issue if they do not have enough native food to forage on. "[The bats] will attack fruit crops and that's when it becomes a problem for us," Mr Godwill said. "How we'd actually keep them out is beyond me." He said the issue was not just that bats ate growers' crops, but that they defecated on the fruit. "The biggest problem I see with flying foxes is [their impact] on deciduous fruit," Mr Godwill said. "They become soured and they soil more fruit than what they actually eat."



Bat clinic inundated: wildlife carers sign up en masse following bushfires

Wildlife carers on the New South Wales South Coast remain swamped with work in the wake of the bushfires, with a flying fox clinic seeing a 900 per cent increase in bats needing care. Dr Davidson said the species were crucial to the environment in their role as long-distance pollinators. "These are animals that will help rebuild our forests and keep them healthy," she said. "Their numbers have declined by more than 95 per cent in the last 100 years, and we're not sure that they will survive in the long-term. "We

need to take care of them, or we're going to lose them."

ABC Editor's note 10/03/20: This article has been amended to clarify that the bats are not listed as endangered in Victoria, but are considered vulnerable.

Visitor access improved at Nullarbor cultural site

A project to improve visitor access and safety is well underway at the Koonalda Cave site, located within the Nullarbor Wilderness Protection Area on the Far West Coast of the Eyre Peninsula.



As part of the project visitors to Koonalda Caves will be able to access well-defined tracks and car parking spaces

The state and national heritage site, which has evidence of Aboriginal occupation of the Nullarbor dating back some 39,000 years, is culturally significant to the Mirning people.

National Parks and Wildlife Service SA staff have been working alongside the Nullarbor Parks Advisory Committee and Far West Coast Aboriginal Corporation to make the site safer and more accessible to the public.

After receiving endorsement from the Nullarbor Parks Advisory Committee in early May 2019, cultural advisors were engaged to provide guidance on cultural sensitivities at the site.

'The works identified include track and campground rationalisation, interpretive and directional signage, improved site accessibility and site safety,' Senior Ranger Robert Sleep said.

'The aim is to protect the doline (also known as a sinkhole) and cave from visitor impacts.

'Some aspects of this project have already begun with further projects planned for this year, all of the outcomes align with the Nullarbor Parks Management Plan.'

Source and permission: SA Department of Environment and Water

Wellington's Gaden Cave closed due to carbon dioxide

Bevin Liu and William Owens

Permission from Liberal Daily News 6 March 2020 - serving the Dubbo community since 1874.



SPECTACULAR SIGHT: While the Gaden Cave is closed due to the high level of carbon dioxide, visitors are still able to tour the Cathedral Cave. Photo: MATTHEW KRUZMETRA

Wellington's Gaden Cave was closed two months ago and remains off-limits to the public as unsafe levels of carbon dioxide continue to persist. The lack of groundwater, high overnight temperatures and increased storm activity has led to a dangerous build-up of carbon dioxide in one of Wellington's heritage-listed caves.

Wellington Caves manager Michelle Tonkins says staff are unable to predict when conditions may change, so a reopening date is uncertain.

The caves were discovered in 1902 by James Sibbald, who became their caretaker. It's said he was at first hesitant to open them up to visitors due to the "foul air". It took seven years for the public to be given access. While the cave has the potential to vent naturally, Ms Tonkins says that a number of factors have to be considered. "It's hard to know when it'll be reopened. "When we have nights that are warmer than 17 to 18 degrees, the air down in the cave can't naturally vent and so it gets trapped."

The water table within the caves is also sinking, creating larger air pockets for the carbon dioxide to occupy. The effects of the heat and drought have been noticeable to a team of scientists who have been working to uncover the secrets of groundwater recharge at the Wellington Caves complex. The water level has been getting lower and lower and lower says University of NSW caves and karst researcher Professor Andy Baker has been working at Wellington Caves and in the surrounding areas since 2010. "The last time there was major recharge at the cave was about 2016, and we have had one or two events since then where the water has come through from the surface," he said. "But in general the water level has been getting lower and lower and lower overtime. "I think at the bottom of the cave if you look down into the well there is no water in there".

Many previous cave managers have tried to increase circulation by creating artificial vents, including even relocating the cave's entrance. Ms Tonkins explains that "However, the cave is the cave". "The climate will have an impact as I said - we have warmer days and warmer nights and that air can't vent and that's when it's going to become an ongoing issue," she said. Open seven days a week, Wellington Caves is located approximately 9 kilometres south of the town.

Calendar of Events

	Type of Event	Description	Contact
25/11/20	General Meeting	SA Museum Armoury Room 7:30pm	Ian Lewis
??/12/20	Committee Meeting	TBA	Ian Lewis
23/12/20	No General Meeting	No General Meeting	Ian Lewis
??/01/21	Committee Meeting	TBA	Ian Lewis
27/01/21	General Meeting	SA Museum Armoury Room 7:30pm	Ian Lewis
??/02/21	A G M	Date and Venue TBA	Ian Lewis
??/02/21	Committee Meeting	TBA	Ian Lewis
10/02/21	CEGSA NEWS	Articles due	Athol Jackson
24/02/21	General Meeting	SA Museum Armoury Room 7:30pm	
??/03/21	Committee Meeting	TBA	
??/03/21	Caving	Proposed Kangaroo Island Trip.	Grant Gartrell
24/03/21	General Meeting	SA Museum Armoury Room 7:30pm	
	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.