

*Hells Hole, Caroline Forest, Mt Gambier.  
Sunday 28 September, 1980.*

*Photographer: Peter 'Puddles' Horne. Diver: Mark 'Wobbyslayer' Nielsen*

*Depth: 5-6 metres (about 35 metres below ground level)*

*Camera: Nikonos II (no flash) Film: Agfachrome colour slide film (probably ASA 100)*

*Settings: 1/60th second, f2.8*



C.D.A.A. Newsletter

No. 143 - MARCH 2018

- *Olwolgin Road Trip, October 2017*
- *Paleontology - Australia's Underwater Fossils*
- *Memories of The Mount*
- *A Dive with Dave Warnes*
- *History Hidden in Cave Depths*
- *John Vanderleest Interview*
- *OzTek 2019*
- *DAN - The Cave Dive That Changed My Life*

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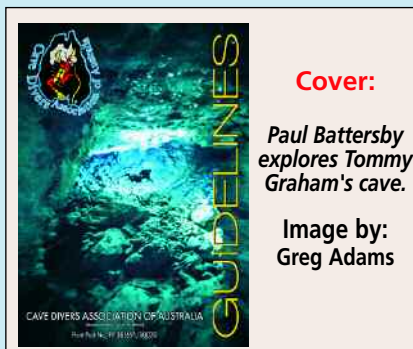
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### Cover:

Paul Battersby  
 explores Tommy  
 Graham's cave.

Image by:  
 Greg Adams

## CAVE DIVERS ASSOCIATION OF AUSTRALIA

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Photo by Liz Rogers

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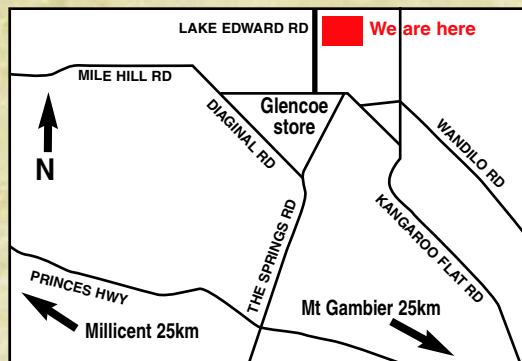
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## EDITORIAL MEGGAN ANDERSON



Welcome members to another edition of Guidelines!

Thank you for all your feedback on the last issue, both positive and negative. While I know in a perfect world we cannot keep everyone happy, we can at least strive to be balanced. However it is important to note that Guidelines relies on contributions - so if you have a story please write it (doesn't have to be long). You don't have to be a super explorer type with fancy equipment (because I am certainly not) - I am keen to hear from anyone. My favourite feedback I received was from Stephen Fordyce as per the photo below - look at his excitement at being in Guidelines! Write an article and that could be you (and yes please feel free to submit funny photos to me as well). We are more than happy to help with editing and proof reading as well should you need some guidance. I am hoping in future to have an issue showcasing our female members - so ladies please consider writing an article.

On that note, for this issue have received some awesome contributions from members with the bulk of the content being articles about local cave diving. Some are short, some are long, so hopefully we are getting the balance right. Thanks to all our contributors for your time and effort! There is no Standards Report for this edition as JDZ was travelling around New Zealand at the time of going to print.

On the Publications front, the day-to-day business is keeping me busy and I also ask for your patience while Rowan (the webmaster) works through all the suggestions we are receiving regarding the website. I will be looking for some volunteers to help me in the near future with records but if you want more information now and want to discuss further, please feel free to drop me an email.

I hope you enjoy this issue, safe diving until next time.  
Meg



Meggan Anderson #4942 | Publications and Records Director  
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## Did you know?

**You can opt for an electronic copy of Guidelines** rather than a paper copy. **Simply login to your CDAA online account**, select the dropdown menu under the My Records tab and click on Update My Details. Handy for those who have multiple CDAA members in their household or for those wanting to do their bit for the environment!

## Articles for Guidelines June 2018 - Deadline is May 15th

- Send articles and jpeg images by email to [guidelines@cavedivers.com.au](mailto:guidelines@cavedivers.com.au)



# NATIONAL COMMITTEE UPDATE

**MARCH 2018**

Time is absolutely flying, and the CDAA is buzzing. Victorian members saw out the end of 2017 with a great CDAA social night organised by the Vic State Rep, Benn Walton. The guest speaker on the night was Palaeontologist and Palaeoecologist Julien Louys (also a CDAA member) – who spoke about Australian megafauna, and some of the fossils found in the Mt Gambier region. You'll find an article that Julien has written in this edition of Guidelines – it really is fascinating stuff.

The Victorian gathering was also a great opportunity to get some feedback from members about electronic voting for future CDAA elections. As everyone is aware by now, we simply didn't get enough responses in 2017 to change the constitution to bring this in. Mat and I will work together over the coming months to look at strategies that we might employ this year that will hopefully initiate a bigger response. The ability to vote electronically would make it much easier for members to shape the direction of the CDAA.

The acclimatisation period for us new directors is now well and truly over, and the whole NC have hit the ground running in 2018. Earlier in January I was contacted by Angela Walsh from NSW radio station 2ST to speak about cave diving in Australia. While speaking on live radio was a little nerve-wracking, it was great to see cave diving positively portrayed by the mainstream media. If you are interested, Meggan has added a link to the 2ST story on the CDAA facebook page.

Over the last few months Kelvyn and I have had ongoing discussions with the Kilsbys. We are working together with them and believe that we are at a point where entering into an access agreement for the CDAA members is imminently achievable. It is a fantastic site, and the benefits for our members and the CDAA are considerable provided a few key concerns are adequately addressed.

Myself and JDZ also met with our insurers in January, which we both felt was extremely informative. It provided a great opportunity to discuss a range of different matters, including our general standards, risk management strategies, SRT & rope access training, non-members at sites, as well as specific questions regarding Kilsbys and Tank Cave. This information will be very useful to shape the way in which we move forward.

Over the coming months I'd like to begin to explore ways that we, as an association, can better serve our members, as well as keep the CDAA family growing. The first item that has been raised for consideration by the NC is the review of our back-fee structure. While there are a number of implications that do need to be considered, I feel the current back-fee structure effectively dissuades past-members who have had to leave for one reason or another from re-joining. A returning member that is happy, active and eager to get involved is far more valuable to the CDAA than the amount we gain from back-fees – a sum that is inconsequential to the association but can add up to be exorbitant for an individual. This would be just one small step we could take to keep the CDAA moving in the right direction.

Until next time.



Pete  
CDAA National Director

## On behalf of the National Committee



Mathew Rochford,  
Business Director



Kelvyn Ball,  
Site Director



John Dalla-Zuanna,  
Standards Director



Meggan Anderson,  
Publications and  
Records Director



## SITE REPORT

**KELVYN BALL**

Hello, trust everyone has enjoyed a great Christmas break and got a good start to the New Year with lots of diving! Lots going on behind the scenes.

First up, ForestrySA have asked that members give them plenty of time to process bookings. They have put a new person on who is learning and may require a little more time at the moment. Thank you for your patience in advance.

The last couple of months we have been having very constructive talks with Kilsby's landowners and everything looks very positive at this stage. Hope to have an outcome for access to this site in the very near future.

A Tank Cave Maintenance and Improvements Group has been formed and we are having our first working bee on the Saturday 10 March of the March long weekend (for Victoria and SA). Regular contract mowing has been organised for this site also.

I have been in touch with other landowners and departments and awaiting replies for maintenance jobs.

Are there any members out there that would be interested in helping to maintain a certain site? Let me know.

Just letting people know that Engelbrecht's Cave has now had a continuous permanent line into the cave and was installed by request of the Cave Managers. This is to aid in preventing silting at entry into the cave.

Nettlebed needs steps done when the site reopens, so I will be organising a working bee once this happens.

I am currently checking out Nullabour Caves at the moment whilst writing up this report. It has been about 10 years since I've been to Cocklebidy Cave. Let you know how it goes next edition. Great to see passionate fellow members like Ryan and Bruce still pushing the extremities to try and find new passages.

All the best in your diving and safe travels.

Kelvyn Ball  
Site Director



## BUSINESS REPORT

**MATHEW ROCHFORD**

Summer has been a quiet time in the Business portfolio with the focus on preparations for our annual member's symposium and AGM. This year our event will again be held in Mount Gambier's Main Corner Complex, on Saturday, 20 October. Patrick Widmann, of Protec Dive Centres, will be speaking on recent exploration efforts in Madagascar and the Dominican Republic. Formal notification of the timing for our AGM will be in the next edition of Guidelines.

I am keen to know what would get more members along to the event in Mount Gambier... This event and the national speaking tour is the Association's yearly showpiece, if you're thinking there's something more you want from this,

please reach out. Recently members have raised the timing of the day, and pricing of the social event, both now under consideration by the National Committee.

Over the coming months I'll be seeking assistance from members to help organise and run the day, so if you're interested, please get in touch. Last year we again had fantastic involvement from many businesses, donating some amazing door prizes, so if your business would like to get involved this year, I'm also keen to talk.

Mathew Rochford #4827  
Business Director

# History hidden in cave depths

Natural wonder provides glimpse into European settlement of region

by Leon Rademeyer

*THE surface water is green and murky, but as I descend it becomes somewhat clearer and before long the wreck of a truck becomes visible - one of four vehicles dumped in the sinkhole. It is the cabin of an old International truck that has found a final resting place at a depth of around 10 metres. In addition to the truck, divers have discovered a Morris Minor ute, Austin car and a fourth unidentified vehicle over the years.*

Located a short drive from the region's famous Kilsby's Sinkhole, The Sisters comprises two almost intersecting sinkholes with a dry limestone strip or saddle between them.

The saddle is around 15 metres wide and three metres high and separates a northern and southern hole.

The holes are almost mirror images of each other with lakes spanning 40 metres across and featuring vertical cliffs that drop nine metres to the water's surface.

The southern hole contains the wrecks and other rubbish while its northern counterpart has been left remarkably unpolluted.

Underwater, the mud-floored lakes descend under the cliffs into dark roof overhangs reaching maximum depths of around 20 metres.

Veteran cave diver and Cave Divers Association of Australia life member Peter "Puddles" Horne described the holes as a "geological rarity, even in such prominent cave-country as the Lower South East". "The Sisters were most likely formed from two end-collapses of a single large cavern," he said. "The vertical cliff faces are decorated with many unusual keyhole shaped solution holes and bulbous stromatolite growths."

His words were echoed by CDAA science officer Ian Lewis, who said only two other double sinkholes are found in Australia. They are on the Nullarbor Plain in similar limestone, but are dry. "The saddle is solid rock - not a pile of broken boulders - which means an underwater tunnel between the two lakes is a possibility," Mr Lewis said.



**FLOATING:** Cave Divers Association of Australia cave diver Leon Rademeyer floating on the surface of the southern hole of The Sisters Sinkholes on the outskirts of Mount Gambier. The Sisters features two near identical holes with the southern hole containing four vehicle wrecks. Picture: GRANT MOYLE



Aerial Photo Tim Muscat

"Perhaps in time the lakes will become a large circular sinkhole like the others in the region."

Mr Lewis said divers have found remarkable pieces of historical rubbish in the lakes. "Years ago divers discovered a case of old dynamite in the southern hole which was removed very carefully," he said.

"There is also a wooden butter churn the size of a barrel under the southern wall which may be a century old. "Interestingly a Moloney's lemonade bottle from the original company in Commercial Street West more than 60 years ago was recovered from the mud."

The earliest European record of the sinkholes was made by Governor George Grey's expedition in May 1844, when he named them "Double Well". The expedition came from Adelaide to the South East and explored the region across the Kongorong Plain, heading towards Mount Schank.

Mount Schank Station was the first large property being cleared at that time and the expedition was heading for the homestead on the east side of the mountain when they encountered the sinkholes.

Mr Lewis said sinkholes in the region were "wonderful sources of water for the stock of early settlers" and The Sisters have a small ramp cut into the central limestone ridge to allow stock to reach the water.

"By the style and scale of the ramp, it is very likely the first of its kind cut into a sinkhole in the region - maybe as early as the 1850s," he said.

"It was followed later around the 1880s to 1900 by much bigger ramps to get into deeper sinkholes like the nearby Little Blue Lake and One Tree Sinkhole.

"Between The Sisters and Little Blue Lake are some very old cart tracks and a carved sheep wash ditch cut into the limestone which are listed under state heritage as the Mount Salt Limestone Track - an example of very early stock handling and connection between watering sites before all the land was cleared."

**See follow-on article on Page 10.**

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# Limestone Coast sinkhole boasts globally unique underwater features

CAVE Divers Association of Australia science officer Ian Lewis told The Border Watch in terms of the site's hydrology, the low underwater visibility of The Sisters over the past 50 years can be explained by the nature of the local water table. Divers and the Cave Exploration Group of South Australia first explored the sinkholes in 1962/63 when similar low-visibility conditions were reported as are prevalent today.

"In the deeper nearby sinkholes, groundwater slowly travels towards the coast and stays cooler as it moves through the surrounding limestone," he said.

"However, the groundwater in The Sisters is shallower and is warmed more readily by sunlight, producing a rich biodiversity of algae and weed growth supporting abundant aquatic micro-life. "The low visibility is caused by freshwater plankton in the water."

Mr Lewis said the groundwater and sinkholes are part of the Kongorong Karst Plain, which is a unique limestone area in Australia and the world.

The special nature of this karst plain gives rise to two other unique features of South East sinkholes which are abundant in The Sisters.

The cliff walls are peppered with perforation holes - circular and keyhole-shaped tubes which make the cliffs look like giant sponges.

They were once thought to riddle the limestone of the entire region, but modern drill-hole records and quarrying have shown most limestone is solid, not sponge-like.

Lower down on the cliff walls just above the water are encrustations which look like cauliflowerers or coral. These are an ancient form of algae, called "stromatolites".

They grow underwater in the summer and die in winter, precipitating limestone crystals, then reviving in the following summer in an endless seasonal cycle.

Current scientific studies are investigating South East stromatolites as they contain detailed climate change evidence from thousands of years ago to the present.

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# Diving with Dave Warnes

by Ken Smith

I had booked Tank Cave in early January this year with Richard "Harry" Harris and John Dalla-Zuanna. Together we could claim quite a few years as qualified cave divers. However, when Dave Warnes (CDA 001) joined us the total went to 170 years of cave diving.

Dave said he would dive only if he didn't hold us up. I dived with him and he said he would do only a short dive and come out if he didn't feel comfortable. We swam to the end of D tunnel and I took some video. When got back to C1 I thought Dave would continue out of the cave. However he was having fun and he suggested we have a look at C tunnel. We surfaced after 85 minutes. Not bad for a couple of old blokes.

Dave is 82 and full of enthusiasm. I wonder if I had enjoyed a dive with the oldest active cave diver in the world? Quite a privilege.

Dave was very helpful to me in 1988 when I was training with my buddy Doug Alford for the much Category 3 test. With Dave's expert guidance we developed the skills to pass the test and become qualified Cat 3 divers.



Dave Warnes diving in Tank Cave, July 2017.



John Dalla Zuanna, Ken Smith, Harry and Dave Warnes. Together we have 170 years of cave diving experience. Photo by Richard "Harry" Harris.



# Olwolgin Trip – or maybe not!

by James Manna

*In September 2017, Joseph Bicanic and I planned a Nullarbor cave diving trip for Michel Vasquez, the CDAA's 2017 AGM guest speaker. Joseph was to bring Michel and his wife Paloma from Perth, WA spending 5 days exploring Olwolgin Cave on the Roe Plains prior to attending the Symposium in Mt Gambier. Unfortunately, Joseph had to go in for some unexpected surgery and was unable to make the journey. Luckily, Geoff Paynter was able to step in and brought Michel and his wife, Paloma, to the Nullarbor. Geoff was unable to stay, making it an extra special effort on his part. His experience and wealth of knowledge regarding Nullarbor diving was invaluable even for the short time he was there. Paul Battersby and Greg Adams joined me travelling from Adelaide, heading off early on Monday, Oct 16th, our goal being Eucla 13 hours away. The drive went well, and made good time, arriving at Eucla around 8pm. Whilst fuelling up, the station attendant, casually mentioned: "Oh I assume you know about the fires(!?!)." "Errr no" I replied and a mild level of confusion and panic set in... Our plans were now in jeopardy and somewhat 'up in smoke'.*

That night and early the following morning we tried to gather clearer information through local police and roadhouses which were closer to the fire front, but had little success.

By chance we discovered 'Sentinel Hotspots' (<https://sentinel.wa.gov.au>). It showed us where the fires were burning near Madura and Olwolgin Cave (182km further west).



View of the Roe Plains fires from Madura Pass. Photo by Greg Adams.



Olwolgin can be reached via Old Telegraph track both from the east, starting at Cocklebidy and via the Eyre Bird Observatory and from the west, starting at Madura.

The graphic image on the Sentinel Hotspots web-site clearly showed how dangerous the fire was. The red line indicates the eastern route to Olwolgin from Madura. It was obvious straight away that the Roe Plains were a no-go.

Ringling ahead to the Madura Pass Roadhouse, we spoke to some of the locals and they indeed confirmed a fire was in full blaze, quite a sight from the high vantage point at Madura Pass. We did manage to see some of the fire fighters on the ground as we headed to Madura, confirming the Roe Plains were a no-go.

We began devising a new plan to still give Michel and Paloma a great Nullarbor experience. We only had equipment for diving Olwolgin, where the water is very close to the surface (6-8m climb) and no special rigging or ladders are required. We had plenty of tanks and equipment, having planned a lot of long staged dives and I even had my brand new side mount rebreather. The main priority was to give Michel a great experience still. After consulting with Joseph and Geoff it was decided the best plan was to camp at Murra El Elvyn cave then dive both Murra and Tommy Grahams.

Both these sites would give Michel a taste of the classic high plain Nullarbor diving experience (i.e. a bit of good old fashioned hard work!). Both

sites can also be dived with relatively simple equipment and logistics.

Luckily I had dived Murra back in 2015 with some experienced guys and ironically had only dived Tommy Grahams cave only 6 weeks earlier, so I felt comfortable leading the team into both sites.

Luckily Geoff Paynter and Joseph Bicanic from WA have a strong relationship with the WA Department of Parks and Wildlife and we managed to get some emergency permits issued in record time.

The next challenge was equip-



James and Paul speaking to local firefighters. Photo by Greg Adams.





Aerial view of Murra Doline. Photo by Greg Adams

ment. Usually Murra is done with a long fill whip. We had little choice in this department and I had to dive it before with no fill whip and so decided to just haul tanks out for fills as needed.

The second and more important issue was a ladder. Murra El Elvyn Doline is a round-ish doline with vertical walls for the first 7-9 metres. An "A

Frame" or flying fox is normally used to lower equipment. Whilst we had a tripod for lowering gear down the small solution tube at Olwogin, we did not have a boom or swinging a frame, nor enough rigging and experience to safely set all this up. The divers themselves also need to have a large extension ladder to climb down to the start



Paul and James descending the top of the Murra Rockpile. Photo by Greg Adams.



Our guests, Paloma and Michel Vasquez enjoying the view out of the cave.

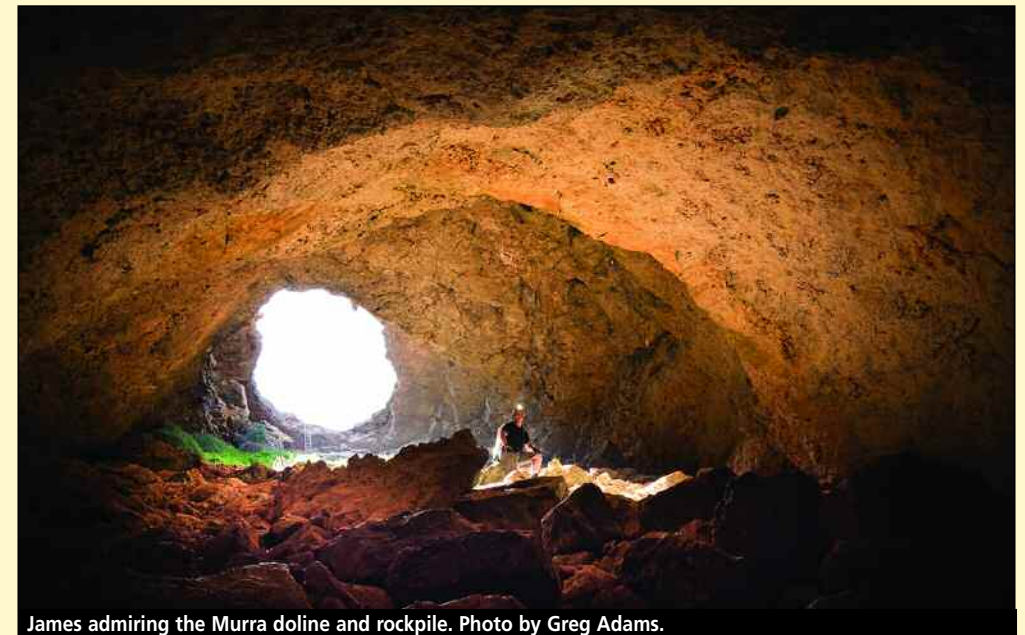
of the rockpile and being the walk down over very loose rocks.

After a bit of a wait, we met Daryl, a relatively new local to the area and he confirmed he could help us out. No questions or request from him, he just said "Sure you can borrow my ladder for a week." A true legend.

So the next morning we met Daryl and I jumped

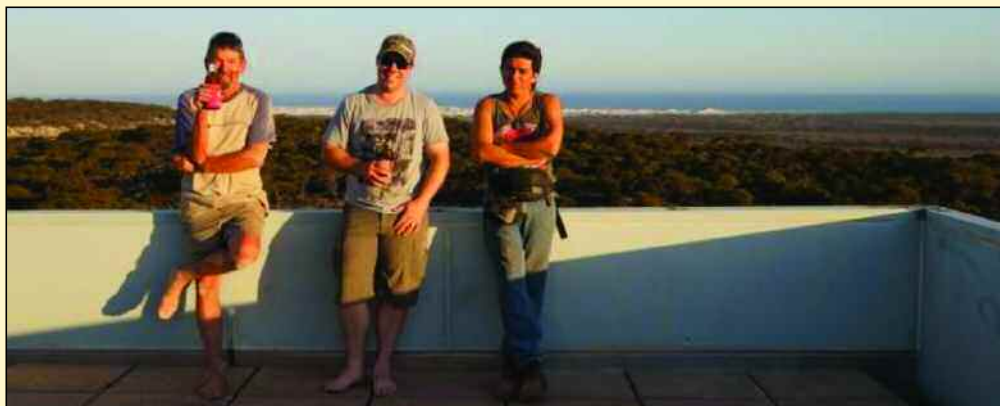
scenery is stunning, but more so, the view from this amazing building was breathtaking.

Darryl did indeed have the perfect ladder for us, as you need a "BIG" ladder... I offered some ID and a deposit but he just laughed and said: "Go have fun." He actually insisted on use having a cold drink and a tour of the home before we left! So off to Murra we went. Murra has a great



James admiring the Murra doline and rockpile. Photo by Greg Adams.





The view from Darryl's renovated ex-BOM station overlooking the Eucla coastline. Photo by M Vaquez.

campground, has Telstra coverage and is a short drive to Cocklebidy Roadhouse for supplies. We organised the camp and then started to prep the cave. The plan was to use the large ladder to carry all our tanks down to the rockpile. This is not the absolute safest method, but it is simple and our only choice. We were lacking a good number of sturdy packs and bags to hold gear, but we improvised and took turns. Greg and Paul were diving sidemount 12 litre steels and I was diving my new Kiss Sidewinder CCR with 2 x 7 Litre steel tanks and a 2L oxygen tank. We managed to get all our gear down in 2-3 trips and the next day we got organised for our first dive.

We had a full days diving to familiarise with the

cave, lay some main lines and prepare for Michel and Paloma's arrival. I managed 4 hrs+ in the cave on the KISS sidewinder and I planned some routes to show Michel the next day. All this time we could smell the smoke from the fires that were still 160km away! We even had to stop filling tanks a couple of times as the air was very thick with smoke.

On Thursday Geoff, Michel and Paloma arrived and we got them settled in. Michel and Paloma were extremely grateful for all the work CDAA volunteers had put into the trip and were quite simply just thrilled to be in Australia, their first ever trip outside Mexico.

After a quick evening trip to visit Cocklebidy

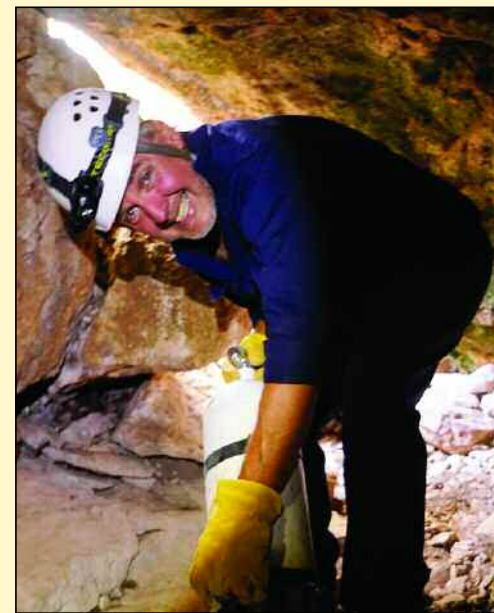


Murra Campground. Photo by Greg Adams

Cave and Capstans cave, we settled in for the night. The next day we got Michel geared up and his tanks to the water and we all went for a dive. Murra is not a huge site, but has a very interesting layout, some stunning tunnels and a couple dry chambers such as the snowflake room. Over 2 long dives over 2 days we managed to show Michel pretty much the entire site. Paul and Greg



The team ready to haul gear. Photo by M Vasquez



Greg hauling gear, photo by M Vasquez.



Michael & James in Murra. Photo by Greg Adams.





Paul negotiating a restriction in Murra. Photo by G Adams.



Michael & James in Murra. Photo by Greg Adams.

co-ordinated some great photos with the ample number of lights we had. We then started the hard part of lugging gear



Michael hauling gear, photo by M Vasquez.

out. After about 3 trips each we had everything out and we were set to head to Tommy Grahams cave. Tommy's was about a 45 min drive away and we decided to stay based at Murra and do it over two day trips. Geoff Paynter was kind enough to bring a few more gear bags for us, as Tommy's is a unique cave to dive, where gear must be passed/carried down a very tight passage for about 100m before the rockpile starts. Without the extra packs it would have been very difficult as you need all the gear pre-packed ideally. Off we set and we started hauling gear into Tommy's. We each planned one long dive on our 12 Litre tanks. I had the pleasure of showing Michel the site and we managed to pretty much see the



Greg Adams swimming through the main entrance passage of Tommy Grahams. Pic by Paul Battersby.



whole cave, in particular the amazing keyhole passage and blue room. We also did the tough hike up and over the Inner Sanctum to the second sump. This is hard work as you have to stay on your breathing gas and the chamber is hot, but it is worth it for sure. Michel and I even managed to pop up into the 2nd air chamber right at the end of the 2nd sump, a spot I had tried for 20 mins to

get into last trip with my back mount rebreather with no success. Suffice to say Michel had a great taste of the high plains Nullarbor experience and was truly thankful for the dives.

On the way home, we planned a detour to visit via Abrakurrie cave. This is a great side 5-6 hr trip starting at Mundrabilla station, via the old coach road and ending at Weebubbie/Eucla. The trip is via rough dirt tracks and gives you a real Nullarbor Plains experience away from the Eyre Highway.

Abrakurrie has the largest known dry (or wet for that matter) passage in the Nullarbor Kaarst (and possibly in Australia). It literally feels like an aircraft hanger well worth a visit.

Michel and Paloma are true animal lovers and we saw several Hairy Nosed Wombats, a good sized herd of wild camels, several pairs of wedged tailed eagles and of course about a million kangaroos.

Next stop was the Chowilla Doline, a stunning doline right near Abrakurrie and home to a large group of Australian Kestrels, who camouflage well, but can be seen busily hunting insects.



Dingo remains in Abrakurrie Cave. Photo by Greg Adams.



Michel exploring the wrecks of the old coach road Mundrabilla Station Photo by Greg Adams



Abrakurrie by M Vasquez.



Abrakurrie by M Vasquez.



Our last stop after a heap of wildlife spotting was Weebubbie Cave. A few light refreshments were enjoyed while watching the sunset over the always beautiful Weebubbie doline.

Back to Eucla to return the ladder on loan from Darryl then the 13 hrs drive to Adelaide.

It was an absolute pleasure to host such wonderful overseas visitors and make some new friends

at the same time. I can't wait to get over and visit Michel and Paloma in Mexico.

Special thanks go out to Joseph Bicanic for trip preparation, Geoff Paynter for last minute chauffeur services, Darryl "The Legend" from Eucla for ladder loan, Greg Adams and Paul Battersby for all their hard work on the trip and last but not least my patient wife Tammy for letting me do

back to back Nullarbor trips in 2017!

My parting advice learnt from this trip is be prepared to adapt your plans, have permits and equipment in place for a backup site and most of all, check the Sentinel Hotspot Website for bushfires before you leave home!

Look out for my follow-up article on the logistics of running a cave level "First Time" Nullarbor trip to Murra and Tommy Grahams.



Weebubbie Doline. Photo by James Manna.



The trip crew, photo by Greg Adams.

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# MEMORIES OF THE MOUNT

## Piccaninnie Night 14th May 1977

by Peter Mosse (CDAA 347)

*We, (Stan Bugg, Barrie Heard and myself) had borrowed Barrie's mum's Fairlane for the weekend. We thought it would make it a comfortable drive. Add to this it was an automatic Fairlane and the driving would be easy. It was!*

After diving for the day including one at Piccs, we decided since it was a beautiful night what about a night dive in Piccs. We left everything at our accommodation except our dive gear, planning to just nip out and do a night dive, back for a shower and into the Mount for dinner. So much for plans. The night was indeed beautiful. We geared up under the stars in front of the car with the parking lights on. Chatting away, we were finally ready and headed off. And what a dive, one to remember. Barrie and Stan had many dives up in the Mount, I was a relative new comer. My dive log records some of the dive. And so with our heads full of the natural magnificence that is Piccs, we raved and raved while we removed



our gear. Some music seemed to be appropriate since Barrie's mum's Fairlane had a tape player. I can't remember the band, but the music, the night and the camaraderie was memorable. We took quite a while to get packed away but finally starting to think about a quick hot shower and dinner. We piled into the car and Barrie turned the key. I guess we all know that sound when the battery and motor combination say enough, I'm not going to get there. And get there it didn't. The battery was dead and the motor wasn't going to start. Now a Fairlane is a big car and it's a heavy car and anyway we all know you can't push start an automatic so with much reluctance we realised it was Piccs for the night. But all our warm clothes and snacks

*"Torch working really well. Water crystal clear especially in Cathedral. Without surface daylight impossible to see the way out. Glad the others knew it. Good experience to realise what it would be like to be lost. The place at night is unreal. Torches really light up Cathedral. The moon visible from the bottom of Chasm. Bigger it I can't explain it in words!"*

were at our accommodation weren't they. So it was going to be a long night and we pretty soon realised it was going to be a cold night as well. And of course if you can't start the car there is no heater! We talked, tried to sleep, got out to stretch occasionally but quickly got back in the car. Again, my dive log records the event but can't capture the length of the night or how cold it really was!

*Spent the night in the car because the battery was flat. Had to wait until morning for some others to arrive. Bloody cold night.*

In the very early hours of the morning Stan decided to do something about some warmth and decided to light a fire. Now if you have ever looked for wood around Piccs there isn't much! A few green sticks was the best he could do. He coaxed a small flame and quite a bit of smoke but warmth eluded us. So back into the car it was for us.

At the first sign of sun we tried to find the bright patches and catch the first warmth available shifting around the Piccs parking area following the sun.

Later on that early morning an ABC film crew turned up to film a documentary on Piccs. One of the crew walked toward us carry-

ing a huge plastic bag full of cold hamburgers with the white fat slightly congealed around the balls of meat. He wasn't actually coming to feed us but just setting up for the film crew for the day. When we told our story he offered us one. I for one declined. I can't remember what Barrie and Stan did.

Anyway, shortly thereafter, the obligatory jump start occurred, the Fairlane coughed into life and we were off and running again.

I can't remember what we did for the day but I am pretty sure we dived somewhere after warming up and having a feed!





# The Underwater Fossils of Australia: Ice-Age Megafauna from Mt Gambier

by Julien Louys PhD

*The ice-age in Australia was not, as might be expected from the name, one of freezing temperatures and mighty glaciers. Rather, it was a time of dry, cool climate, when northern rainforests retreated, inland lakes dried up, and deserts expanded. It was also the time of Australia's giants.*

This was the age of the colossal Diprotodon, a two-tonne marsupial that migrated in mobs seasonally, much like today's wildebeest and zebras in the Serengeti. It was the time of the *Ninjemys*, a club-tailed, oversized tortoise named in honour of the Teenage Mutant Ninja Turtles. Thousands

of giant kangaroos, some over three meters tall walked the plains, and koalas and wombats dwarfing today's representatives climbed and burrowed in open eucalyptus forests. Many of these creatures, looking for something to drink during the dry harsh conditions of ice-age Australia found ready reserves of water in the sinkholes and caves of Mt Gambier. An unfortunate few, losing their footing, or trying to escape the killer marsupial lion, fell into the pristine blue waters and drowned. Their bodies would bloat and then float further into the caves and sinkholes, until they degassed, and sunk into the soft silt. There they would decay, leaving their bones in perfect condition on the cave floor.

Tens of thousands of years later, the watery



The skeleton of *Thylacoleo carnifex*, on display at the nearby Naracorte Fossil Caves



Reconstruction of the world's largest marsupial, *Diprotodon optatum*

tombs of these long extinct animals would be illuminated by the underwater torches of a very different species. The divers of Mt Gambier and surrounds began diving, and report finding these fossils to palaeontologists and local museums, starting in the 1960s and continuing up until today. What they discovered were thousands of bones, and in some cases entire skeletons completely articulated, of species that became extinct at least 40,000 years previously. Some of these species, when examined, were found to be completely new to science. Over the past half-century or more, fossils have been recovered and described from numerous caves and sinkholes around Mt Gambier, including Ewen's Ponds, Ten-eighty Sinkhole, Goulden's Hole, Tank Cave, Engelbrecht Cave, Blue Lake, Kilsby's Sinkhole, and of course Fossil Cave. These included living species such as bandicoots, wombats, koalas, rodents, and various birds and reptiles. However,

it is the extinct giant ice-age mammals that this article will discuss.

By far, the most prolific extinct species found in the Mt Gambier caves are the giant kangaroos. Most of them are from a type of kangaroo called the short-faced kangaroos. Unlike modern kangaroos, these giants are characterised by a one-toed (monodactyl) hind foot, in which the central toe has become flattened and the toe bone has taken on a hoof-like shape. They are reconstructed as bulky, leaf-eating kangaroos, but their unique foot bones suggest that they hopped, or even perhaps walked on two legs. As

their name infers, the other notable features of these kangaroos are their short, squat faces. These are thought to have been an adaptation to their browsing diets, allowing the kangaroos to successfully exploit tough leaves nestled in tree branches. The forms of short-faced kangaroos found in Mt Gambier are from a genus called *Simosthenurus*, represented by six species: *Simosthenurus gilli*, *S. maddocki*, *S. newtonae*, *S. occidentalis*, *S. andersoni*, and *S. pales*. Short-faced kangaroos have been recovered from almost every cave and sinkhole that has produced fossils in Mt Gambier.

The other common kangaroos recovered from Mt Gambier have a longer face, and are known as *Protemnodon*. The different roos are primarily distinguished by their teeth, and it's thought that *Protemnodon* had a more varied diet than *Simosthenurus*, which could have included grasses and chenopod bushes. Three species of



The right lower jaw of *Propleopus oscillans*, from Fossil Cave. Scale bar = 5 cm





Fossils and more modern bones mixed together outcropping in Kilsby's Sinkhole

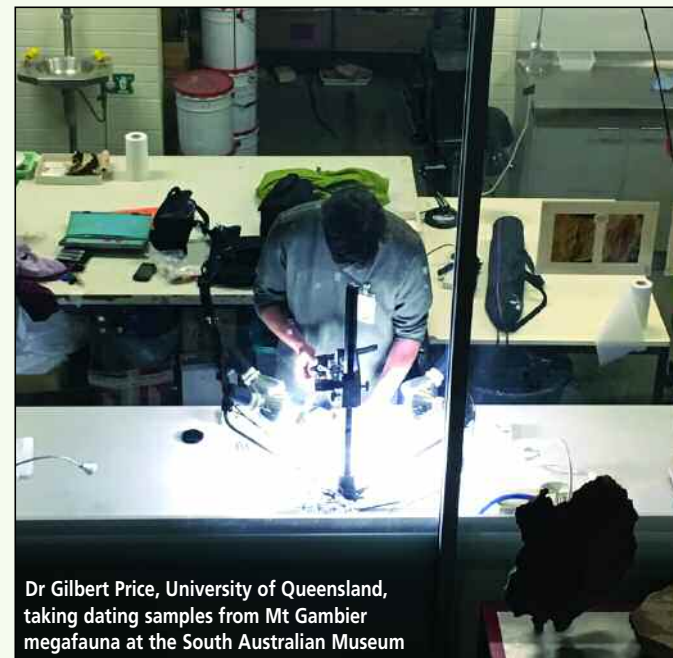
not classed within the monodactyl roos. The first of these, *Macropus giganteus titan*, is considered a very large extinct subspecies of the modern grey kangaroo. The second is one of the rarest and least understood fossil kangaroo species, from which only a single jaw bone has been recovered in Mt Gambier. It is known as *Propleopus oscillans* and is notable for being one of the very few known examples of carnivorous kangaroo species. Although it wasn't huge, weighing in at only 70 kg or so, it is often thought to be a giant version of the musky rat kangaroo, a species which weighs only 500g. On the basis of its dentition, particularly its highly unusual buzz-saw like premolars, it is most likely that this roo dined on insects, eggs and meat, although it probably supplemented this with a variety of plant matter too. Fossils of both of these kangaroos have so far only been recovered from Fossil Cave.

Protemnodon have been recovered from Mt Gambier: *Protemnodon roechus* (Ten-eighty Sinkhole, Goulden's Hole), *Protemnodon behus* (Goulden's Hole, Engelbrecht Cave), and *Protemnodon anak* (Fossil Cave). An unknown species of *Protemnodon* was also recovered from a solution tube exposed during excavation for an access ramp at Kilsby's Sinkhole. There are notable other extinct forms of kangaroo recovered from the Mt Gambier region that are

The other remarkable carnivore recovered from Mt Gambier is the marsupial lion, otherwise known as *Thylacoleo*. This extinct relative of the modern koala and wombat is the largest marsupial carnivore to have ever existed, and fully grown was probably about the size of an African lioness. Pound for pound, these creatures had the



The skull of *Simosthenurus maddocki*, one of the extinct short-faced kangaroos from Fossil Cave. Scale bar = 5 cm



Dr Gilbert Price, University of Queensland, taking dating samples from Mt Gambier megafauna at the South Australian Museum

strongest bite force of any mammalian carnivore, able to slice meat and into bone with its unique

er from Mt Gambier. The first of these, an animal known as *Palorchestes parvus* was recovered



A selection of *Thylacoleo carnifex* from Mt Gambier caves and sinkholes. Scale bar = 5 cm

from Goulden's Hole, and is also considered an extremely rare find, particularly for fossil sites of this age. This species is thought to have wielded a short trunk due to its extremely retracted nose bones and the large arterial and nerve canals found therein, features which are today known only from trunked mammals such as tapirs. The other huge marsupial found in the Mt Gambier sinkholes is sometimes called, appropriately enough, the marsupial rhino. This creature, *Zygomaturus trilobus*, has been recovered from Kilsby's Sinkhole and Ewen's Ponds - the latter a single tooth. It would have weighed upwards of 500kg and stood 1.5m at the shoulder.

Finally, not all ice-age mammals from Mt Gambier were marsupials. An extinct echidna, belonging to the monotremes (egg-laying mammals), has also been found in Goulden's and Kilsby's. This monster was about four times larger than the long-beaked echidna and was called *Megalibgwilia*. *Megalibgwilia's* larger and more pow-





Right lower jaw of *Simothenurus occidentalis*, one of the extinct short-faced kangaroos from Fossil Cave

erful forearms meant that it was probably a digger, and it may have become incorporated into the deposits by burrowing, and subsequently dying in those burrows. Today only one species of echidna still lives on Australia's mainland. The question of how and when all of these animals lived, and how they became extinct, is one



The skull of *Simothenurus gilli*, one of the extinct short-faced kangaroos from Fossil Cave

of the biggest puzzles in Australian palaeontology. Two main theories regarding the cause of their disappearance are often hotly debated in the press and in scientific papers: humans did it, or climate did it. Certainly, people were present in Australia at

the same time as some of these creatures, and it's likely that they would have interacted with them in some way. However, which megafauna were actually still standing by the time people arrived, and the nature of their interactions is far from clear. Many of these giants may have become extinct well before humans were anywhere near

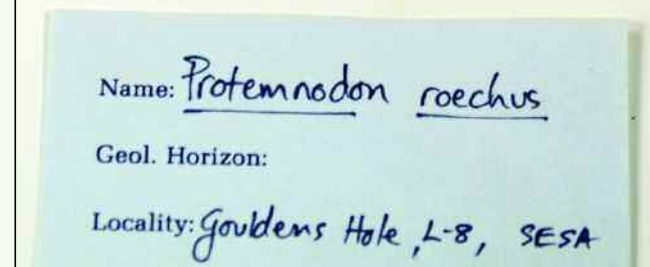
Australia. What is becoming clearer, however, is that the climate during the ice-ages in Australia grew progressively worse over time, and it became much more challenging for giant species to survive megadroughts and the other environmental perturbations of the Pleistocene - the geological period in which ice-ages are known. Several things are needed in order to untangle the different influences of humans and climate on Australia's ice-age megafauna, and the fossils at Mt Gambier might hold the very clues necessary to crack the puzzle. One of the things we need to know is exactly when these extinct animals were around. This can be achieved through direct radioisotope dating of fossils, for example radiocarbon or  $^{14}\text{C}$  dating. At Mt Gambier, this was attempted in the late 1980s, as part of Cate Newton's Honour's thesis at Flinders University.

Unfortunately, probably due to the underwater conditions most of the fossils were found in, this technique does not seem to have worked. However, recently, my colleague Dr Gilbert Price

and I sampled additional fossils held at the South Australian Museum in order to attempt a different type of dating, known as uranium-series dating. While we're still analysing the data, if we are successful we'll be able to provide one of the

important pieces of the puzzle regarding the Mt Gambier fossils and the extinction of ice-age Australia's megafauna, namely when these creatures lived.

One of the other big things we need to know is how these animals lived. In other words, what was the ecology of these creatures. Again, the fossils from Mt Gambier might contain crucial clues which will allow us to work out how these animals dealt with ice-age environments. The fossils in the caves around Mt Gambier are rare for cave deposits generally, often preserving complete or very near complete remains of long extinct animals. Oftentimes in caves mammal remains are broken up, and heavily mixed, such that only teeth can be identified. However, with a whole skeleton we can tell a whole lot about how the animals lived, how they moved, and how they're all related. We're not even scratching the surface of what sorts of fossils might be found in Australia's underwater caves. It's an exciting time to be a palaeontologist and a cave diver.



The fragment of an upper jaw bone of *Proteimnodon roechus*, from a solution tube discovered at Goulden's Hole

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## MEMORIES OF THE MOUNT

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# John Vanderleest

## *How many years have you been on the CDA National Committee?*

I think its 13 years in total. 6 years this time and 7 years in the 80s. I think I am a sucker for punishment.

## *Has much changed in that time?*

Yes and No. There are many things that I was involved with introducing in the 80's. A lot of these changes are still with us today. That tells me we got the basics right, when people build on what you started. But while the essence of many things have not changed, we have matured a lot in that time.



**I should upgrade my gear.**

## *Can you give me some examples?*

Ohh – there are so many, lets see now.....

Ok here's one. International Speakers – Sheck Exley was the first person we brought out around 1989. The idea of inviting international speakers was carried forward by other directors and it has now evolved into our annual symposium. Then, a few years ago after listening to our members outside of Vic and SA, I changed things so that our international guest speakers also presented in different locations to give better value to members who could not travel to the Mount.

Here's another example. During my first stint as a Director, we introduced our current cave classification system and training at all levels. While tweaked to deal with modern equipment, this has not really changed a lot in 30 years.

I also drove the mandatory use of twins. This created a lot of anxiety with many members saying the National was mad, but today, people think you are mad if you don't use twins.

Landowner indemnities and site leases were first introduced back at that time. Today, indemnities, leasing and insurance is what gives us site access levels we have.

We also did our first stand at Oceans in 1986. This has moved to a stand at Oztek which has continued to help maintain our profile in the diving community.

## *That's a lot of new things you did in the 80s, but what about in the past years?*

I would say that a lot of the past 6 years has been consolidation and getting a good foundation for the future.

I started my term with a debt of Tank Cave. Whilst we owned this beautiful piece of land, we had not yet paid for it and our financial position was not strong. Today, we own the land outright and we are again in a financial position to purchase more land if we choose.

Apart from our finances, our Constitution and Regulations were hurting us. We had self regulated ourselves to the point where many mem-

bers were actively diving under the ASF banner, simply to avoid be charged with a breach of regulations.

Ironically, this was the second time I have been involved with rewriting the constitution. The first time was about 1987. Today, our regs don't stop you from diving the way you want. They only require you to manage the risk and abide by the landowner requirements. It would have been nice to also add to this before I retired, the inclusion of Guest membership so that they could be covered by our insurance when on site, but unfortunately, that did not get through. I hope the new Directors try again.

On the training front, we have looked at what we need and started the process of modernising the training framework. While training on Rebreathers and First Responder training was introduced, there is still a lot of things in progress. These additional changes will better help members who don't live near Sinkholes, are sump diving, needing to deal with cliffs or simply want advanced training in things like scooters.

## *I know that you had a lot on your plate with the 3 deaths we had, what can you tell me about that?*

Ohh – there are so many, lets see now.....

Unfortunately, 2 weeks into my term, we had our 3rd death. Less than a year before that I was

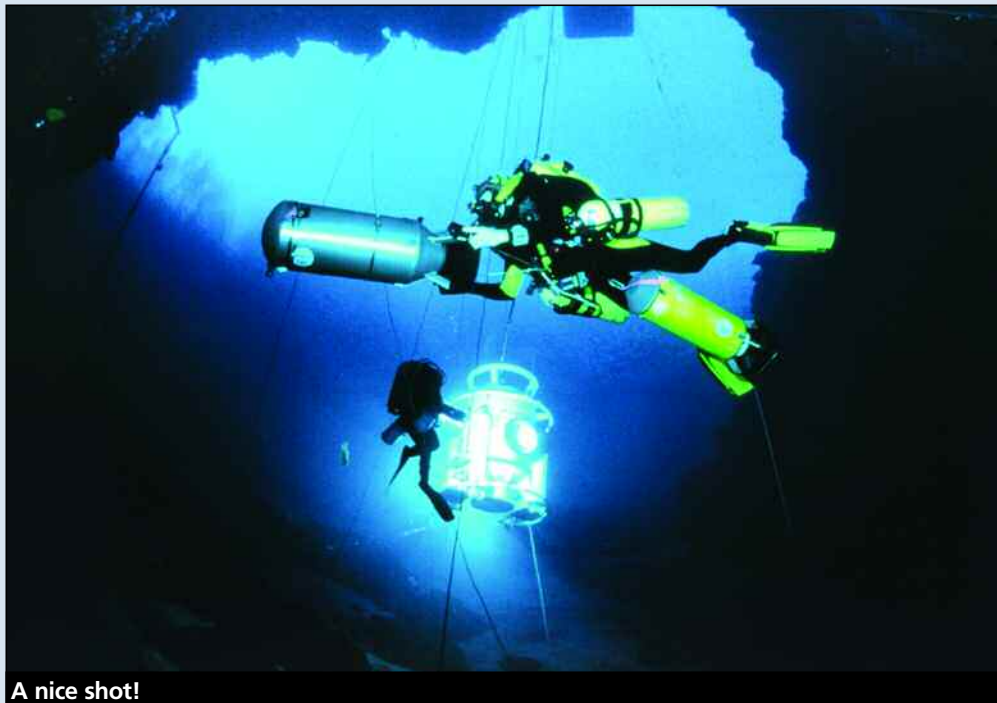
involved with recovering Ag's body, which is a task I never would wish on any person. But the press were kind about her death with their story centred on the effort it was taking us to get her out of the cave. But with a third death, and the second in Tank Cave, the press started with Tank Cave being a death zone. This had all the potential of the government stepping in. Dealing with the personal loss of a fellow cave diver is hard enough, but making sure the press did not destroy our sport by setting up negative public attitude is a lot harder. But the hardest part of all is having to help a father understand how his only daughter died and having to help a mother explain to her young boys why daddy was not coming home. These are the things that change you. They change you in a way makes you realise that as the National Director, you have a moral responsibility not only to members but to their families, to find ways of making the sport as safe as we can, but without stopping people from diving they way they need to when exploring.

This realisation was a key driver for two things. Firstly, to make sure our regulations, and consequently our training had a strong focus on risk management. And secondly, to drive out of our culture the attitude that being first, going the deepest, the longest or the fastest is what make you a great cave diver. Not saying that you did



**Mine is bigger than yours.**





A nice shot!



Cave mapper and diving bell at the entrance of Wakulla Cave.

not feel comfortable doing something on a diver, or admitting that you were not ready, was not the norm. Today, I am proud to say that I think this has changed. Driving this change in culture was possible by making sure we did not publish certain articles that glorified risk taking, changed our Regulations to be more about the self manage-



Testing redundant scooter mounted rebreathers in the NASA float tank.

ment of risk, changed the way we teach, asking people to withdraw certain comments on Facebook or our forum were all ways for stopping the glorification of risk. It worked because we created an alternative that people could hook onto. More articles on conservation and exploration that did not talk about excessive risks, driving science as the story line for the media and more recently, conservation grants, were some of the ways we gave people new ways of being at the top of the cave diving ladder. If I can say that a positive shift in our culture away from excessive risk for the sake of simply saying you were first, was one outcome in my time as National Director, then I would say that it was worth every bit of hardship endured during this time.

*I can see the results of a lot of your work, but what about your diving.*

I have lost count of the number of times I have dived each site in the Mount, especially Tank Cave, and have several trips to the Nullarbor under my belt, but what a lot of people don't know is the amount of time I have spent diving internationally.

I think I have spent in total between one and two years diving abroad. My longest stint was about 4 months, with several 1-2 month trip and lots of 2 week trips. So I don't really know what it all adds up too, but it's a lot.

I was lucky enough to spend a few months in



Decompressing the easy way - Wakulla 2 Project





**Divers to enter the bell after a long dive - Wakulla 2 project.**

Oman. Like on the Nullarbor, there is a lot of limestone. The difference is that it between 40 and 55C on the surface and had lots of mountains. I laugh when I think I am the Oman Cave Diving Group, Instructor Number 1, having first gone over there to specifically train people. My several trips to Mexico have been fun, especially exploring virgin caves. There is still so much there, and it's not hard to do if you try. Along with Andrew Poole is WA, I think we were the first people to dive with rebreathers in Caves in Australia. That was back in 1996. Being early adopters, it opened up so many doors, ranging from spending time with Dräger in Germany, testing equipment in one of NASA's float tanks, through to becoming one of the lead divers on Bill Stone's Wakulla 2 project. Mind you, being one of the earlier trimix instructor trainers running around the globe also helped open a lot of doors. So yes, apart from doing CDAA work, I did a lot of diving.

#### *What is next for you?*

I am not sure yet. I did buy myself a small place at Queenscliff with my back gate facing the dive pickup jetty, so I know I will end up doing more ocean diving. I used to be a part owner of a dive charter, so have more ocean dives that I care to



**Starting a mapping run.**



Pic: Alison Perkins  
2017 Nikon Dive Portfolio of the Year

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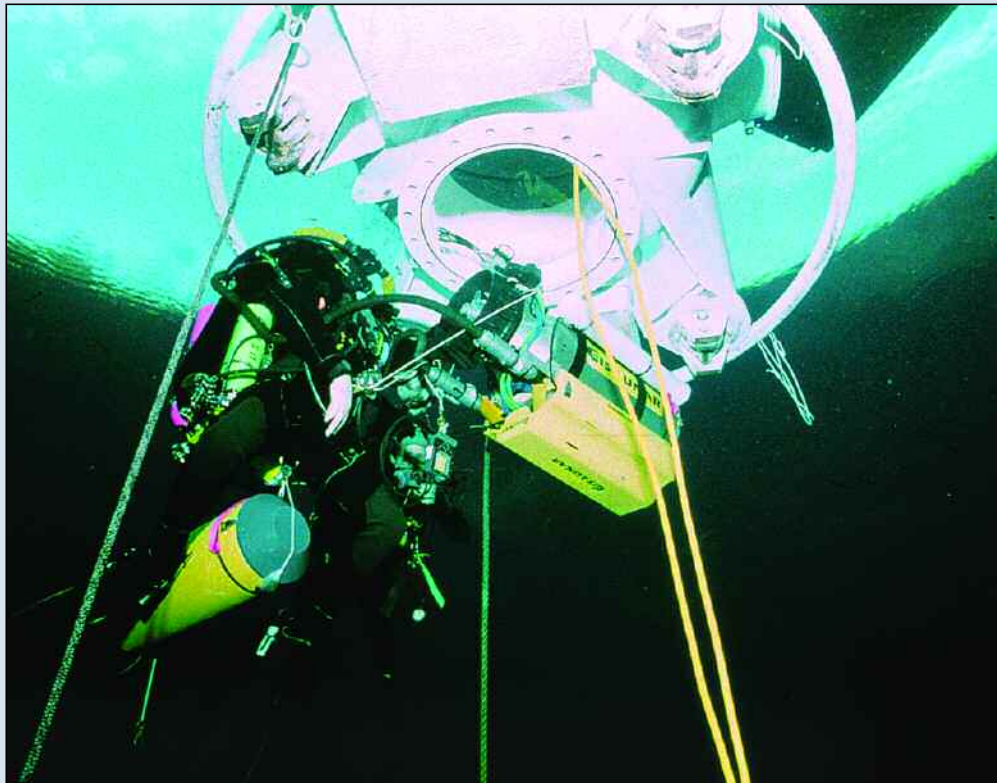
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Enquiries contact:  
[info@diverOZTek.com.au](mailto:info@diverOZTek.com.au)





Test runs in Wakulla Basin before starting an exploration run.



remember, so it's a bit like back the future for me. But I also never got myself a side mount rebreather, so that is next on the list. I am already thinking about the Nullarbor, a 3rd trip to the Bahamas and maybe Spain. But apart from that, I love taking my 4WD and going camping and have already booked on

round the world ticket. So who knows where or what I will end up. Live is an adventure. As far as the CDAA is concerned, it's time for others to take the lead. I strongly believe that the role of a leader is to leave things in a better place than how you found them and then trust and allow the next person to do the same. ■



Bush transport in Mexico.



Bush transport in New Zealand



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# The Cavern Dive that Changed My Life

By Allan Nash

*A serious case results in one DAN AP Member, a dive industry veteran of more than 30 years and a PADI Course Director, having to make the life-altering decision to stop diving.*

## Cavern Diving in Cozumel, Mexico

I was undertaking a long cavern dive with my new and never been dived before rebreather with newly designed and never before used back counter lungs. During the dive I experienced cramps, so cut short what was going to be a 2km expedition. Assuming I was dehydrated, I took a double dose of a rehydration product (thinking I was doing the right thing), which stopped the cramps.

I was on my fourth day and fourth dive. The plan was to complete a three-hour dive in the cavern system with the rebreather. I did all the usual pre-dive checks, including a pre-dive pre-breathing with the unit before descent. My buddy and I descended, checked our cells were working, and then switched to CCR. It took a few moments to orientate and get somewhat comfortable; but I never got completely comfortable and felt like I was struggling with the unit the whole dive. Something just didn't feel right, and I put it down to:

1. A new CCR;
2. I had little time with a CCR since being certified two months previous;
3. I had to spend time and work through each problem until I got things to where I was comfortable. I had over the past three dives resolved a few small issues I was having.

At 55 minutes into the dive I seriously questioned if I could suffer three hours of this. After 60 minutes I started to inhale not only through my mouth but also uncontrollably through my nose. At 75 minutes I was so frustrated I had to do something; and that was to bail out of the dive. I bailed out to OC and

almost immediately recovered normal breathing and felt better. I stayed on OC for a few minutes, and then knowing I was close to the exit, I switched back to CCR, and felt completely okay. We ascended and I was prepared to discuss with my buddy what had happened, with the intention of continuing the dive. It wasn't until I broke surface that I could feel and hear a gurgling sound with every breath. Getting out of the water was difficult, breathing was difficult, I was tired, and struggled to walk up the stairs back to the car, needing to stop many times to get my breath and the strength to carry on. The breathing difficulty continued with the gurgling for the best part of fifteen minutes before subsiding, then I just felt tired and out of breath.

My buddy put his finger right on what it was and we called DAN to confirm. DAN advised that what I described certainly sounded much like Immersion Pulmonary Oedema (IPE), which is a much misunderstood

area and a lot of what is known is speculation based on theories and studies of cases under very different conditions.

I visited a doctor after the incident in Cozumel and underwent some testing. The doctor confirmed that my "over-hydration" may have been part of why I experienced IPE. In an Alert Diver article that I read on IPE, it suggested that one of the causes leading to IPE is **excess hydration coupled with rapid onset of heavy swimming exercise.**

I really connected with this explanation. Of course it could have been many things, but after talking with the doctor, reading the DAN article, and thinking back on the days before and during the

dive, I believe the contributing factors to my IPE incident were:

- Not feeling comfortable;
- Struggling with the CCR would have increased my breathing difficulty (even though I would have denied that happening during the dive);
- My over-hydration; and
- I also suffer from a heart condition, which could have been a potential contributor.

**The burning question for Allan after this incident was: Am I likely to experience IPE again if I continue to dive?**

## Insights from DAN Asia-Pacific's, John Lippmann

Relatively little is known about IPE but it is an area of increased interest. Early reports were mainly about IPE in military combat swimmers and in triathletes. However, there are a growing number of reports about recreational snorkellers and divers who have suffered the condition. IPE is implicated in some fatalities although, unless the incident was witnessed, at autopsy it's usually hard to tell the difference between IPE and drowning.

The most common demographic for IPE during scuba diving (known as scuba divers pulmonary edema – SDPE) is middle-aged women. Predisposing factors for SDPE appear to include immersion, age, gender, aspiration of seawater, over-hydration, cold exposure, stress, negative inspiratory pressure, asthma, hypertension, diabetes, drugs (e.g., beta-blockers), technical diving, and cardiac disease or disorder. The rate of recurrence is not confirmed but, on current information, appears to be around 30%, which is reasonably high. The decision as to whether a diver who has had an episode of IPE should continue diving is a difficult one and largely based on the level of risk the diver (or sometimes their employer) is willing to take. It may be partly based on the physical condition of the diver, a history of hypertension or cardiovascular disease and the type of diving being considered. Diving in shallow, warm-water diving in a young, otherwise healthy diver who suf-

fered a mild case of IPE is less concerning than an older diver with multiple medical problems who wants to return to cold-water diving after a severe episode. Another factor to consider is the access to very prompt oxygen first aid and medical care should an incident occur. Prompt and appropriate oxygen first aid can be life-saving in a severe case of IPE.

Allan was told that he would be unlucky to have another episode but it is certainly possible and that these can sometimes be fatal. He was advised to think carefully about the level of risk he was prepared to take. He was also advised that, should he continue to dive, he should avoid going deep, avoid cold water and currents, ensure he could ascend directly to the surface, and to make sure that oxygen was readily available.

Reading Allan's comments below raises some concern as snorkelling in cold water with a restrictive wetsuit could be a potential trigger.

## Final Comments from Allan

My IPE has had a big impact on my life. I decided to really restrict my diving as I didn't want to tempt fate, knowing that IPE could happen to me again and it could take my life. But to get around it, and to stay in the sea, I have taken up snorkelling and I have done a trip to Norway to snorkel with Orca and humpback whales. This trip got me re-inspired and I will be heading to Antarctica next year to snorkel with Leopard seals. I know that snorkelling in cold water has a risk and that using a drysuit with a tight neck could contribute to an onset of IPE, but it is about managing risk, and part of this will be ensuring that I am always close to a boat or an exit, so I can act fast if I feel an IPE recurrence.

## What is IPE?

Pulmonary edema is an abnormal leakage of fluid from the bloodstream into the alveoli, the microscopic air sacs in the lungs. IPE presents as a rapid onset of shortness of breath, cough and sometimes blood-tinged, frothy sputum. Because the fluid builds up in the air-containing spaces of the lungs and interrupts gas exchange, IPE resembles drowning. The important difference is that the obstructing fluid comes from within the body rather than from inhalation of surrounding water. Like in Allan's case, after an episode of IPE, there is often spontaneous recovery once the diver leaves the water.

**Find more diving health and safety information visit 'Diving Safety' at [www.danap.org](http://www.danap.org)**





















# Coming up in the June 2018 Issue of **GUIDELINES** . . .



- *Switzerland Cave Diving*
- *Memories of the Mount - 'Bent in Eucla'*

*Plus stacks more Great Reading!*

## CDAА INSTRUCTORS

NAME	Deep Cavern	Cave	Adv. Cave	NAME	Deep Cavern	Cave	Adv. Cave
<b>NEW SOUTH WALES</b>				<b>VICTORIA Continued</b>			
 BOULTON, Alex (CDAА 4125) Mob: alex@subaquaservices.com.au	Yes			 CLARIDGE, Linda (CDAА 2214) Mob: 0408 052 070 E: garinda@tpgi.com.au	Yes	Yes	Yes
 FEATONBY, Tim (CDAА 3327) Worwong Heights, NSW Mob: 0402 129 253 E: tim.featonby@hotmail.com	Yes	Yes	Yes	 DALLA-ZUANNA, John (CDAА 236) Mob: 0407 887 060 E: jdz@paintandcustom.com.au	Yes	Yes	Yes
<b>SOUTH AUSTRALIA</b>				 EDWARDS, Chris (CDAА 2247) Mob: 0417 116 372 Email: chrisedwards01@me.com	Yes		
 MAIN, Robert (CDAА 4909) Mob: 0411 519 825 E: rob@reef2ridge.com	Yes			 McDONALD, Warrick (CDAА 1882) Mob: 0408 374 112 E: info@oceandivers.com.au	Yes	Yes	Yes
 PAYNE, Timothy (CDAА 2640) Mob: 0448 147 927 E: Tim@diveessentials.com	Yes	Yes	Yes	 MONACO, Rubens (CDAА 1731) Mob: 0413 429 533 E: info@idcscuba.com.au	Yes	Yes	Yes
<b>VICTORIA</b>				 MUSCAT, Tim (CDAА 4557) Mob: 0422 127 802 E: tim_muscat@bigpond.com	Yes	Yes	
 ALLEN, Terri (CDAА 3483) Mob: 0419 176 633 E: terri.allen@monash.edu	Yes	Yes	Yes	<b>WESTERN AUSTRALIA</b>			
 BARCLAY, Gary (CDAА 1735) Mob: 0407 527 921 E: garinda@bigpond.com	Yes	Yes	Yes	 BICANIC, Josip (CDAА 4691) Mob: 0412 571 779 Email: joseph_b@me.com	Yes	Yes	
 BOWMAN, Jane (CDAА 1880) Mob: 0407 566 455 E: janelbowman@hotmail.com	Yes	Yes	Yes	 PAYNTER, Geoff (CDAА 3784) Mob: 0407 445 112 E: gpaynter60@bigpond.com	Yes	Yes	Yes
 CHAMBERS, Geoffrey (CDAА 3484) Mob: 0438 059 886 E: geoffie1@gmail.com	Yes			 POOLE, Andrew (CDAА 2208) Mob: 0417 040 020 E: andrew@poole.com.au	Yes	Yes	



# CDAА SITE ACCESS - [www.cavedivers.com.au](http://www.cavedivers.com.au)

Remember: Access is a privilege, not a right. Please be considerate of landowners wishes.  
BC = BASIC CAVE C = CAVE AC = ADVANCED CAVE

SITE	LEVEL	OWNER	ACCESS DETAILS
<b>MT. GAMBIER - SA</b> Ewens Ponds	Nil	DEWNR	Groups of 6 or more, phone DEWNR on (08) 8735 1177 for booking. Smaller groups, no need.
Gouldens	BC	DEWNR	<p><b>Complete a permit and indemnity online at:</b>  <a href="https://www.environment.sa.gov.au/parks/find-apark/Browse_by_region/Limestone_Coast/piccaninnie-ponds-conservation-park/booking/diving/diving-indemnity-form">https://www.environment.sa.gov.au/parks/find-apark/Browse_by_region/Limestone_Coast/piccaninnie-ponds-conservation-park/booking/diving/diving-indemnity-form</a></p> <p>Bookings for Piccaninnie Ponds can be made online at:  <a href="https://www.environment.sa.gov.au/parks/booking#Piccaninnie">https://www.environment.sa.gov.au/parks/booking#Piccaninnie</a>            Piccaninnie Ponds Conservation Park</p> <p>To Book Gouldens, The Sisters and Fossil phone DEWNR on 08 8735 1177.</p>
The Sisters	BC	DEWNR	
Fossil	C		
Piccaninnie Ponds	BC	DEWNR	
Horse & Cart Tea Tree	BC BC	Dale & Heather Perkins Dale & Heather Perkins	Phone (08) 8738 4083 or email <a href="mailto:dhperkins@bigpond.com">dhperkins@bigpond.com</a> at least 24 hours in advance.
Little Blue	BC	District Council of Grant	Booking can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> .
Allendale	C	District Council of Grant	Obtain key from Lady Nelson Tourist Information Centre.
Ela Elap	BC	Dean & Carol Edwards	Obtain key from Management at Bellum Hotel.
One Tree	BC	Mr. Peter Norman	Visit the house before diving. If no one is home - no dive!
Dave's Cave	C		Maximum 3 divers all weekends between May & November inclusive (check and update on CDAА website).
Hells Hole	BC	Forestry SA	Booking can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
Pines	C/AC	Forestry SA	Bookings can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> . Cave Rated divers cannot enter Advanced Cave Section of Pines.
Mud Hole	C	Forestry SA	Bookings can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a>
Nettle Bed	AC	Forestry SA	Bookings can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
Stinging Nettle Cave	AC	Forestry SA	Bookings can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
Iddlebiddy	AC	Forestry SA	Bookings can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
The Shaft	BC/C	Trevor Ashby	Booking can be made online from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> . Landowner mandates Dive Supervisors (with their own Insurance) leading all dive trips.

# CDAА SITE ACCESS - [www.cavedivers.com.au](http://www.cavedivers.com.au)

Remember: Access is a privilege, not a right. Please be considerate of landowners wishes.  
CN = CAVERN S = SINKHOLE C = CAVE AC = ADVANCED CAVE

SITE	LEVEL	OWNER	ACCESS DETAILS
<b>MT. GAMBIER - SA (continued)</b> Engelbrechts - East - West	C AC	Mt Gambier Council Lessee: Ph: 08 8723 5552 Owner:	Obtain key from Lady Nelson Tourist Information Centre. Diving should be avoided after heavy rain due to possible water contamination. Diving hours are now restricted to 8am to 8pm CST.
Three Sisters Access available for	AC	Wattle Range Council	Download Indemnity from <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> and email to <a href="mailto:council@wattlerange.sa.gov.au">council@wattlerange.sa.gov.au</a> . A \$30 processing fee can be made over the phone on (08) 8733 0900 after Council has received your indemnity. Allow 4 wks for indemnities to be processed.
Tank Cave	AC	CDAА	Bookings can be made online at <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> Booking Officer is Noel Dillon Email: <a href="mailto:tankcave@cavedivers.com.au">tankcave@cavedivers.com.au</a>
Baker's Cave	C	Janet & Bruce Saffin	Bookings can be made online at <a href="http://www.cavedivers.com.au">www.cavedivers.com.au</a> Booking Officer is Matthew Skinner. Email: <a href="mailto:bakerscave@cavedivers.com.au">bakerscave@cavedivers.com.au</a> Climbing equipment required. One member must have previous dive experience at site.
<b>NULLARBOR - WA</b>			
Cocklebidy	C/AC	WA Dept of Parks & W'Life	Apply in writing for permission to dive at least 4 weeks in advance of trip to:
Murra El Elevyn	C/AC	WA Dept of Parks & W'Life	District Manager, PO Box 234, Esperance, W.A. 6450.
Tommy Grahams	C	WA Dept of Parks & W'Life	Phone: (08) 9083 2100.
Burnabbie	AC	WA Department of Lands	Apply in writing or email for permission to dive at least four weeks in advance of trip.
Olwogin Cave	AC	WA Department of Lands	Miss Shannon Alford, Email: <a href="mailto:Shannon.alford@lands.wa.gov.au">Shannon.alford@lands.wa.gov.au</a> Phone: (08) 6552 4661 Fax: (08) 6552 4417
Weebubbie	S/C	WA Department of Lands	P.O. Box 1143, West Perth WA 6872. A site indemnity form must be filled out for each visit to the site. Diving permission acknowledged by official letter from Land Owner.
<b>WELLINGTON CAVES - NSW</b>			
Limekiln (McCavity) Cave	C/AC	Wellington Caves Management	Access coordinated by Greg Ryan Email: <a href="mailto:giryan@gmail.com">giryan@gmail.com</a> Ph: (02) 9743 4157 Both Cave and Advanced Cave Level are being accepted for this site depending on its water level at the time. When entrance is under water, Advanced Cave Divers only!
Water (Anticline) cave	C	Wellington Caves Management	Access coordinated by Greg Ryan Email: <a href="mailto:giryan@gmail.com">giryan@gmail.com</a> Ph: (02) 9743 4157 Affected by high CO <sub>2</sub> levels during Summer/Autumn.