



Back Cover: Yucatan Cave Diving Feature - look out for September issue. Photo Pierre Constant



C.D.A.A. Newsletter
No. 140 - JUNE 2017

THIS ISSUE...

- *Unique Aquifer Explored*
- *Interview with Neil Vincent*
- *Cocklebiddy & Murra El Evelyn*
- *Pannikin Plains Fragile Ecology*
- *Stella Styles Photo Gallery*

CAVE DIVERS ASSOCIATION OF AUSTRALIA

(Incorporated in South Australia)

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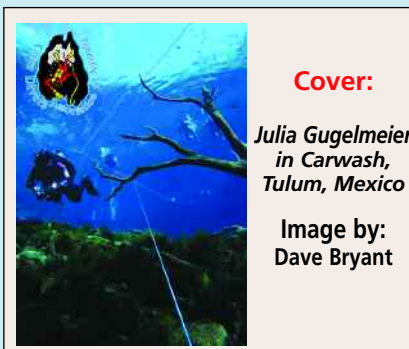
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Cover:

**Julia Gugelmeier
 in Carwash,
 Tulum, Mexico**

**Image by:
 Dave Bryant**

CAVE DIVERS ASSOCIATION OF AUSTRALIA

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GUIDELINES is a newsletter of the Cave Divers Association of Australia. All articles for the following issue are to be sent to the Publications Director, Email: publications@cavedivers.com.au

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Photo by Liz Rogers

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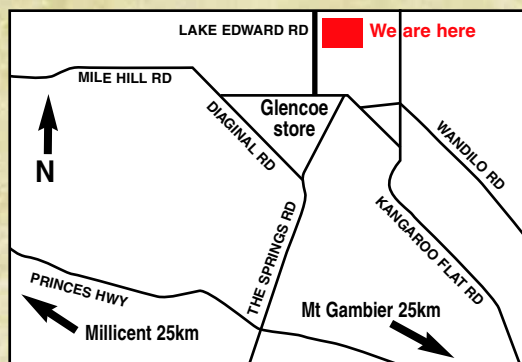
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EDITORIAL

ROWAN STEVENS

Dear Members,

Welcome to another great edition of Guidelines. In this issue we re-print an education and exploration article about Mt. Gambier's underground cave networks from The Border Watch. We profile Neil Vincent and his cave diving adventures. The famous Pannikin Plains Cave system ecology is presented and there are trip reports from recent visits to the Nullarbor Caves. Stella Del Curto shares some magnificent photos of Caves from around the world including Sardinia and Mexico.

AGM 2017 has been set for Saturday Oct 28th 2017 in Mt. Gambier with the AGM starting at 11:00am. The official call for election of National Committee members, member motions and Constitutional amendments is also included – refer to page 9. Now is a great time to stand and be part of the National Committee and help forge the future.

Happy and safe diving

Rowan Stevens #3177 | Publications and Records Director
M: 0417 550 509 | E: publications@cavedivers.com.au

FROM THE DESIGNERS' DESK...

A huge thank you to everyone who answered the call this issue with some great stories and general interest articles. It was such a great response and I've actually got enough material to fill two issues.

As mentioned in my editorial from March issue, I have now had the opportunity to dive a couple of spectacular cavern sites in Tulum, Mexico. I am guessing it is possibly the only destination in the world where an Open Water scuba diver (yours truly) is able to access world class cavern dives, under guidance of course. My wife and I joined a local Tulum dive guide in the balmy 25 degree waters and had nearly two hours in Casa Cenote and a second dive at Carwash. I'm sure that several members of the CDAA have dived these sites and many more around the Tulum area. It is Spectacular!

I have written a story about my adventure and it will appear in next issue along with a fantastic Yucatan overview from French photographer and writer Pierre Constant. As a teaser I have used one of my shots from my dive in Carwash for our cover this issue. Julia Gugelmeier was my guide and model.

NEXT ISSUE is going to be a MEXICO Special, so if you have something to send me of your recent trip to Tulum or any other part of the Yucatan, please send us your story and some great pictures. I am also going to need some awesome Cover and/or Gallery pictures too!

It is of course winter and that means more of you are probably heading over to the Mount for a weeked getaway. The water is just too cold in Melbourne's Port Phillip Bay. If you are heading over, we would love to hear about your weekend treks. Safe travels everyone, catch you in September.

Dave Bryant.

Articles for Guidelines Sept. 2017 - Deadline is Aug. 25th

- Send articles and jpeg images by email to guidelines@cavedivers.com.au

NATIONAL COMMITTEE UPDATE

JUNE 2017

It's an update from the Business Desk this quarter as everyone has taken the opportunity for a break these last few months.

From the Standards Desk a review of cave diving agencies' training structures has been completed. This review has enabled us to better understand our position as an organisation globally as well as confer with other International Instructors via Email, Skype and recently the OzTek 2017 diving conference in Sydney. A clear direction forward for the CDAA to operate in areas such as crossover programs and certifications has been established. Currently the CDAA Regulations and Training Standards are under review to ensure a smooth transition with the proposed training standards.

It is comforting to note that when we compare our training and standards to the global scene, we are clearly highly regarded and respected and we are determined to maintain that position.

At OzTek, a generic "Info for Training" – cave dive brochure was released which will be distributed to various local stores and general diving events over the coming year as well as the release of our new flag/banner which has been sent to instructors and state reps for use during photo opportunities.

The Site Desk has also had a busy few months with Leon getting his hands dirty with the reclassification of Nettlebed to a Cave-rated site from its previous Advanced Cave rating. This has involved extensive work with ForestrySA and continues the strong relationship that the CDAA has with this landowner.

Issues of Allendale East Cave ownership have recently been raised, with both the Grant District Council and Department of Planning, Transport and Infrastructure SA, establishing that ownership rests with the council. This impacts us as an association

as we need to sign a new lease agreement with the Grant District Council. There has also been significant soil erosion at the site, resulting in instability at the entry point and surrounds, and leaving it vulnerable to trespassers. In consultation with the Council, a decision to re-fence has been made and planning is underway.

Site details on the website and being reviewed with the assistance of Damian, our South Australian State Representative. The publications desk continues to maintain the website with some new online features added for instructors.

On the Business front, I've been preparing for this year's AGM and symposium which is to be held on Saturday 28th October 2017. Our State Representatives are organising an international speaker and as soon as we have notification visa are approved, a notice will go out with appropriate bios and the like. I am in the process organising local speakers and a climbing workshop for the weekend is being considered if appropriate facilities and timing can be found. If there is someone you want to hear from at our event, please reach out to me.

I have also been working on sponsorship for our annual event and I am pleased to say the City of Mount Gambier has again agreed to support our day with use of their excellent facilities at the Main Corner Complex again. If you or your business would like to get involved, please get in contact. More information on sponsors on our Facebook page in short order as we've already had several businesses get on board.

In other Business news, a social media plan is being drafted and will be looking for any members that want to get involved. This will also support our efforts to promote our sport in the Mount Gambier

region and I'm looking to start with what we do for the region through promoting our AGM.

It is also time for National Committee nominations for National Director, Publications and Records Director, and Site Director. As a new director, myself, I can say it is a rewarding position and with the last update from our current National Director that he's not re-nominating, I look forward to working with at least one new committee member on the challenges to come.

Constitutional changes are also being called for. I have put myself forward in the National Committee for drawing up a proposal for electronic voting for voting upon later this year. I will be calling for comments on my proposal on our forum in short order. I know electronic voting is a matter close to many members and I encourage all members to engage in the process over the coming months. No move to electronic voting is possible without a vote to change our constitution in September. This is also the time for any member motions to be put forward.

On a personal note, I have been privileged to dive the Nullarbor twice in the last 6 months and cannot speak highly enough of these very special sites. You hear others speak of how incredible they are, but it isn't until you experience them for yourself that you realise what we have in our backyard. I am extremely thankful to all the volunteers and landowners who have put so much work into making sure these sites are open and accessible to us, and those so willing to share how best to access the sites, what to take and where to go.

Mathew Rochford

On Behalf of the National Committee



John Vanderleest,
National Director



Leon Rademeyer,
Site Director



Matthew Rochford,
Business Director



Rowan Stevens,
Publications and
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UNIQUE AQUIFER SYSTEM EXPLORED

University students gain insight to region's underground cave network

As reported in The Border Watch, by Sandra Morello

AN Australian cave diving trailblazer has returned to the Limestone Coast to give interstate university students a unique insight into the region's patchwork of underground caves and extensive aquifer systems.

La Trobe University lecturer Ian Lewis - a cave diving pioneer and hydrogeologist - hosted 18 students for four days across the region.

The students explored the depths of the cave network, toured the Blue Lake and snorkelled the picturesque Evens Ponds. Mr Lewis said students would compare the region's regional underground water catchment to the river system in the Snowy Mountains as part of the curriculum. "By the time they leave this area, what they have seen is a region that has no rivers, apart from the Glenelg River, and all the water moves underground," Mr Lewis said during a tour of Engelbrecht Cave.

Describing the region's expansive limestone system as "amazing", he said this geology was mirrored by only a few places across the world. "What we have here is similar to limestone in the Florida Peninsula and the Yucatan Peninsula in Mexico, which are riddled with underground caves and water," Mr Lewis said.

Not only did the students meander through the various landscapes in the region, they also learned about how caves were once used as dumping pits by industry and farmers up to the 1960s. "They just chucked stuff in and filled them up," Mr Lewis said. "Once cave divers started exploring these caves, we found some 44 gallon drums filled with nasty toxins." Alarmingly, he said the mills at that time were also flushing treated pine logs into the caves.

This prompted cave divers to start a campaign to end the pollution and to educate the community on the needs to keep the underground water system pristine. This led to regulations being swept in by government. "Caves are windows to the water resource and we now have had 40 years of that legislation," Mr Lewis said.



While there were reports of pollution in pockets of the resource, he said these had been tracked over the years. "The cave divers have made a huge difference". While the industry was close to being banned because of a string of deaths in the 1960s and '70s, he said the then SA Premier Des Corcoran was finally con-

vinced to keep the sinkholes open for recreational use. This sparked the formation of the Australian Cave Divers Association, which has since trained a staggering 5000 recreational divers. "We had a period of 38 years trouble free, then a few years ago three divers died in one year - they were all highly trained," Mr Lewis said.

These tragedies sent shockwaves through the tight-knit cave diving sector, which was perplexed over the cause of their deaths. "We knew them, they were friends of ours," he said.

He said the coroner - who investigated the deaths - concluded they were deaths by misadventure. "They were trained properly, but they went beyond the limits where we normally stop in different circumstances," Mr Lewis revealed. He said the cave divers would never know fully why these tragedies occurred. Conceding the cave diving sector has at times held its "breath" about its future, he said the recreational sport was in good shape moving forward. He said the South East was a hot spot for international cave divers.

While the sport was once branded as madness, he said it was now deemed safe given the extensive training and regulations.

"We now have people jumping off cliffs with wings and they think they are crazy, they are the ones who take all the risks."

CAVE DIVERS ASSOCIATION OF AUSTRALIA Inc.

Notice of 2017 Annual General Meeting, Election of National Committee Members and Voting for Member Motions & Constitutional Amendments

This notice is issued pursuant to Clause 12 of the Constitution and serves to advise members that the Annual General Meeting of the Cave Divers Association of Australia Inc. will be held on

Saturday October 28th, 2017 at the Main Corner Dress Circle, Mt. Gambier, SA.

The Annual General Meeting will commence at 11:00am and will conclude no later than 12:30pm.

This notice also serves to call for:

- *Nominations for National Director, Publications and Records Director, and Site Director
- *Member motions
- *Amendments to the Constitution

The Returning Officer must receive nominations for the National Committee positions no later than the close of business Friday, 4 August, 2017.

Mail to: Returning Officer, CDAA - PO Box 9286, Mt. Gambier West, SA 5291.

The Business Director must receive member motions and proposals for amendments to the Constitution no later than close of business Friday, 4 August 2017.

Items received after this date will not be accepted nor will any extensions to this date be granted.

Mail to: Mathew Rochford, CDAA Business Director - PO Box 544, Mount Gambier SA, 5291.

Members intending to nominate for a National Committee position must be eligible members of the Association as defined in the Constitution. Nominations should be accompanied by a précis not exceeding two hundred and fifty [250] words detailing skills, experience and achievements relevant to the duties and responsibilities of the nominated position. The responsibilities of National Committee members are contained in the Constitution of the Association. Nominations must be in writing and be signed by the nominee, the proposer and the seconder all of whom must be eligible members of the Association.

The polling date close for the election (if required) is Friday, 20 October 20, 2017.

The election of National Committee members and voting on amendments to the Constitution will be conducted entirely by postal ballot.

If you wish to vote you must be an eligible member of the Association and you must only use the ballot papers to be provided in the next issue of Guidelines (#141), on the Association website cavedivers.com.au or by special mail out.

The ballot papers must reach the Returning Officer (Darren Walters #3555) no later than close of business, Friday, 20 October 2017.

Please note that Australia Post quote 2-6 days for standard delivery from capital cities to Mount Gambier.

Detailed voting information will be provided with the ballot papers.

Questions may be directed to the Returning Officer at returningofficer@cavedivers.com.au

Mathew Rochford, Business Director - business@cavedivers.com.au.

Neil Vincent -

Don't leave the camera at home, you never know what you'll miss!

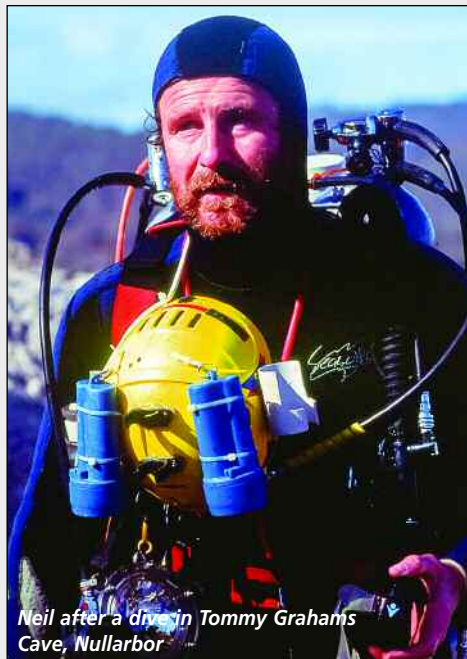
Interview and intro By Dave Bryant.

I first met Neil and his wife Lyn in the early 1990's for what was the first of many annual underwater photographic competitions aboard Ocean Trek in Jervis Bay. Rob Westerdyk, a close friend of Neil & Lyn also competed. I never knew about Neil's interest in Cave Diving however, but as I competed against him I would often pass by he and Lyn underwater and check out his choice of lighting, with Lyn as his underwater model and lighting support. Once our 35mm films had been processed, it was amazing to see his underwater photographic creations which often won him top place in the Shootout. His technical ability, lighting and composition were just brilliant. Little did I know what he was doing with his cave diving photography and the lengths he went to to create that 'wow' shot, and he only had 36 exposures to play with.

Neil said recently, 'to this day I still take a camera on every dive'.

Tell us a bit about your youth, where you were born and what started your interest in diving?

I grew up in Guildford, a western suburb of Sydney, in those days a long way from the ocean. Like many of my age, television was new and I hero worshiped Mike Nelson (Lloyd Bridges) in the series Sea Hunt. With my hard saved pocket money I bought a book by Ben Cropp which gave details on how to make a spear gun. I made one as a project in woodworking class at school. When proudly I brought it home, my father asked "what do you think you are going to do with that?!!" When I suggested I was going to spear fish, he laid down the law that not until I could prove I could swim properly. So over the next couple of years I used sport at school to gain my bronze medallion in lifesaving and I played water polo. At seventeen years of age, without my father's blessing, I joined the Kingfishers Spearfishing Club. This was the beginning of a life-long obsession with the ocean and diving. Through the spearfishing club I was introduced to scuba diving by members such as Pat Manly and George Roberts. They were members of South



Neil after a dive in Tommy Grahams Cave, Nullarbor

Neil on Deco with camera in hand



Pacific Divers Club (SPD). There was no real formal training in these early days. George was an instructor and was showing a few of us what was right and wrong. Not long after I started to scuba dive, George died in the tragic accident where four divers were killed in the Shaft in Mt. Gambier. It was these deaths which prompted the founding of the CDAА. This accident and his death stayed with me.

meant I had to enter Australia's largest underwater photographic competition, South Pacific Divers Underwater Photographer of the Year. There was nothing like these competitions and presentation nights when they started and there has been nothing to equal them since. Through a strange twist of fate it was this competition which led me to cave diving.

When did you start cave diving? Was it something you were introduced to or did you stumble upon it in a magazine?

Keen to create a unique photo to win the SPD competition, a friend Kim Kohen, asked if I would model for him in a photo in Ewen's Ponds. He wanted to create an underwater studio using the ponds clear water, still conditions and photographing at night. I agreed but decided that if I were driving all the way to Mt Gambier I was going to become certified to dive at least Picanininni Ponds. Without the benefits of internet and living in Sydney it took ages to find anyone in the CDAА. Peter Girdler was my first point of contact and he was so helpful as he led Lyn and I through the process. His instructions were, read Cave Diving in Australia by Ian Lewis and Peter Stace, practice and present yourself for an exam. Peter did give us some hints on what was expected but in the early days of the CDAА there were no instructors or instructions, only exams to prove you were capable. Peter introduced us to Andrew and Liz Wight who were living in Sydney, Andrew would be our examiner at Ryde pool. Despite our hours underwater practicing we both failed. Andrew then showed us the correct tech-



Lyn with the petrol pump in Little Blue Sinkhole at Mt. Gambier

niques and sent us away to practice. When we felt confident we sat the exams again. This time passing the practical for both Category 1 and 2. In order to obtain Cat 2 we had to complete a number of hours diving in Mt Gambier in Cat 1 holes.

We went to the Mount and started diving, using Ian's book as a guide to dive all the Cat 1 holes we could during the day and then modelling for Kim at night in Ewens. We were having a ball but we're exhausted by the end. When we had accrued the required number of hours we notified Peter and he rode from Adelaide on his motor bike to present us with our Cat 2 certification and to meet us for the first time. We met at Ian Plunger's store and Peter introduced us to some of the local cave divers, including Ian Lewis!!! Arrangements were made for us to dive Picaninnie Ponds, now we were hooked. For the next five or six years all our holidays were in Mt Gambier. We met so many great people who are still friends today, decades later.

What is your earliest memory of the most memorable cave or cavern dive, and why?

I have so many memorable dives, it is difficult to pick one. My Cat 3 exam is one, Lyn & I trained so hard before that exam but the day before the exam, Lyn didn't think she was ready, so come the day of the exam, I was teamed with a buddy with whom I had never dived. We were given thirty minutes to brief each other and to work out our signals. In Goulden's doing the blind-folded, fol-



Lyn in the North West Passage, McCavity Cave, Wellington, 1993

low the line test, halfway through, my buddy scooted ahead and turn onto a crossed line. I disagreed and tried unsuccessfully to find him but in the end I followed my instincts and the direction on the line I believed was correct and exited the cave. My buddy's line lead back into the cave. I knew we had both failed but we both continued



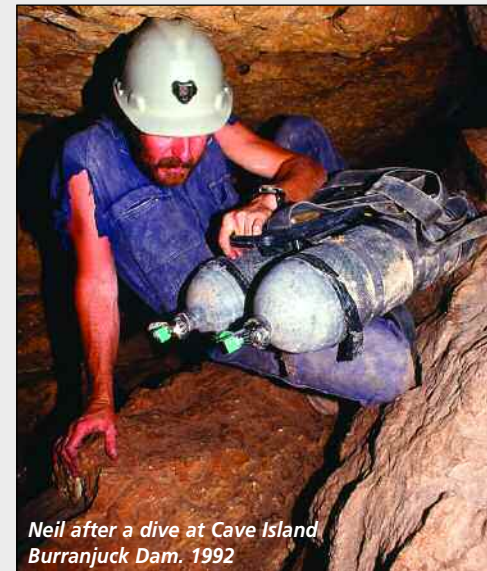
Michele Jobbins in Winter Wonderland, Temple of Doom, Mexico 2008

with the rest of the tests. Despite losing my buddy, the examiners passed me for not blindly following my buddy to two fatalities. I learnt that cave diving made me think out situations and believe in my own decisions.

I would list all of our first dives on Barnoolut Station in 1080 cave as memorable. Colin and Shirley Traeger had just taken over as station managers and we were their first divers. After each dive Colin was waiting at the ledge to ask what we had seen. He was as excited about the caves on the property as we were.

I will always remember my first dive in The Shaft, it was where my journey had begun. I swam around in the cave trying to imagine how George's accident had happened all those years before. With hindsight and training I could now understand how it had happened.

Meeting Dave Warnes for the first time at The Shaft was a highlight, he was with Chris Brown who was running a course. Dave came up to me and asked "You're Cat 3 but Lyn is Cat 2, who will you dive the Cat 3 caves with? Do you want to dive Englebrecht's West?" I said yes as I had not yet dived it and Dave responded with "Well how about we dive Pines tomorrow and see if we like each other" We did. Dave directed me to this great passage that was squeezey, I led the dive until the passage terminated in a black silty room, once I entered and started to turn, I thought, I hope Dave doesn't come in here too, this could really turn bad. Dave had known the small room and stayed outside. I think I heard laughter.



Neil after a dive at Cave Island, Burranjuck Dam, 1992

Diving with Bil Philips in Mexico. When was the last time a dive operator or guide said to you "while you are here, every dive will be better than the last". This was a big statement from Bil on my first trip to the Yucatan Peninsular but it was one that Bil kept, every dive was different, more beautiful and more challenging. Travelling through these beautiful passages with the person who had been the first to discover them and had produced accurate hand drawn maps of the passages was a unique experience.



Mark Jobbins, beautiful formations in Nohoch Na Chich, Mexico 2008

Caves aren't your only diving of choice, you dive wrecks and reefs in the ocean, what is the common link between all of your diving? Photography. On every dive I have a camera.

I enjoyed diving and underwater photography. Living so far from Mt Gambier meant that caves were not my sole underwater drug of choice. The wrecks off the NSW coast were closer to home. I enjoyed photographing the wrecks and developed techniques which enabled me to photograph large sections of the shipwrecks, in the low light of deep water, using the same methods a landscape photographer uses, a tripod, available light and long exposures. This allowed major structures to be recorded as they were seen underwater something not possible or very difficult using strobes.

I also enjoy photographing the natural history of our oceans, from the huge humpback whales through to the smallest nudibranch. Living near Port Stephens, in NSW, provided a number of easily accessible sites to dive where some of the weirdest creatures in Australia can be found. These dives are shallow so dives up to two hours can easily be achieved providing lots of time to search for and photograph subjects.

What has influenced your diving / photography over the years?

Pat Manly was my friend and mentor. He introduced me to photography and showed me many

of the basics. At the time I started with a Nikonos 4 film camera. Pat's favourite subjects were fish portraits. I tried to replicate his images with the Nikonos and extension tubes, it was very difficult but he helped me master this type of photography. When I bought my first 15mm wide angle lens it was Pat who explained how to balance light from the strobe and the background. In those days, pre TTL, this was something that many of the photographers of day had no idea about. I am very appreciative to have had such a great mentor and friend.

In the early 1990's I was in the right place at the right time when a small team of people began documenting McCavity cave at Wellington, NSW, with sponsorship from Australian Geographic Society. I dived with members of Sydney University Speleography Society and Sydney Speleography Society, we mapped, photographed and collected data from this beautifully decorated cave to use for the article and for different scientific and local government projects. I learned from this project that my diving and photography could make a difference, being used by scientists and to inform the general public about places that these people were unable to access. By providing photographs, I could influence the people making the decisions about these special areas with real views into what was beneath the ground and the surface of the water.

In 1995 – 1996 Andrew and Liz Wight gave me the opportunity of a life time, working as an underwater cameraman and production stills photographer on "The Adventures of Quest", an underwater natural history documentary series, based around the cutting edge science of the day. With a great core team of people and new specialized scientists for each new episode, I had experiences with Whale Sharks, Orca, Otters, Grizzle Bears, all kinds of sharks, Manta Rays, even managed to get bitten by a Freshwater Crocodile I was filming.

Working with the best people in their chosen

The torpedo tubes on the USS Aaron Ward, Solomon Islands 2009



Divers at McCavity cave entrance, Neil Centre front 2008

A creative time exposure



Lyn near Repunzle's Trusses, McCavity Cave



Neil helping prepare the submersible to dive while working for Quest Productions 1995

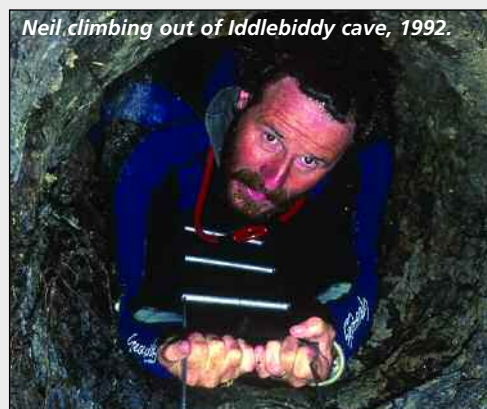
fields showed me that if you have an idea, you can achieve it. Some of the concepts that were envisaged (Andrew was the ideas man) seemed impossible, but with the genius of people like Ron Alum, Liz and Andrew and with lots of hard work, the impossible, became reality. Each life experience built on the last to keep me learning, evolving and I believe improving.

Describe briefly your life as a cave diver, where you ended up diving, were there any mishaps along the way and what were the highlights of your time in the sport.

To me being a cave diver is being a part of a team. Usually going for a cave dive involves other people who all support a common goal. Sometimes this may be as simply going for a dive together but more commonly it was to achieve a goal, create a photograph, collect data for a scientist or map or to explore and map new passage. I was lucky enough to belong to a small group of friends who enjoyed cave diving and generally having fun with life. Known collectively as The Limestone Cowboys (LSCB) within this group there were people with a lot of specific talent in different areas, dreaming up crazy ideas, exploring new passage and caves, collecting mapping data and creating very usable maps, photography, gear designing and logistics. So for me if I wanted to take a specific photograph in a cave and need lighting and a model, others in the group

would assist. I wasn't the explorer, Stuart McGregor, Mark Jobbins and Howard Smith were the explorers so the rest of the group would support their dives. I was a photographer so I would come along later to the newly found area and photograph it.

On day number one, Andrew Wight told me that "you did not have accidents on cave dives, you had fatalities". I heeded his warning and was always careful, as I believe luck has very little to do with anything I do, it is thinking logically, slowly acquired skills and experience. This is probably why I was a photographer not a push diver. Logically, no one would knowingly move rocks to open a new passage underwater, would they???



Neil climbing out of Iddlebiddy cave, 1992.



Having said that, I have still had incidents in caves, ones from which I have gained a lot of experience. The most memorable was when we were trying to relocate the main cave on Cave Island in Burrinjuck Dam. Vis was almost zero and on day number one we had been trying to find the entrance passage at the back of the large cavernous entry to the cave. A number of divers had laid line during the day but only one was successful in laying line into the ongoing passage. On day



Neil holding his frozen wetsuit at McCavity Cave, Wellington NSW 2006.



Our first trip to the Nullarbor, the full crew Lyn, Gordon (brother) & Neil with all the gear just removed from Tommy Grahams Cave Western Australia 1992

number two, Greg Ryan and I dived first, to remove all the redundant lines and set the correct line. We were out of sight of each other, the main line had been set and I was reeling in a redundant line when I dropped the reel, I grabbed for it but missed, in doing so I had also moved out of view of the main line. I was in mid water inside the mouth of cave, off the line. I considered this to be a bad situation. I inflated my wings to take me to the roof to get a point of reference. I checked my

air supply and then thought, which way is out, as I would not get too many chances. Before the dive we had checked the old survey maps made by the cavers prior the cave being flooded, I had noted and pointed out to the other divers that the mouth of the cave was oriented to a certain compass direction, this was the way out.

Recalling this, I looked at my compass and put all my faith in it, I moved forward slowly rechecking after each move until I noticed that my bubbles were running along the roof. The roof turned to a wall and I was out. This may have taken only a few minutes but it seemed like a lifetime. On the surface I was told that Greg had already surfaced and was looking for me. When he could not find me, he had followed the line back down, I dived again along the line until we met, we surfaced together.

Do you live by any rules and what would you tell youngsters getting in to the sport?

Lyn and I dive by this rule, it was also used by the LSCB's.

"Any person can call a dive, at any time, for any reason and once out of the water, no one will ask why."

Following this rule removes peer pressure on a diver, allowing them to call a dive, for any reason they deem logical. Ninety nine percent of the time the person calling the dive will tell their buddies why they called the dive, low on air, mask flooded, pee valve flooded, I was scared, too silty but by not having



Bil Phillips, looking at Mayan pots in the Temple of Doom, Mexico



A self portrait in Weebubbie Cave, Nullarbor



John Riley, Mark Spencer, Tim Hyndes & Neil after diving the Keilawarra 2004

to disclose the reason, they are not pressured into continue diving with the perceived or real issue. An issue which could lead to a fatal mistake all because of fear of feeling belittled after the dive.

I think I may have seen this line in an Aqua Corp Magazine but it has stuck with me. Bob Dylan once sang "to live outside the law, you must be honest (to yourself)". When I started diving there were no rules, no dive associations, no instructors, no Work Cover, no OH&S, we were the law, we made the rules, so when the diving training agencies were developed, it was hard for us to comply with the new rules being made. Even now, as the cave divers, rebreather divers and deep wreck divers, you are not diving within the socially accepted bounds of recreational diving so the only person you must be totally honest with, is yourself. Think each dive though before you dive, if you don't think you are totally capable of completing a dive safely, step back, don't dive.

If you had your time all over again, would you do anything differently?

Definitely, I should have gone to Florida before I went to Mexico. Now I will never see Florida.

From Neil...

Thank you David & the CDAA for asking me to give others an insight into my diving life. It has been good thinking back over where it all began, how cave diving has shaped my life & all the people with whom I have shared this great adventure.

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Pannikin Plains Cave – An important & fragile ecology

by Stefan Eberhard

Pannikin Plains Cave is one of the most interesting and significant caves in the Nullarbor karst. Its significance and interest, from both scientific and conservation perspectives, relates to its ecology, geomorphology and hydrology.

This first article in Guidelines briefly describes the ecology of the cave and ways to minimise the impact of cave diving activities on its vulnerable fauna and habitats. A second article in a subsequent Guidelines will explore the fascinating geomorphology and hydrology of the cave. The aim of both articles is to inform CDAA members of the cave's natural values and conservation importance, and hopefully contribute to minimising the inevitable impacts that will result from increased cave diving visits.

Cave Environment

Why is Pannikin Plains Cave so ecologically significant, and how does its ecology differ from other Nullarbor caves? The answers to these questions are embedded in the caves unique physical form and the effect of this on cave climate and habitat suitability.

Pannikin Plains Cave may be categorised as a 'deep high plain' type of cave. As the term suggests, the deep high plain caves are located on the high plain (Hampton Tableland) section of the Nullarbor karst, and they extend to depths approaching or intersecting the regional watertable which lies just above sea level. The deep high plain caves typically have large collapse doline entrances and a correspondingly large trunk passage descending steeply towards the watertable level. Besides Pannikin Plains, Cocklebiddy, Weebubbie, Warbla, Murra el Elevyn, Koonalda and Mullamullang are classic examples of this type.

Because of their large and generally open passage forms the climate inside the first few hundred metres of these deep caves, especially temperature and humidity, varies strongly in response to changes in surface climate. Ignoring for the moment, the complicating effect that barometric pressure changes have on cave 'breathing' and cave climate, in winter, dense cold air flows down slope under gravity and settles at the bottom. Cold air holds less moisture than warm air, causing evaporation of water when the cold air contacts warmer moist surfaces in the cave. This is why the lake chamber in Cocklebiddy Cave, for exam-

ple, is so cold and dry in winter. The first sump in Cocklebiddy is additionally chilled by rain water inflows from the surface.

The climatically variable environment found in the 'front end' sections of the deep caves, especially the cold dry 'winter effect', has consequences for the ecology. Cave adapted fauna (trogllobites) prefer environments with a relatively stable climate, and most especially a very high humidity (> 99%). Because of their reduced ability to withstand desiccation, trogllobites cannot survive for extended periods in low humidity. The sections of Nullarbor caves which harbour trogllobites have a stable climate and high humidity, and most often these are moist shallow caves with small entrances and food sources such as tree roots, or the inner sections of deep caves.

On the high plain there are two interesting exceptions, Tommy Grahams Cave and Pannikin Plains Cave. Both caves have constrictive passage configurations that effectively block the inflow of cold dry winter air, and thus the bottom lake chambers in each have a stable, warm and humid environment year-round. This is ideal for trogllobites, but why have no trogllobites ever been recorded from the entrance lake chamber in Tommy Grahams Cave, while Pannikin Plains Cave has at least five trogllobitic species? I wonder if it has something to do with food supply because both caves contain large deposits of bat guano, which is a rich food source for cave dwelling invertebrates, however the guano deposits in Tommy Grahams are old and no fresh

guano is being deposited since the bats abandoned this cave sometime in the past. When, and why, the bats abandoned Tommy Grahams Cave remains unclear, although human disturbance might not be ruled out? In contrast, Pannikin Plains Cave currently harbours a bat colony and fresh guano is being deposited which provides a food base for trogllobites. Thus the unique combination of cave form, and the fresh bat guano food supply, distinguish the environment and habitat in Pannikin Plains Cave from most other Nullarbor caves. Of more than 150 Nullarbor caves which have been sampled for cave fauna, Pannikin Plains Cave is ranked in the top ten most significant in terms of cave biology (Subterranean Ecology 2007).

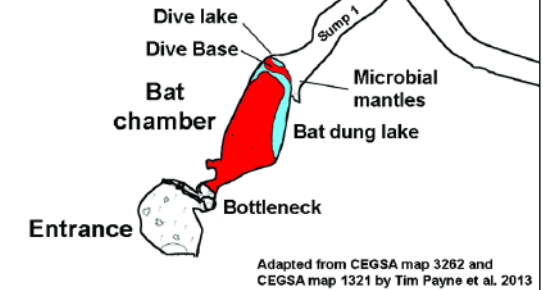
Bats

Pannikin Plains Cave is an important roosting site for bats. The species is probably the Chocolate wattled bat *Chalinolobus morio*, which is known to roost, breed and spend winter in about a dozen Nullarbor caves. Caves are critical habitat for this species. At least three caves, Warbla, Weebubbie and Murra el Elevyn, are maternity caves for this species. The maternity caves contain lakes and chambers with domed ceilings which trap warm and humid air that is critical for rearing the young bats, which are born hairless and cannot fly. Maternity colonies are extremely vulnerable to human disturbance. Other caves may be used by female bats as 'staging caves', where female bats take their young before they are fully independent. Staging caves are



Blind centipede, unidentified species of *Cryptops*. The first specimen from Pannikin Plains was collected in 2013 and it is not yet known if this is the same or different to a species described from the Roe Plains. The specimen shown in this photograph is from Weebubbie Cave. Photo by Liz Rogers.

Pannikin Plains Cave Simplified plan entrance to bat chamber & dive lake



Adapted from CEGSA map 3262 and CEGSA map 1321 by Tim Payne et al. 2013

Simplified plan of the 'front end' of Pannikin Plains Cave highlighting the lakes (blue), bat chamber and trogllobite habitat (red).

also critical habitat and very vulnerable to disturbance. Pannikin Plains Cave is not known to be a maternity cave, however its potential use as a staging cave remains an open question, as does the importance of the cave for bats during winter. Irrespective of these uncertainties, a significant colony roosts in the permanently warm and humid lower lake chamber, and a few individuals spend winter in the cool upper level passages.

All cave dwelling bat populations are very vulnerable to repeated human disturbance. Every time bats are disturbed they burn up valuable energy reserves which

decreases their chances of survival over winter when they go into a state of torpor. Bats aroused from torpor also burn up their energy reserves and are especially vulnerable. Bat colonies that are repeatedly disturbed may abandon their cave and not return.

The bat colony in Pannikin Plains Cave is not always obvious because it is located high up in the roof of the lower lake chamber, however the bats are easily disturbed by the lights and noise made by people anywhere in the lower chamber. If not mindful of the bats presence, cave diving groups have greater likelihood of disturbing the bats because they are focused on moving heavy dive equipment through the cave, which can be

a noisy process involving the banging of tanks and loud talking to communicate over distances. Disturbance of the bats can be reduced by not shining lights on them, and being as quiet as possible.

Bat guano habitat and troglobite community

The deposits of bat guano in Pannikin Plains Cave occur in the lower lake chamber including in the area where divers like to spread out their gear (Fig XX). The guano habitat, which is limited in area, supports a community of rare troglobitic species. The floor-dwelling troglobites are especially vulnerable to being trampled underfoot, and the soft guano habitat is prone to compaction and hardening after repeated trampling. Compacted guano appears to be less suitable as habitat for guano dwelling fauna. Besides protection from trampling, maintenance of the guano habitat also demands protection of the bat colony which supplies the fresh guano that feeds the guano community.

Troglobitic Species

To date, five species of specialised troglobitic invertebrates have been recorded from Pannikin Plains Cave, comprising two species of isopod (*Abebaioisia troglodytes* and *Plymophiloscia* sp.), a blind hunting spider (*Janusia muiri*, Fig B), a blind centipede (*Cryptops* sp., Fig C) and a pseudoscorpion (*Troglochernes imitans*). The most important of these species, in a legislative sense, is the Pannikin Plains Cave isopod, *Abebaioisia troglodytes* (Fig D) which is listed as 'Vulnerable' on Schedule 1 of the Wildlife Conservation Act 1950. It is considered vulnerable because of the threat of trampling and degradation of its guano habitat, and because it is only known in two caves in the Nullarbor karst, Pannikin Plains Cave and Murra-el-Elevyn. The other four troglobitic species, may not have such a restricted distribution as the isopod, however they are also vulnerable to trampling and degradation of the guano habitat, where they are most often found. In addition to these troglobites, another seven species of cave dwelling invertebrates have been recorded, including cave crickets, beetles, spiders and pseudoscorpions.

Stygofauna

Stygofauna are aquatic animals that live in groundwater. Stygofauna were first collected from Nurina Cave in the Roe Plains in 1982, and so the apparent absence of stygofauna in the deep high plain caves long puzzled cave biologists until 2013 when microscopic crustaceans were first collected in Weebubbie Cave (see Guidelines No. 123, March 2013). Shortly afterwards stygofauna were collected in Pannikin Plains Cave. The Pannikin Plains specimens (Fig E) still await complete

identification but they are certainly a different species to that collected in Weebubbie. Diving may not adversely impact stygofauna directly but it certainly has the potential to cause indirect impacts to fragile habitats, such as submerged tree roots, through turbulence caused by finning movements and regulator exhaust bubbles. Tree roots are evidently not encountered in the deep caves, as they are in the shallow caves, however microbial mantles are present in most underwater caves on the Nullarbor and these unique bacterial communities deserve to be treated with care and respect by divers.

Microbial Mantles

Microbial mantles or 'slime curtains' are present within lakes and water filled passages of both the Nullarbor high plain and Roe Plains caves. The term 'cave snot' is also popular amongst cave divers although the vulgar association with nasal mucus is disrespectful of their true nature and significance. The mantles are composed of biochemically novel communities of bacteria that get their energy from chemicals (nitrite and ammonia) that occur in the rock or the groundwater. Similar extremophiles (organisms living in extreme environments) are found in deep sea hydrothermal vents, hot springs, and in a few 'sulphur caves' which are isolated from organic carbon sources. These types of extremophile bacteria are widely considered as akin to the earliest forms of life on Earth. The Nullarbor microbial mantles are analogous to these chemically-based ecosystems, but they are significantly different in terms of the types of bacteria.

In Pannikin Plains a small colony of microbial mantles occurs on the roof of an alcove at around 8 m depth in the Sump 1 diver's entry lake. This small colony has been observed on previous expeditions over the years. This colony is reasonably safe from disturbance, as long as divers are mindful of its location and high significance, this being the only known site in Sump 1. No other mantle colonies have been observed anywhere in Pannikin Plains, excepting a small colony observed periodically on the dive guideline in Sump 2 near the Oval Room (Tim Payne pers. comm.).

Conservation Practises

The major threat to the fragile ecology in Pannikin Plains Cave is human visitors. Following the dramatic cave collapse and self-rescue by cave divers in 1988, Pannikin Plains has remained well-protected from excessive visitation over intervening decades because access has been strictly limited to a handful of exploration, mapping and research expeditions. Even if good caving practises are strictly adhered to there will be inevitable impacts to the cave ecology with the opening up of the cave to increased access for cave diving.



Blind hunting spider, *Janusia muiri*, endemic to Nullarbor caves. Photo by Subterranean Ecology.



Pannikin Plains Cave isopod, *Abebaioisia troglodytes* listed as 'Vulnerable' on Schedule 1 of the Wildlife Conservation Act 1950. Photo by Subterranean Ecology.



Fig E. Microscopic copepod crustaceans first collected from Pannikin Plains Cave in 2013. These specimens are almost invisible to the naked eye. Photo by Subterranean Ecology.

The impacts will be cumulative and potentially irreversible; and because the changes may be subtle and gradual they may take many years to become fully evident.

How can cave divers help to conserve and minimise their impact on this fragile and important cave ecosystem? To keep the impacts within limits of acceptable change (albeit what these limits are remains an open question for investigative monitoring) it would be advisable for a number of conservation practises to be applied, including:

- Avoid disturbing bats. No lights to be shone directly at the bats. Talk quietly, and minimise loud noises in the lake chamber where bats are present.
- Avoid trips to the cave during times of the year when bats are more vulnerable. The most vulnerable times for bats in Pannikin Plains, if indeed there are times when the bats in this cave are more vulnerable than at other times, remains an open question.
- Keep to the marked route through the lower chamber and respect the stringline "barriers" installed to protect the guano habitat and fauna from trampling.
- Remain alert and on the lookout for cave invertebrates, to avoid trampling them, especially below the bottleneck and throughout the lower chamber. Cave fauna are attracted to the dive base area when divers, equipment and food are present. Check underneath your gear when moving it. Don't drop food crumbs or leave unsealed food, scraps and food wrappings (even in zipped lock bags) in the cave.
- Follow the Australian Speleological Federation (ASF) Code of Ethics and Minimal Impact Caving Codes (ASF and CDAA).

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IN OUR SEPTEMBER 2017 ISSUE:

Majical México

Look out next issue of Guidelines for a fantastic overview of Mexico's Yucatan Peninsular and many of its magnificent Cenotes.

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Venturing into the Minotaurs Labyrinth

A pictorial story by Michael Mallis

Making my way across the Eyre Highway to the Nullarbor desert and across two states from Victoria I couldn't help thinking I've done this before; and indeed I had, ten months earlier to be precise. Two trips in one year seems extravagant but what the heck, I was visiting two new sites over two weeks in Weebubbie and Murra El Evelyn, but it was made more special by having the company of two world renowned divers in the form of Don and Andre Shirley. Don and Andre had recently attended the CDAA's annual conference as guests of the CDAA which was held in conjunction with the AGM in Mt Gambier on October 2016. Their talks and presentations on diving South African caves gave us a unique insight into the different challenges involved in diving these sites.

What made this trip special for me was the thrill of exploring new dive sites and as always the camaraderie and new friendships that one forges along the way. This pictorial will give those unfamiliar with these cave sites an insight into what to expect.

Weebubbie is about five kilometres north from Eucla town along a dusty and corrugated dirt track. Ideally this is all-wheel drive territory but with care a normal two-wheel drive car can make the trip.

Murra El Evelyn is but five kilometres from the Cocklebiddy road house and off the Eyre Highway along a 1300 metre dirt track. So close is Murra El Evelyn to the highway that you can see and hear passing traffic from the camp site but it's not intrusive as you might imagine.

The day before leaving the Nullarbor a few of us took a short trip to Cocklebiddy cave for a visit. This was possible because we had a permit to do so otherwise it is not open to the public. We used a ladder to get down a ledge to the top of the rock slope which led all the way to the water's edge, some 200 odd metres, which

resembled more like a sandy beach not out of place on a coastline.

After leaving the cave Joe displayed an awesome feature of his vehicle by proceeding to make hot coffee for everyone from his coffee machine, nice one Joe. Needless to say it was well appreciated as the cool dusk air was fast settling upon us whilst watching a beautiful sunset over the desert scrub, memorable stuff.

Travelling back to Melbourne was done in 23 hours over two days with a stopover at Mildura. No mean feat but I'd done this before and knew the route to take stopping off occasionally for a convenience stop.

Overall I heartily recommend diving the Nullarbor at least once but be warned, Weebubbie and Murra El Evelyn are arduous for the ill-prepared and if not dive-fit or at least reasonably agile you'll find the going a bit tough. Be prepared to be thrilled, excited and amazed at where cave diving can lead you.

There is a Vimeo of the whole trip for those who wish to look it up. The link is:

<https://vimeo.com/204268886>



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Don and Andre Shirley at Cocklebidy



Cocklebidy Bar



Looking out towards Cocklebidy cave entrance



Entrance to Cocklebidy cave



Rigging set up at Murra El Evelyn



Cocklebidy water edge with Steve Coulter

GOING EAST		GOING WEST	
COCKLEBIDDY TO		COCKLEBIDDY TO	
	KM		KM
MADURA	91	CAIGUNA	66
MUNDRABILLA	207	BALLADONIA	248
EUCLA	275	NORSEMAN	438
BORDER VILLAGE	287	WIDGIMOOTHA	528
NULLARBOR	471	KAMBALDA	574
VALATA		KALGOORLIE	632
NUNDROO	616	COOLGARDIE	613
PENONG	694	SALMON GUMS	533
CEDUNA	767	ESPERANCE	641

Caiguna	Border Village	Border Village	Caiguna
40 min	40 min	45 min	45 min

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Hauling gear at Weebubbie



Waters edge at Weebubbie



Scaling down ladders at Weebubbie



Murra El Evelyn camp at night



Half way down inside Weebubbie cave with flying fox visible

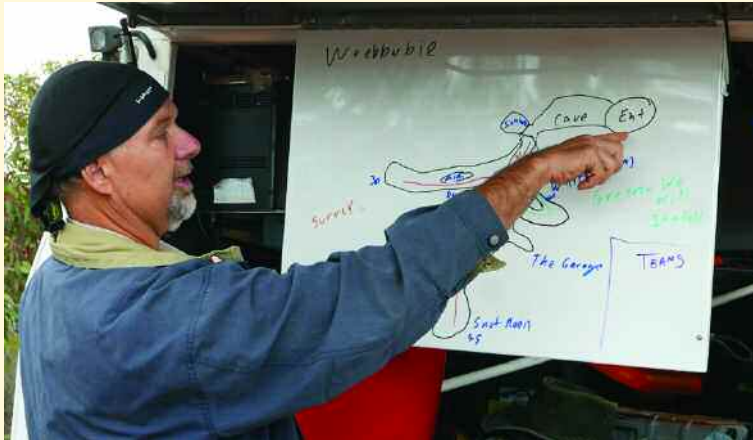


Ladder at Murra El Evelyn

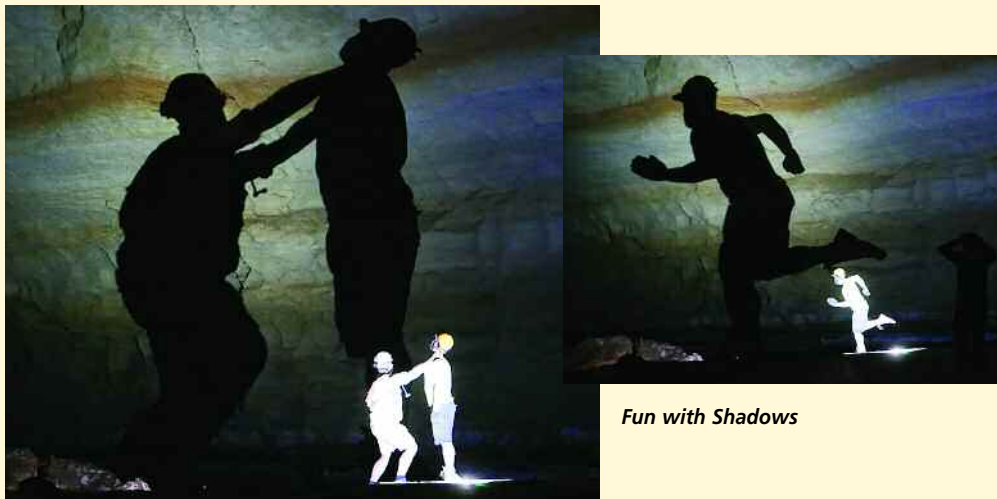


Preparing to haul gear out of Weebubbie

Joe's pre-dive brief for Weebubbie



Joe Don and Andre enjoying hot coffee at Cocklebidy



Fun with Shadows



Murra El Evelyn camp site

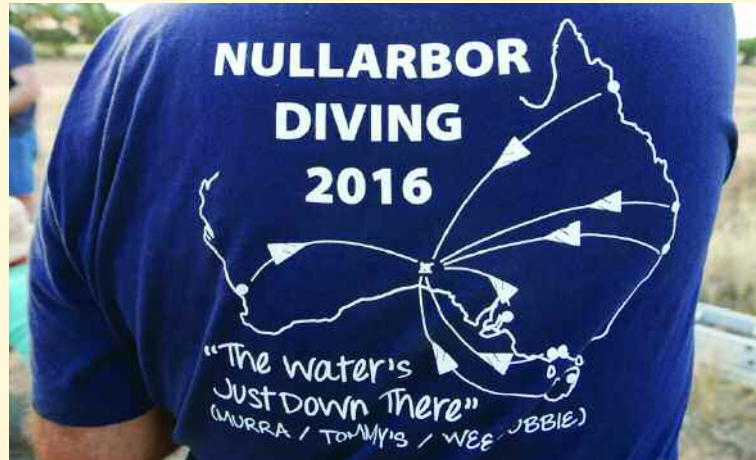


Tom Gower making his way down and into Weebubbie entrance



Campfire at Weebubbie

The trip t-shirt



Tripod set up at Weebubbie with camp site in background



Yes all this did manage fit into my car



Watching a Cocklebiddy cave sunset atop Joe Biancis truck

SOUTH AUSTRALIAN REBREATHER NIGHT

By Meggan Anderson

On 11 May, CDAA member James Manna organized an evening of talks in Adelaide about rebreathers. James purchased a rebreather two years ago and is trying to build connections for current and prospective rebreather owners in South Australia. Currently the rebreather community in Adelaide is small, with the assumed reasons being the lack of depth in Adelaide dive sites. Some rebreather owners brought their units along for the audience to view. Around 20 local divers attended, who were mostly CDAA members of diverse ages, qualifications and experiences. While only a small number of the group were rebreather owners, the audience indicated that they had attended to learn more about them, with some considering purchasing one in future. For me personally, I attended because my idea of a scrubber is something you use to clean the tiles with. There have been odd occasions where I have been buddied up with a rebreather diver and I think it's useful to have some idea of what the machine entails. Also, when you are hanging out with technical divers, socially it helps to understand some of what they are talking about rather than just nodding and smiling.

The first talk was by fellow CDAA member Richard Harris (and Oztek Technical Diver of the Year 2017), who presented "Choosing the Right Rebreather - Confessions of a Rebreather Addict." Richard explained that he is qualified to talk about rebreathers because he has tried and bought so many of them! Since 2003, he has used 12 different types of rebreathers. He emphasized that he is not aligned with any brand and feels they are all in essence safe and capable. Richard's interest in rebreathers stems from his interest in exploration and filming. For him, rebreathers open more possibilities in these areas. Richard started off by explaining what a rebreather is, how it works and what the characteristics are of an ideal unit. He also briefly touched on the history of rebreathers. Then he spoke of "The Good, the Bad and the Ugly." One of the pros that appealed to me is the absence of bubbles, which he said is great for caves, wrecks and fish observation. One thing I was not aware of however is that sharks are more likely to approach you due to the absence of bubbles. I also liked the idea of reduced deco

and having an optimum nitrox mix at every depth. In terms of the cons, obviously the cost was a con and also that the machines can be complex and annoying, which sometimes results in missed dives. And then "The Ugly:" people are 10 times more likely to die on a rebreather than open circuit. To counteract this, Richard emphasized that he is overly vigilant.



Steve Williams introduces us to KISS Spirit Sidewinder. Photo by Meggan Anderson.

Richard then touched on the different brands and types of rebreathers (including the difference between manual and electric) before leading into the conversation around how to choose one. He felt the right person for a rebreather is someone who is vigilant and obsessive with a touch of skepticism and cynicism. My translation of this was that if the machine was not functioning properly, that you don't have the attitude of "she'll be right" but instead think, "I need to work out what is wrong with it otherwise it'll kill me." He also felt you should have realistic goals or reasons for purchasing it. He said it's also good to buy one that you know other people dive with so that you can get advice while you are learning and that a local instructor for that unit is ideal. Other considerations included after sales service, budget and field servicing (i.e. how easy is it to fix in the middle of nowhere). To conclude, Richard said anyone can strap on a rebreather and dive to 200m, coming back to the surface was the challenging part.

The next talk was by another CDAA member, Steve Williams, who owns a KISS Spirit Sidewinder, the new younger sibling of the KISS Sidekick. The name conjures up images of a sleek sports car, which wouldn't be too far off – it's a sidemount rebreather that is streamlined, minimalistic, compact and light, weighing in at less than 10 kilograms (most rebreathers weigh twice as much). It is therefore great for travel. Steve is possibly one of the first people in Australia to own one and completed his training for the unit in Florida. Training on these units is not yet available in Australia. Steve likes that it does not require any tools, which means it's convenient for field repair. Steve also showed some photos and videos of how it looks in the water. Steve's presentation was quite interactive with lots of conversation and questions throughout.

The night then progressed into pizzas and drinks, during which Richard Harris gave an overview of the M3S Triton (a chest



Richard Harris presenting. Photo by Damian Bishop.

mount rebreather). This was followed by some socialising and viewing of the rebreathers on display including the KISS Sidekick and Sidewinder, the rEvo, Twin Megalodon, JJ and SF2. Thanks to James Manna for organising a great evening, to the presenters and to all those who let us view and "play" with their rebreathers. Some participants were keen to eventually purchase their own, while some (including myself) realised with the machine comes great responsibility and meticulousness and would have to sleep on the idea a lot!

The CDAA state representative for South Australia, Damian Bishop, is keen to hear from any South Australian members who have any ideas or want to organise any events or talks related to cave or technical diving – including those who have skills, knowledge or interesting experiences they are willing to share. Contact him at sarep@cavedivers.com.au



Stella Del Curto

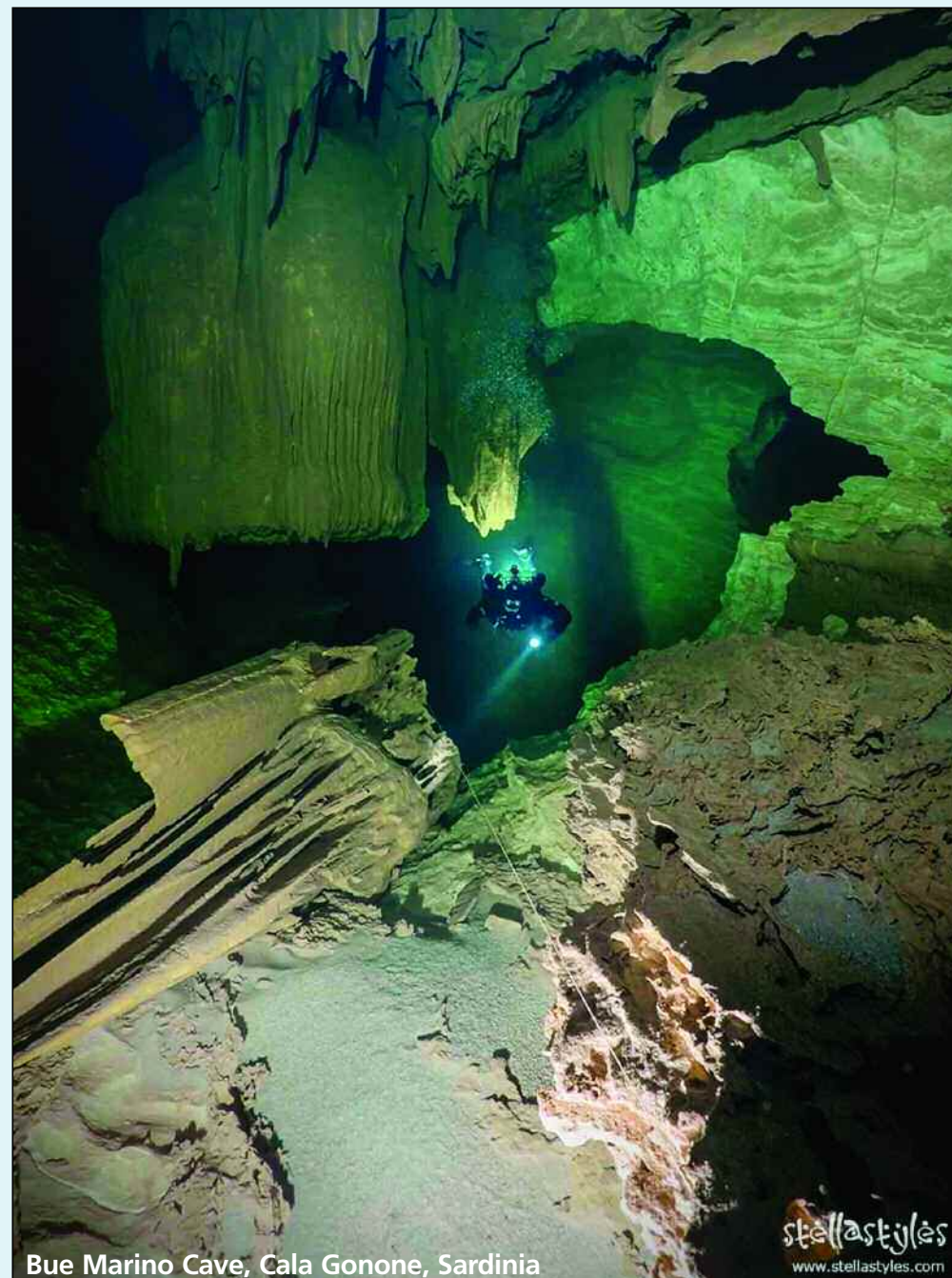
SWITZERLAND



The dive site starts from the sea, on the Sardinian coast. By going inside, you pass around 20-25 minutes into the salt water, where you have a milky visibility due to hydrogen sulfide, and then you reach the freshwater where you get both halocline and thermocline. The water becomes clear and with very good visibility, but also colder. In the freshwater part big decorations and rooms can be found, it's a majestic cave. Some parts of the cave have air domes above, that creates nice light effects. After about 60 – 70 minutes you reach the end of the mainline: you can surface in a dry part and take a look. The caves after continues but you need some special equipment for go on.

Camera system: Nikon D7100 with Nikkor 10.5 mm and Easydive Leo II housing, 3x Inon Z240 strobes (+ 1 pic with also Sea&Sea Y90 Strobe)

Bue Marino Cave, Cala Gonone, Sardinia



Bue Marino Cave, Cala Gonone, Sardinia

We introduced Stella in our March issue. She is an avid diver and underwater photographer. She was kind enough to allow us to feature some of her work from dives in Mexico and Europe. View her website at www.stellastyles.com



Adrianna's Room, Carwash, Tulum, Mexico

stellastyles
www.stellastyles.com



Grand Canyon line in Camilo Cave, Mexico

stellastyles
www.stellastyles.com

The dive site starts in a beautiful open water pool called cenote Muchachos, from there you can dive the Camilo cave. It's a very well marked cave: mainline starts in open water and following it for about 20-25 minutes you enter into the "Grand Canyon" zone, where these pictures were made. The cave presents also a lot of fascinating jumps, all of them marked with a specific name. I dived the "Black Forest" jump and it's really nice as well, although very dark (as the name can suggest). Other beautiful jumps are "Dark side of the moon" and "Kilimanjaro". The average depth is about 15 meters.

Camera system: Nikon D7100 with Nikkor 10.5 mm and Easydive Leo II housing, 3x Inon Z240 strobes



Verzasca river, Ticino, Switzerland

The dive site starts in a freshwater river called Verzasca. This river flows down to the valley till the Lake Maggiore, passing through an artificial lake where there's one of the biggest dams in the world, that has been also used for some scenes in the Goldeneye movie of James Bond. There are more than one spot that can be dived into this river, the one shown in the pic starts in the little village of Lavertezzo and pass below an ancient Roman bridge. Water is crystal clear with beautiful light effects when sun shines high in the sky. It's quite a famous spot here, lot of people coming from Italy, Germany and in general from Europe aims to dive here. The dive is quite easy but you have to be aware that it's a river and that the flow can grow up quite fast. There are some places that you must keep as limit where do not pass, otherwise the flow can caught you. The average depth is about 3 meters.



Goul du Tannerie cave, Bourg Saint-Andeol, Ardeche, France

The dive site starts near the old laundry of Bourg Saint-Andeol, a little town of the Ardeche district, in France. The entrance is in a small pool that requires to be careful because the rocks can be slippery. The cave goes inside for about 700 meters on an average depth of 3 – 4 meters with some spots where you touch 8 meters, then you reach a vertical hole and you can go down up to 40 meters. After this a small horizontal tunnel starts and then sink down again until 80 meters, and then again up to 100. The cave is little more wider than tall, and some restrictions are present.



The Pit Cave, Mexico

The dive site starts in a deep Cenote, this pool goes until around 30-35 meters and a lot of open-water divers dive here too, because the cavern part is beautiful and when the sun is high in the sky creates beautiful lights effects. The mainline starts around 14 meters depth, a bit inside the cave. If you have never been there you need to have someone that explain you how to find it because there are some other lines that can create confusion. Once inside you have a beautiful cave, bit less decorated than others but always fascinating. Some prehistoric animal bones can also be found inside this cave.

Camera system: Nikon D7100 with Nikkor 10.5 mm and Easydive Leo II housing, 2x Inon Z240 strobes + 1x Sea&Sea Y90 strobe



Jail House Cave, Mexico

The dive site starts in a muddy and smelly pond, well inside the jungle. The cave entry is small and often with bad visibility, so it's required to enter in touch contact with the mainline. Once inside you reach quite immediately a T: by going left you first dive into a freshwater part, with dark walls and, depending by the conditions, with tannic water. After about 20 minutes and after passing other two T's you reach salt water, and everything becomes crystal clear blue. The picture has been made there, and show perfectly the yellow freshwater layer above and the blue salt water layer below.

This cave presents a lot of very beautiful passages and jumps, but you need to have a map in order to navigate it.

**Bel Torrente cave, Cala
Gonone, Sardinia**



Like for the Bue Marino, also Bel Torrente starts from the sea, on the Sardinian coast. By going inside, you pass around 35 minutes into the salt water, where you have a milky visibility due to hydrogen sulfide, and then you reach the freshwater: also here you get both halocline and thermocline and the water becomes clear but cold. It's a less decorated cave than Bue Marino and also bit smaller, but always fascinating and with cool light effects when air domes are present.

Camera system: Nikon D7100 with Nikkor 10.5 mm and Easydive Leo II housing, 3x Inon Z240 strobes



Isonzo wreck, southern Sardinia

The Royal Ship Isonzo sank the 10 April 1943 in the Gulf of Cagliari, near Torre delle Stelle, torpedoed by the British submarine Safari. In the same night this submarine has torpedoed and sunk also the Loredan and the Entella, that are lying not far from this dive site. The wreck lies on the starboard side on a sand bottom on a depth range that goes from 40 to 56 meters. The structure is very impressive, there are still the cannon that points toward the surface and also the bridge and the prow are very fascinating.

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CDAA SITE ACCESS - 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
MT. GAMBIER - SA Ewens Ponds	Nil	DEWNR	Groups of 6 or more, phone DEWNR on (08) 8735 1177 for booking. Smaller groups, no need.
Gouldens	CN	DEWNR	Phone DEWNR on (08) 8735 1177 for booking.
2 Sisters	CN	DEWNR	Generate a DEWNR Permit from www.cavedivers.com.au and either post to DEWNR (PO Box 1046 Mt. Gambier SA 5290) or hand deliver (11 Helen St, Mt. Gambier) before a booking can be made. A CDAA Membership card must be carried at all times. Training: Instructor must generate DEWNR permits from www.cavedivers.com.au for their students and submit to DEWNR before use of the site.
Fossil	C		
Piccaninnie Ponds	S	DEWNR	Bookings can be made online from www.cavedivers.com.au
Horse & Cart Tea Tree	CN CN	Dale & Heather Perkins Dale & Heather Perkins	Phone (08) 8738 4083 or email dhperkins@bigpond.com at least 24 hours in advance.
Little Blue	S	District Council of Grant	Booking can be made online from www.cavedivers.com.au .
Allendale	C	District Council of Grant	
Ela Elap	S	Dean & Carol Edwards	Obtain key from Management at Bellum Hotel.
One Tree	S	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 CDAA website).
Hells Hole	S	Forestry SA	Booking can be made online from www.cavedivers.com.au . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
Pines	C/AC	Forestry SA	Bookings can be made online from www.cavedivers.com.au . Cave Rated divers cannot enter Advanced Cave Section of Pines.
Mud Hole	C	Forestry SA	Bookings can be made online from www.cavedivers.com.au
Nettle Bed	AC	Forestry SA	Bookings can be made online from www.cavedivers.com.au . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
Stinging Nettle Cave	AC	Forestry SA	Bookings can be made online from www.cavedivers.com.au . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
Iddlebiddy	AC	Forestry SA	Bookings can be made online from www.cavedivers.com.au . Show ForestrySA Permit to obtain key from Lady Nelson Tourist Ctr.
Kilsby's	S	Graham Kilsby	Bookings can be made online from www.cavedivers.com.au .

CDAA SITE ACCESS - www.cavedivers.com.au

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SITE	LEVEL	OWNER	ACCESS DETAILS
MT. GAMBIER - SA (continued) The Shaft	S/C	Trevor Ashby	Booking can be made online from www.cavedivers.com.au . Landowner mandates Dive Supervisors (with their own Insurance) leading all dive trips.
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 www.cavedivers.com.au and email to council@wattlerange.sa.gov.au . 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	CDAA	Bookings can be made online at www.cavedivers.com.au . An email to the Tank Cave officer is required to dive. Booking Officer is Noel Dillon Email: tankcave@cavedivers.com.au
Baker's Cave	C	Janet & Bruce Saffin	Bookings can be made online at www.cavedivers.com.au . An email to the Tank Cave officer is required to dive. Booking Officer is Matthew Skinner. Email: bakerscave@cavedivers.com.au Climbing equipment required. One member must have previous dive experience at site.
NULLARBOR - WA			
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. Phone: (08) 9083 2100.
Tommy Grahams	C	WA Dept of Parks & W/Life	
Burnabbie	AC	WA Department of Lands	Apply in writing or email for permission to dive at least four weeks in advance of trip.
Olwolgol Cave	AC	WA Department of Lands	Miss Shannon Alford, Email: Shannon.alford@lands.wa.gov.au Phone: (08) 6552 4661 Fax: (08) 6552 4417 P.O. Box 1143, West Perth WA 6872.
Weebubbie	S/C	WA Department of Lands	A site indemnity form must be filled out for each visit to the site. Diving permission acknowledged by official letter from Land Owner.
WELLINGTON CAVES - NSW			
Limekiln (McCavity) Cave	C/AC	Wellington Caves Management	Access coordinated by Greg Ryan Email: giryan@gmail.com 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: giryan@gmail.com Ph: (02) 9743 4157 Affected by high CO ₂ levels during Summer/Autumn.