

AUSTRALIAN

The Journal of the Australian Speleological Federation

CAVER



No. 157

Autumn 2002

Training and Accreditation

ASF Environmental Fund

Harness Hang Syndrome

Bulmer Cavern

ISSN 0817-8240

Australian Caver Notes

Publisher Position Vacant

Angus Macoun has resigned as Publisher of *Australian Caver*. Expressions of interest are sought for this important role in ASF. Please contact the Executive for more details.

New Production Manager

Australian Caver welcomes Joe Sydney as its new Production Manager. Joe will be responsible for managing the printing and mailing of the Journal as well as ordering back issues.

Please remember that updating member address details in the ASF Membership List is the responsibility of your club or society.

To maintain the production quality of *Australian Caver*,

*we need an
Advertising Manager!!*

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THE RECENT INSURANCE CRISIS diverted the attention of the Executive from other tasks that the Federation could and should have been pursuing. This, although necessary, was unfortunate.

However, what are the priorities for the Federation? Many members have different answers to this question. These answers are dependent on their personal and club interests, situations and perspectives. They range widely from safety to training to conservation to insurance to representation to documentation to publication and many more.

Many people have ideas but feel that if they express them, they will be lumbered with the job when they do not have the time, ability or resources to fulfill that obligation. This myth must be dispelled. Just because you come up with an idea does not mean it relies on you to carry it out. It is important that the idea is not lost.

On the other hand, everyone's ideas cannot be handled by the Executive. Over the last few years, the Federation has been doing more than it had previously. Also, the Executive has taken on more responsibility for things getting done. Hence, the Executive is much busier than it ever has been before. There is now a problem of having a very busy Executive and not wanting to lose ideas for improvements.

Simply, more people are needed to be involved in the activities of running the Federation. The Federation is not some ethereal body to be complained about. It is not the Executive. It is all of us. When there is a problem in the Federation, it affects us all. The obverse to this is that we all have the responsibility and obligation to find a solution.

This, of course does not simply apply to problems but to improving the Federation and its activities. It should not be assumed that because something has been done a certain way that it is the best way. It should also not be assumed that an idea cannot be improved on or that something cannot be done better.

We all have a part to play in improving the Federation. Everything cannot

be left to the Executive. We all have different time and resources constraints. We all have different interests. We are all members of the ASF. We can all make a contribution.

One of the major activities of the Federation is this Journal. This is also an area which is both easiest to contribute something to the ASF and one of the most in need.

This edition of *Australian Caver* looks somewhat different. This is due to me acting as Guest Editor along with the use of new layout software and the use of gloss art paper. Hopefully, the potential can be glimpsed and also hopefully, you like it.

A number of articles that make up this edition were sought out. However, this situation needs to change so that contributions are forthcoming without so much need to go searching for them. Everyone in the Federation can help with this. It does not take much to fill an issue. If someone from each club sent an article once a year, there would be more than enough material.

To continue to have twenty-eight pages and gloss art paper and to ever have a colour cover again, more funding is required. This means either a redistribution of spending by the ASF, an increase in fees or raising funds from elsewhere such as advertising. An Advertising Manager is required to bring this to fruition. The alternative is smaller issues on bond paper in black and white.

There are many other ways that a contribution can be made to the Federation. You need to make a decision to be involved actively rather than being a passive member and then decide what interests you most. Most of the Federation's activities have a Commission or Committee to deal with them. Contact the Convenor and offer your idea or assistance. If you have something totally new, let the Executive know.

It doesn't matter what or how or how much. What matters is that you are part of our Federation by taking part in it.

Angus R. Macoun,
Publisher and Guest Editor.

A Message from the President on Insurance and Fees

by John Dunkley

IN MAY 2002 a Sydney swimmer was awarded \$3.5 million for injuries sustained when he was dumped in the surf. He successfully sued the local Council, saying that he had relied on their judgment and that of the Surf Life Saving Association about the risks, and that they should have warned him of the presence of near-shore sandbars.

After four months of searching last year, ASF managed to source public liability insurance that would cover something like the speleological equivalent. We were fortunate: media reports show that many organisations and community events have folded because they were unable to obtain even a quote for such insurance. Some that did succeed were subjected to ten-fold increases in premiums.

None of us is gladdened by an obligation to pay for insurance that we either don't really want, or that is being forced upon us by public and private landholders. Perhaps you see it as an unfair tax, the only difference being that the impost goes to an insurance company rather than the government!

This issue has created rifts within some member clubs as treasurers and committees struggle to justify the necessary rises in fees, and to stem the fall in their membership. The stress of dealing with queries and demands from members about paying a share of the premium has now contributed to a significant breakdown in the ability of the ASF Executive to pursue the Federation's other priorities. Indeed, media reports suggest that insurance and the fear of litigation is creating serious damage to the whole social fabric of volunteerism in Australia. Like the committee of your club, all the ASF Executive are volunteers who donate not only their time but usually significant out-of-pocket expenses as well. But neither your club nor ASF is an insurance agent. We cannot go on like this and it is not fair to either your club's committee or to the ASF Executive, to expect them to.

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What is ASF doing?

Look folks, we are doing what we can. Alan Jevons has lobbied Senator Coonan. Jodie Rutledge is conducting a membership drive (to spread the cost), and we are investigating bulk-buying arrangements with other organisations. Several key members have attended community and professional seminars on the problem in recent months: Alan Jevons in Brisbane, Lloyd Robinson in Wollongong, Jodie Rutledge in Sydney and Newcastle. The news, frankly, is not good: our best estimate is that the light at the end of the cave tunnel will not be switched on for maybe two years.

Understandably, clubs and individuals have over the last few months expressed disquiet about insurance and membership issues, with some seeking dispensations and exemptions of one kind or another. This has probably been driven largely by the hip-pocket nerve. However a major problem appears to be that ASF has not sufficiently emphasised the fact that the premiums are essentially fixed. Thus a reduction in contribution from one class of member inevitably means a greater contribution by someone else.

The Executive is gravely concerned that its ability to manage the Federation's business is being seriously diverted by the issue of insurance and the resulting membership fees. We simply cannot accommodate the conflicting demands, and concluded that hasty, ad-hoc solutions were ill-advised. Instead we have established a Committee on Insurance and Fees, led by Iain McCulloch, President of NUCC. This is not buck-passing. With wide representation, the Committee has over the last few months endeavoured to seek a consensus on how to handle insurance and membership fee issues, in a manner similar to the exercise conducted in 1997 which was accepted unanimously by the ASF Council.

Iain can be contacted via email at <iain@geology.anu.edu.au> or by phone

NEWS

on (02) 6278-6569 (h) or 0412 293-619, and would be glad to hear your views.

It's a certain bet that neither your club nor ASF lists as an objective "to act as an insurance agent for members". OK, so insurance is necessary if we are to continue our speleological pursuits, and that makes it a priority. However, let's put things in perspective. Yes, it distracts us. Yes, it hits our pockets. Yes, it's caused some dissension in your club. Yes, you'd like

to find someone to blame. But looking for someone to blame for the unexpected is what caused this insurance mess in the first place. Don't fall into the same trap. Don't take it out on your treasurer, or your hard-working committee, or on ASF. It's not the end of the world. It's not even as bad as the foot-and-mouth scare that stopped outdoor activities entirely in Britain a couple of years ago.

Let's approach it with goodwill. We'll obtain the best

deal for you that we can, but we don't like it any more than you do. Your dissatisfaction is understandable and warranted, but the best target is your local Member of Parliament. Remind them of their obligations towards maintaining a civil society that values and rewards community service, volunteerism, care for others and care for the environment. Tell them that this insurance mess is undermining those causes. So far, politicians have made the usual noises but not produced anything positive.

Elery Hamilton-Smith HonDAppSci (RMIT)

Founding Secretary and longest-serving President of ASF, Professor Elery Hamilton-Smith received an Honorary degree of Doctor of Applied Science from the Royal Melbourne Institute of Technology in May 2002.

Elery is that rare commodity in modern times - a real polymath whose contributions to the study and conservation of caves and karst are quite exceptional, and an academic who rose to the rank of Professor without benefit of a formal university degree.

In reporting his earlier award of AM last year, we outlined his remarkable background in Australian Caver No. 154 - he even edited this newsletter for ASF for some years and has been a regular contributor for over 40 years.

He was ASF's first Fellow (Honorary Life Member) in 1974, and recipient of the Edie Smith Award in 1976, the only person honoured with both awards.

Arthur Clarke Made Fellow of ACKMA

Arthur Clarke has received the award of Fellow from the

Australasian Cave and Karst Management Association. This is the latest in a string of achievements for Arthur, who is a former ASF Vice-President, recipient of the ASF Certificate of Merit, a tireless advocate for cave conservation, and an accomplished cave and cave life photographer who won three prizes in the Photographic Competition at the last ASF Conference. Congratulations, Arthur!

Executive Changes

At a meeting of the Executive in Sydney on 4th and 5th May, the resignations of Peter Berrill and Alan Jevons were accepted with great regret and they are thanked for their considerable contributions.

The Executive elected John Dunkley as President and Chris Bradley as Senior Vice-President. Nick White and Graham Pilkington are welcomed to the Executive as Vice Presidents. Peter Berrill was appointed a non-Executive Vice-President with specific responsibility to work on the Public (Environmental) Fund.

The Executive now comprises:
President
John R. Dunkley, MEd, BEc, DipEd
Senior Vice-President
Chris Bradley, BSc

Vice-President

Nicholas White, MA, BSc

Vice-President

Graham Pilkington, BSc

Vice-President

Joe Sydney

Secretary

Katharine Rowsell, BSc, BSc(Hons)

Treasurer

Grace Matts, GradDipAdmin, SSoSJJ

Membership Secretary

Jodie Rutledge, RN, DipHealthSci

Executive Secretary

Jay Anderson, BPsych

In accordance with the Constitution, six of these positions will fall vacant at the next Council Meeting.

Non-Executive Vice Presidents

Peter Berrill

Peter Dykes, BSc (Hons)

ASF Codes in PDF on Web Site

The following codes and guidelines of the Federation are now in PDF format on the ASF web site (www.caves.org.au) for easy downloading and printing:

- Code of Ethics & Conservation
- Minimal Impact Caving Code
- Minimal Impact Rescue Code
- Cave Safety Guidelines
- Cave Diving Code
- Free Diving Code
- Cave and Karst Terminology

ASF Registered as an Environmental Organisation

by John Dunkley

THE ASF WAS FORMALLY registered as an Environmental Organisation (EO) on 6th June 2001, by the then Minister for the Environment and Heritage, Senator Robert Hill. This was the culmination of three years work by the Executive, and strong support from the clubs making up the ASF Council, which approved significant changes to our Constitution to meet the registration requirements. Registration brings significant benefits as well as obligations.

Benefits

1. *As an EO, ASF and speleologists generally are perceived more positively and ASF enhances its corporate image and reputation.*

ASF has always had the objective of encompassing those interested in scientific, management and other aspects of caves. An enhanced image and reputation in turn reflect positively on all speleologists, clubs and societies.

2. *Donations to the Public Fund are tax-deductible, unlike other donations to ASF for specific purposes.*

This means that activities previously paid for directly from members' fees can be funded through the Public Fund. Conversely and because of the tax-deductibility facility, money in the Public Fund can be used only towards our environmental objectives.

3. *ASF is eligible to apply to Environment Australia for funding as an Environmental Organisation.*

Separate from the Public Fund, this is a competitive grant which the Executive will pursue this year. To take advantage of this eligibility we need to prepare "an activity profile for projects which could be facilitated by a grant of funds".

Activities which might qualify include much the same sort of things which can also be supported by the Public Fund such
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as cave rehabilitation and restoration; trail marking; gating; development and promulgation of conservation codes (e.g. Minimum Impact Caving Code); liaison with other cave users such as the Australian Army and rescue personnel; submissions to management authorities; developing individual cave management plans; and possibly the publication of *Helictite* and the Karst Index Database project.

Any funding received from Environment Australia will be managed by the ASF Executive.

Obligations

The primary obligation is that we must ensure that the Public Fund is managed in accordance with the Constitution, and that everything we do must be consistent with, and be seen to be consistent with our aims, which are:

a) *to safeguard and protect the natural environment, specifically the cave and karst environment of Australia;*

b) *to gather and disseminate information, develop and promote policies, foster and publish research, and provide education and advice to the Australian community on conserving Australia's karst resources;*

c) *to bring together and represent persons interested in caves and karst in Australia and the attainment of the Federation's aims; and*

d) *to foster speleology in all of its aspects.*

Other Activities

Registration does not fetter us from carrying out the kind of activities which we have for many years. We can continue to offer insurance, to promote safety standards, to develop new caving techniques, to be an advocate for reasonable access conditions, to publish magazines and books, to hold

ENVIRONMENT

conferences and seminars, to represent Australian speleology nationally and internationally.

Management

To meet the requirements, ASF had to amend its Constitution, particularly ss. 2, 120, 121 and 122. A copy can be seen on the ASF website. A majority of the Management Committee must be *"persons who because of their tenure of some public office or their position in the community, have a degree of responsibility to the community as a whole as distinct from obligations solely in regard to the environmental objectives of the Federation"*.

Directors

Appointed by the Executive, the founding Directors of the Fund Management Committee are:

Anne Atkinson, OAM, MSc
Retired consultant
Cairns

Peter Berrill
Self-employed businessman
Rockhampton

Maria Comino, LLB
Solicitor
Sydney

Anthony Culberg, BCom, DipEd, TTC
Accountant
Hobart

John Dunkley, MEd, BEc, DipEd
Consultant and company director
Canberra

As well as considerable experience in speleological matters, all bring their professional expertise to the task. Anne received her OAM and MSc for study, publications and advocacy of the Undara Lava Caves system in north Queensland. As an environmental lawyer, Maria worked on the culmination of the

Mount Etna epic. Peter and John have both been President of ASF, and Tony is a former Secretary.

The Next Step

The Management Committee has a fiduciary responsibility to ASF and a legal obligation to manage the Fund properly. At this stage we envisage that it will be assisted by an advisory panel of experts in various fields of speleology.

In the first half of 2003, the Management Committee in conjunction with the ASF Executive will develop a more detailed strategy for the Fund. We hope to arrange some meetings with clubs and interested individuals to exchange ideas on how the Public Fund can operate to their benefit. An indicative operational plan will be discussed at the next ASF Council Meeting.

Olwolgin Cave Discoveries

by Fran Head

This is a short coda to my "Nullarbor Tales" in *Australian Caver* No. 156 - I was dying to finish the story back then, but at the time I was sworn to secrecy!

In the last edition, I reported on the ISS 'hole-hunting' expedition which Ian Collette and I were fortunate enough to join last Easter, when we followed up the GPS locations of a number of promising 'black holes' recorded from a light aircraft by Max Hall. Especially successful was an area on the Roe Plains where several large dolines yielded caves going down to water.

Recording this for the WASG newsletter, I wrote, "one at least appeared to have some depth of water, but it remains to be seen whether the cave divers will want to follow up where such long

hikes are involved". I thought I was making a factual statement, but keen diver and WASG member Paul Hosie took it as a personal challenge, and was off to the Nullarbor as soon as he could organise a trip.

The first investigative trip, supported by WASG dry cavers Dean Slater, Kylee Draper and Jeong-il Moon, established that the cave we had imagined might 'go' did not, whereas the one we had written off as highly unlikely was, in fact, very promising. The small entrance lake was found to lead into a major conduit with many side tunnels as well as a large lake chamber.

Exploration and surveying dives were conducted and recently completed by Paul and Andrew Nelson, producing roughly 1.3 km of surveyed passage. I believe this puts it among the longest underwater caves recorded on the Nullarbor. With the approval of the discoverers,

Paul has named the cave Olwolgin after a nearby bluff.

Paul will shortly be putting details and photos of this exploration, together with recent new discoveries at Mullamullang, on a relaunched version of the Trimixdivers website, so keep a lookout at www.trimixdivers.com.

2001: a cave odyssey Proceedings

Extra copies of the proceedings of the 23rd ASF Conference may be ordered by contacting Jodie Rutledge on (02) 4926-1959 or via email at <jodie@rutco.com.au>.

They cost \$15 which includes a printed copy as well as a compact disc.

There will be only be enough printed to cover the orders. After this time, only CD's will be available.

The ASF 'Mystery' Dinner

Words by Norman Poulter OAM & Photographs by Fran Head

IT WAS ALMOST 6:30 on an unusually balmy April (21st) evening, and the first of nearly 60 guests were beginning to arrive at the Lake Cave Tearooms for the special ASF 'Mystery' Dinner.

But what was the mystery all about? It all began at the recent '2001: a cave odyssey' Conference, where I had been co-opted to present some ASF Awards that had been outstanding since the Quorn conference of 1997.

All organisations, be they public, private, municipal or voluntary - have lapses in continuity from time to time. The ASF has not been immune from these periodic stumbles, especially in relation to the awards system. However, in stark contrast to another federal organisation, ASF was DEEPLY SORRY that this regrettable situation arose and took steps to rectify that condition as quickly as possible. But how to go about it?

The Awards are traditionally presented to unsuspecting recipients during the course of the 'Cavers Dinner' at the culmination of biennial ASF Conferences. It was only fitting therefore, to transfer the idea to a regional dinner and so, the ASF 'Mystery' Dinner was born.

The Dinner was organised without the recipients being aware that they were to become the focus of attention.

Several people greatly assisted me in the preparations for the ASF 'Mystery' Dinner. Robyn McBeath and the Committee of the Augusta-Margaret River Tourist Bureau kindly provided the CaveWorks museum complex as the presentation venue and displayed the doline lighting of Lake Cave itself - quite spectacular.

Peter Wood and Jane Scott of CLINC (Cavers Leuwin Inc.) handled many of the local (Leeuwin-Naturaliste Ridge) invitations and the catering arrangements.

Finally, Sandra and Rob Churchill of the Lake Cave Tearooms are to be

congratulated for providing a seemingly endless supply of excellent meals that made the Dinner the success it was.

Following are the citations for the awards made at the dinner.

Certificate of Merit

Wayne Tyson

Wayne began caving in 1979 using a 6m rope ladder that took up half the cargo space of his blue Mini Moke - and the solution tube of Dingo Cave, for which it was originally made. It was just as well that Wayne is relatively tall and thin as there would not have been much space left in the Dingo entrance shaft for climbers as a result of this ladder. His later attempts to use this short ladder



Wayne Tyson

to enter Bride Cave (best left unsaid) no doubt led to his long-term pursuit of furthering cave safety in Western Australia.

After some prompting from WASG

AWARDS

(Western Australian Speleological Group) President, Mike Newton, he became a member of WASG in the early 1980's and later transferred to SRGWA (Speleological Research Group Western Australia). Wayne has been the President of WASG and Safety/Training Officer of both clubs.

During his membership of SRGWA he has almost continually held the position of Safety and Training Officer and imparted his considerable knowledge of climbing and surveying skills to members through numerous and sometimes fun-filled training sessions.

He has also led or co-led many successful expeditions to remote areas such as the Nullarbor Plain, Indonesia, Viet Nam and Malaysia.

This award recognises his contributions to safety training as well as his leadership in cave exploration.

Keith Tritton

Originally a member of WASG from 1980, Keith transferred to Margaret River to become Manager of the Augusta-Margaret River Tourist Bureau where he constantly worked for raising the standards of the management and presentation of the Bureau's show caves to the public.

He became a member of the WASG Sub-Group (as CLINC was formerly known), becoming one of its longest continuous-serving presidents. Keith was also a respected and conscientious

volunteer Ambulance and First Aid training officer in Margaret River in addition to being an inaugural member (representing the Tourist Bureau) of CALM's (Department of Conservation and Land Management) Cave Management Advisory Committee (CMAC).

As a member of CMAC, he enthusiastically embraced the concept of establishing a speleological museum in the Leeuwin-Naturaliste Ridge and worked closely with the then chairman, Neil Taylor, to bring the idea to fruition. Despite early design obstacles, CaveWorks did indeed come to fruition, opening at the Lake Cave Reserve in February 1997.

Keith initiated the restoration and transformation of Moondyne Cave from a degraded former show cave into an innovative 'adventure' cave.

Sadly, Keith had died suddenly in November 1996 before the announcement that this award was to be conferred upon him and so it is with great sorrow that it was rather belatedly presented to his family, represented by his wife Kathy.

Peter Bell

Peter is another WASG member who successfully made the transition from city to country living, joining the Augusta-Margaret River Tourist Bureau in 1991 to work on the restoration and transformation of Moondyne Cave, ultimately becoming the Bureau's Cave Resource Officer.

The work in Moondyne was mainly carried out by Peter, assisted by caving volunteers over a six month period and he had to develop innovative techniques in order to remove decaying infrastructure, graffiti and staining.

ASF Awards

The ASF realised fairly early in its life that it needed an awards system to give recognition to people both within the ASF sphere, and those outside, who had, in one form or another, made significant contributions to all facets of speleology.

Following the death of Edith Smith, an early and respected pioneer of Australian speleology, the *Edie Smith Award* was established in 1968 to perpetuate the memory of Edie Smith, and give recognition to those who have made an outstanding contribution to Australian Speleology. The first Edie Smith Award was presented in 1972.

Another award was created in the early 1970's, of *Fellow of the ASF*. This is given for outstanding service over a long period of time to the Federation, the first presentation being made in 1974.

1982 saw the introduction of the *Certificate of Merit* to recognize specific contributions to exploration, scientific study, conservation or documentation of caves, including roles of leadership, administration, publication and development of new techniques and equipment.

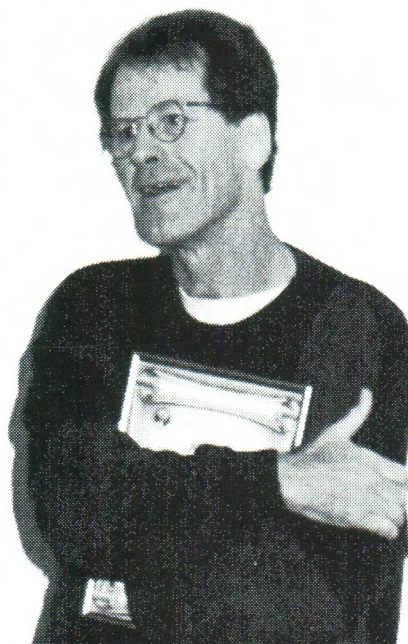
The three awards mentioned above were intended to recognise contributions for 'hands on' speleology. The ASF determined that there was also a need to recognise those who had made a notable contribution outside the normal caving scene and so an *Award of Distinction* was introduced in 1993.

Nominations for all these awards are now adjudicated by an Awards Commission with presentations normally made every two years during the ASF's biennial conference.

During its 48 year life as an un-powered tourist cave (1911-59), Moondyne was illuminated by a combination of candles and 'Tilly' lamps while special features were highlighted with grasstree frond flares and magnesium ribbon. The removal of the ash from these last two methods required the development of a special vacuum cleaner nozzle which apparently caused amusement to visitors.

With the installation of low-impact walkways where necessary and discreet track-marking, the cave was re-opened to adventure tourism in 1992. Since that time, Peter has worked to improve the lighting in Jewel Cave and redevelop Mammoth Cave.

Kununurra, and encouraged work in several others, his name has become permanently attached to the Exmouth region.



Dr. Bill Humphreys

Award of Distinction

Bill Humphreys

Whenever the Cape Range Karst is talked about in speleological circles, discussion centres around a handful of names, the most prominent of which is Dr. William F. Humphreys, universally referred to as "Bill". Although Bill has studied many other karst areas of Western Australia, as far north as the Pilbara and

The Cape Range, although marginally closer to Perth than the Nullarbor Plain, was a relative speleological backwater until the (Brian) Vine period of exploration and discovery during 1979-86. This in turn led to a Vine/WASG expedition in 1987 which included Bill amongst its participants.

Bill was interested in the troglobites known to occur in the

caves. As result of this trip, Bill not only joined WASG in 1988 but learnt the art of cave diving to further assist his research into the area's aquatic troglobitic fauna - although wisely leaving the more difficult regions to more experienced divers.

Bill raised funding to support two major expeditions to the Cape Range in 1988 and 1989 lasting several months which included not only speleologists but like-minded scientists. These expeditions formed the basis for a symposium held under the auspices of the WAMuseum in 1992 and the resulting proceedings, edited by Bill is one of the few, well documented publications written about an Australian karst region. He obtained funding for another expedition in 1995.

It is fair to say that as a direct result of Bill's insight, the Cape Range has become recognised as one of the most important bio-speleological regions of Australia with strong links to Earth's Gondwana period of evolution.

Although outside the time-frame of this Award, Bill's work at Cape Range would have played a large part in the successful outcome of the recent Mining Warden's Court decision.



Part of the presentation audience

Devil's Lair

Cave Link Leads To Winery Sponsorship at Under WAY Conference

by Fran Head

A UNIQUE CONNECTION between a winery and a cave is set to provide a special bonus for everyone attending the Under WAY conference in Bunbury next January. Award-winning Margaret River winery Devil's Lair has made a very generous donation - in kind, you will be pleased to note! - in recognition of the fact that the winery was named after a local cave which is also one of Australia's most important archaeological sites.

Devil's Lair Cave (6Wi-61) is located in the Boranup Forest south of Margaret River. Although the current horizontal entrance with its sheltering overhang dates from a very recent doline collapse, it is clear that the cave was readily accessible, and provided an attractive shelter from the elements, at a much earlier stage in its history. Scientific research over the past forty years has uncovered an exceptionally long record of human visitation.

Palaeontologists first investigated the cave in the late 1950s, but it was not for another decade that a human tooth and stone tools were identified among the collected material. In 1970, archaeological excavation by the WA Museum began in earnest, compiling a record of campfire hearths, stone and bone artefacts and large quantities of mammal and other bones. The latter included numerous kangaroos and wallabies, rats, mice, possums, birds and fish, plus a number of bones identified as those of the Tasmanian Devil - hence the cave's name.

Many of these animal remains would

have been carried into the cave, whether by other animals or humans. Some can definitely be identified as human food, as the bones are charred and were found in hearth sites. Fragments of emu egg shell found at various depths throughout the excavation suggest repeated visits by humans in winter or early spring.

Early radiocarbon dating of the artefacts and other remains placed human occupation of the cave at over 30,000 years before the present. However, the newest radiometric dating methods now estimate that Aboriginal groups were visiting Devil's Lair up to 47,000 years ago, making this one of the oldest occupation sites in Australia.



It was these exciting discoveries which inspired Phil Sexton when he was searching for a name and graphic image for his winery in 1990. (Vines were first established at the Devil's Lair

estate in 1981, but prior to 1990 the annual crush was sold to other wineries.) While we may feel that the animal on the original Devil's Lair label owes more, in general shape and appearance, to the Tasmanian Tiger (or thylacine) than the Tasmanian Devil, nevertheless it has a classic quality with its references to Aboriginal art. (Thylacine remains have been recorded from caves in the area, with a single thylacine tooth identified from Devil's Lair Cave.)

There was no specific archaeological basis for the image's extra leg. It was simply, Phil says, "a graphic device to add interest and balance to the creature, recalling those prehistoric cave painting

sites where overpainted and overlapping images sometimes appear to leave detached parts floating in space".

This 'spare part' came to the fore in 1996 when Devil's Lair introduced, alongside its successful premium wines, the Fifth Leg white and red blends designed to appeal to the younger set. As Southcorp Wines describes it, the fifth leg now signifies "a mischievous tearaway...not attached to the body corporate". The devil of the Fifth Leg label has become more solid and funky in appearance, a young larrikin out to have fun - and wherever he goes, the 'fifth leg' is always with him, appearing as his surfboard, the fish on his line, or the saxophone or guitar he is playing.



Thanks to the winery's generous sponsorship, these lively Fifth Leg wines will be served at the Under Way Conference, both on a complimentary basis at some of the Conference's special events, and at a heavily discounted price over the bar. And who knows, if you're very clever (or very lucky), you may be fortunate enough to win one of the premium Devil's Lair wines

as a prize.

With Devil's Lair as a Principal Sponsor, the Under Way conference is guaranteed to provide a very fine drinking experience!

Further reading

For further background to the region's archaeology, see Joe Dortch and Charles Dortch, "History from the caves: 50,000 years of Aboriginal occupation in the Leeuwin-Naturaliste region", *Landscape*, Spring 2001, pp. 41-47.

Note

As 6Wi-61 is located on an "A" class reserve vested in the WA Museum, and is protected under the Aboriginal Heritage Act, visits are normally restricted to approved scientific researchers.

YOUR CONFERENCE NEWS

UNDER WAY: 24th ASF CONFERENCE

incorporating 3rd Australian Cave History Seminar
and 6th Australian Karst Studies Seminar

Bunbury, Western Australia, 2 – 8 January 2003

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until you receive this journal. Register **now** to get your discount!

► **NEW CONFERENCE EMAIL:** underway@iinet.net.au

► **WEBSITE MOVES** Following access difficulties for which we apologise, the conference website has moved to a more reliable location. Check the latest information, and download registration and entry forms, from <http://members.iinet.net.au/~waynej/srgwa/conference/index.html>.

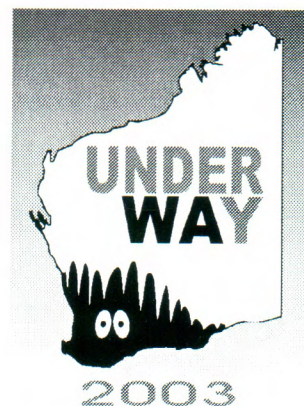
► **REGISTRATION FORM NOW ONLINE** with other updates on our website.
Merchandise pictures online soon!

► **TASTY NEW SPONSORS!** Since printing the conference brochure, we've been fortunate to secure some terrific new sponsors. With award-winning winery **Devil's Lair** as a Principal Sponsor, and additional support from Palandri Wines and Swan Brewery, things should go with a swing. The cave photography competition has received support from Kodak Professional, so let's have those winning images!

► **SURVEY STAKES** Another skills contest has been added to the program – win prizes for accuracy.

► **CONFERENCE PORT AVAILABLE** We've added a specially labelled Under **WAY** tawny port, at \$10 per bottle, to our 'logo merchandise' range. Write it on your registration form, or email your order.

► **PROGRAM PREVIEW** A taste of what's to come: Ken Boland, Paul Devine and Dr John Long will give all the background to the recent Nullarbor megafauna discoveries. You'll also hear Jill Rowling on underwater helictites; John Dunkley on 'the first Australian speleologist'; Garry Smith on reactions to foul air in caves; Lex Bastian on dune subsystems of the Swan coastal plain; David Wools-Cobb on cave photography for beginners; Lloyd Robinson on the discovery of Augusta's Jewel Cave, and Paul Tholen on threatened fauna communities at Yanchep. **If we haven't had your abstract yet, please forward it now.**



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Training and Accreditation

by Kathy Kingsford, introduced by Alan Jevons.

RECENTLY, the Federation has been asked to provide guidance to land managers whether the standards of another organisation meet those of the ASF. Also, the Federation has been asked to endorse the training system of another organisation.

Alan Jevons, has provided this article, written by Kathy Kingsford, Executive Officer for the Queensland Outdoor Recreation Federation as an overview

of the complexities involved in such requests.

Kathy wrote the article during her time as an employee of the Outdoor Recreation Council of Australia (ORCA) for that organisation in response to many outdoor industry groups questions about the issues of recognition of the training in outdoor recreation and how this could be managed and by whom.

Education and Training

Persons within the outdoor recreation industry in Australia, or those seeking to enter the industry, may have achieved formal qualifications from a university, from a TAFE college, or other registered training organisation or may have industry-based certification from industry bodies (e.g. Australian Canoeing) or 'in-house' organisations (e.g. Scouts, Guides). Alternatively, they may hold no formal certification and may have acquired their skills 'on-the-job'.

Quite simplistically, a person may be trained to achieve skills and knowledge. At the end, or throughout that training, they may be assessed formally, informally or not at all. Depending on who has conducted the training and/or assessment, and on the type of course, a student may achieve:

- a qualification (e.g. a Bachelor's Degree, a Diploma, a Certificate I, II, III or IV);
- a Statement of Attainment (e.g. for a cluster of competencies in rockclimbing);
- a statement indicating successful course completion; or
- a reference from an employer, indicating skills and experience.

Through both the university system and the vocational education and training (VET) system, students may choose to

complete a qualification (i.e. a Bachelor's Degree, a Diploma, a Certificate I, II, III or IV) or complete a smaller component of that complete qualification. Employers or land managers frequently ask how you align qualifications to actual workplace requirements, what 'level' of qualification is required, and the difference between a formal TAFE or university qualification and industry-based and in-house training. The answer is not simple.

It must be emphasised that not everyone will require a complete qualification. In some cases, a person may gain employment with a package of specific

Not everyone will require a complete qualification.

competencies that do not, in themselves, equate to a qualification (e.g. the competencies that equates to an Australian Canoeing Basic Skills Instructor Award). An employer or volunteer organisation may decide that these are the only competencies that an employee requires to fulfil a specific role within their organisation. If, however, that employee/volunteer had additional competencies in other activity areas or in other related areas such as tourism, marketing or computer skills (as contained within a complete qualification), then they could also be employed in off-peak periods, during bad weather, etc.

Many factors interact to determine the level of competency required. These include the kind of environment,

the kind of activity, the profile of the participants/clients, the programme objectives and the number of staff and their combined skill level. In fact, in a given situation, staff may require:

- technical skills in an outdoor activity at basic level (e.g. basic canoeing on flat water);
- risk management skills at a higher level (e.g. if the weather conditions are inclement and/or the client group has limited skills, health problems, etc.); and
- advanced facilitation skills (e.g. if the clients are 'at risk' youth and the aim of the programme is to facilitate some learning that can be transferred back to day-to-day living).

In a similar fashion, someone instructing activities such as flat water canoeing on a river in an isolated wilderness area would require different competencies (such as Remote Area First Aid) from a person conducting a similar activity close to or in suburbia.

An employer or land manager must determine the range of situations encountered within the workplace and then determine the level of competencies required for the range of programs and situations that the employee or volunteer is required to operate in.

In this manner, different organisations can package training to provide competencies

to students that suit the needs of their particular employment opportunities, career aspirations and/or state/territory specific locations. Hence universities produce different training outcomes to TAFE colleges and private training organisations deliver, at times, a different training focus from volunteer organisations.

In a similar fashion, the Qualifications Framework within the National Outdoor Recreation Industry Training Package does not specify exactly which competencies are required for a particular vocational outcome (e.g. for a canoeing instructor, or a fishing guide). Flexibility must be retained to suit individual needs and circumstances, although suggested 'clusters' of competencies that are interdependent are defined.

Accreditation and Registration

ACCREDITATION

What do we mean by accreditation?

The terms 'accreditation', 'certification' and 'registration' have been interpreted and used in a variety of ways both within Australia and overseas, and between different industries and sectors of industries within Australia. Dictionary definitions of the word 'accredited' include the meanings 'authorised' and 'officially recognised'. Wade (1983) defined accreditation as the recognition that a program or institution has met certain predetermined standards of operation.

In some instances, particularly overseas, the word 'certification' has been limited to individuals, whilst the word 'accreditation' has been applied

to organisations. Within Australia, the term 'accreditation' has been used (e.g. by the Australian Coaching Council) to indicate that individuals have met certain predetermined standards of operation, whilst the Fitness industry has used the word 'registration' to imply a similar outcome. Within the Outdoor Recreation industry, the term 'accreditation' is being applied to organisations, whilst individual outdoor leaders will have access to 'registration'.

Accreditation of what?

A number of options are available in order to assure some quality and standards of operation within the Australian Outdoor Recreation industry (that is, to assure that predetermined criteria addressing various aspects of operation have been met).

This includes the recognition of organisations and/or programmes conducted for clients.

The Outdoor Recreation Industry Council of NSW, in consultation with the industry in that state, is establishing a system for organisational accreditation and, once it has undergone a trial period, it is hoped that this process will be able to be applied in all states and territories. A number of related accreditation systems are already in place (e.g. Ecotourism Accreditation System, Australian Campsite Accreditation, Tourism Operator's Association, Active Australia, Outdoor Tour Operator's Association) and duplication will be avoided, if possible.

Organisational Accreditation does not usually address specifically the needs of individual outdoor leaders but may require

that individual leaders be skilled, competent and, where possible, credentialed. Another organisational accreditation system available to the Outdoor Recreation industry is that provided by Active Australia. To become an Active Australia Provider, criteria must be met in the areas of Leadership, Planning, Information, Human Resources, Client Focus and Quality of Service. A Campsite Accreditation system has been in place within Australia for a number of years.

REGISTRATION

At present, recognition or endorsement of individuals generally occurs on an activity-specific basis and may be provided by several organisations within one activity area (e.g. Scouts, Climbing Instructor Associations). Whilst in some activities a national system for recognition of leader's competencies exists (e.g. Australian Canoeing, Australian Speleological Federation), in many other instances, this recognition occurs with state-based organisations (e.g. Victorian Bushwalking and Mountaineering Training Advisory Board), thereby affecting portability.

Training Versus Registration

The differences between training and registration are outlined in the table on the opposite page. Note, in some cases, an organisation provides both the training and assessment as well as the registration (e.g. Board of Canoe Education trains and assesses, and the accreditation is with Australian Canoeing).

Implications Of Not Having A National System For Recognition Of Individuals

Increasingly within Australia, land managers, insurance agencies and employers are seeking an easy, descriptive way to define the skills required by those operating in the outdoors in various capacities and to determine whether persons have those skills. With the vast number of courses currently conducted, this is not an easy task. Furthermore, there is currently no mechanism for the 'quality' or 'standard' of many of these courses to be monitored or verified.

Due to the proliferation of providers offering training for adventure leaders and the absence of quality assurance mechanisms applied to all training, a statement of completion of a particular course in no way guarantees the quality of the training outcomes or that adequate skills have been developed. Courses delivered as part of the vocational education and training system, or through universities, must meet certain defined criteria whilst some courses delivered by commercial operators are poorly defined with respect to process and outcomes.

With the range of training options available, it is becoming increasingly difficult for land management agencies, employers, insurance agencies and potential clients to determine the skills that an individual leader possesses. In the absence of a national system, accessible to all individuals through a flexible process, there is the potential for land management agencies, employers or insurance

agencies to specify a particular course, training organisation or registration or accreditation system as mandatory.

This has severe implications on one's freedom of choice to access training and/or assessment and may adversely impact upon volunteer organisations, if the mandatory training was only offered through commercial operators.

Without a consistent, "common denominator" against which to measure staff skills, insurance agencies are left with the difficulty of trying to determine their level of risk and potentially overestimate, rather than underestimate.

ORCA Registration Of Outdoor Leaders

Experience both within Australia and overseas indicates that the preference is for any registration or accreditation process to be overseen by an independent body. Organisations offering training or conducting outdoor programs of their own are perceived to have a conflict of interest.

The Outdoor Recreation Council of Australia (ORCA) is a non-government peak industry association, representing the interests of all those involved or having interest in the industry. ORCA does not provide training or outdoor programs, is independent, and has therefore decided to take on the role of advisory body to facilitate and oversee a registration process, as a preference for a national rather than a state or territory based system has been indicated.

Useful Web Sites

Queensland Outdoor Recreation Federation - www.qorf.org.au
Outdoor Recreation Council of Australia - www.ausport.gov.au/orca
National Outdoor Recreation Industry Training Packages (Recreation Training Queensland site) - www.rtg.com.au

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Differences between Training and Registration

TRAINING	REGISTRATION
Sources of training and/or assessment:	Sources of registration:
<ul style="list-style-type: none"> • University; • TAFE; • Industry association (e.g. Board of Canoe Education); • "In-house" (e.g. Scouts, Outward Bound); • On-the-job (in the workplace). 	<p>Anyone/any organisation that wishes to set themselves up as a registering body (but generally an industry peak body).</p> <p>The credibility of the process relies on the credibility of the registration body, and the market's perception of the value of that registration.</p>
Requirements:	Requirements to become registered may include:
Completion of a course and/or demonstration of skills through a formal or informal assessment or Recognition of Current Competencies.	<ul style="list-style-type: none"> • Proven current competencies in an activity/area (through completion of a training course and/or assessment process); • Participation in ongoing professional development to maintain currency; • Agreement to comply with code of practice/code of conduct/code of ethics; • Completion of a specified amount of practical experience (recreational); • Completion of a specified amount of instructional/guiding experience; and • Possession of a current First Aid Certificate.
Outcomes:	Outcome:
<p>Formal assessment may or may not occur, depending on the situation. The outcome may then be either:</p> <ul style="list-style-type: none"> • Qualification (e.g. Diploma of Outdoor Recreation); or • Statement of Achievement, "in-house" statement of course completion. 	A card, "Certificate" or "Award" indicating registration with a particular body or organisation.
What training can and cannot do:	What registration can do:
<ul style="list-style-type: none"> • The outcome cannot be taken away or withdrawn (i.e. you always have your Diploma, Statement of Achievement, Statutory Declaration from Employer). • Training courses cannot provide an indication of current skills. The Diploma, Statement of Achievement, Statutory Declaration, etc. does not, if it was achieved in the past, indicate current involvement in outdoor recreation, ongoing professional development, etc. • Training courses cannot provide an indication of one's ability, intention or demonstrated practice to comply with accepted industry practices and codes of conduct (e.g. someone may have complied with the "correct" or "accepted" manner whilst being assessed and may not do so at a later date). 	<ul style="list-style-type: none"> • The outcome can be taken away or withdrawn (e.g. if the requirements are not maintained, or are contravened). • Registration can provide an indication of current skills, as it is generally for a limited period (e.g. three years) with renewal requirements. • Registration can provide an indication of one's ability, intention or demonstrated practice to comply with accepted industry practices and codes of conduct (i.e. it can be withdrawn if requirements are not met).

Did You Know?

Over 80 000 little bent wing bats (*miniopterus australis*) fly out of Bat Cleft at Mount Etna, north of Rockhampton, each evening and need to avoid being eaten by snakes, green tree frogs and ghost bats before they can catch their own meals of insects.

Bulmer Cavern: Just Like Fun - Only Different

An expedition-style trip to Bulmer Cavern, Mt Owen, New Zealand
December 31st to January 12th, 2001

by Peter Hayes

PARTICIPANTS: Carol Layton, Greg Holmes, Matthew Ridley (SUSS), Tim Moulds (MUCG), Daniel Marsden, Rebecca Hayes, Peter Hayes (RSS), Phil Round (ACG), Heidi Macklin, Jason Morgan.

The Lead-up

We all grouped up in Nelson at the airport before embarking on a mass food shopping trip (10 people, 4 trolleys and \$500) and a briefing from Carol imploring us not to require rescuing on this trip.

Carol was determined that her trip was not going to involve any rescue operations.

Daniel had been on the ground in Nelson for a few days before the trip, organising a base for our operations. Phil (Kiwi guy) had teed up some accommodation for us all in a flower orchard

near Motueka. The flower orchard is owned by an ex-caver by the name of Big Bruce. Big Bruce has not caved in the last twenty years but likes to keep in touch with cavers as they are 'such interesting people'.

Thanks to the efforts of Daniel and the generosity of the guys at Kaiteriteri Sea Kayaks, a ten seater van was at our disposal to transport everyone to Motueka. With the assistance of our on-the-ground local (Phil), we were able to get all the party members and their stuff to the flower orchard.

We unrolled the maps for the cave and had our first real look at what we were getting ourselves into. The maps were big, each consisting of four A0 sized

sheets three or four metres long. It took us a while to decide how we were going to take these incredibly large pieces of paper through the cave. Our solution ended up being taking digital photos of sections of the map and printing them out on Big Bruce's computer. We ended up with lots of low quality but satisfactory maps.

Being New Year's Eve, we thought a party was in order. We bought a case of beer and partied on into the night. I was

in bed by 6:30pm and I believe that Daniel held out the longest going to bed at around 11:15pm.

We awoke early on New Year's Day to pack the food into barrels supplied by Phil, and repack our gear. Daniel and Phil flew to Bulmer Lake in a helicopter with the majority of the gear, whilst

everyone else headed down to Owen River to begin the walk in with the rest of the gear.

Bulmer Lake

The walk to Bulmer Lake is quite pleasant, but you must be prepared to wade rivers and climb upwards. The walk takes around four hours for most groups - we took six (it must have been the heavy New Years Eve!). The track is quite easy to follow but we still managed to lose it a few times.

Bulmer Lake sits in a very impressive basin set amidst towering limestone walls and very steep scree slopes. The lake itself is crystal clear and full of little swimming things. There is an

Australian Caver No. 157

excellent kitchen area set-up, and a dining area with views over the lake. There are several small but excellent spots for camping, although in general, very few flat areas.

Finally, We Go Underground

We split into three basic groups for the first day of activity. Rebecca, Daniel and Phil stayed on the surface to track down various entrances to Bulmer Cavern and also to other caves. Tim, Greg, Heidi and Jason rigged the main entrance of Bulmer Cavern and found their way through to Panorama entrance (the main entrance used for access to the cave - once it is found). Carol, Matthew and Peter headed down the 'Road to Nowhere' in search of fantastic helictites.

The sections of the cave currently being pushed begin after the 'Soupmix Series' campsite. The trip goal was therefore, to reach the 'Soupmix Series' and if time permitted, to push.

Initially, two groups started on the route to the 'Soupmix Series'. This involved following the well-trodden route to the lower level, via the 'Lions Den' (seven pitches which drop nearly 200m). Carol and Daniel made it down to the lower level and had a bit of a poke around 'Wellington on a Bad Day' and 'The Speedway' while the other group consisting of Greg, Tim, Rebecca and Peter turned around after reaching the last pitch of the 'Lion's Den'.

Due to the recent rescue of Kiwi caver Kieran Makay from the 'Soupmix Series', all of the rigging throughout the cave to this point was fantastic and it was not necessary to take in any further handlines or ropes.

While we were underground, Neil Silverwood and two Irish guys (Mark and Simon) turned up at the Bulmer Lake camp after having walked over from Mt. Bell where they had been doing some prospecting. Neil, Mark and Simon were having a rest day before heading into Bulmer Cavern for the next five or six days. Neil agreed to show three of us into 'Soupmix Series', while we would leave markers for Heidi and Jason to follow later.



Tim, Daniel, Rebecca, Peter and Matthew in the 'dining room' attached to the 'kitchen'.

Photograph by Carol Layton.

We also enjoyed a well earned rest day after our trip down the 'Lion's Den'. Nobody went underground so we all ate too much and developed lovely tans as we lay around the lake.

Soupmix Series

The 5th January found Carol, Daniel and myself preparing to enter the cave with Neil, Mark and Simon to spend the night

in the 'Soupmix Series'. We had quite a late start, but after packing up food, warm clothes and thermarests in preparation for a cold night in the cave, we headed down the 'Lion's Den' and into 'Late 88 Not Out' to wait for Neil to show us the way on. Carol, Daniel and I also carried rope and carbide through the cave to assist Neil with his prospecting.

A trip into the 'Soupmix Series' of Bulmer Cavern goes something like this:

Walk for half an hour from camp along the pavement karst to 'Panorama' entrance. Descend the 15m climb onto the 'Panorama' ledge (quite a spectacular and exposed spot) and follow the small phreatic tubes until you reach a short ladder down.

Trudge along the commuter route into the cave - there are around four handlines but nothing difficult until you reach the 'Lion's Den'.

The 'Lion's Den' starts with a handline to the top of a 4m ladder, followed by another handline to the top of a 15m pitch with two hanging re-belays. There is then another

handline to the second (40m) pitch with a really tricky start, followed by another handline to the third (35m) pitch with a waterfall and a redirection.

At the bottom of this pitch and waterfall, you then climb around a ledge and a mud slope (avoiding thoughts of the 30m drop below), before reaching another handline at the top of the fourth (30m) pitch. There is then a climb down

and along a rift until you reach the fifth (10m) pitch. The rift continues to the very wet sixth (10m) pitch.

'Castration Corridor' begins at the end of the sixth pitch, and size really counts. Daniel was heard muttering the whole way through, "Small as a mouse, I'm small as a mouse". Carol found it quite easy. My overalls are now in shreds. I think Murphy's Law of Caving states that, "If it can get snagged, it will". 'Castration Corridor' finally peters out by simply losing its floor before the seventh (20m) pitch with four or five rebelay.

From 'Roaring Lion' (at the base of 'Lions Den') a 20m pitch is ascended to the start of a series of 2-3m diameter phreatic tubes called 'Wellington on a Bad Day'. At each intersection of tubes, you have a choice of three identical routes, each one of these routes leads to another three identical routes. Due to the likely nature of getting lost at this point, we decided to sit it out and wait for Neil to catch up and show us the way on.

After an hour of sitting in the cold wind and huddling for warmth, Neil finally showed up and away we went. Every time I stopped to look around to make sure I could find my way back, I nearly lost sight of Neil. At least in this part of the cave the going was really easy and we were quickly into 'Late 88 Not Out'.

After another short up pitch, we climbed into an impressively large tube, and then through a fair amount of relatively easy cave until we got to 'Wind in the Willows'. From here we ascended

another short pitch into a very windy little passage and slid down a sloping handline. The handline led down to a room, followed by a small tighter section, leading into a 10m pitch with one rebelay but only 6m of rope which left a disconcerting down-climb to the bottom.

We were really starting to notice that after the 'Lion's Den', the rigging was a little more sparse and not quite as well equipped. From the bottom

We travelled through many more passages and straddled many bottomless rifts until we came to a short handline up across and back down. The anchor point on this handline really was less than satisfactory. The rope was looped around a short stubby stalagmite and Neil advised us not to jerk or depend on the rope. This did not inspire us with confidence, especially since the formation appeared to be clinging precariously to the limestone.



*The Bulmer Karst Field
looking across to the valley containing Bulmer Lake.
Several entrances are visible in the distance.*

Photograph by Greg Holmes.

of this last pitch was another up pitch of only 4 or 5m.

After some more easy passages, it was time for a carbide change. We then headed up to the 'Octopus Room' (the location of the previous campsite). From the 'Octopus Room', we continued along more very large passages, leaving trail marks for Heidi and Jason to follow, and which would also prove very useful for Carol, Daniel and myself to follow back out once we no longer had Neil to show us the way.

More passages, then another very short down-pitch followed by a scarily wide bottomless rift. Then a short handline back up after a nerve racking traverse along a very loose sloping ledge.

Follow lots more passages with little climbs and the occasional handline on the slippery bits, a stroll along the '100 yard Mosey' which was anything but 'a mosey', and then a short handline to assist you swinging to the top of a climb down into the 'Texas Pots'.

After climbing through the
Australian Caver No. 157

'Texas Pots' for a short distance, take the first squeeze rift on the right, descend around 25m passing the dodgiest redirection in existence (you need to ensure that you put it back in place after you have knocked it out), then onto the 'Awesome Aven'. Clip onto the handline and work your way down a series of rebelay to the pitch before descending 55m with two fairly sharp redirections.

The bottom of the 'Awesome Aven' is...well, awesome. A stroll along the flat sandy floor leads through a narrow canyon (eliciting thoughts of John Wayne movies) to the first climb of three. Each of these climbs was about 6m.

Walk, climb, crawl along a little more cave before reaching yet another super dodgy traverse to negotiate a 90 degree left-hand bend above yet another seemingly bottomless pit. This involved a pelvis grinding manoeuvre around the flowstone using tenuous holds that were really not obvious until Neil pointed them out.

All of us felt uncomfortable stretching from delicate formation to delicate formation while unroped. Once again, Neil assured us that a number of people had used the formations as hand and foot holds and the holds were perfectly safe.

After twelve hours of strenuous caving, we finally arrived at the 'Soupmix Series'. Unfortunately, I was not in any

condition to fully appreciate the wonders of this passage. However, the sheer wonder of it all revived me somewhat.

The 'Soupmix Series' consists of two kilometres of beautiful gypsum passage eliciting many "oohs" and "aahhs" from all.

The highlights of the 'Soupmix Series' included a garden of selenite spears, each around

command: 'No erections'. After that, Carol was most friendly snuggling up to whichever one of us was shivering the most. Despite the temperature and inadequate bedding, we all had a fairly good nights sleep.

In the morning, while waiting for the sun to rise, we enjoyed warm Raro and tea, and some porridge. We were unable to get out of bed before 10:30am due to the cold, and were therefore treated to a brief history of the exploration of the area by Neil, as well as hearing how he kept his sanity on his numerous week-long trips down the cave.

After finally getting out of bed after twelve hours, we bid farewell to Neil, Mark and Simon and headed out of the cave. With a few side trips to check out points of interest that hadn't been investigated on the way in, it took around nine hours to make the trip out. We arrived back at 'Panorama' entrance just on sunset, and were rewarded with spectacular scenery the whole way along the pavement karst to camp.



Greg Holmes having conquered Bulmer Lake

40cm long, and 'Avalanche Alley' - a passage several hundred metres long covered in moonmilk 30cm thick.

Carol set up camp for the night in the 'Soupmix Series' campsite between Daniel and myself (three people on two Therm-a-rests under one sleeping bag in 4°C temperature) with only one

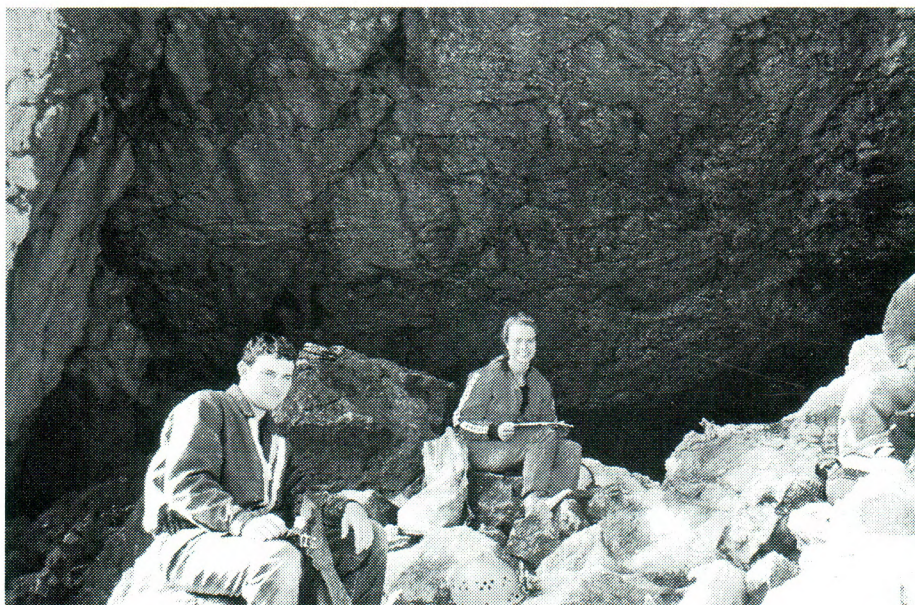
Heidi and Jason followed the previous group into 'Soupmix Series', using the track marking set up earlier. They met up with Carol, Daniel and myself at 'Wind in the Willows' as we were on the way out.

While Carol, Daniel and I were underground, Tim, Greg, Rebecca and Matthew went for a second trip around the upper levels of Bulmer Cavern. They

entered via 'Panorama' entrance, visiting the 'Powder Room' on the way to locating 'Eye in the Sky' entrance.

Greg and Tim decided to follow Heidi and Jason a few hours later with the intention of seeing how far they could get through in a day trip. This time, they reached 'The Roaring Lion' but wandered around lost, missing the track marking that had been placed the day before.

Matthew and Phil entered the main Bulmer entrance for a quick photography session in 'Medusa Passage' which provided an impressive display of large helictites.



One of the entrances. Photograph by Greg Holmes.

Above ground

The following day, the entire group (apart from Heidi and Jason who were still well and truly underground) decided a quick trip into Bohemia was in order. Bohemia is a 10km long cave with impressively large chambers and fairly good formation that requires no SRT other than two short ladders.

Our tiredness must have shown as we turned back after a very short while and missed the largest chambers and the most impressive formations.

Around 10pm that night (as we were finishing our dinner), Heidi, Jason and Simon arrived back at camp. Simon was one of the party who had intended to stay in the cave for five or six days, but the decided to exit early due to back problems resulting from a fall while conducting survey work around the Mt. Bell area a few days earlier.

8th January turned out to be another rest day with all party members caved out for the time being. We spent the afternoon packing up camp in preparation for our early departure the following morning.

It was a fairly uneventful trip

the trip. The trip had originally been a caving trip to Takaka Hill and in particular Harwoods Hole. Somehow the trip had been hijacked and become an expedition-style trip to Bulmer. Nevertheless we had come to NZ to do Harwoods and Harwoods we were going to do.

Harwoods Hole is a 'bloody great hole' in the ground with a few kilometres of spectacular and fun stream passage at the bottom. The initial descent involves a 176m abseil into the hole and we had brought along a 200m rope specifically for this drop. Carol kindly rigged the abseil while we all slept in the rain at the top.

Unfortunately, Carol ran out of enthusiasm whilst rigging the two rebelay, and ascended back up to announce that she would sit it out at the top as she had already been through the cave in the past. The rest of the group abseiled down and proceeded through the cave.

After Harwoods, the group started to part and head their separate ways, although the majority of us spent the next day lazing around at Kaituitui on the beach while waiting for various connections. Some members continued holidaying while others were on the way home.

Finally

This great trip would not have been possible without the fantastic efforts of Daniel Marsden in organising the transportation around the place and our valiant trip leader Carol Layton. Thank you also to Big Bruce (Bruce Limmell) for generously offering accommodation and space to sort out our gear.

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Takaka Hill

After our warm up session at Bulmer Cavern, it was now time to get down to business and undertake the feature cave of

Harness Hang Syndrome: Facts & Fiction

by Joe Ivy

THERE ARE SOME MYTHS about Compression Avascularization/ Re Perfusion Syndrome (CARP), also known as Harness Hang Syndrome. These myths distract cavers from the fact that this is a medical emergency and that most cavers are unable to deal with it as they consider the pick off an unnecessary skill.

Originally, members of the French Speleological Society suspected that some caver fatalities attributed to exposure might have been caused by something else. The group undertook informal experiments where volunteers hung limply in harnesses. The volunteers quickly became ill so testing stopped.

Later, the group pursued formal, controlled testing, so that volunteers' vital signs could be monitored. The testing showed that hanging immobile in a harness caused problems in as little as ten minutes. They tested numerous harness designs and various body positions but the results were all similar. Recently, testing done by German industrial safety group showed similar results from hanging immobile in a full body harness.

CARP Syndrome occurs when a person hangs in a harness and the venous blood in the legs is unable to return to the torso while arterial blood continues to flow downward. The result is identical to hypovolaemic shock. Even if the subject is released within ten minutes, there may be additional complications caused by reperfusion of the legs. Like shock, CARP Syndrome is difficult to treat in the field and must be prevented by rescuing any caver hanging immobile on rope.

Recently, there has been a lot of information disseminated about Harness Hang Syndrome (HHS) resulting in the impression that some ascending systems

cause HHS and others do not and that HHS is not of general concern. To clear up this confusion, we'll cover the history of the testing that has been done, the results of those tests and the conclusions obtained. HHS, the rapid loss of consciousness followed by death due to hanging immobile in a harness, happens in ALL harnesses and ascending systems.

Someone hanging immobile in a seat harness is a serious medical emergency that must be dealt with immediately.

In 1978, Maurice Amphoux, a doctor involved in industrial safety research in France, performed a series of short

tests in order to determine what harnesses would be best for workers to use when working at height. At the time, it was a standard practice for workers to use simple waist belts even when a significant fall was possible. Dr. Amphoux was using a parachute harness for the tests and found, much to his surprise, that the test subjects lost consciousness after a few minutes of hanging in the harnesses. One subject lost consciousness in only 3.5 minutes!

He performed some more tests a little later under better controls and found that the subjects experienced cardiac arrhythmias at the time they lost consciousness. Dr. Amphoux discontinued the tests because of concern for the safety of the subjects. He then published

his findings, trying to get the word out about HHS. The French caving community was notified

but the news was greeted with scepticism.

In 1984, the newly-formed Medical Commission of the French Federation of Speleology (FFS) decided to do some informal HHS testing to see if Dr. Amphoux was right. The Commission had two subjects hang immobile in their standard caving vertigear (Frog systems)

A serious medical emergency that must be dealt with immediately.

CARP Syndrome ... must be prevented by rescuing any caver hanging immobile on rope.

RESCUE

with no particular controls. One subject lost consciousness after about thirty minutes and the other lost consciousness after only seven minutes! The testers were horrified and discontinued testing out of fear for the safety of the subjects. The Commission decided to fall back and come up with some new protocols for the testing. After seeing what happened, the Commission began to suspect that some fatalities that had been formerly attributed to exposure might have actually been caused by HHS.

Two years later, the FFS medical Commission approached HHS testing a little more seriously. Utilising the facilities of the Sport Physiology Lab at the University Hospital of Besancon, the Commission had three volunteers in excellent physical condition participate in more HHS testing. Using the new protocols, the subjects' vital signs were monitored with EEG, ECG and blood gas sampling equipment. The tests were also video-taped.

The first subject was positioned as if he had been ascending (with a Frog system) and simply stopped and became relaxed (as if completely exhausted) with neck in hyperextension, arms dangling at his sides, legs extended and feet in the footloop. The subject complained of extreme discomfort from the neck position just before HHS symptoms set in. The subject's head was then supported to see if the HHS symptoms could be alleviated. The symptoms did subside but then reappeared within a couple of minutes and progressed until the subject lost consciousness.

The second subject hung in the same position as the first but with his head supported by a padded stand. HHS symptoms began to appear anyway. At the

onset of symptoms, the testers had the subject move his legs some. This caused the symptoms to subside. However, once the subject became immobile again, the symptoms reappeared rapidly and progressed until he became unconscious. The third subject hung with head supported but with legs pulled up, feet even with his butt as if he had been about to take a step up with his Frog system. Even with the legs much higher than with the previous two subjects, HHS symptoms appeared and the subject lost consciousness.

Further, even though this subject was lowered and released before the symptoms got extreme, he lost consciousness anyway. More testing was done in 1986 by Jim Brinkley at the Aerospace Medical Research Lab, Wright-Patterson Air Force Base, Ohio with better controls than those used by the FFS Medical Commission and the results were the same. Brinkley used Class III industrial harnesses (very similar to a parachute harness) and found that HHS occurred very consistently in all test subjects.

So what are the symptoms of HHS? The FFS testing showed that HHS symptoms appeared in no more than ten minutes with healthy subjects. Brinkley's research showed that six minutes was the normal onset time. Keep in mind that Amphoux's tests had one fellow lose consciousness in 3.5 minutes.

HHS symptoms begin with an overall feeling of illness (as with a flu bug) followed by excessive sweating, nausea, dizziness and hot flashes. Testers noticed that the subjects had obvious brain function impairment with the

initial onset of HHS that worsened very rapidly. As HHS progresses, the symptoms worsen with difficulty in breathing, increasing heart rate, progressively worsening cardiac arrhythmias, an abrupt increase in blood pressure followed by unconsciousness. Death would follow in minutes if the subject were not released quickly.

What causes HHS? No one is entirely sure. First thoughts were that pressure on the neck from the chest harness shoulder straps might be a cause but testing ruled that out. Some testers believed that it was the type seat harness, but the fact that caving harnesses, parachute harnesses and Class III industrial harnesses all cause HHS indicates that this is not true as well. Another theory was pulmonary impairment, but blood gas testing ruled this out, too.

Most of the testers believed that HHS is caused by blood being trapped in the legs so that the net result is similar to hypovolaemic shock. No blood is actually being lost, but the amount of blood available in the torso to keep the brain and vital organs sufficiently perfused with blood is inadequate nonetheless. There are likely some blood chemistry problems occurring as well. Until more testing is done with state-of-the-art equipment, no one will be absolutely certain.

Six minutes was the normal onset time.

However, there are some conclusions we can make now. First, hanging

immobile in a seat harness is the root cause of HHS. Any caver who has done much vertical work has hung in his harness for much longer than ten minutes and had no problems. But he was not immobile. As long as you are squirming around, shifting your weight and keeping busy, HHS is not an issue. The problem occurs

when a caver, perhaps exhausted or cold, tries to ascend a pit and gets hung up somehow. Most of the French fatalities were inexperienced cavers who had technical trouble with their gear and were not knowledgeable enough to correct the problem. Already tired from caving, the cavers struggled with the gear until completely exhausted, then HHS set in and they died.

Second, someone hanging immobile in a harness - any harness - is a dire medical emergency. The FFS testing showed that ten minutes was the usual onset time in a healthy subject. If someone is stranded on rope underground, it's likely that they are tired and cold so you can expect HHS to set in much more rapidly. Cavers that witnessed two of the French fatalities said that once the caver on rope stopped struggling, unconsciousness and death occurred in less than ten minutes.

Third, preventing HHS is the best course of action. The articles on the testing done by the FFS were unclear as to how much effort was needed to revive the test subjects once they lost consciousness or what their condition was once

revived. Certainly, the best thing is to make certain that it never happens in the first place.

- You should never cave alone in a vertical cave. Make certain that everyone on a vertical caving trip is competent. Everyone should know how to change from ascent to descent and vice versa.

- A caver who is exhausted or badly hypothermic should not be allowed to attempt a climb. An important note here is that some of the French fatalities occurred in pits of less than twenty metres depth with one occurring on an eight metre pit, so pit depth isn't necessarily an issue.

- Cavers should not get left behind in a vertical cave as the group heads for daylight.

Finally, most cavers on a vertical caving trip should know how to do a pick off (single rope rescue), if not everyone. If someone in the caving group does get hung up somehow, do not allow them to struggle for any length of time. If the stranded caver can't correct the problem on the first try, he probably won't get it on the second or third.

Remember that the FFS subjects experienced progressively worse brain function

impairment as the HHS symptoms began to set in. This means that not only is the exhausted caver getting more exhausted, he's also getting more stupid.

Someone should be headed up (or down) the rope to assist the stranded caver shortly after that first attempt at correction. The would-be rescuer might be able to simply assist and thus correct the problem. Or the rescuer may have to pick the stranded caver off and get him back to the bottom of the pit. Either way, knowing how to do a pickoff should be mandatory and all cavers on a trip should be ready to use that knowledge quickly.

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Joe Ivy was a caver from Texas who sadly passed away in a caving accident in 2000. This article is reproduced with the kind permission of his partner, Rebecca Jones.

Preventing HHS is the best course of action.

Lava Caves in Iceland

Nine ASF members made up more than a third of the total attendance at the Tenth International Symposium on Volcanic Caves held during September in Reykjavik, Iceland.

In a dramatic and sometimes lunar landscape with a backdrop

of volcanoes, ice-caps, glaciers and lava flows, field trips explored several of the more accessible lava caves, some of which formed as recently as twenty years ago from various eruptions. A few are used for adventure tourism and some contained extensive ice decoration.

To whet your appetite, have a look at the photos on these web-sites:

www.speleo.is/speleo/JohnBrush/index.htm

www.speleo.is/speleo/GregMiddleton/index.htm

www.speleo.is/speleo/JohnPint/index.htm

www.speleo.is/speleo/Kobori/index.htm

Australian Caver No. 157

50 Years of Caving

On 25th April, the President of HCG, Evalt Crabb, celebrated his 50th year of caving! This is a feat on its own, let alone in speleology. Well done Evalt!

Samuel Warren Carey

by Albert Goede

PROFESSOR SAM CAREY founded the first caving club in Australia in Hobart in September, 1946. Sam was born in Campbelltown, NSW in 1911. He enrolled at the University of Sydney in 1929 to do a science degree. As he came from a poor family he earned his keep as a student by giving performances as a conjurer. He studied geology under Professor Edgeworth David, a great Antarctic explorer, and in 1932 he graduated with first class honours in geology. He was also a member of the University Regiment and active in rowing. A research scholarship enabled him to complete his Master of Science degree in 1934, based on work done in northern NSW.

He was employed by Oil Search in Papua New Guinea in the 1930's and carried out fieldwork in many remote areas. It is probably during this time that he first became interested in limestone and caves. Late in the 1930's he earned his doctorate in science from the University of Sydney and married Austral Robson in 1940. In 1942, when the Japanese invaded New Guinea, the Carey family were evacuated to Melbourne.

Sam joined the special forces (Z-force) and spent some of the war in New Guinea where he trained as a paratrooper. He eventually rose to the rank of captain and became involved in training special forces to operate behind Japanese lines to act as observers and carry out sabotage. Some of the time was spent training men at Mt Etna, Queensland in the use of limestone caves so that they could be utilized as bases in enemy territory. The men were trained to survey caves, to set booby traps, to find their way around in the dark and to use cave drip water as a water supply.

After the war Sam took up a position

as Chief Government Geologist in Tasmania. In 1946 he was appointed foundation professor of geology at the University of Tasmania. It is in that year that he founded the Tasmanian Caverneering Club. Early members were drawn from the Hobart Walking Club, Tasmanian Field Naturalists and from students in the Department of Geology, many of whom were returned service men. He coined the word 'caverneer' that is still in use in Tasmania today, gave the first club members a commando type training and remained active in the club until 1953. He was known as Sam only to his wartime comrades and to senior academics. Caving club members always referred to him as 'Prof'.



He became a very prominent researcher in the geological sciences. He worked out the structure of the Gippsland Basin leading to BHP taking up an exploration licence. He was a prominent believer in continental

drift and developed a theory of global tectonics based on the concepts of continental drift and an expanding earth. He was a great teacher and built up an earth science school that became one of the leading ones in the country and gained an international reputation. He retired from the University in 1976 and in the following year was made an Officer of the Order of Australia. He remained active in scientific research for many years and also continued to take a keen interest in cave exploration and cave research in Tasmania. He was made an Honorary Life Member of TCC many years ago and later of the Southern Tasmanian Caverneers after TCC amalgamated with two other Hobart caving groups in 1996.

He died in March, 2002 at the age of ninety. He is survived by his wife Austral, four children, seven grandchildren and two great-grandchildren.

Australian Caver No. 157

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The Management of Soluble Rock Landscapes: An Australian Perspective (Kevin Kiernan). 61pp. This book is the only text on cave and karst management in Australia and is part of the required reading for the Karst Management course at Charles Sturt University. \$15 plus \$2 postage.

Australian Karst Index 1985 (ed. Peter Matthews). Reprints are available of parts of this mammoth volume listing details of all known caves in Australia. At present only the NSW listing is completed, 92pp inc. references, over 2000 caves. (Enquire for other states at a lower price). \$15 plus \$2 postage.

Karst of the Central West Catchment, NSW: Resources, Impacts and Management Strategies (Dunkley & Dykes, 2000). All original copies were distributed to landowners and managers, but we have a strictly limited reprint of 25 copies only. 103pp, 24 photos. Available with photos either in black & white for \$25, or in colour for \$39-50, including postage.

A Bibliography of Jenolan Caves Pt 1: Speleological Literature. \$5 each plus \$1 postage.

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