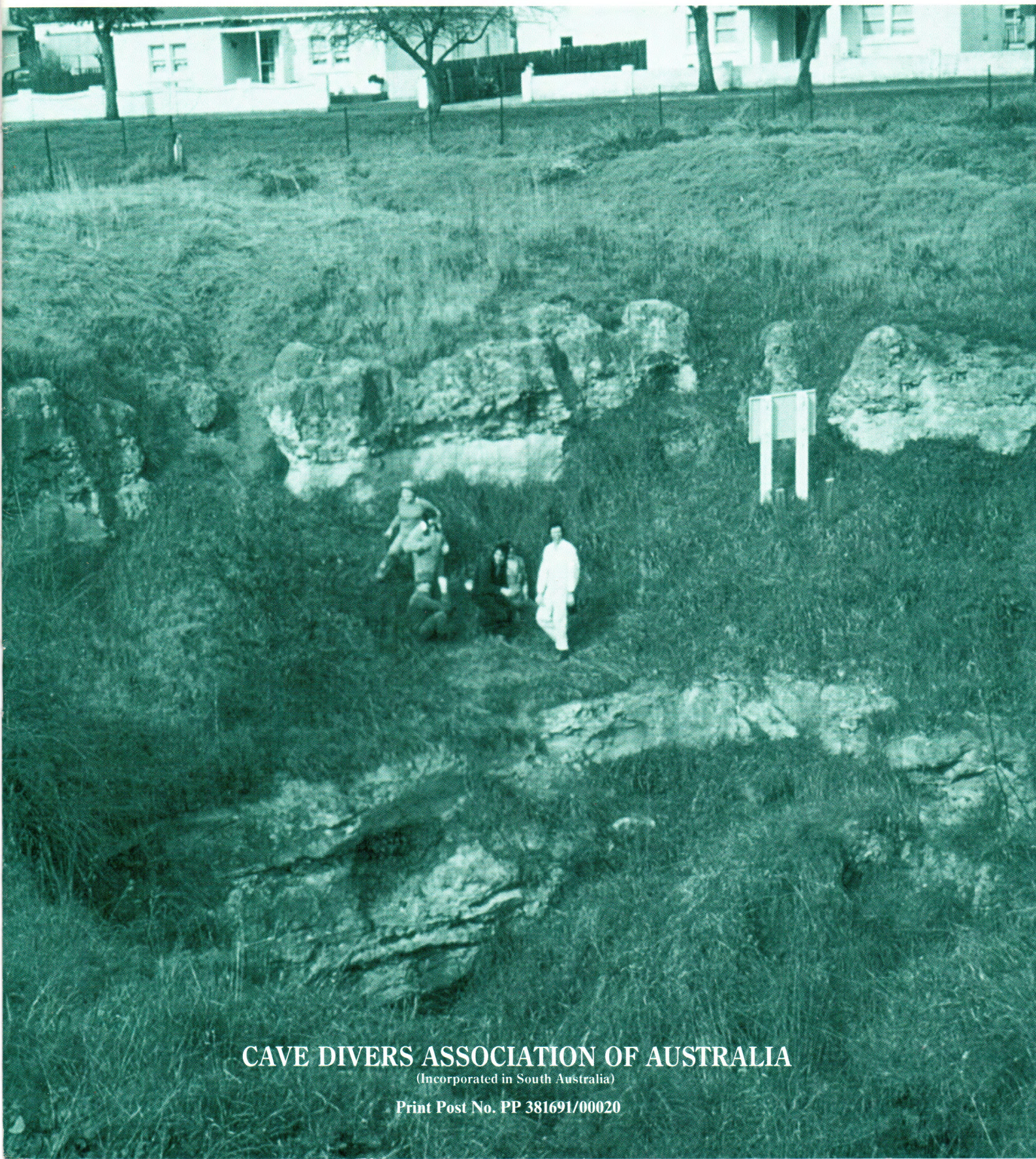


GUIDELINES

AUTUMN 1995 — ISSUE No: 55

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CAVE DIVERS' ASSOCIATION OF AUSTRALIA

P.O. BOX 290, NORTH ADELAIDE, S.A. 5006

GUIDELINES is the newsletter of the Cave Divers' Association of Australia, published four times a year — March, June, September and December. All articles for the following issue are to be sent to the Editor, John Vanderleest, P.O. Box 290, North Adelaide, S.A. 5006. Articles and information may be reproduced without prior permission provided reprints are credited to the authors and GUIDELINES. Private advertising for caving and diving equipment may be advertised free. Opinions expressed in GUIDELINES are those of the individual authors and are not necessarily those of the C.D.A.A.

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FRONT COVER

Engelbrechts Cave — 1977,
Rob McAlister

EDITORIAL

I think back to the time when I joined the CDAA, one of the first locations I visited was Hells Hole. Like most first time visitors, this cave diving site struck fear in me. The height of the cliff edge didn't worry me. I've been hanging around cliffs much higher than this for a very long time. What struck me was the stability of the rock, or should I say, lack of stability.

It doesn't take a lot of sense to realise that climbing into and out of Hells Hole is a very serious event. Ladders, helmets, safety ropes, good communication and a sound knowledge of the principles of climbing are all required. The consequences of not doing this properly are obvious. It's a long way to the bottom. Nevertheless, a few brave souls have experienced the quick route down. Fortunately for them (and the rest of us who enjoy access to cave sites) nobody has been seriously hurt.

Analysis of these accidents reveals, not surprisingly, human error on each count. An incorrectly buckled harness, disconnecting from a safety rope before clearing the edge, lack of practical knowledge in ladder climbing. It's needless to say that the individuals involved now have a healthy respect for this sort of activity.

Being heavily involved with climbing, I and my friends have witnessed many accidents. These include: Cut rope while abseiling. Abseiling off the end of the rope. Falling from a ladder. Falling off a rock. Rock slides. Falling Rocks. Dropped equipment. Heat exhaustion. Hypothermia. Equipment failure; and so the list goes on. Most of these accidents could have been avoided by simple precautions such as always using a belay line, even for abseiling; good equipment management and maintenance program and safety practices when operating near a cliff edge.

Through the introduction of the Sinkhole Training Program, members are given rudimentary training in climbing and belaying techniques. When I say rudimentary, I mean it.

Most beginners climbing courses are a full weekend. This rudimentary training is not designed to make members experts nor even ensure that they are proficient. The course teaches the bare basics with the hope that members will then go away and practice and learn in a safe environment. The training makes us "Consciously Incompetent". We are still incompetent at the activity, but we are now conscience of this activity. It's a lot better way to find out than falling down Hells Hole.

Following this rudimentary training often comes ego. Even through we have learnt the basics and know the safety procedures, many of us still apply the "It won't happen to me" principle. We don't own the correct equipment. We can't remember the correct procedure. We didn't think the cliff was high enough. Whatever the reason, we are responsible for our own actions and it can happen to us.

Unfortunately, litigation lawyers make their living out of letting us think that somebody else is responsible for our actions. When something goes wrong, we are encouraged to sue. Why should your family suffer when someone else can share the burden. I'm not taking about landowners, I'm taking about your friends that were present at the time. Were they more experienced than you. If so why didn't they say something. Why doesn't the Association make the climbing training more comprehensive so you do know what you are doing? Who set up the equipment. Where do we stop? Unfortunately, liability suits are often a shotgun effect. You throw s..t at everybody and see where its sticks. Remember, your life, who's responsibility?

Next time you plan a dive, think about your climbing equipment as mandatory diving equipment. If you are willing to purchase two tanks, three torches and two regulators to make your life safer under water, why do you suddenly economise above the water?

CDAA 1995 ANNUAL GENERAL MEETING Saturday 29th July 1995 at the International Hotel starting at 8.00pm

MOTIONS ARE TO BE FORWARDED TO THE BUSINESS DIRECTOR BY 6 June 1995.

**NOMINATIONS ARE BEING CALLED FOR THE THREE DIRECTORS POSITIONS .
SEND YOUR NOMINATION TO KAREN KENNEDY BY 25/5/95.**

WE REQUIRE A VOLUNTEER TO TAKE THE MINUTES AT THE AGM.

**(NB: This person will usually be too busy to participate in discussions.
Thanks to Peter Horne for last year — let's give him a chance to talk this year.)**

CONTACT THE BUSINESS DIRECTOR FOR FURTHER INFORMATION.

LETTERS TO THE EDITOR

Should the CDAA add a new certification for cliff management?

Dear Editor

I would like to reply to some of the questions posed in previous issues of Guidelines with regard to climbing standards, and perhaps shed some light on the ASF scheme alluded to. Firstly, "Should the CDAA add a new certification level for cliff management?" NO!

Underwater the CDAA has a remarkable safety record, above the water the CDAA's reputation stinks. (All of us have heard stories about people falling off ladders in places such as Hells' Hole or Blacks). Over the years the way we have dived has changed - twin tanks are now standard for cave and penetration sites - incidents occur, or nearly occur, which force us to address previously unforeseen dangers, solutions are created to minimise the risk of danger, and a new standard is born. In the water, standards have evolved continuously, events from around the world are studied and analysed. Above the water the situation is different, the climbing notes on the Sinkhole course are still the original drafts, and contain several dangerous practices.

The CDAA needs to improve its climbing standards! The climbing course organised by the previous Standards Director was initially intended for the instructors, in an attempt to raise the standard of climbing instruction, particularly at Sinkhole level. This course did not run due to insurance difficulties; however the ASF insurance policy will enable ASF instructors to teach members of the CDAA, and I believe that this workshop should be organised for the instructor body to update their knowledge. Beyond this the requirement for NORLD (National Outdoor Recreational Leadership Development) cave diver accreditation is uncertain, and the CDAA would be remiss in imposing another course on the membership until the situation is more predictable. However, as cave divers we do pass through dry caves and the knowledge contained in the NORLD cave leadership scheme would be beneficial to some.

What is the basic cave qualification? NORLD is in the process of formulating national competency standards for caving leadership (there is no intention to form a basic caver qualification, the standards apply to the leader of the dependant party, which is a group of inexperienced individuals). This has risen from a need to qualify tourist guides involved in eco-tourism and from several deaths in caves (ie. school children in Mystery Creek cave in Tasmania). The standards are being produced mainly by a committee of ASF cavers, several of which are CDAA members representing other organisations. Towards the end of this year, NORLD is planning to release the standards. It is not certain how this will affect cave divers. It is not the ASF's or NORLD's intention to classify sites as requiring a certain leadership qualification to access, and indeed the majority of sites in Mt.Gambier will be unaffected, but the National Parks are aware of the work on the standards and it is almost certain that for many of the dry caves in the areas, an accredited leader will be required to gain access. The situation in the Nullarbor is uncertain but may be significant. There is no way to determine what the effect will be as it is

up to the individuals controlling access to establish the entrance requirements.

To address some of the other issues raised, "Should we develop our own standards?", the CDAA needs to revise its standards when it comes to climbing - incidents like that which caused the closure of Black Hole should not be allowed to occur. If the CDAA chooses to make its own standards then it would be silly not to develop standards which satisfy the NORLD criteria. The CDAA standards need not be as extensive as the NORLD standards. By adopting the standards in the areas of relevance to members of the association will have a head start at becoming caving leaders in the future (if it becomes necessary or desirable for them) since prior training and practice will be recognised. NORLD is establishing a set of standards, not a set of courses. To become accredited under the NORLD scheme you should be able to demonstrate knowledge and experience, doing a course is just another way of satisfying that requirement.

"Who should teach the courses?" Courses should be taught by cavers, or cave divers with extensive experience. In the process of introducing this scheme, the CDAA will need to determine who should conduct these courses and a process of quality control and peer assessment with this group and other instruction bodies (i.e. the ASF) will need to occur.

"Should they be compulsory?" The effect of the NORLD standards on cave diving issues is uncertain, and particularly in Mt. Gambier may be irrelevant, so the course should definitely not be compulsory; however the standards for CDAA climbing instruction need to be improved, and improving them to the NORLD standards would seem the most logical, especially as insurance negotiations are currently occurring.

"Can they be incorporated into other courses?" Yes, the NORLD leadership scheme is very modular in nature and some of those components may already be dealt with in some of the dive courses; however this has yet to be investigated, and it is almost certain that some additional components will be required which are not a component of any other dive courses.

"Are they needed?" Whether the standards become needed for insurance or access is yet to be seen, the CDAA would be well advised to improve its standards, and somebody else has already done the work. A death getting to the water will be just as disastrous as a death under water when it comes to access, yet we don't hesitate to impose standards and equipment or practices of diving. What should we treat climbing differently?

Shouldn't we allow the ASF to develop their own standards?" The ASF have developed their own standards which meet the proposed NORLD standards.

"As wet cavers, what are our obligations to the dry cave environment?" The installation of fixed lines in some caves has caused some controversy in the past because divers felt that it detracted from the adventure experience. Above the water, some divers seem to think nothing of destroying the cave environment. Sure it is easier to take a jack hammer and make steps going down the side of the doline so it is easier to get to the good bit beneath the water, but there are others who enjoy the cave above the

NEXT ISSUE

Please send your letters and articles to:
'The Editor'
Guidelines
P.O. Box 290,
North Adelaide, S.A. 5006

Should the CDAA offer control advanced level training?

Should we run CDAA nitrox training or mixed gas training?

Should we accept qualifications by other agencies?

If we accept mixed gas training from other agencies, why not their cavern qualifications?

Are we a training association, policing association or standards association? Why do we do all our own training?

waterline and see the divers actions as vandalism.

The fact is, it is the dry cave, where everybody can go, where we leave our marks for all to see and form opinions, which will cause the closing of sites if deterioration becomes too extreme.

TIM PAYNE

Dear John

RE: Your discussion Topic on Climbing Training and Qualifications.

Cave Divers in most regions need a BASIC level of climbing training to ensure access to certain sites. I believe the current format of including such training into sinkhole level training as appropriate, and adequate.

It could be argued that the level of training provided is basic, but from my point of view, focused on access to Mt.Gambier, such training provides enough skill to cope with very simple climbs associated with the Shaft, Bullocks and Blacks. As conditions of access to the Shaft include a guide, and Barnoolut an experienced diver for a diver's first visit, some on the spot monitoring should occur.

I hope consideration would be given to the extra cost incurred by members if additional compulsory

(Continued on page 4)

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FOR SALE: Dive Rite wings and harness \$400. Andrew Poole. Phone (09) 249 4048.

(Continued from page 3)

course were introduced to cater for a limited number of sites.

The Directorate needs to ensure that any course that is developed is specific to the needs of our members, i.e. cave DIVERS. It should not be driven by perceived needs of non-divers, or people doing extreme forms of climbing. The vast majority of caves and sinkholes call for an absolute minimum of climbing skills, and a healthy dose of common sense.

Climbing courses teaching a higher level of skill could be completed as members need them, and they might become prerequisites for access to certain specific venues. e.g. specific training for Nullarbor. But most members will not need them.

On another matter, while I hope members will respond to your request for opinions on issues that are of interest, I also hope that contributors will identify themselves.

In the January Guidelines, four letters expressed opinions on the deep diving topic, but mine was the only one that had the author's name on it. I have no problem with anyone who takes a different viewpoint to mine, or of CDAA's standards. To do so produces healthy debate, and helps us grow and evolve with the times, the technology, and in response to members wishes. I urge all such contributors to show a real faith in their point of view, and include their names for publication. To do so would give such viewpoints more credibility than a letter signed with initials, or with a "Name Withheld at Author's Request".

STAN BUGG

THE AUSTRALIAN SPELEOLOGICAL FEDERATION CAVING LEADER SCHEME

The December 1994 Guidelines Issue number: 54 called for comments on cliff management for caving activities, and in particular cited the Australian Speleological Federation (ASF) and its standards.

THE MAIN POINTS IN BRIEF.

There are several issues which effect any decisions the CDAA may take on this;

- There is a National Outdoor Recreation Leadership Development (NORLD) board which is currently developing competencies in recreational leadership in line with national strategies for competency based training and the Federal governments national training reform agenda.
- These competencies include Caving, Rock climbing and Abseiling Leadership.
- The ASF is the consulting body to NORLD on appropriate standards in Caving Leadership.
- The ASF Caving Leadership Scheme is in line with these emerging national standards.
- The ASF Caving Leadership Scheme is for accrediting leaders of dependant caving parties and not as a caver accreditation system for peer group caving.
- *A dependant caving party is defined as trips involving beginners in caving and those trips which involve people who are under 18 years of age.*
- The procedures the ASF are adopting to implement the Caving Leadership scheme are based on the assumption that there is already sound practice in existence, and that the recognition of prior learning in this area are

essential to the process.

- The ASF and the CDAA in July 1993 undertook an agreement to look at common standards and procedures for caving activities whether they involved diving or not. *Both organisations have not yet acted on this agreement.*

HOW THE CAVING LEADERSHIP SCHEME WORKS.

The Caving Leader Scheme has come into being to avoid the need for all cavers to be accredited with some form of qualification before they can use some caving areas.

Where Management Authorities require some evidence of accountable and responsible leadership of caving parties, rather than informal training and nomination of Club Caving Leaders that has been the norm for many years, the Caving Leader Scheme can be used to formalise the training and assessment of these club leaders.

The scheme is not for every member in ASF clubs, it is designed for those who are leading **dependant caving parties**. These will be trips involving beginning cavers of clubs, and those trips which involve persons who are under 18 years of age.

The scheme is not a requirement of all cavers.

Although other cavers will be at an advantage by the training in the scheme, not all may wish to become club level leaders, for these club members the training will be a useful option in extending their personal skills in caving, and in particular in the leadership of others in caving.

The Australian Speleological Federation believes that a caver level accreditation is inappropriate to the needs of the caving community.

The Caving Leader Scheme is designed to provide skills of caving leadership that are common to all caving regions in Australia.

There is the scope for regional enhancement and liaison between cavers trained in rather differing caving environments, and for more advanced specialist training eg. caving rescue techniques.

Existing Club Caving Leaders are accredited through a recognition of prior learning pathway, and **negotiated retraining within their own club.**

Any one who is not currently a club leader goes through a course based pathway and is assessed at the end of this process by club instructors, by the club to which they belong.

WHERE HAS ALL THIS COME FROM?

Common concerns in the mis-match in club standards of caving club based leaders in several states in the late 1980's, followed by a push by the Sport and Recreation department in Tasmania which resulted in the setting up of what is now called the National Outdoor Recreation Leadership Development board, to which the ASF were appointed, all set a tone which lead to the current directions.

A National Caving Standards Commission was established by the ASF in 1992 to coordinate the Leadership Scheme. State and Territory Standards Working Groups which comprise this commission are currently established in four States with representatives from the remainder.

The South Australian Standards Working Group (SASWG) has had the input of the last two CDAA directorates. From 1991-1992 by Ian Lewis as National Director, when the scheme was still just an idea, and from 1992-1994 by Chris Brown as

the Standards Director.

Ian's involvement included being part of the team which set the initial course directions, and the writing of early versions of the requirements that make up a good caving leader.

During Chris' involvement with the SASWG he utilised the collective skills and knowledge of this group to develop the basis of a 'Cliff management' course. This was a *draft* document which Chris wanted quickly, so that he could run a refresher course for existing Instructors with the CDAA.

Chris expressed the concern to the SASWG that any new standards developed should be in alignment with common caving/cliff management practices, so CDAA Instructors are not disadvantaged.

It was unfortunate that the timing of the course meant that it could only be developed to a skeleton draft stage, and that insurance to cover the non CDAA instructors which Chris had arranged to manage the course, was too expensive to make the course financially viable.

It can only be commended as responsible actions on behalf of officers of the CDAA in ensuring that the concerns and needs of the CDAA were raised with other groups with a common interest, that both Chris and Ian have been part of the SASWG during their respective terms of office.

How these skills are incorporated into the current CDAA Certification system, or into the Instructor Training as it is appropriate is open to the debate of the CDAA and its members.

Reviews of the certification scheme have indicated deficiencies in some areas, particularly in the areas of Cave Conservation and Ethics, and confusion as to whether the training in laddering in the current sinkhole course is an introduction to the craft or training for the sinkhole students to be self sufficient in laddering and rigging skills.

These are opinions which will no doubt generate some debate, but this is healthy, and can only help to define any future directions in light of these new standards in caving leadership being developed nationally.

OBLIGATIONS TO THE CAVE ENVIRONMENT

"As wet cavers, what are our obligations to the dry cave environment?" Editor, Guidelines No:54.

There is common ground with all cave environments, it is difficult to easily divide this environment into above and below the water.

The ASF has cavers in its membership who are involved in the specialist area of cave diving and recognises the CDAA qualification, as one of the certification bodies, appropriate to the underwater environment of a cave.

Whether you are a *wet caver* who has to traverse a dry section of the cave environment or decided to explore the vast dry caves of our nation or a *dry caver* who has decided to explore beyond that frustrating water table, we all have impact on the cave environment.

The ASF has developed Codes of Ethics and Conservation, Minimal Impact Caving and Safety which have become recognised standards amongst managers and landowners.

These should be reviewed and adopted by any organisation impacting on Australia's fragile cave resources.

These are available from ASF clubs.

DAN AUSTRALIA

THE newest member of the global federation of organisations comprising International DAN (IDAN) is DAN Australia, which joins the already existing DAN Europe and DAN Japan operations.

Divers Alert Network Australia now is established in its own right as a non-profit Australian organisation. One of its aims is to provide Australian divers with easier and cheaper access to the benefits of the IDAN system. One of the goals is to improve diving safety within Australia. For example DAN Australia will provide funding to the Diving Emergency Service (DES) for its emergency hotline.

DAN Australia is offering a modified DAN oxygen administration programme which includes the latest Australian protocols and is proving to be very popular. Because of the IDAN Network, the DAN oxygen administration certificate is recognised in many countries, providing advantages to divers who travel and work overseas.

DAN Australia is supported by a membership programme which provides 6 issues of the award winning magazine *Alert Diver*, a personalised ID card showing emergency phone numbers in Australia and world-wide, tank decals, the acclaimed DAN Emergency Handbook, and *DAN Travel Assist*, DAN's global emergency evacuation service.

DAN Australia membership is \$35. Member dues and contributions will support dive accident data collection and analysis, support local recompression chambers and the DES dive emergency phone line.

For more information or to learn how you or your organisation may help launch DAN in Australia, phone DAN Australia at (03) 563 1151 (fax 03-569 4803) or write to PO Box 134, Carnegie, Victoria 3163, Australia.

In Melbourne, for DAN oxygen administration courses contact:

JOHN DALLA-ZUANNA

Phone Mobile 018 887 060

CONCLUSION

Land owner, government, management, legal and tourism pressures will continue to increase and impact on our recreation. Any differing standards amongst the caving community will only add to these pressures and will be divisive in what is really recognition of a joint use of common and rare resources in Australia, Caves.

We can only work to ensure that the communications lines established through the ASF National Standards Commission and the joint ASF - CDAA agreement are maintained in the interests of the caves and all users of the cave environment.

PETER KRAEHENBUEHL,

SA ASF Standards Working Group, Convenor

ALAN JEVONS,

ASF National Standards Commission,

Convenor

Should the CDAA Condone or Condemn diving deeper than 40m. Why/Why Not? More letters!

Dear Sir

I am writing to inform you of my view on diving deeper than 40 metres. As a cavern diver I am still limited to 20 metres. However once I have done my sinkhole ticket and gained further experience, I would like to think there were some provisions for people who had the appropriate training and experience to be able to explore areas below 40 metres.

Maybe there needs to be provision for advanced deep diver training certifications to be added to the "Sinkhole Diver" certification, to allow those

(Continued on page 6)

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Director's Report

page 10

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people to go beyond the present limit. I believe such course as the IANTD advanced deep air course would be appropriate. Many people are already exceeding the current depth limits on regular basis, so maybe it's time the CDAA started to come to terms with the situation.

As for training people in the use of EANx/Trimix/Heliox, I do not think the CDAA should be responsible for the training of people in the case of these gases, rather leave it to the "experts" in the field (IANTD/ANDI) (There is now also TDI - Ed). There appears to be little doubt that if the optimum gases were used for each dive, then we could only increase the safety and enjoyment of our dives.

In the interview with Chris Brown (Guidelines No. 53), question 10 was "What standards would you like to see for the CDAA mixed gas diving?", Reply "I don't believe we can use IANTD or ANDI standards. The group I am diving with are setting their own standards." Now I may be misinformed as I am only a new member but I thought standards were for everybody, not for you to just go and set your own standards if you think the situation warrants it.

While the CDAA is undoubtedly the pinnacle training body for cave diving in Australia, I don't think the CDAA, and especially, any one individual can have more experience and knowledge than IANTD and ANDI in mixed gas diving. So how can Chris Brown "set his own standards" while in a CDAA site, such as the Shaft? Does this mean I can do the same thing if the situation dictates?

I haven't had the opportunity to visit Blacks, Kilsby's or Tank Cave yet, let alone dive in them. But just from listening to other divers and their experiences I can see how increasing the depth limit by using the appropriate gases and training could open up new and exciting doors for exploration and more scope for planning your dive.

Thankyou for letting me have my say.

NEIL CHAPLIN

are sometimes added to the breathing mix to reduce the tremor.

Dear John,

1. The proposed CDAA libraries.

Great idea, but I feel that it would be easier to operate and more useful to the members if there was to be only one branch. Ideally in Mt. Gambier. In this way, all the material is in one place under one persons control. Most of the borrowing would be transacted by mail not in person wherever its location so there would be no inter library transfers, one person oversees all, and rent costs are reduced. Would the Mt. Gambier library be interested in administering it for us? or maybe a retired person with library skills?

2. Mixed gas and climbing training.

I do not believe that in a number of situations CDAA members do require these additional skills. also believe that it is the CDAA's responsibility to identify these situations so that there is no chance of ambiguity. But I do not believe that the CDAA as an association should be training in these fields. We should specialise in cave diver training and representing our members in this area. We should leave the training in other fields to bodies who specialise in these areas (Hopefully they will for the same for us). The CDAA should nominate the minimum training standards required for specific situations and advise members where this training can be obtained. I am sure a number of our instructors will embrace additional skill to make themselves more saleable. This is good as they know the standards and members special requirements. But as an association, let us train cave divers.

3. John and all concerned with the last issue of guidelines should be congratulated. (Thankyou from us all - Ed.) I believe it is the best issue printed to date. It has lots of interesting points of view, information generally, and information that members like to hear about the goings on in the directorate areas. A great change.

N & L VINCENT

Dear John

In relation to the use of mixed gases in cave diving, I am all for the use by qualified personnel i.e. if you wish to dive deep you must obtain a mixed gas diver qualification. If caught on mixed gas without it, a suspension or equivalent punishment. This would also cover the use of nitrox.

A quick point on the article on Sheck Exley which stated the HPNS is caused by elevated levels of oxygen. Were you covering both potential problems, HPNS and CNS oxygen toxicity or was this a printing error?

The idea of a library is a great idea. It gives us in WA the access to information and videos that is often difficult to get, especially with minimal contacts. This also allows us to show some of the work we are doing over here.

RICHARD JACKSON.

Editor's Note: HPNS — high pressure nervous syndrome — is a physiological response to rapid compression and leads to tremors, disturbances in brain waves, and inability to work effectively, among other things. Although HPNS causes vertigo or vestibular disturbances and affects motor function, it does not cause narcosis in the way nitrogen does, and small amounts of nitrogen

Dear John,

When the redoubtable Stan Bugg, amongst others, is not aware of the reason for the (rather arbitrary) 40m limit it is time for me to put pen to paper and supply my theory.

According to my information Mr/Mrs "Name Withheld By Request" got it close to right in the last edition. My information, supplied to me a great many more years than I care to remember, is that the US Navy decided that it was pointless to send a self-contained working diver below 130 ft (39m) because s/he would have so little air that the trip was not worth the effort, that this should properly be the hart hat territory.

When Training Agencies later came about they decided this should also be their limit for recreational divers, for much the same reasons, the decision apparently had very little to do with narcosis, DCS, or whatever.

I agree with Stan, for the reasons he described in his usual eloquent way (but this is the first item I have read without even one piece of his wit?), that we should accept the generally condoned limit (now rounded off to 40m) however I do not think that it should be written in stone, indeed I think very little should be written stone because

experience and increasing knowledge has the habit of shattering such laws sooner rather than later. As a rather later example I point out that Moses and the Prophet Mohammed both forbade the eating of pigs. In their day this had nothing to do with religion and everything to do with health! I am an ex-Catholic agnostic-possible-atheist which is lucky for me because I always just loved pork!

For my part, I will again be in Papua New Guinea next month and, yes, I will again dive the *Yokohama Maru* and reach some 70m, and the *S'Jacob* and reach some 53m, and the *Blackjack* and reach some 46m, amongst others no doubt. Yes there will be O2 and air staged under the boat, my group will be diving with cylinders +500L ponies (taking of twins from Oz would be an expensive exercise) and one of our group is 66 years young. He's probably been diving longer than anyone else in Australia. I am sure that there will be some, even in such exalted and informed company as the CDAA, who by now are frothing at the mouth at such derring do and thinking O2 toxicity etc. To them I say that we've done it all before and no doubt will do it again! Are we being stupid! Not in our opinion and our incident free record (at least to date, touch wood, touch wood) bears this out.

The CDAA is unique in one respect: it is actually possible to police CDAA regulations within caverns and caves and most sinkholes, not all of the time of course but certainly to the extent that divers exceeding the regulations are on notice that they could lose their accreditation if caught. This of course is not the case with Open Water Divers but lets please do not have the attitude so prevalent in the recreational diver training agencies of "do as I say, not as I do!"

CHRISTIAN GERZNER

PS: It's *NOT* a "Sport". "Sport" is an extremely irresponsible description of what we do. "Sport" suggest *competition*. If we *compete* at diving, the odds are that we will die.

SOME LIMITS TO THE DEPTH OF A DIVE, AND HOW THEY CAN BE EXTENDED

One theme of the question posed in the call for article for Guidelines concerning deep diving was the comparison between deep diving and long penetration/stage cylinder diving. Similarities between these do exist, in both cases, the diver is committed to the underwater environment for long duration and must follow a complex and often rigid dive plan. This requires a high level of diving competence which incorporates competence with standard and additional equipment and techniques, comfort in the underwater environment, and familiarity with the diving task. However, the similarity between these types of diving is not complete — the particulars of dive planning and equipment diverge, and many of the physiological consequences of an underwater excursion increase along with depth. This article outlines these physiological consequences which are important within reasonable operational limits for open circuit SCUBA. It shows that while there are no hard limits to air diving depth, but risks do increase with increasing depth, and examines how these risks can be reduced or eliminated by using a breathing gas other than air.

One consequence of breathing air at increased pressure is 'nitrogen' narcosis. Some gases cause anaesthesia when breathed at sufficient partial pressure, and as this partial pressure is approached,

the narcosis of incipient anaesthesia increases. While nitrogen is well known to cause narcosis at hyperbaric pressures, what is less widely appreciated is that oxygen is also narcotic and contributes significantly to narcosis with air diving. Narcosis is the primary reason for the common depth limits, usually between 30 and 50 metres, imposed on air diving operations. These limits are arbitrary, but since narcosis increases with depth, and, despite frequent denial, no-one is resistant, a responsible diver should know and respect their own limit of tolerance. Limit of tolerance might be defined as the depth where narcosis does not impair a diver's ability to survive, and this depth can be increased with deep diving competence as previously defined. Some divers can operate effectively beyond 50 metres depth while others display impaired judgement, usually associated with narcosis, even at the surface.

Breathing oxygen at partial pressures above 0.5 bar has detrimental consequences on most organ systems, most immediately the lungs and the central nervous system. For bounce diving, the central nervous system toxicity of oxygen, which culminates in convulsions followed by unconsciousness, is of concern. The probability of oxygen convulsions at inspired oxygen partial pressure above 2 bar is determined by the time of exposure. With inspired oxygen partial pressure below 2 bar, oxygen convulsions are uncommon, and below 1.8 bar are exceedingly rare. Currently, the use of the conservative maximum inspired oxygen partial pressure of 1.6 bar at rest during decompression with enriched oxygen mixtures is common among SCUBA divers, and a 240 minute exposure is reasonable. The combination of exercise and carbon dioxide retention with deeper diving increases the risk of oxygen convulsions, suggesting a more conservative approach for the working part of a dive. An inspired oxygen partial pressure of 1.4 bar, equivalent to breathing air at 57 metres, with an exposure limit of 150 minutes is appropriate for deep diving.

The density of breathing gas increases linearly with increasing ambient pressure. Gas flow in the respiratory system is reduced as gas density increases. Maximum voluntary ventilation of the lungs, an index of respiratory gas flow, if breathing air, declines rapidly to 50% of its surface value at a depth of 30 metres, and declines more slowly as depth increases further. The increase in air density at depth is not a problem for quiet breathing; however, problems may arise with increased exertion. Beyond 60 metres, the demands of heavy exercise may exceed maximum voluntary ventilation. Pulmonary ventilation during maximum exercise mirrors the decline in maximal voluntary ventilation with increase gas density. Therefore, since pulmonary ventilation is normally matched against the removal of carbon dioxide from the body, carbon dioxide retention during heavy exercise at depth is increased. Carbon dioxide retention increases narcosis and the risk of central nervous system oxygen toxicity.

As breathing gas density increases, convective heat loss in the respiratory system increases linearly and dominates evaporative heat loss.

Air diving has its limits. Respiratory impairment may become distressing during

(Continued on page 8)

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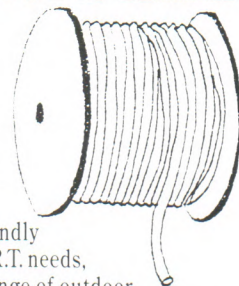
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(Continued from page 7)

exercise beyond 60 metres, narcosis imposes subjective limits on the diver, and central nervous system oxygen toxicity limits safe air diving to 57 metres. However, gas mixtures other than air can be used to extend these limits. Helium, which is practically non narcotic, is commonly used instead of nitrogen in breathing gas mixtures to alleviate narcosis. Helium density is about 13% that of nitrogen and oxygen and improves respiratory gas flow. Breathing an appropriate mixture of helium and oxygen (heliox) can essentially eliminate narcosis and the risk of oxygen convulsions and greatly ameliorates the respiratory gas flow reductions with depth. Helium has a higher heat conduction than nitrogen, making it unsuitable for use in drysuit inflation; however on open circuit SCUBA, helium should not cause increased respiratory heat loss compared to nitrogen. Heliox breathing has some disadvantages which increase the complexity of dive planning. For bottom times of less than 200 minutes, helium results in a greater decompression obligation than nitrogen. Heliox mixtures may not be appropriate for all phases of the dive, a bottom mix for a deep dive may have insufficient oxygen for use near the surface, and safety of decompression from heliox is improved by breathing air, nitrox and oxygen.

The use of heliox overcomes the problems of narcosis, oxygen toxicity and breathing gas density described here and allows access to depths limited only by the occurrence of high pressure nervous syndrome beyond 200 metres. Such depths are

beyond the range of SCUBA operations for all but the most adventurous. Using mixed gas, depth limits change from being physiological to operational, and thus can be dealt with by good dive planning and equipment. Cave diving is an adventure sport, and at its most advanced levels is a sport of explorers, this must not be stifled, and cave divers should use whatever technology is available for responsible exploration.

Dear Editor

After attending a recent diving weekend in Mt. Gambier, on the 26-27th November, 1994 and diving in Kilsby's sinkhole on the Saturday morning time slot, I feel there are a number of situations which occurred on this day which the Directorate should explain.

The first and main point is a diver using a mixed gas of 50/50 Nitrox on a 3 metre stop. If you refer back to a previous issue of Guidelines under the National Directors Report, "AIR ONLY REGULATION", it states that air only must be used. Any diver found breaking this regulation will face severe penalties.

The guides on this day were Ian Lewis, Karen Kennedy and Karen Kennedy's boyfriend knew very well what the cylinder contained and still allowed their dive to proceed. So the Directorate writes one thing and then completely ignores it.

Another point is why a non diver was allowed on the property. When I last dived Kilsby's, no non-divers were permitted on the property, and this time our depth gauges were not even checked for the 40m. limit.

A lot of comments have been made about Peter Girdler and the running of Kilsby's', yet he had much more control over Kilsby's' than I have seen from my last dive.

I enjoyed my dive a great deal, but if rules are going to be set, then broken, I can see I will not enjoy many more.

TREVOR ALLDRITT

KILSBY'S THE FACTS

Dear John

Many stories have come from an excellent days diving at Kilsby's Sinkhole, back in Nov 1994. So in the interest of FACT, I will now set the record straight on some of these rumours.

FACT 1: Our group set two deco cylinders set in the water at the 9m and 6m mark.

FACT 2: The two cylinders contained pure AIR purchased from Allendale that morning, NOT trimix, NOT nitrox ONLY AIR. Clean dried compressed AIR and nothing else.

FACT 3: Cylinder colour; one was yellow and the other was black with red and white pies. (This special marking was used to identify the 300 bar O2 cylinder during the Australian army's successful assault on Mount Everest, 1988.) During the particular day in Nov. 94 the cylinder only contained air.

FACT 4: The specially marked cylinder is sometimes used for 50% O2 - 50% N2 mix when diving many of the deeper wrecks in the Sydney region. However when it was used in Mount Gambier in Nov. 94 it contained only AIR.

I hope these facts set the record straight and that now these damaging rumours will stop. If people have an AXE to grind, direct your questions to me. I will be only happy to give you the full story.

On a lighter note, Feb. 95 saw a group of Sydney divers in the Mount, undergoing Cave and Sinkhole training. The courses were run by John Vanderleest and John Dalla-Zuanna. All divers passed and a great weeks diving was held.

Special thanks to John & John for an excellent course and great diving.

ANDREW ROBERTSON.

Climbing Workshop

At the 1994 AGM Chris Brown raised the notion of giving members the opportunity to obtain climbing experience through a new CDAA climbing/basic caving course.

This was met with mixed emotion ranging from delight at having the opportunity to disgust at the thought of it potentially becoming a compulsory requirement in the future.

There are a number of letters to the editor in this issue expressing thoughts on the topic. Graham Porter (Owner of Rockworks Indoor Climbing Gym — Refer ad. this issue) has offers to run a introductory climbing evening to assist people gain a little more experience in this area.

Since this is not a CDAA program it is open to members, their family and friends (What better way to get your family involved with your sport?)

The evening is designed to expose people to a variety of techniques to safely negotiate rock walls.

(If the evening proves to be successful, we can arrange for further get together at other centres around Australia.)

The evening will cover:

- Abseiling
- Climbing wire and rope ladders
- Belaying
- Anchoring
- Gear Haulage
- Pulley Systems and Basic Rescues.

Where:

Rockworks Indoor Climbing Gym
1/74 Lipton Drive
Thomastown (Melbourne)

When:

May 17th.
7:30pm
(N.B. Places are strictly limited)

Contact:

Graeme Porter (03) 462 4054

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BOOKS		Cave Diving Communications. A manual from NSS-CDS dealing exclusively with all underwater communications used in cave diving. Including touch, torch and line signals, and use of line arrows and jump reels. A must for all cave divers bookshelves.	\$12.00	
		Cave Diving — A Blueprint for Survival. A book by the world-renowned cave diver, the late <i>Sheck Exley</i> , this is a case study of a number of accidents that have occurred in the USA and how to avoid them.	\$10.00	
		Basic Underwater Cave Surveying. The standard publication for anyone remotely interested in research and survey techniques used in water filled caves.	\$15.00	
		Cave Diving — the Cave Diving Group Manual. Completely new edition from the pioneers of the sport, the British. Covers every possible aspect including sump rescue solo diving and advanced oxygen and mixed gas theory. Reviewed in Guidelines No. 37.	\$40.00	
		CDAА Occasional Paper No. 2. From National Conference 1981. Includes topics such as Fossil Cave, Belay Techniques and Cocklebidy 1979.	\$ 8.00	
		S.R.T. Single Rope Techniques. Published by the <i>Sydney Speleological Society</i> . This is the definite work on all aspects of vertical travel in caves. Should answer most questions on rope work for cavers and cave divers alike.	\$27.00	
		DES Emergency Handbook. Revised 1990 edition by <i>Lippmann and Bugg</i> . Printed on waterproof paper this essential first aid manual should be part of every cave divers' kit.	\$15.00	
		NSS Cave Diving Manual. The standard reference manual in cave diving covering just about every conceivable topic. New Edition.	\$30.00	
		Research Handbook for Cave Divers. By <i>Peter Horne</i> . This book is a compendium of years of experience from various sources. A valuable addition for those interested in the other side of cave diving. As reviewed in Guidelines Issue 36.	\$20.00	
		Wukulla Springs Project. The U.S. Deep Caving Team, edited by <i>William C. Stone</i> .	\$59.00	
		The Darkness Beckons. By <i>Martyn Farr</i> . The history and development of cave diving.	\$59.00	
		Deep Diving. By <i>Bret Gilliam, Robert Von Maier</i> . An advanced guide to physiology procedures and systems.	\$30.00	
		Deep Into Blue Holes. By <i>Rob Palmer</i> . This is the project manual written about his trips to the Bahamas, diving some of the most advanced and spectacular caves in the world.	\$40.00	
		NSS Cavern Divers' Manual. The standard reference manual in cavern diving covering almost every conceivable topic. Also most principles behind safe sinkhole and cave diving.	\$18.00	
VIDEOS		The Lower South East Cave Reference Book. This 600-odd page publication is an invaluable reference detailing every known cave in the Mount Gambier region. Highly informative. Allow two weeks on top of normal delivery.	\$95.00	
		Nullarbor Challenge. Produced by <i>Hanger 137</i> . The true story of the exploration of the largest single limestone cave region in the world.	\$29.95	
CLOTHING		Australian Caving Diving — A Contrast. By <i>Tony Carlisle</i> . Four short documentary type videos on Warbla Cave, Three Sisters Cave, The Road to Toad Hall and Tank Cave. Reviewed in Guidelines 54.	\$25.00	
		Old Style Windcheaters. Colour: Airforce Blue. Size: medium only.	\$15.00	
		New Style T-Shirts. Colour: Red Earth. Sizes: Medium, Large, Extra Large	\$25.00	
		New Style Long Sleeve T-Shirts. Colour: Steel Blue. Sizes: Medium, Large, Extra Large	\$30.00	
MISCELLANEOUS		New Style Windcheaters. Colours: Purple, Forest Green. Sizes: Small, Medium, Large.	\$35.00	
		CDAА Key Rings. Blue with gold motif. CDAА P.O. Box on back.	\$5.00	
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		Tank Cave Poster. Full Colour 14½" x 25" poster of Tank Cave by <i>Peter Rogers</i> . Price includes p&h.	\$8.00	

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CDAA SITE ACCESS

Remember: Access is a privilege, not a right.

Please be considerate of landowner wishes.

CN = CAVERN

S = SINKHOLE

C = CAVE

P = PENETRATION

SITE	LEVEL	OWNER	ACCESS DETAILS
MOUNT GAMBIER - SOUTH AUSTRALIA			
Ewens Ponds	Nil	DENR P.O. Box 1046 Mt Gambier 5290 (087) 35 1177	Groups of 6 or more, phone/mail to Dept. of Environment & Natural Resources (DENR). Smaller groups, no need. Ponds usually closed 1 Sept-30 Nov. yearly (phone to check). Indemnity form to be completed.
Horse & Cart Tea Tree	CN CN	Peter Cunningham PO Box 643, Mt Gambier 5290	By phone or mail, 1 week prior. Ph: (087) 38 4003.
Little Blue	S	Port MacDonnell	Little Blue - permission not required - must carry card.
Allendale	C	Port MacDonnell	Obtain key from Mt. Gambier Tourist Information Centre.
Gouldens 2 Sisters Fossil	CN CN C	DENR P.O. Box 1046 Mt Gambier 5290	Contact DENR by phone/mail prior to diving. Stay out of Gouldens when pump is operating. Indemnity form to be completed. Ph: (087) 35 1177
Ela Elap One Tree	S S	Mr. Peter Norman Private Bag 67, Mt Gambier 5290	By phone or drop in before diving. Accommodation also available. Ph: (087) 38 5287
Swim Through	C	Valerie Earl PO Allendale 5291	Currently CLOSED pending new access arrangements.
Piccaninnie Ponds	S	DENR P.O. Box 1046, Mt Gambier 5290	Permit holders by phone. Be aware of delicate vegetation. Indemnity form to be completed. Ph: (087) 35 1177
Hells Hole Pines Mud Hole	S C C	Primary Industries S.A. (Forestry) PO Box 162 Mt Gambier 5290	Contact Primary Industries S.A. (Forestry) by mail or phone to arrange permit. Collect permit from Regional Office, Jubilee Hwy., Mount Gambier. No diving on total fire ban days. Permits will ONLY be issued Mon-Fri between 8.30am-4.30pm. Ph: (087) 24 2759
Kilsby's	S	Landowner leased to S.A. Police	Restricted access conditions apply - refer Guidelines Issue 54. Twin tanks, maximum of 40 metres depth. Write to: P.O. Box 77, Mount Gambier, 5290, six weeks prior. 1995 allotted weekends - January 28/29, March 25/26, May 27/28, July 29/30
Shaft	S	Closed until further notice.	
Ten Eighty Bullock Hole Black Hole	S S	Mr. Colin Traeger PO Box 12, Mt Gambier 5290 (087) 26 6215	Contact CDAA Records Officer for diving deed THEN mail Booking Form to Colin Traeger 2-6 weeks prior, stating names/qual. of all divers, and time slot - 1pm Saturday, 9am or 1pm Sunday. WEEKENDS ONLY. Closed October-November for shearing.
Max's Hole	C	Mr T. Edwards PO Box 1319 Mt Gambier 5290	Phone or mail 1 week prior to dive. Ph: (087) 26 8277
Engelbrechts - East - West	C P	Mt Gambier Council	Obtain key from Mt Gambier Tourist Information Centre. Access agreement must be signed prior to diving.
Three Sisters	P	Millicent Council	Contact Peter Horne. Access available for experienced Penetration divers only. Low profile or side mounted independent air systems required. Access agreement must be signed prior to diving.

CDAA SITE ACCESS

SITE	LEVEL	OWNER	ACCESS DETAILS
MOUNT GAMBIER - SOUTH AUSTRALIA (continued)			
Iddlebidy (5L250)	P	Primary Industries S.A. (Forestry)	5L250 open 1st & 3rd weekend of month. 5L290 open any weekend. Max. 4 divers per dive per day, 1 dive per day for each site. Only
Nettle-Bed (5L290)	P	PO Box 162 Mt Gambier 5290	Penetration divers completed practical in-water cross-over. Bookings via Forests Clerk - key from Lady Nelson. Must show permit & card. (087) 24 2759
McKay's Shaft	S	Closed until further notice.	
Tank Cave		Apply in writing at least 2 weeks in advance - CDAA Tank Cave Access, PO Box 290, North Adelaide, 5006. Open first weekend of each month. NB: New divers must first request an application form.	
SOUTH AUSTRALIA - Narrina Lake Cave		Access under negotiation - closed until further notice.	
NULLARBOR - WESTERN AUSTRALIA			
Cocklebidy	C	Regional Manager	Must apply for permission to dive at least 4 weeks in advance of trip.
Murra El Elevyn	P	C.A.L.M.	Ph: (098) 41 7133.
Tommy Grahams	C	44 Serpentine Rd,	
Weebubbie	C	Albany 6330	Small dive site next to main chamber: Sinkhole
NULLARBOR - SOUTH AUSTRALIA			
Warbla	P	NPWS Ceduna	Currently CLOSED to all diving subject to draft management policy
WELLINGTON CAVES - N.S.W.			
Limekiln (McCavity)	P/C	Both Penetration and Cave Level are being accepted for this cave depending on it's water level at the time. The cave has a restriction at the entrance which is underwater making it a Penetration Dive. During drought, the water level drops to form a small lake below the restriction allowing experienced Cave Divers access to this delicate cave. Access arrangements allow one weekend per month. Divers will be joining already commissioned research groups.	
Water (Anticline)	C	Affected by high CO ₂ levels during Summer/Autumn. Apply for bookings to dive at least 4 weeks prior, as specified dive dates have been prearranged until the end of 1994. Ph/Fax Neil Vincent (043) 97 1798	
Narrina Cave	P	CLOSED	

CDAA INSTRUCTORS

Instructor	CN	S	C	State	Telephone (H)	Instructor	CN	S	C	State	Telephone (H)
Stephen Arnel	•	•		VIC	(055) 26 5230	Max Marriott	•	•		SA	(08) 47 3360
Bill Bernhardt	•	•	•	VIC	(03) 725 9716	John McCormick	•	•	•	VIC	*(03) 555 5777
Chris Brown	•	•	•	SA	(08) 269 5793	Richard McDonald	•	•		SA	(08) 278 1829
Marilyn Boydell	•	•		WA	(09) 349 5646	Warrick McDonald	•	•		VIC	*(03) 579 2600
Stan Bugg	•	•	•	VIC	(03) 379 8791	Richard Megaw	•	•	•	SA	(08) 344 1733
Greg Bulling	•	•	•	SA	(08) 265 4978	Hugh Morrison	•	•	•	WA	(09) 409 9807
Gary Bush	•	•	•	WA	(018) 318 837	David Ogilvie	•			NSW	*(02) 977 4355
Brian Cornell	•			VIC	(059) 85 2514	Andrew Poole	•		•	WA	(018) 928 028
Terry Cummins	•	•		NSW	*(02) 417 2800	Tony Richardson	•	•	•	VIC	(03) 754 6163
John Dalla-Zuanna	•	•	•	VIC	(055) 61 2805	Steve Sturgeon	•			WA	(09) 527 9211
Ian Gothard	•	•		QLD	(075) 71 0106	John Vanderleest	•	•	•	VIC	(03) 416 9370
Glen Harrison	•	•	•	SA	(08) 386 3237	Des Walters	•	•	•	NSW	(060) 25 3506
Barry Heard	•	•	•	VIC	(056) 27 6474	Bob Wealthy	•	•	•	VIC	(03) 789 6389
Alan Jolliffe	•	•	•	VIC	(03) 874 7669	Liz Wight	•			NSW	(02) 428 2176
Nick Jones	•	•		VIC	*(03) 282 4502	Frank Ziegler	•	•		VIC	(055) 26 5288
Simon Jones	•	•	•	WA	(09) 344 4343						* Work phone number

KILSBY'S SINKHOLE RELEASE AND INDEMNITY

IN CONSIDERATION of the South Australian Police Department (hereinafter called "the Department") permitting me for diving purposes to enter upon that area of land leased by the Department and known as Kilsby Cave at Mount Gambier including the access road commencing from Sisters Road for a period of twelve (12) months from this date,

I..... (full name)

of..... (address)

..... (occupation) **HEREBY RELEASE AND DISCHARGE** the Department, the Commissioner of Police or the State of South Australia or any of their employees or agents from all actions, proceedings, suits, costs, claims and demands both at law and in equity which I might have or, but for the signing of this release, might have had against the Department, the Commissioner of Police or the State of South Australia or any of their employees or agents for any loss, damage or injury to me or my property (including death) of whatsoever nature and howsoever arising in connection with or arising out of my entry into the said area whether caused by negligence, default or misconduct of the Department, the Commissioner of Police or the State of South Australia or any of their employees or agents or otherwise howsoever **AND I HEREBY INDEMNIFY AND AGREE TO KEEP INDEMNIFIED** the Department, the Commissioner of Police or the State of South Australia or any of their employees or agents from and against all actions, proceedings, suits, costs, claims and demands and the costs reasonably incurred in defending, resisting or settling the same which may be brought or made by any third person or persons in respect of any such loss, damage or injury (including death) referred to above.

Dated this

day of

199

SIGNED SEALED AND DELIVERED

by the abovenamed in the presence of:

.....
Signatory

.....
(Witness)

NATIONAL DIRECTOR'S REPORT

With this being my final report before the AGM, there are a number of points I'd like to run through briefly.

Access

MacKay's Shaft is closed due to the sad loss of Murray MacKay. Murray died early this year of a heart attack. Those who were lucky enough to meet him at the CDAA 20th Anniversary dinner would understand what a lovely, friendly man Murray was. The Association sent representatives to his funeral, and sent our deepest regrets to the family. We have maintained good relations with the family and have been given Murray's original visitors book, which was his pride and joy when it came to the Association, and also some old photos he had. All this will be held in the newly established lending library. Once the family is settled over the death, we will commence negotiations for access, but for the time being the Association will keep only minimal contact.

Below is a copy of a letter I received from National Park, referring to Warbla. I will persist in trying to gain access for members, but for the moment the letter is fairly self explanatory.

I met with Phil Prust and Mrs. Ashby in February regarding access to the Shaft. The Shaft will remain temporarily closed, but we will be meeting with Mrs. Ashby in late March to discuss new access arrangements.

In this issue you will find a Kilsby's indemnity. This has been included to speed up booking arrangements. All members are

asked to send the signed indemnity with their request for access. Please take note that when booking Kilsby's, all arrangements are to be done by mail.

With the AGM date advertised this issue, could all members wishing to attend and dive the same weekend, please send their membership renewal in well and truly before the set weekend. The membership renewal form is also in this edition, and forward planning would be appreciated, both by National Park and the Directorate.

Finally with regard to access, I would like to thank Doug McCloud, Phil Argy and Tim Collins for all the assistance they have given along with the S.E. Scuba Divers Club in regard to maintenance on some of our sites, Kilsby's in particular. Their assistance has been invaluable.

Mapping and Research

I have been questioned lately in regard to why the Mapping and Research has been stopped in Black Hole. There have been two main reasons. One being that funds have been redirected to the bulk of the membership with the State meetings being held this and last year. Also the Research team is needing to push the 40 metre limit at the site, and I believe that this needs to be addressed before research can continue safely. Unfortunately for the Research divers this has all become involved in the mixed gas issue, and the safest way to dive at depth. So for the moment the Research projects are on hold. I will keep the membership up to date with further developments.

N.S.W. Representative

Neil Vincent has resigned from the position of N.S.W. state rep for 12 months, as work is taking him away from home. Neil's wife Lyn has kindly offered to take over until Neil is able to resume the position. I would like to thank both of them for all their help.

Mixed Gas Working Party

The Mixed Gas Working Party has been started. We have seven volunteers for the group, and at the moment they are discussing the issue via the mail. We are calling for input, from all the members of the group, as to their ideas and strategies on how to approach this subject with regard to Landowners, members and the Association. The membership will be kept advised of their progress.

Ian Lewis

Finally, the issue of Ian Lewis' suspension. Below is a copy of a letter sent to Ian, that is the only FACTUAL piece of information available, that has allowed Karen and myself to make an impartial decision on the situation. The second case mentioned in the letter becomes relevant, as the last course taught by Ian Lewis was on 20.12.92, almost a month before his suspension was put in place. Therefore, Karen and I agreed Ian's suspension ended on the 17.10.93.

LISA BERNASCONI



Department of Environment and Natural Resources

Eyre Branch
West District
75 Liverpool Street
PORT LINCOLN 5606
Telephone: (086) 883 177
Fax: (086) 883 110

Postal Address:
PO Box 22
PORT LINCOLN 5606
Reference:win:

NATURAL RESOURCES DIVISION

13 February 1995

Ms Lisa Bernasconi
National Director CDAA

Dear Lisa

Thank you for your letter of 21 January 1995 regarding Warbla Cave in Nullarbor National Park.

Warbla Cave is being managed as a reference site as one of the large caves of the Nullarbor with the least disturbance so that it can remain as a baseline site for approved research. As such, it is not available for recreational activities.

It is also considered to have important Aboriginal, biospeleological, geomorphological, palaeontological and mineral deposits.

While recreational access to Warbla is not available, research into the chemistry and quality of the lake waters of Nullarbor caves has included Warbla Cave in the past and I am sure if such access is approved in the future then other activities such as mapping can be incorporated. CDAA approved divers would be required to undertake this work and I can refer any permit applicants to your organisation.

Yours sincerely

Ross Allen
Manager Operations
WEST

Page 9



CAVE DIVERS ASSOCIATION OF AUSTRALIA

(Incorporated in South Australia)
P.O. Box 290, North Adelaide, S.A. 5006

Dear Ian,

We are writing to inform you that due to your lack of response to our correspondence and to a violation of a regulation, you are now placed under a nine month suspension.

At the 1991 A.G.M. a vote was taken accepting the Sinkhole Diver Course Outline which was also previously discussed and accepted by the majority at an Instructor's meeting. Page 7, section 713 of this yellow document reads: "instructors are to wear twin independent cylinders on all supervised dives" during a silt course. During March 1992 you ran a sinkhole course and used only a single tank, therefore breaking this regulation.

As you have not responded to notification of the 10/06/92, a nine month suspension is now in place commencing on the 17/01/93.

There is also a second case to be answered, which is teaching while under suspension. The case being a cave course with Tim Miles taught during December, after being told by Lance Mitchell that you were suspended until further notice. In regard to this matter, we would like to receive a response in writing from you by the 25/02/93.

National Directorate

APRIL 1995

BUSINESS REPORT

During the first six months of the current administration significant "belt tightening" policies have been implemented. Office bearers have been advised of their spending limits (eg. telephone reimbursements have been limited) plans have been re-thought and the question of financial cost has taken priority, (eg. some research projects have had to take a lower priority) and expenditure incurred on behalf of the Association without permission and/or substantiation has not been re-imbursed. These procedures have been successful in limiting expenditure and have highlighted areas in which we can continue to cut costs.

For the next six months I would expect that Association expenditure will be further reduced — we do not anticipate any out-of-the-ordinary expenses. This year re-imbursements for officer bearers' attendance at the AGM will be limited, as will expenditure on venue and facilities.

In the future I would envisage a continual close financial monitoring of Association funds, increased revenue raising and a heightened profile of the Association in the diving market place to attract new members — having a sale price on the front of Guidelines will encourage dive shops to acquire and sell copies. Those members not wishing to support the Association in an increase in membership need to consider the alternative — being an increase in membership fees for existing members.

I firmly believe that the Association's charges (for instructor members, instructor materials, publications etc) to be too low

and would support increases in these areas.

To those office bearers and members who have shown their active support of the strategies implemented in the last six months — I thank you. To those who have not, and fortunately there are not many, I can only remind you that these are not new ideas or procedures — I gave the membership a commitment in 1994 and in Guidelines that I was serious about the Association's dollars and that the Association needs to be run in a more professional and business-like way, and I will continue to be firm in this attitude.

I would hope that the procedures put in place by this Directorate will continue successfully into the future, regardless of the individuals in the Directors' roles. Continuity of policies and procedures is an integral part of the long term development of the Association.

I am interested in hearing from any member with ideas or questions as to the financial administration of the Association. You may call and speak to me (after hours) on the Association's number (087) 25 0002 or leave a message, anonymously if you wish. I'm not at home during the day and am heavily committed time-wise at the moment but if you leave a message I will endeavour to call you as soon as I can.

All members please be advised that the Manager for Kilsby's access may be contacted by mail. Please respect the Manager's work and family commitments by contacting him by phone at work or at home. Your co-operation is appreciated to ensure that this new access system runs smoothly and to your benefit.

The Annual General Meeting for the Association will be held this year at the International Motel, Millicent Road, Mount Gambier on Saturday night July 29th — Ph (087) 25 9699 or toll free 008 088 877. The International is offering reduced rates accommodation for CDAA members — \$45 per room. The International Motel offers reduced rates to CDAA members all year and welcome your enquiries. Talk to the proprietor, Scott.

The AGM will start at 8.00pm sharp, and will be followed by a hot supper. Please remember that membership renewals are due prior to the AGM.

Thanks to those members who have indicated their interest in being part of the mixed gas research group. We will be in contact with you.

Any nominations for changes to constitution need to be to the Business Director in writing by 9 June 1995. Call for nominations for positions closes last mail to the Business Director 25 May 1995. Please include a brief 100 word message to the membership in support of your nomination. Polling closes last mail 29 June 1995. For all nominations and/or polling correspondence please indicate "Attention Business Director" on the outside of your envelope. Correspondence can be mailed direct to Karen Kennedy at PO Box 1153 Mt Gambier SA 5290, and by registered mail if preferred.

It has been great to see lots of courses being held locally — and lots of weary divers out and about at "The Barn" and various other training sites. Keep up the good work.

KAREN KENNEDY
Business Director

Rockclimbing Calls

The CDAA has no standard for climbing calls. Snowgum, 366 Lonsdale Street, Melbourne 3000, has released a flyer containing these calls.

After the belay is set up and climber is tied on, the belayer pulls in the rope until it is as tight as the climber required:

Climber: "That's me!"

The belayer now puts the rope in the belay device:

Belayer: "On belay. Climb when ready".

Climber: "O.K. Climbing".

Belayer: "O.K."

Always verify the other person's response, as it is often hard to hear over

the length of a climb. The climber should now be on the rockface.

If the climber wants some slack in his rope:

Climber: "Slack!" or "Rope!".

Belayer: "O.K."

If the climber wants rope taken in:

Climber: "Take in!".

Belayer: "O.K."

The climber must be sure not to call — "Take in slack!" as the belayer may only hear "slack!"

If the climber is unsure and fears that they may fall:

Climber: "Tight Rope!" or "Hold me!".

Belayer: "O.K."

If the climber wants rope taken in:

Climber: "Take in!".

Belayer: "O.K."

If the climber stops for any length of time then moves off afterwards, they should inform their belayer. There are no formal calls for this. A simple "Hanging around!", followed by "Moving off now!" should do.

When the climber reaches the top of the pitch and has put in a belay:

Climber: "I'm safe!".

Belayer: "O.K. Off Belay!"

Climber: "O.K.!"

The climb has now finished and the system of calls starts again.

Have fun and safe climbing!

GUIDELINES

Mixed Gas in English

For most of us, Nitrox, mixed gas, Trimix, Heliair, Heliox etc are words that conjure up complicated images of all sorts of things from divers wrapped in cylinders and gismo's to saturation divers working on oil rigs. This need not be the case. Mixed gas (which includes Nitrox) is not a magical potion but just another set of tools for divers to use to attain their particular goals in a safer way. Like everything it has its advantages and disadvantages and has just like air diving, its own set of rules.

First of all lets debunk some myths. There seems to be general confusion about what all these gases are for. For example "Nitrox is for long deep dives" — Definitely NOT the case. To give you some idea have a look at the following — it explains the best applications for various breathing gases.

Depth

0

10 From 0 to 30m the optimum breathing gas is Nitrox and the most common of these are Nitrox 32 or Nitrox 36 (the number refers to the % of Oxygen, the rest of the gas is made up of Nitrogen)

20

30 From 30 to 40m Nitrox can be used but only Nitrox 32 or less! Now Nitrox 32 has a maximum depth limit of 40m but what's the big deal, most agencies including the CDAA stipulate this as a maximum depth, so if you go by the book you can't go wrong! But SURPRISE Nitrox 21 (or air as we call it), is probably best unless the aim is to mildly reduce Narcosis but this isn't really a big advantage with Nitrox anyway.

40 Maximum recommended depth by CDAA!!!! And many other agencies. Why? Mainly because below this depth if we are breathing air we have excessive Narcosis problem. But, what if we can solve this problem by changing the gas we breathe. Imagine little or no narcosis! That means safer more alert divers less danger, less risk. So we remove or reduce the Nitrogen and replace it with a safer but more expensive gas like Helium.

50 The best gas below 50m and beyond depends on the aim of the dive, this could be to minimise decompression or minimise narcosis or perhaps to reduce High Pressure Nervous Syndrome (at depths below 150m+) the gas mixture will depend on exactly what the diver is trying to achieve.

Let's take a hypothetical dive. For example a cave we all know, Weebubbie. Let's say a team want to push right to the back at 45m but expect to get to 50m (forgetting the depth limits for now) for about 20mins at that depth. They want to make accurate unimpaired observations but also have a lot of gear to move in and out of the cave,

On air they have several problems, they will be Narc'd at 50m and their reactions and observations will be impaired, they will have quite a bit of decompression to do and want to minimise that, plus make the long hard climb out safer (who wants to get bent climbing up a pile of rocks after a 1.5hr dive to a max of 50m?)

So we pump the figures into a computer using program like DRX or equivalent and it recommends gas mixes, and gives us our decompression schedule.

In this case we use Nitrox 32 on the swim in and Trimix (a mix of three gases in this case we have selected 42.5% Helium / 45.8% Nitrogen / 11.7% Oxygen) at 50m. Why? because at 50m we are then only as narc'd as we would normally be at 25m ! (This is called the E.N.D. or Equivalent Narcotic Depth)

We use Nitrox on the way out and for our first few decompression stops and then pure O2 at the 6m and 3m stops.

By doing this we dramatically reduce our decompression times, prevent a mild case of hypothermia, reduce or eliminate our Nitrogen narcosis and depending on how close to the line we go we have also reduced the chance of getting bent on our climb out of the cave!

Not bad, certainly a lot more advantages than doing the same dive on air!

Now let's summarise & cut through

(Continued on page 12)

MEMBERSHIP

Membership: \$45

Requirements:

- 2 passport photos
- stamped, self-addressed envelope

* Please include signed indemnity form in this issue of Guidelines, if not already signed.

From 1st October onwards, late renewals shall incur a \$20 late fee.

INSTRUCTORS

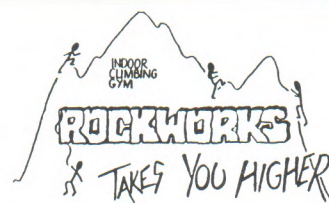
New members:

- \$45 membership
- \$20 joining fee

*This overrides anything on the old membership and joining application forms.

Student manuals do NOT include either joining fee or membership. That must accompany all paperwork before a student will be processed.

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(Continued from page 11)

some of the techo talk bull. Put quite simply:

1. Nitrox is not for deep dives and only marginally reduces narcosis but does reduce the risk of decompression sickness or possibly extend bottom times at certain depths. The very safest way to use it is to dive on Nitrox but use air decompression tables, you can't get much safer than that!
2. Air has limited applications, it's easier to get bent on and has a maximum safe

depth of approx 40m (Just like Nitrox 32).

3. Human beings can only breathe oxygen at a partial pressure of between 0.16 and 1.6 atm to stay alive.
4. Nitrogen is generally bearable at a partial pressure of 3.95atm or less (an E.N.D. of 40m, more than this and we are getting quite narc'd.)
5. Helium poses problems at great depths (but so do a lot of other things)
6. Deep diving gas mixes are often not

life supporting at shallow depths and cannot be breathed often until 5 to 10m depth.

7. All the other rules of diving and cave diving apply but even more strictly.

Finally gas mixing; Only a qualified gas blender is allowed to mix gas, even Nitrox, in fact especially nitrox. Why? Because oxygen under pressure can help other materials burst into flames or even explode. So pure O₂ must be handled with care. Pure O₂ can only be used in O₂ cleaned and O₂ service equipment until diluted to at least 40% then can be used with regular gear. (O₂ cleaned means all filings, dirt, grease and contaminants and easily combustible items have been removed.) but if that gear contacts the pure O₂ under pressure before it is diluted (like your scuba cylinder would) it must be O₂ cleaned first. That means you can't have nitrox mixed directly into your cylinder unless it is O₂ cleaned but you can use your own reg if the mix is 40% O₂ or less. Like playing with explosives, don't do this stuff in the back yard get a qualified professional to do it for you.

Now. Here's the heavy stuff, what I have tried to do here is explain a bit about mixed gas and Nitrox, but NO-ONE should dive on it, try mixing it or have anything to do with it unless they are fully trained, experienced and certified. The information in this article is only a brief explanation and is not designed for use. A full understanding of the physics and physiology of mixed gas diving is required prior to any dives taking place. Only certified mixed gas divers should dive on mixed gas. It's just like giving an scuba unit to an unqualified inexperienced diver, the consequences may be fatal. So where can you learn from? Try contacting IANTD Australasia on 02 550 0830 or contact the author of this article.

Copyright 1995
A. Poole

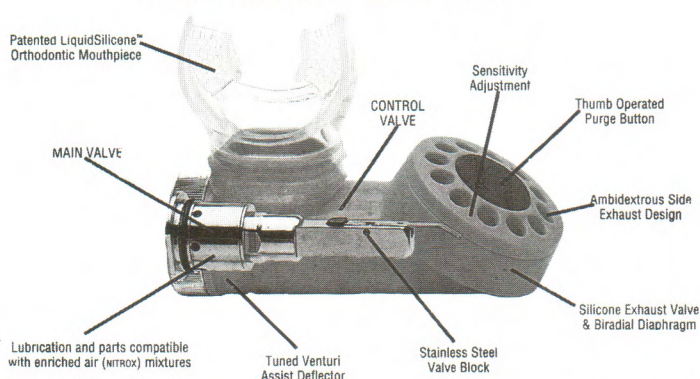
The author of this article Andrew Poole, is a Technical Nitrox instructor, qualified Trimix diver and has extensive Nitrox & Trimix diving experience both in Australia and overseas and is available for questions on 0418 928 038.

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Ronald Murray McKay

Commonly known as "Murray" to many cave divers over the years, sadly passed away on January 4th 1995 at Mount Gambier. Murray, as I got to know him over the past five years, was, to say the least, a "character" where the mould was thrown away after his birth on July 11 1922. Murray to me was a good friend who "couldn't bloody understand why these crazy cave divers kept coming back to dive McKay's Shaft". Murray used to say "what's the world comin' to — where is it all gunna end!"

For those of you who were able to meet the man, he loved a conversation and to me, this was Murray's gift. The gift of the gab. Murray had his finger on the pulse around the district and had a broad knowledge of people, places and events considering being raised on the farm and living in the one place all his life. Murray was proud of his sinkhole and I believe thanks to some divers, actually got to see it! Thanks must go to all the divers who helped me with the construction of the fence at McKays. This includes the South East Scuba Divers, Barclay group and, of course, Murray. To all the people that

knew Murray and dived McKays Shaft, I think you will agree — Murray will be missed as the character that stood around to see how things were going. I don't think McKays Shaft can ever be the same. Although, maybe, Murray has a better view of the sinkhole now!

I've included some photos of a diving group at McKays and a picture of Murray with Steve Arnel.

*Phil Argy
S.E.*

Representative

STOLEN WARNING

A member had his watch and wallet stolen from his car whilst diving Pics. With guaranteed diving times, this provides a perfect opportunity for thieves, so be careful out there!



Nohoch Nah Chich — the world's longest underwater cave

‘As the pack horses slowly appeared from the twisted jungle track, we began to unload our dive gear from the van. Today was to be special — we had finally organized to dive in the world's longest and most extensive underwater cave, Nohoch Nah Chich’.

The Yucatan Peninsula of Mexico contains some of the most spectacular cave diving the world has to offer. Most of the features are richly decorated with speleotherms, formed thousands of years ago when the caves were dry. They now provide almost unlimited diving potential to experienced cave divers from all over the world.

Most of the commonly dived sites are concentrated in a region which surrounds the small township of Tulum. The typical entrance is an undercut cenote (sinkhole) nestled within the thick jungle undergrowth. The water visibility is outstanding (Nullarbor standard) and the temperature is a mild 25C. One of the most unusual features found in the caves (despite the roof-to-floor decoration!) are the very distinct haloclines. This is a stratification of the water due to different salinity levels. In the caves of the Yucatan, less dense fresh water meets the much denser salt water at a depth of around 12m. As divers pass through this layer the water begins to mix, causing a loss of visual focus. It can be so pronounced in some sites, that the return swim (often several hundred metres) is done with very limited focus, which necessitates holding the line to keep from straying in the wrong direction!

We were now towards the end of a two month diving trip to Florida and Mexico. After all the exciting dives we had done, the “big daddy” of them all, Nohoch Nah Chich, still remained. The major entrance to this system is located on “Rancho San Filipe”, a Mexican ranch deep in the jungle of the Tulum region. The name Nohoch Nah Chich translates from the Mayan language as ‘the giant bird-cage’, which refers to the large number of small birds which use the huge cavern entrance as their roost.

The first major explorations of the cave found vast, richly decorated passages, leading for many kilometres.

The current level of surveyed passage stands at a staggering 21km+! The great advantage of this site for exploration has been the shallow depth, with much of the cave at only 3-8 metres.

Organizing a dive at the site was a little difficult. Contact was first made with Cedam Dive Centre run by Mike Maddern at Puertas Adventures. Mike was one of the caves original explorers and has an exclusive agreement with the range owner for access. We were referred to an American cave diver by the name of Chuck, who had moved permanently to Mexico and worked as a guide for Cedam Dive Centre. After negotiating a deal (US\$40.00 per diver) we left the organization to Chuck and agreed to meet the next day, at a predetermined location by the side of the Tulum Road.

Early next morning we were greeted by a magnificent sunrise as we looked out from the balcony of our beachside condominium, this certainly was the life! We packed lunch for the day and then made thorough final checks to our equipment. To get to the cave entrance would require transporting all the equipment via pack horses along a narrow path through the jungle. The distance from the edge of the road to the cave entrance was over 2.5km, so we left nothing to chance!

We drove to our pickup point as scheduled, and were relieved when Chuck arrived soon after. We had found out the hard way that time and organization run at a different rate in Mexico! The pack horses were soon led from the jungle by a number of Mexican Sherpas. They turned out to be sons of the ranch owner and were well acquainted with the routine. The horses were also old hands, they stood motionless as more and more heavy equipment was loaded on their backs. Unfortunately there weren't any horses left for us, so we began the walk through the jungle. After forty five minutes the jungle track moved into a cleared area which signified the edge of the ranch.

The main cave entrance is located adjacent to the primitive huts used by the ranch family. The site was selected due to its close proximity to an endless supply

of water from the cenote. The Sherpas soon had unloaded our gear and lowered it over the edge of the cenote to a wooden platform and shelter, set up specifically for divers.

After assembling our equipment (twin 80 cubic foot aluminium cylinders with ideal manifolds) we sat down with Chuck and went through a very detailed dive plan. Although he seemed quite laid back it became quickly obvious that Chuck knew exactly what he was doing. The plan called for us to begin on the main permanent line and then to make turns at seven separate intersections! Unlike complex cave systems in the US and Australia, the lines in Nohoch when generally T-ed, rather than separated by gaps. This can make for a very confusing situation if utmost care is not taken. Fortunately the lines in the cave are very well arrowed with not only a distance reference but also an indication on the line that you were on.

After Chuck has outlined the proposed route we sketched it on our slates and then individually repeated the plan back to him, so we were all very clear. Confusion on a similar complex dive, had led to a fatality in a nearby cave in 1992.

Once underway the true magnitude of the cave became apparent. The huge caven zone extends for over 100m, and provides a breathtaking view back as the sun streams into the richly decorated chamber. We followed the main line for several hundred metres before taking our first turn to “Charlies Line”. The passages were characteristically very wide (over 50m in some places) with decoration from roof to floor. In some areas it was necessary to squeeze through stalactite and stalacmites that almost blocked the tunnel!

Towards the latter part of the dive we entered an area known as “Disneyland”. This was a large tunnel with a profusion of enormous speleotherms. Huge columns with distinctive shapes were pointed out as Chuck quickly made notes on his slate to indicate their given name. It really was like a tour through a majestic dry cave — without the crowd!

After almost two hours underwater we slowly returned to the sunlit cavern zone. In all we had explored around 2 kilometres of breathtaking passage, yet had only scratched the surface of what is one of the world's great cave dives.

TANK CAVE

by R. Servadei and R. Boucher

How does one acquire the experience to enable them to dive Tank Cave? The answer is firstly to refer to issue number 48 of Guidelines. One of the pre-requisites is to have done 20 penetration level dives.

Unfortunately no one has created a 'Virtual Reality' machine to train cave divers for diving in Tank Cave. A good start would be to dive in a variety of caves, exposing yourself to most of the conditions you would expect to find in a narrow passage, complex network like Tank Cave or Murra El Eleevyn. Even if you haven't been to the Nullarbor you still get the experience needed, in the caves around the South East. You don't have to work for someone to discover another simpler or more accessible cave network. However, if you know anyone that has please contact us.

Englebrechts West is a good place to practice long dives (hypothermia, fatigue etc...). Long sequences of restricted passages are found in parts of Pines, Englebrechts East and West. 5L250 requires a long swim without entering air chambers, which is good physical as well as psychological conditioning. The restrictions in the main sections of Tank Cave are the low flat type, however become familiar with how to negotiate all types, in a systematic and careful way as to reduce any negative 'impact' on the cave. Learn to move purposefully through a cave. Become extremely familiar with correct procedure for negotiating a jump between fixed lines. Also learn to use logical and safe problem solving procedures.

By the time your are ready to dive in Tank Cave you must be familiar with the day-to-day skills of cave diving, and be capable of performing them instinctively (literally blindfolded). Tank Cave is a long network and contains all the difficulties encountered in other caves, as well as the new ones. You may possibly encounter multiple restrictions in zero visibility, multiple intersecting passages, and experience any associated disorientation problems, as well as perhaps any psychological problems associated with isolation. There's only one entrance to Tank Cave, and it is not unusual to be hundreds of metres from the entrance when it's time to turn around (the cave is not very deep), so air supply



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ARE YOU SUITED FOR
THE ENVIRONMENT?

management is critical.

Also remember that Tank Cave is an ancient and beautiful, naturally accruing phenomena. If you are privileged enough to see it, move through it carefully and enjoy the scenery.

During our most recent visit we travelled a circuit (A6 - A28 - A56 - A28 - A28 - A6 for all those familiar to the layout) with a total distance of approximately 1 km (exploratory dives greatly exceed this - Ed). Most of the passage from A1 - A6 comprises of large white walled rooms (which is a sign of formation by recent instability in the surrounding limestone), connected by restrictions formed by rock falls. From A6 - A27 the white walled

rooms occur less frequently, and the passage is transformed into narrower, dark colour passages, (have a look at the great photo taken by Peter Rodgers, that's on the back of your membership card). I think there is an opportunity for someone than is familiar with geology of Tank Cave to post an article into Guidelines, perhaps describing how it was formed.

The A26 - A27 passage arcs in a westerly direction. We travelled through the labyrinth with Rob leading the way. Rob moved through the narrow crescent shaped passage, illuminating the landscape with a surrealistic blue glow

(Continued on page 16)

Fatality in France

from his light, caused by the light absorption in the water. Beneath me, the floor of the cave was covered by silt that reflected a brilliant white light. On either side of the main passage lay the entrances to other passages. It was difficult to reel whether they formed part of a long passage or whether they terminated shortly thereafter. Along the floor of the cave there was a narrow gully, (approximately 40cm wide by 40cm deep), in which I could see fossilised Sea Urchin spines (Pencil Urchins) had accumulated as they had fallen from the surrounding limestone matrix.

We have a responsibility as a cave divers to remain with our skills, and ensure that our cave diving practises are logical, safe and within our abilities. Our equipment must be in perfect working order. Cave divers must be familiar with their equipment. Our movement through caves must be careful, to minimize any environment damage that could occur. By maintaining a high standard, we ensure that nothing can go horribly wrong, and that caves remain open to cave diving forever.

EXPRESSION OF INTEREST!

The Association is considering the tendering of the printing and distribution of instructional material. Prices, quality, content and copyright will remain under control of the CDAA. Persons interested in registering an expression of interest, please post your name and contact details to the Business Director, Karen Kennedy, P.O. Box 290, North Adelaide, SA 5006

INSTRUCTOR COURSE DATES

Warrick McDonald
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East Bentleigh, Melbourne

CAVERN COURSES

June 5th-18th
September 4-17th

SINKHOLE COURSES

July 3rd-9th
October 2nd-8th

The last two weeks, we had two accidents in France resulting in three cave divers' deaths. The last ones ended up yesterday after the rescue team recover the body.

'For sure there is to learn from these fatalities, and this is why I pass you the information. I apologize for my poor english and may the lack of diplomacy in the words used but this is only due to language barrier.

A) Five cave divers started an exploration in a cave south of France, the objectif was to pass the entrance sump and carry out the mapping of the dry cave beyond the sump. The sump was about 100 meters long and 10 meter deep, it was quite narrow not allowing two divers to dive side by side. Visibility was poor (1-2m). On the five divers, two were experienced and one was an outstanding cave diver, the others were on the learning curve. All the divers pass the sump and did the post sump explorations. On their way back they discovered the sump with a visibility close to zero. The more experienced diver was the last one to exit. On the way back one of the divers got entangled in the line. The first divers tried to assist her and cutted the line then they went out without the entangled diver (the visibility was zero), the last diver arrived on the cutted line and backward in the dry cave. Rescue teams arrived rapidly on site and dived the sump with difficulty due to the visibility. The sump was finally passed by one rescue diver (who installed a new line) without finding the entangled diver. Junction was established with the trapped diver. As they concluded that the missing diver was probably dead, the trapped diver was shocked and felt responsible of the accident. Despite of this, it was decided to dive out. As I mentioned before the trapped diver was a very experienced diver and the sump should not a problem for him in normal psychological conditions. Unfortunately he lost consious during the exit dive and drown, rescue diver was unable to assist him as there was no visibility and that due to the narrow passages the touch contact progression was impossible. The entangled diver body was discovered

later dead in the sump. This is a very sad story where errors occurred with an non conformance of the technical skills of the divers and the cave. More over the second death is something which affect a lot the french cave diver community.

B) South of Franch, a spring exploration was engaged to do a further penetration. Objectif was to pass the cave terminus 1100 meters from the entrance with a depth of 90 meters. The exploration team was constituted of confirmed divers who were experienced in mixed gas technics. Cave conditions were as usual in France with a visibility of 5 meters, water temperature 14 deg C and the average cave section is 3 meters by 4 meters. During one of the preparation dives, a diver was supposed to install some stage cylinders up to 800m point the max depth was 34m. He dived with a nitrox 40%, a DPV and a double 20 liters (independants) and some stage bottled. Rescue operations started 3 hours later and the body was discovered 800 meters from the entrance on the line on his way out, the point depth was 32 meters. His mask was full of blood, the DPV was operational as the regulators. The body was extracted yesterday and the depth gauge indicated that he reached 48 meters depth. Hyperoxia is certainly the cause of the death. The divers overpassed his objective ... he was experienced and aware of the oxygen toxicity limits.

Two fatal accidents in such a time frame is a great shock for the french cave divers community. Usual statistics is about one fatal accident a year per 1000 divers and concerned unexperienced divers. In these two cases, very experienced divers were killed which is something who rarely happened in the past. This is certainly due to our wish to push the limits ...

Sorry to pass such information but I think that everybody can learn about this, but please try to not polemize about what should has been done or not. It is sad stories for us and for the family, we will not forget the lesson(s) I hope ...

CHRIS PARRETT
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JUMP REELS

When More is not necessarily Better

If the old adage that we learn from our mistakes is true, then I am on the verge of being a genius! I base this on the prodigious number of mistakes I have made in a rather long diving career, and which I continue to make as my diving activities take new directions. My latest opportunity to commit blunders was stimulated by the introduction of Tank Cave into my diving itinerary. All of the gear needed to do long penetrations gave my wayward tendencies new and fertile ground. this time the problem was based around my jump reel ... a simple item of equipment, with specific functions: —

- to be used to search for fixed lines in a siltout

- to connect a main fixed line to a brach line (i.e. for a "jump")

My "Barrie Heard manufactured" jump reel is ideal for these tasks. It is compact and well designed. It came loaded with 16m of 1.5mm line, which is perfectly suited to its functions. My error was in trying to make the jump reel into something it is not intended to be .. a general purpose reel. All I did was to remove the 1.5mm line, and replace it with 45mm of thinning builder's line.

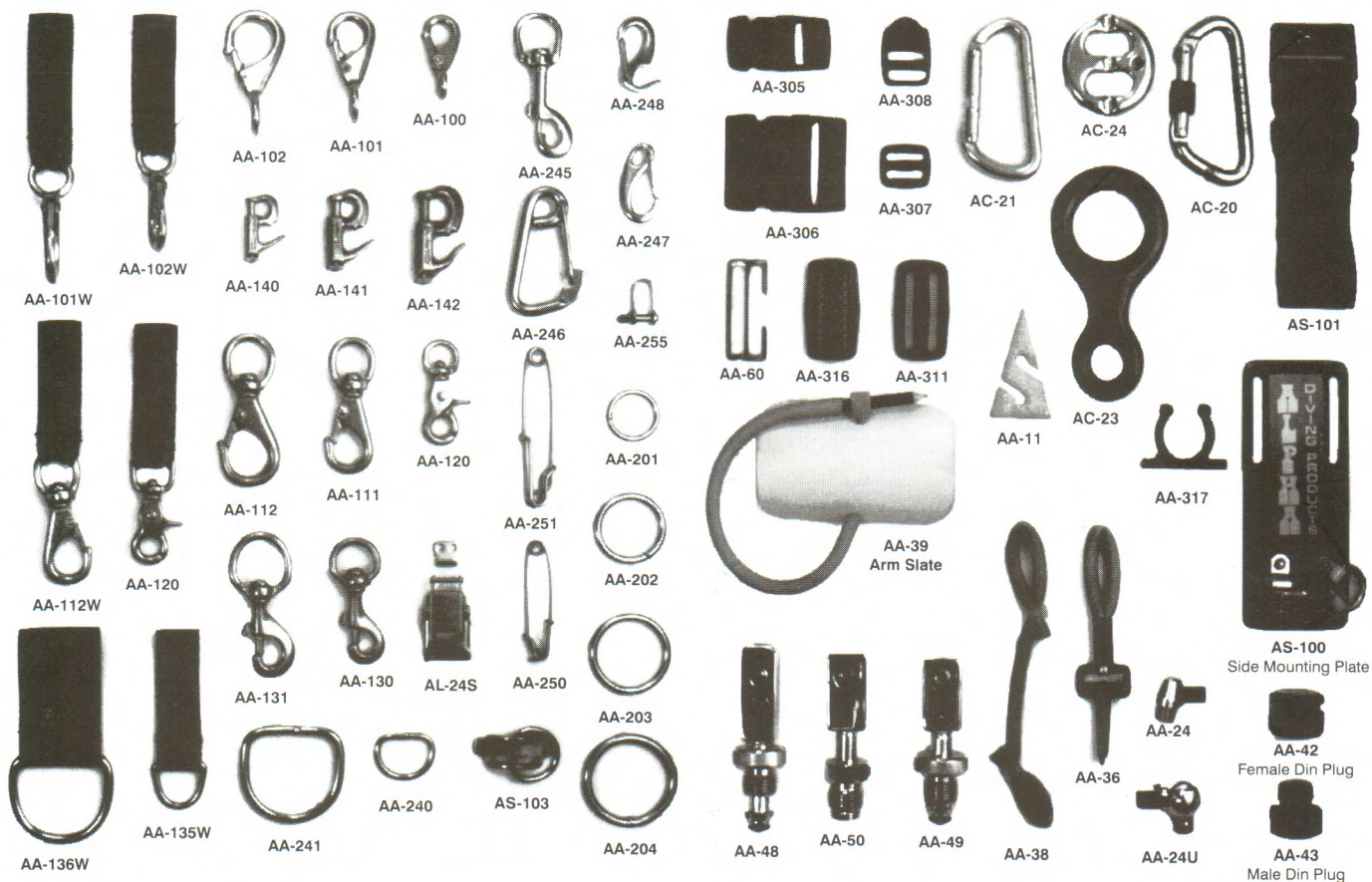
A few jumps later in Tank Cave and I was regretting my decision. The thinner line was very difficult to tie off, and to handle, especially later in the dive as my hands got cold. I was glad I was not

wearing gloves! I also noticed that the thinner (1.0mm) line stretched.

Some readers may be using 1mm line quite happily, and I hasten to point out that my personal experience was only at nuisance level, and did not constitute any hazard. However it did make me realize that by obscuring the basic function of an important piece of safety equipment, I created more problems than I solved.

As a CDAA instructor, I am now much more attuned to the concept of handle-ability of a line. There comes a time when a thinner line is just too thin to tie and untie easily. Sure, I've talked about it in my courses, but now I KNOW what a problem it can be.

STAN BUGG



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TRAINING STANDARDS BULLETIN - ALL MEMBERS

This insert sheet mainly contains Instructor information but is included to all members so you can see what is happening and the future directions. The Directors will be seeking input from members and instructors about these issues and other issues in the months ahead. Over the last 8 months my priority as Standards Director has been to let things settle after the last election, while also looking closely at solving Instructor problems and allowing all Instructors to get on with their courses without interference.

INSTRUCTOR RECORDS AND RENEWALS

It took 4 months for all the Instructor records to be delivered to me by my predecessor. The records were patchy and disjointed, partly due to ordinary record keeping over many years, and I selected an independent non-Instructor administration team to put everything in order. This is vital, now that insurance requires accountability. Recent renewal sheets sent to all Instructors are the new primary data base sheets for all future Instructor records. The collation process will continue over the coming months.

SPECIALITY INSTRUCTOR AREAS

As Instructor records have been collected they reveal a wide range of skills, experience and achievements of the Instructor division. Apart from courses being run, a strong pattern of Speciality Abilities can be seen which our CDAA membership may not be aware of. Here is a selection:

John Mc Cormick	Equipment Development	Barrie Heard	Mixed Gas & Rebreathers
Des Walters	Commercial Diving	Frank Ziegler	Commercial Diving
Greg Bulling	Management of Penetration Programs	John Vanderleest	Publicity and Business
Stan Bugg	Training, Writing, Reviewing	Liz & Andrew Wight	Documentaries
Hugh Morrison	Industry Representatives	Chris Brown	Expeditions & Overseas Techniques
Terry Cummins	"		
Warwick Mc Donald	"		
Ron Allum	Technology	John Dalla-Zuanna	Industry Instructor Training

This list is nowhere near complete. The CDAA benefits significantly from these and other commitments. And ironically this also causes our most urgent Instructor problem - one of 5 major problems the Directorate have been focusing on this year.

DECLINING INSTRUCTOR BASE - OR - GROWING OLD GRACEFULLY

With all this specialist activity, together with family, work and weekend commitments, there are now very few Instructors left running our "bread -and-butter" courses - Cavern and Sinkhole. This has caught up with the CDAA at last. We need our Specialists to do what they do best, but we also need a strong fresh intake to fill their shoes. We need these in ALL states, even South Australia because it is particularly top-heavy with Specialists. There is now a very large gap which has opened up nation-wide over the last 3 - 4 years.

POOR USE OF MEMBERSHIP RESOURCES.

The CDAA membership provides 2 main resources which have been overlooked or ignored. Firstly it contains at least another 30 qualified Instructors in all capital cities who haven't been encouraged to instruct for us, but who know what to teach and how to do it. They are keen but frustrated by a log-jam in our appointment procedures and with attention diverted to the Specialist activities. The Directors need to manage this situation much better. Secondly everyone in the CDAA has done our courses - we need to get input and opinion from members regarding course content, techniques and presentation. This will happen over the next 6-12 months.

SITES

The Directors have attended General Meetings in WA, SA, VIC, and NSW as well as keeping in touch with QLD members. We have had much feedback on their needs, centring around lack of Instructors and sites. We've tackled sites first - requiring new Instructor applicants to locate and submit suitable venues for CDAA training, or there is no point in having operations there. The result is an expanded national freshwater site list which will be published in booklet form for all Instructors and members later this year. Sites cover cavern, sinkhole, cave and allow each region to function autonomously.

COMPETITION

Our sport is often driven by both changes in technology and attitudes. More organisations are offering cave diving training, and cave owners here and overseas are steadily recognising them. This is partly because landowners now recognise that cave diving is really another adventure sport like many others that they see now on TV - with plenty of equipment, safety and training. Our image continues to improve vastly from the view 20 years ago of fear, lack of understanding and no control. In Australia other international training agencies are offering their versions of Cave and Sump/Penetration courses which are already becoming accepted and are making the CDAA review its traditional approaches. The courses are sound. We need to provide equal or better choices and better Instructor availability to run them.

THE ADMINISTRATIVE STRUCTURAL PROBLEM

The other primary factor that causes CDAA Instructor bottle-necks is the time scale to achieve Instructor status at differing levels. It takes years, even though applicants are already trained in instructing skills. There are 8 levels to work through and we lose too much time and talent along the way. I discussed the system in detail with Tony Richardson and later Greg Bulling towards the end of last year (they were members of the old Training Committee which administered it). This year I talked at great length with Stan Bugg whose job in NASDS is similar to mine. The common system weaknesses are an in-built reliance on getting to Mt Gambier so many times for training, no recognition of other relevant skills and background, and just nowhere near enough time and resources (or need) to run formal Instructor Training Programmes.

SOLUTIONS

The Directors sought professional advice regarding maximising the talents and assets available from Instructor members. We were advised to implement a widely used management criteria known as "Recognition of Prior Learning" ie giving credit for related skills and abilities in leadership appointments.

We are implementing this now by making 2 decisions:-

1. A series of Instructor appointments based on track record and abilities (prior learning).
2. Suspending the section of the Instructor Manual (Section IMCS) regarding Instructor appointment.

We are carefully using the powers elected to us (as we did last year in confirming that the old Training Committee would remain dissolved). In the future, Section 'IMCS' will need a much better and more workable replacement, based on membership input as well as further professional advice. The Landowner Committee is aware of our changes in this area.

APPOINTMENTS

All appointment decisions made are authorised by the Directorate and recorded in the new formalised Instructor Records System described earlier. They are based on courses attended, specialist skills, regional needs, previous contributions and involvement, and other relevant qualifications (ie Recognition of Prior Learning) of benefit to the CDAA Instructor operations on a local level.


<i>Trainee Cavern Instructors</i>	Simon Bendall (QLD)	Andrew Robinson (NSW)
<i>Cavern Instructors</i>	Gary Norgaard (NSW) Jane Bowman (VIC)	Peter Grills (NSW) Chris Edwards (VIC)
<i>Sinkhole Instructors</i>	Brian Cornell (VIC 1994) Liz Wight (NSW) Steve Sturgeon (WA)	Richard McDonald (SA 1994) David Ogilvie (NSW) Frank West (QLD reappointed)
<i>Cave Instructors</i>	John Vanderleest (VIC 1994) Steve Sturgeon (WA)	Steve Arnel (VIC) Frank Ziegler (VIC reappointed)
<i>Penetration Instructors</i>	John Dalla-Zuanna (VIC)	Barry Heard (VIC)

In addition the Directorate wish to receive expressions of interest from any Instructors to register applications for CDAA accreditation. A primary requirement will still be assisting on courses under supervision of certifying Instructors as has been done in the past. List your achievements, credentials and prior learning, and level of interest to instruct in writing please to PO Box 77, Mt.Gambier, 5290.

The Directorate would like to hear from you soon.

SUMMARY

A great deal of thought and effort has gone into assessing these problems over the last year. The Directors believe the CDAA will greatly benefit from freeing up our Specialists and developing a wider Instructor base. We welcome the new professional input as a service to our sport. Thank you.



Ian Lewis
Standards Director
May 1995
on behalf of the National Directorate (Lisa Bernasconi and Karen Kennedy)

PICCANINNIE PONDS ANNUAL PERMIT RENEWAL

All 1994-95 Annual Piccaninnie Ponds Permits expire on 30 June 1995.
If you wish to renew your Annual Permit for July 1995 - June 1996, please
forward the Renewal Form below with payment of \$30.00 to the following
address:

Department of Environment and Natural Resources
P.O. Box 1046
Mount Gambier, S.A. 5290
telephone: 087 35 1177
fax: 087 351110

PICCANINNIE PONDS ANNUAL PERMIT RENEWAL

SURNAME: _____

CHRISTIAN NAMES: _____

POSTAL ADDRESS: _____

_____ POSTCODE: _____

TELEPHONE: _____

CDAAL LEVEL: **SINKHOLE DIVER** **YES** **NO**

CDAAL NUMBER: _____ EXPIRY DATE: _____

PAYMENT DETAILS

CHEQUE/MONEY ORDER (PAYABLE TO "DEPARTMENT OF ENVIRONMENT AND
NATURAL RESOURCES")

CREDIT CARD AUTHORISATION

BANKCARD VISA MASTERCARD

CARD NUMBER _____ EXPIRY DATE _____

SIGNATURE _____



DIVERS ALERT NETWORK AUSTRALIA

The Divers Alert Network (DAN) was formed in 1980 in the United States to assist in the treatment of underwater diving accidents by providing an emergency hotline. DAN established a membership programme, initially providing subscribers with a diving accident manual and a regular newsletter dealing with various issues of diving safety. As DAN grew, it expanded operations to provide a free evacuation service for members, diving injury treatment insurance as well as a variety of other services, including a highly effective and successful oxygen administration programme designed specifically for divers.

DAN organisations have now been established in several countries. DAN Europe and DAN Japan have been operating for some years and provide similar services to DAN USA.

The Divers Alert Network Australia is now established in its own right as a not-for-profit, Australian organisation. One of its aims is to provide Australian divers with easier and cheaper access to the benefits of the International DAN system. Any excess funds generated will be diverted towards improving diving safety within Australia. For example, DAN Australia will provide funding for the Diving Emergency Service telephone.

DAN Australia has established its own oxygen administration programme which includes the latest Australian protocols and is proving to be very popular. Because of the International DAN Network, the award is recognised in many other countries, providing advantages to divers who travel and work overseas.

DAN Australia is supported by a membership programme, details of which are overleaf.

DAN Australia Membership provides:

- *Alert Diver*, DAN's bi-monthly magazine (with local insert)
- A copy of *The DAN Australia Emergency Handbook*
- Global emergency evacuation. A DAN member, traveling more than 100 km from home, whether insured or not, can be evacuated from anywhere in the world to an appropriate medical facility in the event of an accident or illness. The evacuation cover is valid whether the medical problem is diving-related or not.
- Prize draws for free equipment and dive trips
- Access to and discounts on various DAN products
- Access to DAN diving injury insurance (soon available for Australians)

DAN Australia Membership Application

I wish to apply for membership to *The Divers Alert Network Australia*. 0028

Name _____ Birthdate _____

Address _____

Postcode _____

Tel _____ AH _____ BH _____ Fax _____

Other family members (only required for family membership)

Name _____ Birthdate _____

Name _____ Birthdate _____

0028

Method of Payment

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Amount of payment:

- ☐ A\$35 Membership
☐ A\$55 Family membership

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- ☐ Enclosed is a cheque/money order
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Expiry date _____

- ☐ Mastercard
☐ VISA
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Signature _____

Send to:



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P.O. Box 134
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Tel: 03-563 1151 Fax: 03-569 4803