

CAVES

No. 166-7

June/September

The Journal of the Australian Speleological Federation

AUSTRALIA



Vale **EVALT CRABB**

Khazad-Dum, Tas

King Solomons Cave, Tas

Jenolan Caves, NSW: Future in the balance

Unearthing Anticline Cave, NSW

Death Trap Cave Experience

New Special Interest Group — Cave Diving

Coming Events

In particular, this list will cover events of special interest to cavers and others seriously interested in caves and karst. A similar list in the ACKMA Journal will give more attention to meetings of specialist scientific interest. Both of these lists will be just that: if you are interested in any listed events, contact Elery Hamilton-Smith on elery@alphalink.com.au. If you plan to visit North America or Europe, we can probably provide details of the many local-regional meetings which take place there.

2005:

- Sept 7-11 Geomorphology of Evaporite karst, Zaragoza, Spain.
- Sept 14-19 Water Resources and Environment in Karst, Belgrade (Serbia) and Kotor (Montenegro), Europe.
- Sept 23-25 Hidden Earth: national caving Conference, in the Mendips, U.K.
- Oct 3 Symposium on Cave Archaeology and Palaeontology, Athens, Greece.
- Oct 15 NSW Caver's Dinner — Bankstown - Sydney, see page 5.
- Oct 16 NSW Speleo Council Meeting — NSW Cave Rescue Squad HQ, Bankstown, Sydney.
- Oct 31-Nov 4 National Cave and Karst Management Symposium, Albany, NY, USA.
- Nov 4-6 CEGSA 50th Birthday Party.


2006

- Jan 1-2 ASF Council Meeting, Bankstown, Sydney. See page 5.
- May 5-8 ACKMA Annual General Meeting, Kangaroo Island.
- July 3-8 XII International Symposium on Vulcanospeleology, Tepoztlan, Morelos, Mexico.
- August 14-19 International Union for Quaternary Research: Sub-aerially exposed continental shelves since the middle Pleistocene climatic transition Exmouth, Cape Range and Ningaloo Reef, W. Aust.
- Sept 21-23 8th Conference on Limestone Hydrology, Neuchatel, Switzerland.

And Looking Further Ahead

2007 and beyond

- January 26th ASF Conference, South Australia, celebrating 50 years of the Australian Speleological Federation. Start planning now. See Page 6.
- 2007 ACKMA Conference, Buchan, Vic. This will be part of the celebration to mark the centenary of the discovery of Fairy Cave.
- 2009 May ACKMA Conference, Margaret River, W. Aust.



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CAVES AUSTRALIA

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Editor: Winfried Weiss
Phone/Fax: 07 4122 3274
Email: wmweiss@bigpond.net.au

Production and Advertising Manager:
Joe Sydney
Email: jsydney@choice.com.au

Subbing Editors:
John Dunkley
Philip Holberton
Andy Spate
Susan White

ASF: asfinfo@caves.org.au
For all ASF publications: publications@caves.org.au

Editorial contributions are welcome! For contributor guidelines, contact the Production Manager.

Advertising

Contact the Production Manager for commercial, caving community and classified rates. Rates start from \$5 to \$400 for full page B&W back cover. Discounts apply for placements of 4 adverts and an up-front payment.

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Journals are included within ASF membership fees. Subscription to magazine is also available to non-ASF members at \$25.00 including postage within Australia for one year (four quarterly issues).

Change of address. Notify us immediately of any address changes to ensure your delivery of *Caves Australia*.

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COVER: "Gum Pot" CP120 Mt Cripps, Tasmania by Andrew Baker (NHVSS & UTSSS).

Layout and design: Jacqui Fry

HELP SUPPORT ASF

The Federation is run solely by subscription to ASF. Your donation or bequest will assist our work in lobbying to save karst, ensure continued scientific projects and more. To make a contribution or receive an information pack, contact The Secretary or visit www.caves.org.au



CONTENTS

There are two documents and related concepts that I would like to bring to members attention at this time. The first involves an excellent publication that grew out of a workshop last year. In May 2004 I attended the Cave Presenter's workshop in Mole Creek, Tasmania. During the workshop, those present participated in discussing principles for interpreting caves. The session facilitator's have utilised the content and ideas, as provided by a sample of professionals in the interpretation industry, to produce a document. Authors Penny Davidson and Rosemary Black have recently published the "Principles for Guided Cave Interpretation: Ideas from the profession (February 2005).

You may be wondering what this has to do with you or with ASF members. This is an excellent document that outlines a number of principles used in guided interpretation of caves. Many of you may be experienced cavers or speleologists who regularly take new members underground. As a Trip leader or Expedition Leader, perhaps even a Scout or Guide, you would use various techniques to interpret the natural environment that you visit. Others may be involved in the recreational industry as tour guides or as volunteer leaders for community groups.

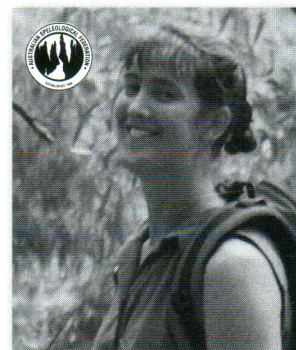
This document is an excellent resource outlining a number of interpretation principles. There are 4 general principles (an adaptation of the key principles of heritage interpretation developed by Sam Ham (1992)) and 5 additional principles that specifically relate to the cave environment. I recently read a Book Review on this document (ACKMA Journal No. 59 – June 2005), which provides further background on the importance of interpretation in general, and the relevance of this document to cave interpretation. If you

would like a copy of this document, please contact pdavidson@csu.edu.au.

The other document is closer to home, and directly relates to you and your club. If you've read the ASF 2005 Council Meeting Minutes, or been along to your Club Meeting you should be aware that the ASF has guidelines on "risk management". These are titled the "ASF Risk Management Guidelines". The ASF executive is interested in feedback from members regarding this document. It would be excellent if you and/or your club are familiar with this document.

Finally, you'll see that the dates for the next ASF conference have been set. The Federation's conferences are an excellent opportunity to meet other cavers, visit karst areas and learn about what's happening in Speleology in Australia. Not only is this a "conference" and an event not to be missed, but also this particular one is a significant event. Yes, the ASF has its 50th anniversary to celebrate. I hope that you can come along to the 26th Biennial ASF conference titled "Caves, Craters and Critters". So get those diaries and calendars out, mark in the dates and I look forward to meeting you there.

Yours in caving
Jay



.....

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Photos: S Bourne & E Hamilton-Smith



Notice ASF Council meeting 1-2 January, 2006

The next ASF Council meeting will be held at:
Bankstown Grammar School
53 Georges Crescent
Georges Hall 2198
Sydney NSW

Contact an ASF Executive, or, visit the ASF website for more details — www.caves.org.au



Invitation Orange Speleological Society 1955-2005

Join us in celebration to mark the 50th Anniversary of Orange Speleological Society. If you are a past member, attended a trip or have had an association with the club, you are invited to attend. "Cavers from other clubs also welcome."

Saturday 26 November 2005
The Canobolas Hotel, Orange
\$29 per adult for a 3 course meal!
Please RSVP by November 1st, 2005.

We are also interested in obtaining any information, photos, slides, memorabilia or documents relating to our club over these past 50 years to assist us in compiling a history of OSS.

The club can be contacted by writing to OSS, PO Box 752 Orange, 2800 or by e-mail to denis.marsh@electrolux.com.au or telephone Denis Marsh on (02) 63658330.

Denis Marsh (President)

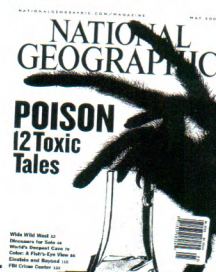
National Geographic May 2005

In this issue read about the daring international team that broke the world's depth record -2000mt! It's very exciting reading with some great photos!

UPDATE — LATE OCTOBER 2005

Al Warild, Australia's leading expedition caver reports that the world's deepest cave — Vornya cave, Abkhazia has just gone even deeper!

"A 'quick look and detour' on a derig trip led a team of cavers passing the sump that we passed in July, then 2 more and stopped at a third at a provisional depth of - 2160 m — only 40 m above the supposed resurgence and 90 m above sea level. There's a Ukranian group about to move in and have a bash at it now, I wonder if they'll get below sea level?"



NSW Caver's Dinner — A spectacle to be seen!

Saturday 15 October 2005

David Stuckey, member of MSS and renowned photographer presented to NSW cavers an outstanding introduction into '3 dimensional' photography and pictures from his collection. The audience was awed with magnificent scenes of colorful and superbly lit caverns, breathtaking mountainous scenery and exhilarating close-ups on a range of items and topics — local and international.

During the dinner and quiet moments (if any) a selection of 'best of CaveMania' pictures was also shown.

Twenty six attended from five clubs including two academics and an international guest caver. All enjoyed a fine meal with entertainment at the Bankstown Sports Club, Sydney. Organisers Highland Caving Group thanks all those that attended!

For more info on David Stuckey and his amazing 3D photography, visit <http://www.acay.com.au/~dstuckey/photo1f.html>

A spectacle to be seen! NSW cavers enjoy David Suckey's 3D slide show.



JOE SYDNEY

ASF NEWS



"Welcome to Country"

Rodney Dillon (the former ATSIC Commissioner for Tasmania) who gave the "Welcome to Country" at the ASF Conference at Dover, Tasmania – (in his role as a representative of the local Aboriginal community) – was appointed as Australian Aboriginal Person of the Year at the NAIDOC Ball in Adelaide, in early July this year. He was selected from amongst 110 Australian Aboriginal persons nominated for the position.

It is good to see that cavers and local indigenous Australians work so close together.

Source: Arthur Clarke, STC



Caves, Craters & Critters

26th Biennial ASF Conference

Celebrating 50 years of the
Australian Speleological Federation
January 6th – 12th, 2007.

Mt Gambier, South Australia, Australia

Yes it's Back to South Australia where it all began 50 years ago. Come and celebrate 50 years since the first ASF conference was held at O'Sullivan's Beach, south of Adelaide. This time venturing further south to the Limestone Coast.

Come explore and learn about the Caves Craters and Critters of the South East of South Australia and help celebrate this milestone.

What can you expect?

- A big opening party
- Field Trips to numerous and varied locations
- An Extensive Day trip to Naracoorte caves and all it has to offer
- Interesting presentations on fossils, bats, bugs and everything cave orientated
- Hands on Workshops
- Speleo Sports and SRT events
- Speleo Art and Craft
- Post and Pre Conference Trips
- Activities for Kids
- Wine Tasting

And Much More

Stay tuned for more details in future editions

Contact: Marie Choi Conference Coordinator

Email: battymariec@picknowl.com.au

Mobile: 0429696299

ABSTRACTORS WANTED!!

Do you like reading about caves? Can you write brief summaries of what you've read? Do you have a computer with internet connection? Do you have access to your State or region's speleo publications? Do we have an opening for YOU!

The ASF Bibliography Commission is tasked with preparing abstracts of all cave and karst related material published in Australasia - or for that matter, anywhere. This is contributed, annually, to the IUS publication, Speleological Abstracts. More abstractors are urgently needed to ensure the best coverage of Australasian speleology. We are particularly keen to get someone in WA and in Queensland (though they don't seem to write much in the far north these days!)

There is no cash payment, but each contributor receives a copy of the output volume for the year (which sells for about \$100 and provides an invaluable insight into the world of speleological literature).

Full details can be obtained from Greg Middleton: ozspeleo@optusnet.com.au

ABSTRACTS AVAILABLE

The latest issue of Speleological Abstracts, #41, covering 2002, has been published by the International Union of Speleology. It contains around 4,500 abstracts, including about 600 relating to Australasia. It is available in hard copy or searchable CD, either costing 25 Swiss Francs (+32 CHF postage for the hard copy, 2 CHF for the CD) or you get both (including postage) for 45 CHF. There will be a double issue, 2003-2004, produced in August 2005.

There is also an amazing 12 yr (1988-1999) CD with 60,000 abstracts for 120 CHF; this will be updated to 2004 in August. The 17 yr CD will cost 220 CHF but the update will be free to those who bought the 12 yr version and the 6 issues since.

Full details are on the web at: www.isska.ch/bbs.

Greg Middleton Convenor, ASF Commission on Bibliography.

PO Box 269, Sandy Bay, Tas. 7006, Australia.



US wins 2009 15th International Congress of Speleology 14 August 2005

It was announced at the International Union of Speleology General Assembly meeting in Athens, Greece that USA won the vote to hold the 2009 15th International Congress of Speleology. The Americans are in full swing and have since then selected Kerville, Texas as the lucky location. Information on the local area, venue & accommodation, excursion & events, support & contacts along with a PDF brochure can be found on their website www.ics2009.us

Congrats to our caving colleagues and I know that many Aussies will attend!

What's happening in your state?

Has your state or club recently organized a social or caving event? Caves Australia readers are eager to know about happenings in all states. Send details of your state's event to the Editor or Production Manager.

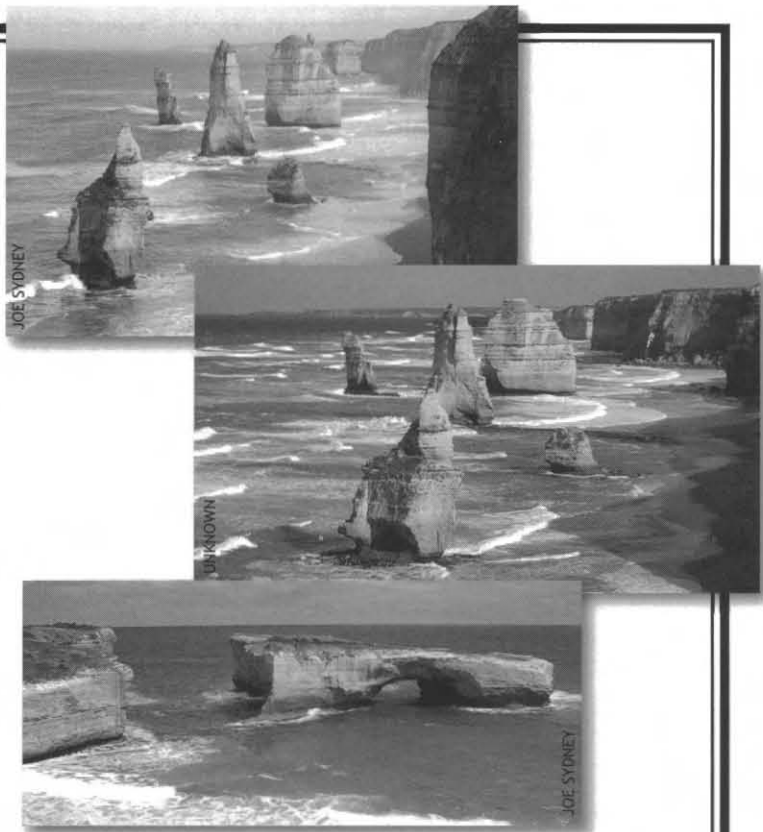
July 3, 2005 Shipwreck Coast Port Campbell NP, Victoria

First there were twelve and now there are eight! Another Apostle crumbles into the sea.

In an area renowned for its coastal beauty of towering limestone cliffs, another of Victoria's famous limestone Apostles has collapsed! It is reported that only one family witnessed the collapse into the surrounding ocean. For those that have visited the location, it was the second feature from the left.

Ocean waves for millennia have pounded the features into its present shapes. The one that collapsed seemed to be top heavy and it almost looks like it didn't fall very far but crumbled because it's not a block of rock. All that remains now is mound of rubble which has changed the shape of the line up making the appearance quite bizarre. It was in 1991 when two tourists were trapped on London Bridge after it too collapsed into the sea. Geologists say that it is impossible to predict such natural occurrences but they do happen unexpectedly.

Joe Sydney
ASF



Inside September ACKMA 2005

- Ruakuri Cave, Waitomo, re-opens!
- Volcanic Caves of the Azores
- Greymouth Area Karst, NZ
- ACKMA Conference Reflections
- An Encounter with a Whirlwind
- Metro/Te Ananui Cave, NZ
- Techniques and Materials
- Changes in Nature Conservation

For more information about ACKMA, please visit:

<http://www.ackma.org>

HELP SAVE AUSTRALIAN CAVES & KARST

The ASF Environmental Fund is completely funded by donations from cavers, caving clubs and public. Your donation or bequest to AEF will assist our work of informing Australians, and conserving Australian caves and karst. To make a contribution or receive an information pack, contact The Secretary or visit www.caves.org.au. Registered as an environmental body by 'Environment Australia'.



Movie review

"It seems that Hollywood is on a roll in producing yet another shlock horror sci-fi action drama. Don't know what all the fuss is about, seems like the usual ASF trip to me..."
Joe (ASF Production Manager)

The Descent

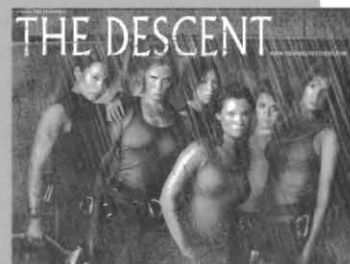
"In a remote mountain range, six girlfriends meet for their yearly adventure, a caving trip into the arteries of the earth. The group makes their way through the remote cave system, enjoying the hazardous but beautiful surroundings. Then, deep inside the cave, disaster strikes when their route back to the surface is blocked by a rockfall. When they learn that Juno, always pushing herself that little bit further, has brought them to an unexplored cave, and that no one is coming to rescue them, the group starts to splinter. Left with no other option, they push on through the cave, praying for another exit.

The women battle through this harsh underground world, pitting their strength and determination against each new challenge. Unbeknownst to them, there is something else lurking under the earth, a race of monstrous creatures hidden from the light, evolved to live perfectly in the dark. As the friends realize they have become prey, they are forced to unleash their most primal instincts to face the creatures. As old wounds break open and loyalties disintegrate, the women realize the horrible truth- they have most to fear from one another."

Movie website: <http://www.thedescentthemovie.co.uk/main/>

Free movie wallpaper for your PC: <http://www.thedescentthemovie.co.uk/wallpaper/index.html>

ASF thanks the following website for movie info: <http://www.bloody-disgusting.com>



Sourced from AAP, this article gives us a sad insight into why David Shaw — cave diver died in his attempt to recover missing cave diver Deon Dreyer.

Video reveals diver's final moments

May 14, 2005 (From AAP)

Among the dive gear, gas tanks, computers and lights that expert cave diver Dave Shaw carried during his final, fatal, descent, a tiny helmet-mounted camera proved to be the most valuable piece of equipment.

The video camera, contained in a custom-made aluminium housing designed to withstand incredible water pressure, provided investigators with vital clues as to why Mr Shaw perished at the bottom of Bushman's Cave in Northern Cape, South Africa, on January 8.

The remarkable pictures, to be screened for the first time on ABC TV's Australian Story this Monday, show Mr Shaw becoming entangled in a line guiding him to the cave bottom, and fumbling to release himself as the timeframe for his safe return to the surface expired. An airline pilot by profession, 50-year-old Mr Shaw — who was originally from Perth but had been based in Hong Kong since 1989 — took up scuba diving just seven years ago. However, with his irrepressible urge to "push the boundaries", he became a world champion in the extreme sport of technical diving, in which divers use rebreathers to recirculate exhaled air at great depths.

While completing a world record 270 metre decent at Bushman's Cave last October, Mr Shaw discovered the remains of a 20-year-old diver, Deon Dreyer, who had drowned there in 1994. Mr Shaw decided to retrieve the body and return it to Mr Dreyer's parents, requiring a dangerous and complicated mission allowing only five minutes at the bottom of the pitch-black cave and more than 12 hours of decompression before resurfacing.

Accompanied by an expert diving support team including dive partner Don Shirley and underwater cameraman Derek Hughes, an eight-man police dive squad, mine rescue personnel, medical and hyperbaric chamber personnel and film crew, the dive was a massive operation. Documentary maker Gordon Hiles, whose footage will also be screened on Monday night, arranged for Mr Shaw to record his dive with the helmet camera. "The plan was about an hour 20, an hour 30 minutes after the start of Dave's dive that Deon's body should be coming to the surface," Mr Hiles told Australian Story. "Eventually a slate came up from the divers at 150 metres and that stated 'No Don or Dave, only one light below'. So that was the first warning that ... something had gone off plan." As Mr Shaw's helmet camera later revealed, the father-of-two blacked out and died from carbon dioxide poisoning as he tried to untangle himself from a line attached to Mr Dreyer's body that had unexpectedly gone slack.

Days later, the bodies of both men floated to the surface of Bushman's Cave together. "In the strangest way Dave actually fulfilled his task of bringing Deon's body to the surface," Mr Hiles said. The camera attached to Mr Shaw's helmet had survived more than 100 hours underwater at up to 29 atmospheres of pressure and brought to his grieving family and friends the images of his final moments of life. Wife Ann Shaw told the program she married her teen sweetheart knowing there was a risk "something unexpected might happen and he might not come home". "Some people would think that what David was doing was dangerous, but I feel that if there weren't people like David then we'd still be driving around in horse and carts," Mrs Shaw said. "We wouldn't have gone to the moon, we wouldn't have climbed Mt Everest, we wouldn't have had planes to fly if there hadn't been people willing to go beyond the boundaries of human achievement. "I wouldn't have changed David for anything."



ASF Awards 2005

Every two years ASF announces awards to individuals

John Dunkley

The 2005 Awards were announced at the Speleomania Conference Dinner at Dover.

Nominations are received by the Chairman of the Awards Commission, Lloyd Robinson and considered by a selection committee chaired by the President of the day (John Dunkley) and including at least two other past Presidents.

The selection committee is very much dependent on clubs and individuals to nominate worthy recipients. The process is competitive: this year 17 nominations were received from clubs and several individuals, and nine awards made. Within each category the recipients are listed alphabetically in no particular order of merit. A full list of awardees from 1972 to 1999 appears in Australian Caver 152, with updates in Australian Cavers 154 (which also has a lengthy article on Edie Smith and the Awards named after her) and 158.

Edie Smith Award

Instituted in 1972, the Edie Smith Award commemorates one of Australia's pioneering cavers and the first woman President of an Australian speleological society. It recognises outstanding achievement over a long period of time. In 2005 we celebrate two people who have made outstanding contributions to Australian speleology as well as putting Australia on the world caving map.

Arthur Clarke

The Award recognises Arthur's outstanding achievement in numerous aspects of speleology, including exploration, surveying, meticulous documentation, publication, photography and biospeleological research.

Arthur is a real speleological polymath. After starting caving in the 1960s with UQSS and VSA, he helped found the Tasmanian Cave and Karst Research Group, was founding President of Southern Tasmanian Caverneers, and was a former Vice-President of ASF and Executive Member of ACKMA. An indefatigable explorer, his feats include numerous hard exploratory and surveying trips in the Ida Bay (especially Exit Cave), Hastings and nearby karsts particularly. He is Tasmanian Coordinator for the ASF Karst Index Database, a veteran of major international expeditions to China and Madagascar where expertise in both caving and scientific research was essential, and is an internationally recognised authority on some obscure



cave biota, some of which bear his name in accordance with scientific practice. Having spent 15 years exploring and documenting the Ida Bay karst, Arthur played a leading role in working towards World Heritage listing for Exit Cave and subsequent closure of Benders Quarry, and later in opposing exploration licences at Mt Cripps. Arthur is joint author of

who have made a significant contribution to any field of speleology.

a forthcoming book on the history of cave tourism in Tasmania. He is also a manufacturer of prize-winning fruit wines that were sampled by many Conference attendees. A resident of both Hobart and Dover (where he moved to be close to the caves!), Arthur has been an unfailingly generous host to numerous visiting cavers from interstate and overseas. Somewhere among all this, Arthur finds time to pursue MSc studies in biospeleology and to advise the Tasmanian government on related issues.

Al Warild

The Award is given for outstanding achievement in exploration and surveying of the world's deepest caves, for development of technical equipment and techniques, and for being a flag-bearer for Australian caving throughout the world.

Al started caving in the 1960s, with a Wee Jasper trip in 1968 and to Bungonia over the next six years. He started 'real' SRT in Tasmania in 1975, then joined expeditions to New Zealand in 1976 and began alpine cave prospecting in Nettlebed Cave in 1982/83. Interest in Mexico began in 1977, and Papua-New Guinea in 1978 and Al has made numerous return trips to Mexico including the first exploration of a -1,000 m+ cave by an Australian Expedition.

Eventually he was sufficiently well-known a vertical caver, that he found a place on expeditions to remote high limestone mountains in often obscure countries, from Patagonia to Georgia and Vietnam to Slovenia. Al developed and pioneered a number of techniques for exploration of deep caves, including solo exploits, and has bottomed 16 caves greater than 1,000m deep throughout the world, including solos to -1,122 in Gouffre Berger, -1,535 in Réseau Jean Bernard, -1,159 in Gouffre de las Bracas du Thurugne, -1,149 in Pozo del Jitu, and -1,180m in Sistema Arañonera. Al has, we understand, since outgrown solo exploits! However the challenge continues, as shown by his joining recent expeditions to Voronia Cave in Abkhazia where he set a new world depth record (see Australian Caver 161 & 163), which drew attention from the mainstream press. Finally, Al is the author of Vertical, the world's bible of vertical caving.

ASF Award of Distinction

The ASF Award of Distinction recognises excellence in several fields of speleology. This is the first time this award has been given "for excellence and achievement in cave exploration and documentation". This award is given jointly to John and Glenda Wylie, particularly for exceptional achievement in exploration, documentation and publication of caves at Wombeyan, NSW, as exemplified in the recently published Wombeyan book. Although best known for their exploits at Wombeyan, John & Glenda have been active cavers for over 25 years, starting with Venturer Scouts and including exploration and documentation in Mt

Cripps (Tas), Lord Howe Island, Macleay Valley, Billys Creek (NSW) and in Thailand. John and Glenda are individual members of ASF and members of SSS.

ASF Certificate of Merit

Stephen Blanden

Stephen is a member of Savage River Caving Club and the award celebrates his tremendous enthusiasm and tireless efforts in the discovery, surveying and documentation of caves and karst features in northern Tasmania, especially Mt Cripps, Gunns Plains and Mole Creek, culminating in the recent self-publication of "Caves of Gunns Plains".

Louise Coleborn

A member of Blue Mountains Speleological Club for 29 years, Louise has held virtually every office except that of President. She was ASF delegate for 10 years, a key surveyor of the complex Taplow Cave at Cliefden, and is currently thoroughly documenting aboriginal cave sites in New South Wales.

Rob Foulds

Rob is a member of both WASG (of which he was President in 1996/97) and SRGWA. A self-taught enthusiast, Rob became interested in subterranean fauna, particularly spiders in the Leeuwin-Naturaliste area, and now volunteers about 160 hours a year at Yanchep, conducting systematic study of cave biota, and ecological work on hydrology, variations in groundwater and its effect on cave animals.

Penny Janson

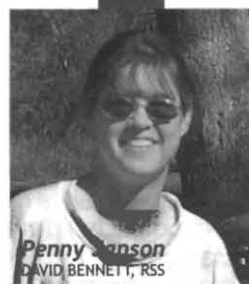
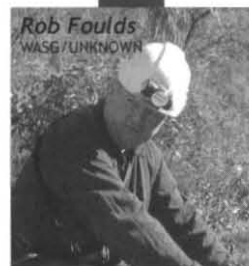
Penny is a member of Rover Speleological Society, of which she has been a leading organiser for many years. She was a key driver in developing the club's training program and for 14 years as a member of the club she ran Guide and Ranger Guide weekend camps typically for 20 – 30 girls at a time, introducing young people to safe and ethical caving.

John Kersey

John began caving in 1969 and discovered Queenslander, the state's longest cave. He founded and for 20 years or so has run a small, mainly family-oriented group from Townsville and Charters Towers. The group discovered, tagged and documented the Broken River area especially over many years, where he developed excellent relations with the landowner to improve knowledge of the area among speleologists.

Bob Kershaw

Bob is a member of Illawarra Speleological Society, noted as an insatiable explorer and a dedicated and meticulous planner and recorder. Bob made major contributions to organisation of expeditions to South-east NSW, the Nullarbor and Gregory National Park (NT), and is the Operations Manager for the Gregory Expeditions and a mainstay of the survey of Bullita Cave, Australia's longest. Bob is also a sometime trainer in caving and abseiling for the Scouting Association, and a highly regarded authority on search and rescue through the State Emergency Service.



Guano happenings!

French cavers trapped

Lyon, France — Rescue workers were conducting an operation on Monday to save two spelunkers trapped in a cave in eastern France, fire officers said. The pair were in a party of four which was surprised by a sudden rise in the water level underground while they were exploring a cave system in the Vercors mountain area, south of the city of Grenoble. Two of the group managed to escape, one of them with injuries, but the other two decided to wait in a grotto above the water line.

(Postscript: Since their entrapment, the party managed to reach the surface along with the injured caver!)

Cavers stranded underground found by search team

12.09.05 1.00pm

Three highly experienced cavers were stranded underground at Takaka Hill until early today after a rope they had relied on was left coiled out of reach. The three — two Nelson men and a woman from Christchurch, all in their early 40s — were found about 2.40am by members of the Motueka Cave Search and Rescue team. They had been forced to wait for rescue during an expedition through the Green Link-Middle Earth cave systems. Travelling through the linked caves takes about 18 hours, and the one-way trip includes two sump dives. At one point, the route depends on a rope, which had been laid in advance several weeks ago but was inadvertently left coiled out of reach of the cavers. With no way to proceed or return, the trio was forced to wait for rescue. Motueka police were alerted at 9.30pm yesterday. The cavers were found fit and well, Senior Constable Gerry Tonkin of Motueka police said this morning.

Parks and Wildlife Division

CAVES MANAGER

Grade Clerk 7/8, Tumut, Permanent Full-Time, Position Number DEC05-372. Total remuneration package valued to: \$78,452 p.a. (\$64,227-\$71,094) The remuneration package quoted includes annual salary, employer's contributions to superannuation scheme and annual leave loading. Additional loading for working weekends and public holidays.

Manage the Yarrangobilly Caves precinct in a manner that protects its conservation value by promoting support and involvement in Service activities through the marketing, presentation and education of visitors to the area. **Selection Criteria:** Sound appreciation of natural and cultural heritage conservation issues. Extensive experience in financial and human resource management, including staff supervision. Ability to make innovative and sensitive decisions with regards to a high conservation value visitor destination. Demonstrated superior oral and written communication skills. In particular highly effective presentation, negotiation, conflict resolution and liaison skills. An ability to work closely with the public. Demonstrated ability to be a strong advocate for the site, dealing with individuals, organisations and groups in a marketing/business environment. Experience in project management, business planning, interpretation of legislation and public relations. Current drivers licence Common selection criteria also apply.

Notes: Weekend and public holiday work is required. Electronic applications must be MS Office '97 compatible.

Inquiries: Mick Pettitt (02) 6947 7015, 0427 615 674, email: Mick.pettitt@environment.nsw.gov.au. **Information Packages:** Kim Signor (02) 6947 7068. **Applications Marked 'Confidential' To:** Recruitment Officer, Department of Environment and Conservation, Personnel Services Section, PO Box 1967, Hurstville NSW 2220, Fax (02) 9585 6116 or email to recruitment@environment.nsw.gov.au. **Closing Date:** Friday 28 October 2005. PSN/C 967114.

Bring back the old Luna Park

Old-fashioned rides could return much-needed soul and atmosphere to St Kilda's Luna Park, a community group has suggested. The park's most popular ride, the Metropolis, will remain closed while WorkSafe investigates what caused the small rollercoaster to grind to a halt on Saturday. Five children and an adult were trapped in carriages for more than 90 minutes before a frustrated parent called 000. The Metropolitan Fire Brigade criticised Luna Park for trying to rescue them with a "less than adequate cherry-picker and no safety equipment". The incident has prompted wider community debate about the future of the park, which also features the historic Scenic Railway -- the world's longest continuously operating rollercoaster. Julia Murray, spokeswoman for the Friends of Luna Park, said original, creatively designed rides like the Scenic Railway could rejuvenate the park. "Luna Park was originally designed for adults, not just for children," Ms Murray said. "It is a very rare example of fairground art, recognised at an international level." Luna Park has been for sale for almost two years. Ms Murray said original items such as the River Cave, the popular Giggle Palace hall and the Rotor ride could help broaden the appeal of the park. Jason Todd, managing director of Luna Park, said a full investigation into Saturday's incident was continuing. "At all times during the incident our staff were in contact with the guests on the ride to ensure that they were safe, comfortable and in good spirits," Mr Todd said. On Melbourne Cup Day last year, children were trapped on the Scenic Railway when wild weather forced it to stop.

Holly☐lfe

Man hurt in Cave Gardens fall

Monday, 10 October 2005. 13:23 (AEDT) The city of Mount Gambier says it is unlikely to review safety measures at the Cave Gardens, despite a weekend incident which saw a man survive a 10 metre fall to the bottom of the sinkhole. Terry Menadue, 21, escaped with a broken arm and leg and facial injuries after losing his footing when he jumped a fence to gain a closer look at the popular attraction. The accident took place shortly before 4:00 am ACST on Saturday, and it took rescue crews more than two hours to winch the Adelaide man to the surface. Council chief executive Greg Muller says he is planning to meet police to discuss the matter, but suspects it was an isolated incident. "The area's quite safe, thousands use it on a regular basis, so unless it's something that's brought out through this particular incident that would change our thinking, I think we need to put it down to an excess of something that forced this young fellow to take one step too many," he said.

Recollection of Evalt Crabb

Chris Dunne (ASF Secretary 1986–93, and HCG member since 1976)

Who is left to speak of your passing when so many of your contemporaries have moved on, in life or elsewhere? Who in today's ASF knew that Evalt Crabb of the 1950s and 60s, his young vibrant years? Only a handful I suppose.

I met Evalt in 1976, already past the halfway point in his life, and at the centre of a revival of the Highland Caving Group, the club he founded 20 years before. This seemed like ancient history then, but is now nearly 30 years since our meeting and much water under the bridge.

Like many old-school cavers, Ev started in bushwalking. In 1952 he learned the whereabouts of a certain Colong Cave from a workmate named Bill Woof and, with a few friends, made a trip there by motorcycle up the Burragorang Valley and deep into the southern Blue Mountains southwest from Sydney, before Warragamba dam flooded this route. Now it is much longer, west via Oberon then south.

The young Evalt used to race his motorbike at a dirt racing circuit just outside of Goulburn and naturally, with wife Joan and some friends in tow, he used to ride to nearby Bungonia Caves.

Though he'd joined some early SSS trips, even diving in Olympic Cavern at Wombeyan, a new group coalesced around Evalt in the mid 1950s eventually calling itself the Freelance Caving Group – it had no pretensions to being a *speleological society* nor was it affiliated with any institutions, as were most of the several other clubs around Sydney.

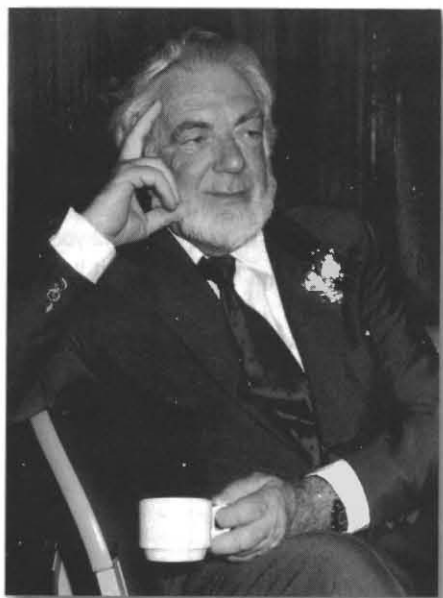
Early in the 1960s the club became more formalised and was renamed Highland Caving Group as most of the caves visited were in the NSW Southern Highlands, and many club members were into highland dancing at the time. HCG did not participate in ASF's earliest Conferences, but steadily grew and gained ASF membership in 1965.

Ev was involved with printing and photography and was publisher of HCG's occasional newsletter, *Calcite*, over the years. So in 1965–66 he became editor of the then *ASF Newsletter*. He also joined the ASF Executive Committee, as ASF Secretary, and was involved in the *NSW State Liaison Council*, later renamed the *NSW Speleological Council*.

On the caving front, HCG developed interests in areas such as Cooleman Plain, Bungonia and Mudjee where Evalt and others made a number of discoveries. Cooleman in the late 1960s was still relatively new ground and some of the caves Evalt and HCG first explored such as Right Cooleman, New Year and Easter were significant HCG finds. Easter Cave involved some cave diving, as did efforts to penetrate Murray Cave.

At its height in the mid 1960s, HCG had 70 members, but lost this impetus following two fatalities at Bungonia. The club helped recover the body of climber who fell in Bungonia Gorge in 1964. Worse was the tragic death in 1965 of John Bryant in a ladder fall in Drum Cave – this was one of our own. The club went into a decline and by 1970 had virtually folded.

Nevertheless, about 1970 Evalt and HCG together with two other clubs, BMSC and MSS, conducted a *Mini Conference* in Mudjee to draw attention to the many small though significant karsts of this region northwest of the Blue Mountains.



CRABB COLLECTION

Back in the 1950s, 60s and 70s some cave areas on public reserves, particularly Jenolan and Wombeyan, were only accessible to the major clubs which had ingratiated themselves with management. Consequently the minor clubs specialised in the more accessible reserves at Bungonia, Wee Jasper or Timor, and smaller cave areas, such as the several small outcrops on private land around Mudjee. The Mudjee region became, after Bungonia, a particular interest for Evalt's, involving visits over many years.

In 1974 at Bungonia Ev met a group of Sydney cavers from the *St George Area Caving Team*, founded by Peter Dykes as a training group for Scouts in the dark arts of caving. Peter, along with Steve Bunton, Graeme Smith, Ian Lutherborrow and others joined HCG and together with a few older HCG members and others, most notably Gerry Hopkins and Rik Tunney, the club enjoyed a major renaissance. With Ev they became involved in several new discoveries at Bungonia, most notably Phoenix Cave, and digs around Becks Gully and Cow Pools. This was on the heels of publication by SSS in 1972 of the book *Bungonia Caves* with its many maps and containing a discussion of geomorphology by then karst guru, Joe Jennings, a Canberra academic, friend and frequent visitor to both Cooleman and Bungonia – and also ASF's Patron for many years.

All this had occurred before I met Evalt through my friend Peter Dykes. My first impression of Ev was of *the king and his entourage*. From his 25 years of caving and mingling at Bungonia with the likes of Joe Jennings, Ev had developed an interest in cave geomorphology, especially of the predictive kind so that he and HCG were keen on digs at Bungonia and elsewhere. There was a flurry of mapping, articles and three volumes of *HCG Journal*, published and printed by Ev.

This ran its course for a few years and some of our exploratory Mudjee trips turned into wine-tasting trips instead, with camping epics by the banks of the Cuddeegong River, pre-dam at old Cuddeegong. Rik Tunney was apt to describe such trips as *couth*, *very couth*. Ev himself was a keen wine-maker in this period.

TRIBUTE TO EVALT CRABB

HCG membership waned again and from the mid 1980s and other interests took hold. Evalt moved into Scouting to influence the younger generation with his particular interests in caving and speleology. He extended his outdoors interests to include canoeing and cross-country skiing. Also in Scouting he developed training and codes for *Rock Related Activities*.

In the 1980s and 90s Evalt and I were to collaborate in two areas: our involvement in the NSW Speleo Council and in co-authoring several submissions on Draft Plans of Management for cave areas ranging from the Nullarbor and Kubla Khan interstate through, Kanangra-Boyd/Blue Mountains, Jenolan, Abercrombie and Wombeyan in NSW. Our 1990 submission on Wellington Caves and a significant bibliography ran to 12,000 words. Our submission writing was a time of unique collaboration joining our complementary talents to the task.

Evalt revived his involvement with ASF in the 90s, partly in pursuit of his Scouting interests with an emphasis on the *Code of Ethics*, *Minimal Caver Impact* and the like — he published a couple of papers on the issue of *Caver Impacts*. At the ASF Yeppoon Conference in January 1999 he gave a paper on *ASF Knowledge Management*, especially concerning copyright issues. Evalt was Convenor of ASF's *Codes and Guidelines Review Committee* from this period.

Ev contributed a detailed history chapter to Julie and Peter Bauer's 1998 book *Under Bungonia*, setting out the true extent of HCG's contribution to the 1960s cave exploration, which had been omitted from the earlier Bungonia book.

In the late 1990s Evalt and I aided Peter Dykes in writing several applications for grants funding from the Natural Heritage Trust and, its NSW counterpart, the Environmental Trusts. Evalt went on to coordinate part of the documentation of the karst for the greater Mudgee area as part of Peter's Macquarie Region, for which ASF won an NHT grant of \$26,000 in 1999. Aside from the odd trip in later times, this return to his Mudgee interest was perhaps Ev's last major caving project.

Nevertheless, in recent years he had returned to the Presidency of HCG and, since he and Joan moved to Nowra in 2003, had run some trips to the sandstone caves at Riverside on the banks of the Shoalhaven River.

His publishing interests, article and submission writing, and wide reading spilled over in later years to an interest in creative writing and small publishing. He was an officer of his branch of the Federation of Australian Writers, and the National Seniors Association, former officer of his children's P&C Association, their local soccer club, and others besides. He was a keen local citizen, environmental activist, a father of three, a grandfather. He was charismatic enough, interesting company, inspiring sometimes and a good friend. His naming of Phoenix Cave was also a motif for himself — his life was one of recurring renewals.

In an echo of his younger motorbike daring and in the vain of his frequent generosity, despite some misgivings, Ev was driving to Sydney for a National Seniors meeting when heart failure caused him to collapse at the wheel and he died in the resulting car crash — he was just 73.

The last time I actually saw Evalt was at Peter Dykes' wedding at Weilmoringle, near Bourke, in late March. He was recovering from the stroke he suffered in January and was visibly feeble, quieter than his usual self but as engaging as ever when we talked over dinner.

Our last conversation was some nine days before his death. A friend of mine makes audio history recordings for the Australian National Library and I asked Ev if he was interested to be interviewed — he said: *I'd be comfortable with that*. Sadly it was not to be.

Vale Evalt.

Evalt — a Life

Occasionally we are gifted to know someone who is truly great, not because they built great wonders or made a great discovery but because they were able to inspire others to do these things, Evalt was such a man.

Others will tell of the things that Evalt did in his life, of his caving discoveries, of his writings, of the various interests that he had and of the community organisations he worked in. But for me it is the man himself and the qualities of his personality that I most remember and feel privileged that I counted him a close personal friend.

Evalt was someone you could talk to about any subject, he was a rarity in this age, a man of knowledge and some wisdom, who would rather help you find your own answers than lecture you about "solutions".

Evalt had qualities about himself that were raw and simple, you took him as he came, bearded, with a penetrating stare, a casual walk, simple but honest manners. He said what he thought, he never hid his feelings or his emotions, he was passionate about the environment, loved the outdoors. He was most happy around a good campfire, glass of wine in hand, home brewed or otherwise, talking with friends talking about caves, the bush and life in general. He was in every way a typical Australian from the "old school", one who believed that friendship and mateship were more than just words. These were concepts that had a substance, they are at the heart of how he saw life, the basis behind the reason he was loved and respected by all who knew him.

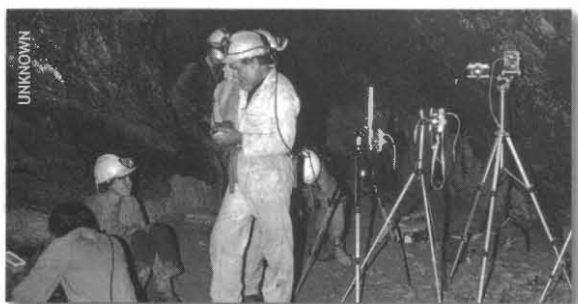
I will miss Evalt, we will all will miss Evalt.

We will miss his laughter and conversation around the campfire, we will miss him on those walks to find new caves, we will miss him at Bungonia and in the hills behind Mudgee.

But his spirit will always be with us, on walks across the limestone, in the roar of the falls in Tuglow, in the silence of Woofs Cavern, Colong and around the campfire at night.

A great man has left us, an old and very dear friend.

Peter Dykes



Evalt with photographers at Wee Jasper, date unknown.

Evalt Crabb

Evalt indirectly contributed to the knowledge of Australian silverfish. Firstly through his willingness to share his knowledge and ideas of cave geomorphology and new cave areas I was included in the group of HCG members who opened up Phoenix cave at Bungonia, NSW. At the time I was studying entomology and was fascinated by a blind, unpigmented silverfish that could be found in this cave. While not strictly troglobitic (this whole silverfish family lacks eyes and pigment even when found outside caves), it did have longer antennae than surface-dwelling species indicating a degree of cave adaptation. Evalt encouraged us to publish our findings and the species, *Subtrinemura anemone*, was formally described in the Australian Journal of Entomology in 1988.

Evalt also took a group of cavers into the Mudgee area to introduce us to the cave areas he knew. A new species of jumping bristle-tail (a very primitive silverfish-like Order) was collected under stones outside the caves at Queens Pinch. The species was described as *Machiloides granulatus* in 1993.

Graeme Smith



Tribute to Evalt Crabb (August 2005)

At the recent CaveMania conference I mentioned the untimely demise of Jeff Butt to the then President of ASF, John Dunkley. His response was something like "Cave exploration is something of a recent endeavour in Australia and as such we have not lost the elder statesmen of the sport". I know he didn't mean to put the Jonah on anyone, himself being one of the elder statesmen but I didn't realise that before the year was out I would be writing the untimely obituary of Stuart Nicholas nor one for my good old friend Evalt Crabb. Evalt was 73 when he passed away.

Evalt was my first caving mentor. I first met him in 1974 at Bungonia as he wandered past our campsite. I was ticking off the caves I had done in the Sydney Speleological Society's Bungonia Caves book. Evalt gave me the sage advice to go for the caves where there were the question marks that denoted (hot?) leads. Almost immediately I was blessed with success pushing an innocuous hole B-39 beyond the tight vertical squeeze which doubled the depth of the cave. We called it Pants-in-Tail Cave.

Evalt introduced me to cave geomorphology, something I was totally ignorant of at the time and was later to learn more about from the poms in our expeditions to PNG. They were experts in following breezes, finding oxbows over sumps and following rifts across the tops of pitches to reveal an extension to the cave. At the time almost no one in NSW knew anything about these things except Evalt Crabb who was good friends with the world's most eminent English speaking cave geomorphologist, Joe Jennings. Evalt introduced me to the concept of stream piracy and let me into his greatest secret B-60 Phoenix Cave in the catchment of Grill Cave B-44. The cave was dug by Evalt's friend Gerry Hopkins, a giant of a man. They named it Phoenix Cave after the mythological creature that rises from its own ashes and recreates itself. Evalt and Gerry were the ashes of the Highland Caving Group, so named because the original cavers were drawn from a group whose initial interest was in highland dancing.

The Phoenix cavers pushed B-60 to a depth of about 30m but couldn't pass a heavily drafting squeeze. Graeme Smith pushed the squeeze after a bit of digging. Almost a week later on a horrible wet Friday night Graeme, Bryan Cleaver and I went beyond the squeeze to discover two amazing features of this new cave. The first of these was a new species of troglobitic silverfish which launched Graeme's lifelong academic interest in silverfish and the second was the incredible sediment banks the cave contained. Both of these prompted us to mount a great campaign of secrecy in order to preserve the cave. We gated the cave and placed a plaque on the entrance to explain our actions and tried to disguise the cave by removing the number tags. As yet no one has studied the sediments in the cave and I hope they have not been destroyed like those at the mudslide in nearby Grill Cave.

The result of this cave success was that Evalt reconstituted the Highland Caving Group. We never produced a newsletter but preferred to publish summative articles in a HCG Journal. Evalt felt that too much caving literature was devoted to the irrelevant details of a trip: cars breaking down, people getting drunk and falling into the campfire etc. The efforts to produce a high class journal was my first introduction into the world of writing, editing, proofing and graphic art. This is an aspect of caving that I am still very much involved in today. At the time I, then took over editing Aragonite the newsletter of the St George Area Caving Team under Evalt's tutorage.

Evalt was a printer and photographer by trade. His forte was the production of small run jobs which were unprofitable for other larger printing operations. He silk-screened t-shirts, printed certificates, pennants and the like. Often this meant that he was forced to use much nastier solvents than other printers and this had a rather adverse effect on his health.

Whether, an interest, a passion or just a habit, Evalt was a legendary brewer. He made wines from nettles, rose petals, rose hips, dandelions and conventional fruits as well. They were all excellent and he had a wonderful knowledge of the subject. Evalt acted as a

consultant winemaker to a number of properties at Mudgee long before Mudgee was on the map as a gourmet food and wine-making area. He often returned with produce in lieu of payment and he was very adept at using this effectively. Evalt's mother was Estonian and something of those middle-European food preservation and utilisation skills certainly rubbed off on Evalt, long before they revolutionised the Australian food scene.

Eventually, when the children Delia, Wayne and Neil grew up, Joan returned to the workforce full-time with the Australian Bureau of Statistics and the Crabbs were able to enjoy a higher quality of life. The Roads & Traffic Authority compulsorily acquired their Liverpool home in recent years and Evalt and Joan resettled out of Sydney. They moved to North Nowra and I thoroughly enjoyed the e-mails and Christmas letters from Evalt as he revelled in his new environment, that of small fishing fleets, old-fashioned green grocers and interesting delicatessens. It was sad that I never saw Evalt in his new environment but Nowra was to be the venue for a number of HCG functions for the next generation of cavers who have kept that club alive.

I always loved to theorise with Evalt as he sipped away at some strange plonk. Evalt was always interesting to talk to. He was an immensely colourful character in an activity which attracts more than its fair share of eccentrics. I certainly appreciate the different view of the world he afforded me as an impressionable young man.

Our careers parted ways somewhat as I become more involved in expedition caving and Evalt involved himself again in cave administration. For decades he was a feature of and a great advocate for, the NSW Speleological Liaison Council. As the electronics age took its stranglehold on society, Evalt became a born again computer nerd, cobbling together computers as he cobbled together cars, cameras and photographic enlargers etc. I loved it whenever he chose to comment on OzCavers. I could not tell whether he was serious, controversial, and provocative or just having us all on.

I was so glad to re-acquaint myself with Evalt and Joan at CaveMania after having not seen them for decades. The bottle of lemon wine Evalt gave me as a Christmas present will now take on even more significance. I thank him for this and everything else he gave me. It is the intangible things which are the greater gifts. He first introduced me to the "rule of thirds" for composing photographs. I still think of him every time assess someone else's photograph and even sometimes when I look through the viewfinder. Yes, I still shoot film. I'm a bit of an old fashioned sort myself now, a technological throwback as Evalt once was. I just wished I had made the time to talk to Evalt a bit about digital photography. Oh well!

We will all miss this elder statesman of Australian caving.

Stephen Bunton



Evalt and Joan at ASF CaveMania conference, Tasmania, January 2005.

In memoriam to Evalt

The Crabb family and ASF wishes to thank all those that contributed to the ASF Environmental Fund in memoriam to Evalt Crabb, President of Highland Caving Group.

Contributions gratefully received from:

- | | |
|---------------------------------------|----------------------|
| ■ Raphaela & Tommy Angelou | ■ A J Hillie |
| ■ Stephen Bunton | ■ Joe Sydney |
| ■ Bru Randall & Barbara Schomer (USA) | ■ Florence Callicott |
| ■ Michel & Alexandra Vainauskas | ■ RSS |

Khazad-Dum — Another new approach

Tasmania contains a large percentage of Australia's deepest, longest and sporty caves, so you'd think that Caves Australia would more regularly field articles from its inhabitants. Unfortunately most of us down in 'Fun Land', (as I've heard it referred to by the 'Northerners'), are particularly lazy and apathetic when it comes to writing these days. Here's one that slipped through the gate...

Alan Jackson is a member of STC and has been for about 5 years. He is currently Editor of the club's newsletter — *Speleo Spiel*, Search and Rescue Officer, Social Secretary and is usually happy to wear what ever other hats people throw at him.



Alan Jackson checking Jeff Butt's rigging notes for the fourth streamway pitch.

Over the years since its discovery in the late 1960s, (22 November 1969 by the Tasmanian Caverneering Club to be exact, if the Australian Karst Index is to be trusted!), Khazad-Dum (JF-4) has been the subject of countless trips, stories and accolades.

It held the Australian depth record for about 10 years, (from 1972 to 1982 [Bunton 2002]), although it turned out not to be as deep as originally thought — 321 m became 285 m following survey work in the late 90s [Butt 1999]). It is considered 'Australia's best cave' by some and has provided a steady source of 'speleo entertainment' for the underground community for decades. It was long seen by mainland cavers as a test piece. Reading through some old articles on KD (as it is affectionately known by most) has prompted me to write a few lines on the latest 'new way' to do KD.

A common thread amongst the caving community appears to be an obsession with doing something new. Generally this involves hunting for and exploring brand new systems, but in lieu of this we insist on doing an old cave a different way. KD appears to have been a prime candidate for this. KD is a moderately complex system with three entrances (JF-4, JF-5 & JF-14) and three distinct ways to the bottom (from the JF-4 entrance); namely 'the wet (or main) way', 'the dry way' (or 'flattener route') and 'the serpentine route'. Admittedly, the author has only ever done one of them (there are too many damn caves in Tasmania to ever find time to do the same cave more than once!) The fact that Dwarrowdelf (JF-14) just happens to connect to KD only increases one's options.

Initially, just getting to the bottom of the cave (on ladders!) was a sufficient effort, but as vertical caving techniques improved, and knowledge of the system

increased, people started imagining alternatives. Further exploration at the bottom, including attempted sump dives, trying to find a way to the June Cave resurgence was an obvious progression. In 1980 Alan Warild soloed KD in 7.5 hours using the cord-technique and then in 1988 Stephen Bunton soloed it using 7 mm accessory cord with conventional rigging techniques in a time of 6.25 hours [S. Bunton pers. comm.] The only challenge left now seems to be timing yourself and beating previous records. In the late 1980s the proper 'wet way' was pushed, intersecting the streamway via the JF-5 entrance to the junction with the dry route [Bunton 1990]. Eberhard (1992) provides some good background on the many ways KD can and has been done. The connection with JF-14 lead to numerous 'exchange' trips, with two independent groups rigging down each system, then swapping over and derigging the alternate system. It was the desire to complete this exchange by members of this trip that lead to the most recent 'new' way of doing things in KD.

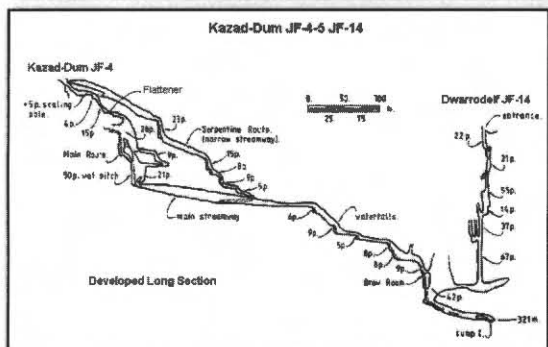
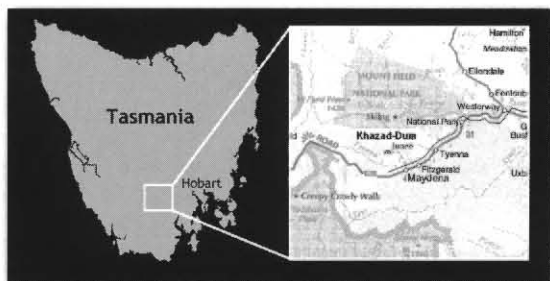
In 2001, following extensive research and bureaucrat negotiating, Jeff Butt successfully secured funding for what became known as the Southern Karst Care — P-hanger Rebolting Project. The idea was to install long life, easily replaceable stainless steel hangers into popular Tasmanian caves (particularly those that had experienced excessive and unnecessary bolt placements — coined 'bolt rash' by Jeff Butt). KD was 'p-hangered' by the end of 2003 and Dwarrowdelf was on the 'to do' list. The untimely death of Jeff saw the p-hanging work stall briefly, but things are back in motion now (in fact, the original list has been completely whittled away). Dwarrowdelf was the most recently completed cave, with all hanger installation and formal load testing completed in June 2005. During this leg of the project the idea of the exchange trip resurfaced.

The problem with caving in Tasmania at the moment is the distinct lack of active cavers. The idea of a KD-Dwarrowdelf exchange was all good and well, but there literally weren't enough available cavers in the state to generate two independent teams capable of the trip! It was then that the concept of a KD pull-through trip was mooted by Gavin Brett. Gavin had never been right down KD before, which was probably why he didn't dismiss his idea before he mentioned it to anyone else! Dwarrowdelf needed derigging anyway, so why not access it by going down KD instead? Retorts to this question included:

"It makes a short easy trip longer and harder."

"It's the middle of winter and KD could be ludicrously wet and cold."

"The p-hangers in KD were not placed with the intention of a pull through and may not be conducive to such an activity."



BUNTON AND EBERHARD

The first two were dismissed with reckless abandon; however, the third one did have a point. Pulling through on some of the pitches would lead to descending on only one p-hanger or less than desirable naturals. Despite having intimate knowledge of the installation and testing these hangers undergo, we still couldn't accept the risk. All p-hangers are formally tested applying a 5 kN tension force to the bolt (considering most hangers will only ever be loaded in shear at around 1 to 1.5 kN, we have confidence in any bolt that passes the test – in fact, a test performed recently by a cowboy in STC, who shall remain nameless, applied a 12.5 kN tension load and the p-hanger still didn't fail, but the rock cracked a bit!)

We investigated the rigging guide for KD [Butt 2003], updated by Jeff Butt after his p-hanger efforts, and also took a laminated copy of these notes with us (none of us had actually been down the streamway section since the installation of the new p-hangers). We decided that the only problem pitch was going to be the last one (42 m). The rigging entails a back up bolt in the Brew Room, a rebelay up and over the wall between the Brew Room and the pitch, and then a second rebelay bolt a further 12 m down. Pulling through from the initial back up in the Brew Room would generate too much friction on the wall/lip. Pulling through off either of the rebelay bolts would probably work, but it was a single bolt only and accessing it without a rope from the Brew Room wasn't ideal! Eventually we decided to take a rubbishy old bit of 11 mm Blue Water from the gear store (rope that refuses to ever fail a drop test despite its age, but doesn't feed through a descender very well for the same reason – i.e. its age). This rope would allow us access to either of the two rebelay hangers, and also provide a back up for whichever hanger we eventually pulled through from. It was annoying having to 'leave a man behind', but the store wouldn't miss it and we'd come back for it one day. With the plan in place we just had to organise a date, which proved more difficult than any of the prior planning.

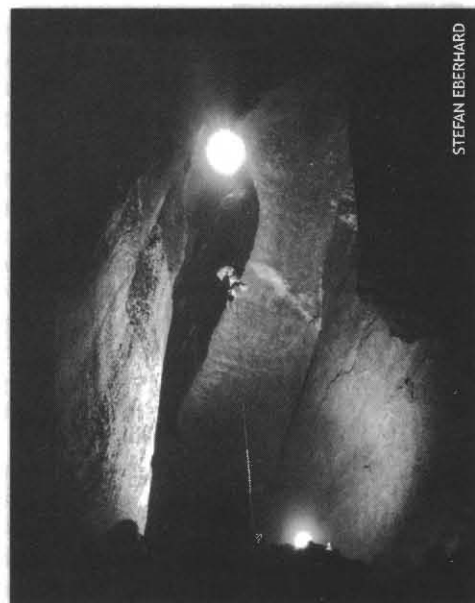
Eventually on 9 July 2005 the first KD-Dwarrowdelf pull-through exchange trip was completed by Gavin Brett, Matt Cracknell, Rolan Eberhard and Alan Jackson. Water levels were surprisingly low, which although disappointing, was probably fortunate. It

was still a wet, cold and noisy trip, but not quite as much as I had hoped. Our concerns that the cave wasn't really set up for pull-through were justified, as many of the streamway pitches required some level of imagination and foolhardiness. Generally the last person to descend took a bigger risk as they had to approach the pull-through point with less protection than could be deemed desirable. Where we had a good p-hanger set-up we could rely on a jamming knot, but on three of the streamway pitches we had to use naturals that had potential for snags and hang-ups. Here we did the old tried and true method of belaying the last person down with the weight of another person attached at the pull down end (we even squeezed in a spot of 'double abseiling' at one stage, just for fun – two people simultaneously descending on either end of the rope looped over the anchor). We took quite a bit of extra rope as a precaution against snags – if things went wrong we could whip out the knife and start sacrificing bits of rope on the streamway pitches and still get to the bottom. Our main concern on the whole trip was who was left on the surface to mount a rescue if something did go wrong (the other problem with a depleted number of active cavers in the state).

The ascent and de-rig of Dwarrowdelf (which remained rigged following p-hanger installation) was mostly uneventful, except for when the central maillon worked itself undone on my harness on the second top pitch, leaving me dangling 15 m off the ground from one side of my harness. Rechecking my maillon at the bottom of each pitch will now be a priority! The first of our party dragged his body out on to the surface after a quite respectable time of just under seven hours underground. All in all it was a cracking trip to say the least, although I couldn't recommend it from a 'safe and sensible things to do' point of view; meaning while reasonable precautions were taken, I hope it won't become a craze to do KD this way.

KD has now had another 'first' added to the long list; there are still a few more to go that I can think of, but they all involve a lot of water...

In fact, two KD firsts were achieved in July 2005 – the recently deceased Tasmanian caver, Stuart Nicholas, completed the first KD-Junee Cave through trip on the 17th, albeit posthumously in the form of his ashes! I assume that it is acceptable to break the 'KD-Junee Cave' through trip class into two sub classes; living and deceased...? I'm sure Stu would have had something witty to say about it!



STEFAN EBERHARD

90 foot pitch (second from entrance).

References:

- Bunton, S. 1990. Another Obscure Record – Khazad-Dum. *Speleo Spiel*, 257:2
- Bunton, S. 2002. Australia's Deepest Caves. *Wild*, 85:36
- Bunton, S. and Eberhard, R. 1984. *Vertical caves of Tasmania, a caver's guidebook* Adventure Presentations, Miranda NSW pp.24-28.
- Butt, J. 1999. Khazad-Dum: Setting the Depth Records Straight, Twenty-Seven Years On. *Speleo Spiel*, 314:9
- Butt, J. 2003. Khazad-Dum (JF4)-An Updated Rigging Guide-July 2003. *Speleo Spiel*, 337:29
- Eberhard, R. 1992. Notes on Khazad-Dum (JF4, 5, 14). *Speleo Spiel*, 274:2

King Solomons Cave, Mole Creek – Tasmania

King Solomons Cave, world renown for its beauty and majesty, shines even brighter.

By Cathie Plowman, Northern Caverneers and Parks and Wildlife Service Tasmania

King Solomons Cave has just re-opened after the installation of a low energy, computerised lighting system, designed by Neil Kell from Tumut, NSW. Neil also coordinated the in-cave works and the team of professional sub-contractors. The result is soft lighting effects that gently illuminate the rich features of this beautiful cave. Besides the beauty, it's a great plus for the conservation of the cave as heat output from lights has been reduced from 18 kilowatts (under the old lights) to 3.2 kilowatts with the new lights.

Neil is soon off to Vjetrenica Cave in Bosnia-Herzegovina where he will be doing a lighting plan as part of conservation efforts to protect the rich fauna populations of that cave.



King Solomons Cave – new lights for an old cave

King Solomons Cave is a very old cave. It's so old that the creek that formed the cave by dissolving the limestone has long ago under-cut the cave it created and has now disappeared elsewhere into the surrounding karst system.

There has been a long history of cave tourism at Mole Creek. Europeans first visited the cave in 1906 and guided tours started at King Solomons Cave in 1908. At that time an acetylene lighting system was installed to allow visitors to view the magic of the underground. The generator that powered this original lighting system is still in the cave today and is part of the on-going story of the cave's history as a tourism destination. An electric lighting system was installed in King Solomons Cave in 1928 and this was the first cave in the area to be lit with electricity. The result was an increase in visitors to King Solomons Cave and a decrease in visitors to some other tourist caves that were operating in the Mole Creek area at the time.

There have been several upgrades of lights over the past century.

Lighting systems have a life and new technology creates new opportunities. The 1928 lighting system was replaced in the 1950s and another system was installed in the 1980s. With each re-lighting of the cave, new lighting technology has meant a different lighting style to that previously used.

New cave lighting styles are different to those used in the past.

In the past, the main focus of cave lighting was to bring light into the cave to allow visitors to see as much of the cave as possible. This often created a 'flood-lit' or 'ball-room' effect. These days the approach is to use less lighting and create a more intimate experience of discovering the form of the cave and the features within it, without the lighting over-powering the darkness. The effect of the new approach is to enhance the appreciation of the three-dimensional nature of the cave beyond the rather flat two-dimensional effects produced by the

floodlighting of the previous system. The designer of the King Solomons Cave re-lighting is Neil Kell, a Churchill Fellow, who has combined his training as an interior designer, his extensive experience in cave management and his wide knowledge of lighting technology and hardware supplies to create new approaches to cave lighting. Neil deliberately chooses 'not to reveal all the cave's secrets at once.' He prefers to gradually unveil the cave's features and likens this to a musical symphony where small pieces are gradually introduced and these gradually combine and build to a crescendo at the completion. Previously the same lighting effects were viewed on the return trip out of the cave as on the way in. There are now different lights, meaning different views, on both the inward and outward journeys. 'The effect is that the cave is now twice as long' says local Mole Creek resident and retired electrical engineer Harold Coleman, who has been a volunteer worker on the re-lighting project. 'You see a different cave on the way out than you do on the way in.'

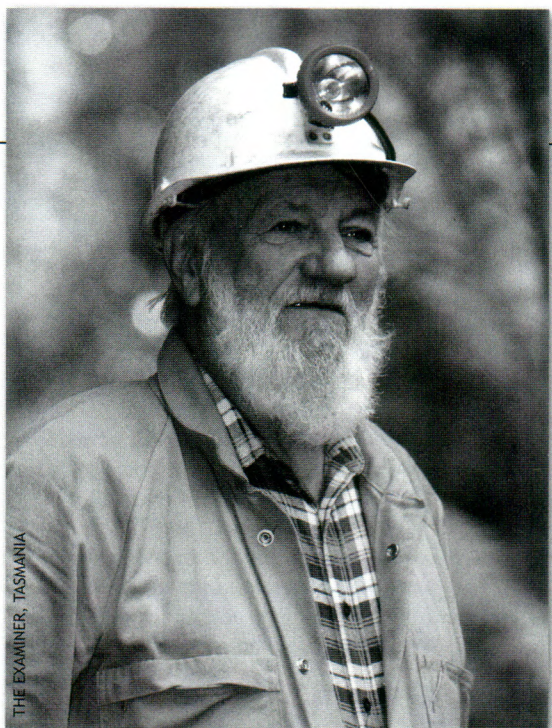
21st century technology means better visitor safety and environmental protection

New technology has opened a whole new realm of possibilities. Low-voltage, high-efficiency dichroic lamps and light-emitting diodes (often known as LEDs) provide new options, while computerized operating systems mean that the 'show-lights' are only on for as long as people are in a given area. Once people move on, to another part of the cave, the computerised system turns the lights out behind them.

This means energy is not wasted by running lighting where it is not required, and thereby minimises the many environmental problems that can result from using lighting systems in dark caves. Pathway lights and show-lights are now on different systems resulting in greater safety for visitors. Once a group enters a section of the cave the pathway lights will stay on in that section, and all the sections behind them, until the group has exited the cave. The pathway lights have a battery back-up system so that a group cannot be stranded in darkness should there be a power outage, or black-out, during a cave

Increased understanding of the cave environment means better environmental protection.

Artificial light introduces unnatural energy into the cave as it is a naturally pitch-black place. This energy results in the growth of primitive plants, known as lampenflora, around the lit areas. The previous lighting system had an energy output of 18 kilowatts (that's the equivalent to about seven house-hold electric heaters on full). New lighting technology, used in the re-lighting, has allowed the lighting energy output to be reduced to just under 3.2 kilowatts.



Harold Coleman at King Solomons Cave, Mole Creek, May 11 2005.

This is a substantial improvement as far as conserving the natural environment of the cave. Whereas previously lights were attached to cave surfaces, the use of modern equipment means that light can be focused on a point in the cave without the light and its associated wiring having to be attached to cave formations. Hence, there is less damage both in installation and ongoing maintenance. Not having lights placed above the cave floor also means a safer workplace for those maintaining the lighting system.

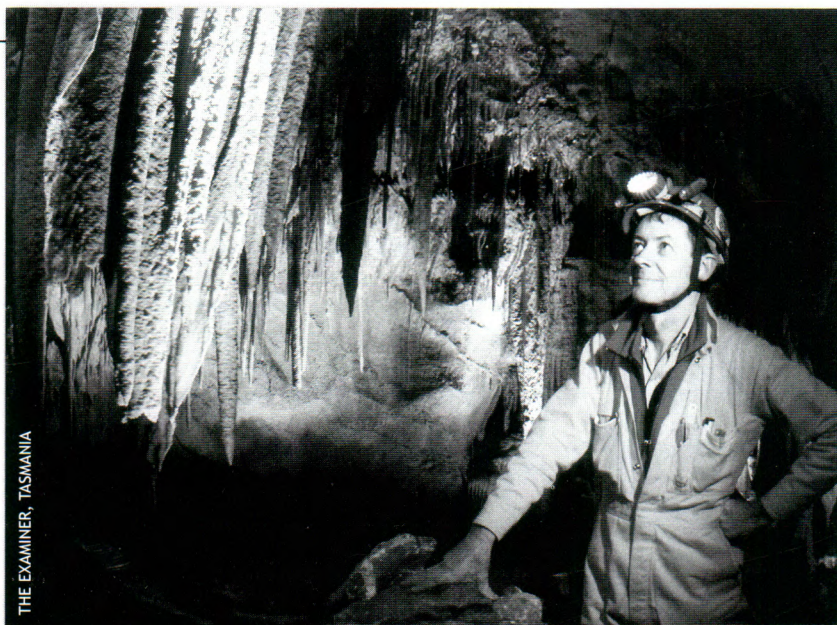
The cave is an age-old but ever changing place.

Changes will continue to occur with cave lighting into the future. The on-going development of new technologies and ever expanding scientific knowledge means that this is a never-ending story. The current lighting system will have a life of about 25 years and by that time there will be new approaches. In the meantime, relax and enjoy this age-old cave. It's continually changing too, but at a much slower pace than lighting technology.

Acknowledgments

The cave re-lighting was funded as part of the Tasmanian Government's Economic and Social Infrastructure program. Cave lighting designer Neil Kell commenced planning the project in 2003 and coordinated the in-cave works in 2005. Specialist cave management staff from the Department of Primary Industry, Water and Environment provided scientific advice.

Mole Creek residents Harold Coleman and Haydn Stedman assisted with the project, with Harold in particular spending many days working in the cave. Parks and Wildlife Service staff were a key part of a huge team effort to install the new lighting system.



Neil Kell lighting designer of King Solomons Cave, Mole Creek, May 11 2005.

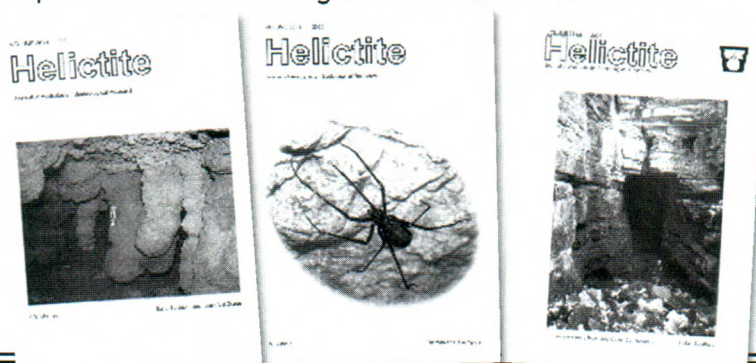
New drains, splash-guards and boot-wash stations to minimise mud deposition in the cave were also installed. Many local Tasmanian businesses were involved in the supply of materials and labour for the re-lighting and the hand-rail system that was concurrently installed. The efforts of everyone concerned is greatly appreciated. Historical material used in this note sheet has been provided courtesy of historian Nic Haygarth.

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Jenolan Caves: Future in the Balance

The Government's proposals for the Jenolan Caves Reserve Trust and ASF's response

By Chris Norton

Over the past 2 years the NSW Government has been seeking to restructure management of significant karst reserves in NSW, including the famous Jenolan Caves. Whilst ASF has been involved in this process, we have been frustrated at the manner in which it has been conducted and are disappointed in the Government's current proposals. This article provides a progress report on those efforts.

Brief history of the Trust

The Jenolan Caves Reserve Trust is a statutory trust established by Act of Parliament to manage, at present, four karst reserves: Jenolan, Abercrombie, Wombeyan and Borenore Caves. Jenolan, in particular, is an iconic karst area that is rightfully world famous for both its beauty and scientific value.

Until the early 1990s, the Trust Board was comprised almost exclusively of Government representatives. However, following the defeat of a disastrous redevelopment proposal by the Trust Board, which was opposed by a number of key stakeholder groups including ASF, the National Trust of Australia and the National Parks Association, representatives of stakeholder bodies including ASF were appointed to the Trust Board for the first time.

In 1996, the recently elected Labor government sought to implement a promise to bring the Trust reserves under the National Parks and Wildlife Act (NPW Act). At that time, ASF was concerned that the Trust should be retained and that the reserves not be transferred to the National Parks and Wildlife Service (NPWS). Although NPWS contains many skilled and dedicated employees, we considered their karst management record to be poor, and also considered that underresourcing and budget cuts in the service in general might see the Trust reserves fall into neglect.

At the time, the Government repeatedly denied that it was attempting to establish a system whereby the Trust lands could become the responsibility of NPWS. Eventually, after significant argument between ASF and the Government, a new Trust Board was established that contained a number of stakeholder representatives, including ASF, the Nature Conservation Council, National Trust, and National Parks Association, as well as tourism, local government and indigenous representatives. ASF persuaded members of the Legislative Council (the upper house) to move a number of amendments which were supported by the opposition and cross-benchers, which were designed to ensure that the lands could not be removed from the Trust's care without a further Act of Parliament. These amendments were opposed by the Government but most succeeded, a result which ASF believed gave added protection to the Board.

In ASF's view, the Trust Board has generally managed the reserves well, and has exhibited good practice in most of its endeavours. Whilst ASF has not agreed with every single decision of the Board,

ASF considers that it has provided karst management that exhibits many features of world's best practice whilst retaining genuine stakeholder involvement in management. The success and skills of the Trust are reflected in the fact that Trust staff have been contracted to provide advice to overseas karst areas upon management and development issues.

One difficulty that the Trust has faced, however, is that the Government has required it to be self-sustaining – that is, the Government does not make any specific budget allocation and most of the Trust's expenses must be defrayed out of its own revenue. The Trust can seek special purpose grants from the Government but has not been able to depend on consistent recurrent Government funding.

Review of the Trust and the Government's initial reaction

In late 2003, the Minister for the Environment initiated a review into the Trust by the Council on Cost and Quality of Government ("the CCQG Review"). ASF and other stakeholders were interviewed about their thoughts on the Trust but no specific proposals were put forward for comment.

ASF understands that the review was in part motivated by the desire of the Trust Board to be able to access further funds for much needed infrastructure projects. At the time of the review, following a general decline in tourism, the funds of the Trust were not sufficient to fund important infrastructure projects necessary to ensure public and employee safety.

In December 2003, the Minister announced that, as a result of the CCQG Review, he would not appoint a new Trust Board when its members' terms expired in January 2004. Instead he would appoint an Administrator to run the Trust, and consult and provide advice on a proposed transfer of the Trust's operations to the new Department of Environment and Conservation (DEC), which includes the former NPWS.

The Minister also announced a "revitalisation package" for the four reserves, which included the spending of around \$18.5mil over 3 years to upgrade the Jenolan Access Road (which we understand had been found to be structurally unsound and in danger of collapse in parts), and around \$4mil in infrastructure funding for the Reserves.

ASF has sought a copy of the CCQG Review report. We have been told that the results of the report are cabinet-in-confidence, and that no actual written report was provided – merely a set of Powerpoint slides. However, we have been told that key findings of the CCQG Review included the following:

- The caves resources managed by the Trust are iconic natural assets.
- The Trust is respected for its scientific knowledge and expertise.
- The financial model under which the Trust ran,

with takings from Jenolan cross-subsidising the other less profitable reserves, was not sustainable, with potential to invest in renewing or replacing cave infrastructure being limited.

ASF understands that the Review was not critical of the Trust Board and found that it had handled with great skill a range of complex issues which were beyond the resources of the Trust to manage.

ASF has been told that recommendations of the review included the following:

- Transfer of Wombeyan, Borenore and Abercrombie to DEC, together with the parts of the Jenolan Reserve surrounding the "Jenolan commercial precinct". The "Jenolan commercial precinct" was undefined.
- Appointment of an administrator to review the financial model for the Jenolan commercial areas and assume the administration of the Trust; and report to the Minister and Cabinet on the implementation of the Review's recommendations.

Mr Alan Griffin, former Deputy Director-General of the Office of Government Procurement within the Department of Commerce, was appointed as administrator. Since 1987 he has worked on many programs of organisational reform and restructuring, including outsourcing of operations to private enterprise.

At its Council Meeting in January 2004, ASF resolved that it considered that the dissolution of the Trust Board was premature and hasty, and resolved to empower the Executive to pursue the matter. The Council also resolved to support the continuation of the Trust. Since that time, a number of members of the executive have been working together with NSW Conservation Convenor Keir Vaughan-Taylor, NSW Speleological Council president Megan Pryke, and Chris Norton to bring ASF's concerns to the Government's attention.

Problems with the Review recommendations

ASF believes that the CQCG recommendations have been inadequately publicly justified and do not follow necessarily from the findings.

In particular, the Review appears to have found that the Trust's problems are not management-based but resource-based. The Trust Board has provided good management but without sufficient resources. ASF would concur with this evaluation and thinks that the obvious solution would be to increase resources whilst retaining management.

ASF believes the Trust Board has provided superior management to DEC over the years. The Trust has also been more inclusive and willing to listen to and deal with stakeholder concerns regarding management issues. In contrast, ASF has found DEC (and formerly NPWS) almost impossible to deal with and unreceptive to our concerns at a policy level. We also consider the level of karst management expertise in DEC to be poor. DEC suffers from having decision making fragmented across many divisions: for example, day to day management of karst reserves is carried out by independent branches within the Parks and Wildlife Division, policy is determined by the separate Reserve and Wildlife Conservation branch, and there is currently no consistency in management of karst across reserves. It is ironic that, having assured us in 1996 that it was not the



Caves House.

Government's intention that NPWS take over control of the reserves, that is exactly what is now proposed by the Government.

The Administrator has proposed to address the deficiencies in DEC management by creating a specialist Karst Unit within DEC (the proposed name of this unit keeps changing). The Karst Unit would initially comprise staff currently employed by the Trust. The Karst Unit would attempt to formulate a unified policy which would apply to not just the Trust Reserves but across the entire NPW division.

The drafts that we have been shown of the manner in which the Karst Unit would operate give us great cause for concern. The Karst Unit would be in a separate division of DEC to individual karst areas. Only a limited number of matters regarding area management would be required to be referred across to the Karst Unit. In respect of many matters, individual areas would need to pay a fee to the Karst Unit in order to access its specialist expertise. Such an arrangement provides a disincentive for seeking the Unit's advice where not absolutely necessary.

The Government has also proposed a statewide Karst Advisory Committee be established by legislation, which will provide advice from stakeholders on karst issues across the DEC estate. In ASF's view, whilst this is a positive step in karst management, it is not an adequate substitute for the closer involvement in management currently provided by the stakeholder representation on the Trust board. Suggestions by ASF for regional karst advisory committees, or a committee specific to Jenolan, were initially considered by the Administrator but have now been rejected.

ASF has suggested that the Government's proposed model be implemented initially in managing the existing DEC karst reserves (of which there are over 30). If it proves successful and effective, and represents a substantial improvement over the present DEC management, then we would contemplate supporting Jenolan and the other reserves being placed under such a management regime. However, the Administrator insists that it is vital that the Trust lands, and Jenolan in particular, be part of this proposed structure from the outset.

The Government's attitude

ASF has been concerned at the attitude shown by the Government representatives with whom we have been dealing to its reforms, and its treatment of stakeholders.

Initially, the reforms appeared to be treated as a *fait accompli*. We were told what the Government proposed to do, not consulted and asked for comment. Several Government staffers who met with us were dismissive of ASF and its concerns and treated us in a highly patronising manner.

Fortunately, the protections put in place in 1996 mean that the Government could not implement its agenda without legislation. A bill was introduced into Parliament in June 2004. If passed, this would have removed any further need for legislative reform and given the Government complete control over the reform agenda. The Government attempted to press this legislation through Parliament but significant lobbying by the ASF and other stakeholders attracted the support of the Opposition and key cross-benchers. It became obvious to the Government that their bill might be defeated in the Upper House and it was pulled from the agenda.

After this time the Government appeared to become more consultative and sought to discuss various options with ASF. However, it soon became obvious that all the options proposed were generally minor variations on the same general theme. All options involved some or all of the reserves being transferred to DEC, the abolition of the Trust Board as we know it, and a substantial erosion of stakeholder input into management of the reserves.

ASF has repeatedly asked for justification of why a stakeholder-based Trust cannot continue to operate these reserves, given proper funding from the Government. A myriad of responses have been given to us but in our view they seem to boil down to one key proposition: that the Government has decided that it does not want an independent Trust Board running the reserves if it is to provide significant additional funding. On at least two occasions the Administrator has said to ASF's representatives words to the effect: "If the Government is going to be providing this amount of money, it wants to have more control over it."

To our eyes, the Government's efforts at present appear to be directed to obtaining sufficient support to enable it to pass legislation through the Parliament to give it more control over the restructuring. They

do not appear focused on addressing the significant concerns that ASF has raised.

We have been concerned that the Administrator has been required by the Minister to implement a specific agenda. We have attempted to meet with the Minister to discuss the merits of that agenda, but so far all our requests have been fruitless.

The financial agenda

One of ASF's prime concerns is seeing that whatever structure is put in place provides adequately for the financial future of the Reserves.

The Administrator is currently considering the option of licensing the cave tour operations to a private operator. The Administrator says that if this occurs, DEC will monitor the operations through a contract manager and environmental regulator. However, ASF has concerns about this proposal.

Firstly, we are unconvinced that there will be a net overall financial benefit for Jenolan. It is almost inevitable, in our view, that net revenue to the Government from the tour operations will decline, or that tour prices will rise substantially. Any tour operator will want to retain a substantial profit for itself, on top of whatever licence payments are made to the Government. In addition, the Administrator has suggested that the licensed tour operations may be used to cross-subsidise the Caves House hotel, which the Administrator claims cannot be profitably run in its current configuration. We are concerned that far less of the tour dollar will find its way back into management of Jenolan.

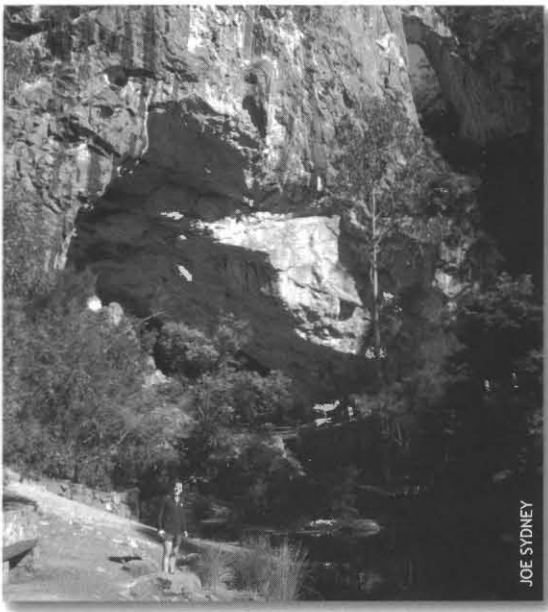
The Administrator's proposal will entail some management cost savings – at present, management overheads at Jenolan are relatively high. The Government is also providing \$4mil in capital funding, and has allocated a sum of money as a protected budget item to be dedicated to the reserves. However, we do not know to what extent these will offset any potential reduction in tour revenue. The Government has refused to release its financial analysis, citing commercial-in-confidence considerations. As a result ASF cannot be satisfied that the proposal will resolve the financial issues at the reserves.

Secondly, we believe that the minimal management presence in the tourist area may have adverse management consequences. We consider that a strong on-site management presence is required at an area of high visitation such as Jenolan to control the behaviour of visitors and monitor ongoing management issues. This is currently provided by the guiding staff, but if the guiding staff become employees of the commercial operator rather than the manager, this situation may change.

An interim report by the Administrator in March 2004 ranked a series of options for handling the commercial operations at Jenolan in respect of a wide range of factors. Interestingly, on a scale where 1 represented the worst case and 9 represented the best case, the existing model scored 7 in respect of karst conservation, environmental management above ground and acceptance by stakeholders. The proposed models now preferred by the Government score 4 in respect of karst conservation and environmental management above ground, and 6 for acceptance by stakeholders. While the Government's preferred options score more highly in respect of financial sustainability issues and ease of implementation and

Guides office.





Grand Arch and Blue Lake.

administration, we are concerned that these issues are being given too much priority over environmental benefits.

Summary

ASF agrees in principle with the suggestion that the financial model for the Trust reserves be overhauled in order to permit the reserves to have enhanced access to funding.

However, ASF does not believe that the current proposals address what we perceive to be the true problems with the Reserves. Our interpretation of the CCQG Review report, as advised to us, is that the Review found that management was performing adequately but that resourcing was inadequate. The Government's proposal is to change management, but we have not been provided with proof that resourcing issues are to be fixed.

We are also concerned that much of the Government's proposed structuring is administrative in nature and will not be protected by legislation. Much of the proposed model could be abolished by administrative act in the near future.

The proposal to enhance DEC management of its karst reserves is welcome but we are not yet convinced that this system will provide superior management to that previously provided by the Trust. For this reason we are concerned about entrusting Jenolan, which is the jewel in the crown of NSW karst areas, to a department which we consider has a poor record of karst management without it showing evidence of improving its performance in this area.

We are also extremely concerned by the proposal to licence cave tour operations at Jenolan. No financial details have been provided, and we consider the significantly reduced management presence may be detrimental to the caves. It is of concern that even the Administrator's own report of March 2004 ranked the Government's proposed options as being inferior in terms of karst conservation and above-ground environmental management to the status quo.

The Administrator has provided us with a written document that states that the Government is disappointed that the NSW Speleological Council (as ASF's representatives) is not willing to listen to viewpoints other than its own and will not negotiate in good faith. This is a very disappointing statement to read.

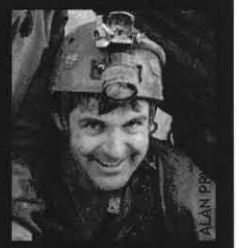
We have been willing to listen to other viewpoints but consider they have not been sufficiently justified to attract our support. ASF has been attempting to negotiate in good faith but the Administrator's comments to us make clear that the Government's position in respect of certain key points is already determined and cannot be subject to change.

ASF remains open to discussion with the Government regarding its options, but consider that until better justification for the proposed model is provided, together with appropriate safeguards for the environmental values of the reserves, it cannot support the Government's proposal as an overall package.

Stop press

At time of going to press, legislation had been passed through the NSW Parliament facilitating the government's proposals after the Government gained the support of the Greens. ASF considers that the legislation makes only minor concessions to achieving good environmental outcomes. We understand that NSW's peak environmental groups, with whom the Government was negotiating, are content to address most of the issues facing Jenolan in a new Plan of Management, which is currently being drafted. The issue of a potential commercial licence of tours at Jenolan remains unresolved. Throughout this entire process spanning almost two years, not once has the Minister for the Environment agreed to meet ASF to discuss our concerns

Chris Norton is a member of the Sydney University Speleological Society and the Jenolan Caves Reserve Trust's Speleological Advisory Committee. He has been involved for many years with making representations on behalf of ASF and the NSW Speleological Council in respect of matters relating to the Trust and the karst under its control.



Vampire bats are nippy runners

Vampire bats are astonishingly good runners, thanks to an evolved skill to help them sneak up on their prey, according to a study published in the British science weekly *Nature*. The blood-sucking species has long intrigued scientists. Bats are the only mammals that can fly but have become so specialised at flight that, over the millennia, they have almost lost the skill to move on the ground. The big exception is the vampire bat (*Desmodus rotundus*), which is well known for using terrestrial mobility to creep up on a cow, horse or pig, leap on its back and feast on its blood. Whereas its cousins can only shuffle along awkwardly on the ground, *D. rotundus* is the batty equivalent of a breakdancer, able to walk forwards, sideways and backwards and then get flying with a single vertical jump. Eager to find out more, animal scientists Daniel Riskin and John Hermanson at New York's Cornell University built a special treadmill inside a plexiglass cage and put five adult male vampire bats through their paces, filmed by a high-speed camera. The animals used a walking gait at low treadmill speeds of up to 0.56 metres per second. They then broke into a loping run, using the forelimbs of their folded-up wings, to propel themselves forward when the treadmill was cranked up. They zipped along at up to 1.14 metres per second — warp-factor speeds by bat standards.

Even though vampire bats demonstrably have the ability to run, they are rarely seen practising this skill in the wild.

The reason, say the scientists: the advent of big livestock herds in Central and Southern America, which has made food so plentiful that the bats see no point in rushing if they fancy a bite.

Cave Survival Story

Unearthing Anticline Cave in 1985 created a problem for the Wellington Council.

Keir Vaughan-Taylor

It looked to them as a big money sink and the hole in the middle of the caravan park remained as an interest point to campers and a potential hazard to intrepid Australian youth late at night. Cute and cuddly Easter vermin would venture into the cave mouth and be overcome by carbon dioxide that accumulated in the cave. The half a dozen rabbit bodies scattered around inside the entrance warned off the rest of the indigenous rabbit population.

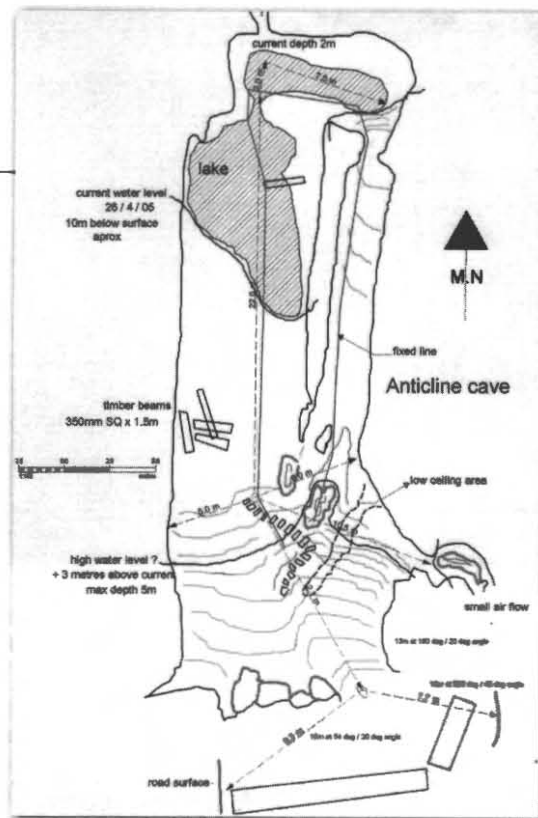
The Wellington Caves Environment panel is a mix of political colours, National Parks, scientists, divers, Lands Department, cavers and Council representatives with accounting responsibilities and tourism officers with members on the left and right of the environment and politics. Tony Kelly used to sit on this panel and now he's a State Labor Cabinet Minister. I once did an interview on the ABC about caves and he anonymously phoned the talkback line and asked if I knew anything about Wellington Caves getting a little free publicity. Luckily I said good things or I'd have been in trouble. Generally, the Advisory Panel is a pragmatic group governed by diverse ideologies and many good things have been achieved.

The cave in the caravan park, it was argued, was hazardous, took up valuable caravan park space. It was an eyesore exacerbated by the surrounding cyclone fence. The fence was covered in noxious vines nearly hiding the forest of weeds that grew inside.

Developing the cave as a tourist feature was of limited appeal because it was a monster financial liability for Council. The embankments were sliding into the cave lubricated by detritus and rubbish thrown into the doline years previously. If the rubbish were to be removed the embankments would need benching and stabilising with steel cages called gabions. The gabions were expensive. They have to be stacked with rock and the fill has to be purchased. In the end it would have to be fenced and the smaller pool fence was very expensive. Then of course labour is the biggest cost of all. It was looking like a \$100,000 project.

At one meeting the problem of Anticline came to a head with the proposal to fill it in weighed against environmental arguments to restore it. We argued that ASF had resources that could complete this project and we would do it for a few barbecues and slabs. I know the Council understands the slab economy but in most cases they are restrained from taking advantage of it. Of course many of the expected costs would have also applied to filling the cave in as well.

After a site visit and long talks, I made the ambitious claim that ASF could raise a hundred cavers to move rock out of the cave and into gabions. There were a few snorts of disbelief. I would later argue, not unreasonably, that one caver is worth three people. After feisty debate, a tied vote about the fate of Anticline was narrowly decided in our favour.



Anticline Cave by Stuart McGregor. Update
— owing to the drought, the lake level has much receded since drawing.

The Cave manager somehow found gabions, a very big truck and a digger to bench the doline walls ready for placement of gabions. He advised where to place the gabions, and then the cavers went for it. It should be said that without Chris George's support it would have been much more difficult.

As has been previously reported the first caver trip was extremely successful, safely removing tons of rock from inside the cave. The caves manager was mindful of the OHS requirements and cavers were logged in an out and given a safety seminar prior to beginning work.

Nearly all the material for the gabion was obtained from material that had previously slid into the cave. A human chain started as far into the cave as the edge of the lake at the bottom of the cave and passed rocks to the surface, up ladders leaned against the doline wall, up and into the gabions. At the end of the day you could stand at the top of the doline and look down upon the great cages filled with rock with a sense of achievement. It was all satisfyingly impressive. After the first weekend we knew that people power was going to make this project successful.

We ran two more weekends on finding dates that would not interfere with school holidays periods in a tourist area, and when there was unfortunately insufficient notice to get people to come. Although the usual hard core cavers came, there were fewer cavers on site on these trips. However numbers were bolstered by people from the newly formed Friends of Wellington group. Some people just turned up because they had heard about it.

There was one couple from the area, that had caved with SSS in the 1950s and been at Wellington when SSS promoted themselves as cave divers in front of the Cathedral Cave Lake for a Vegemite



Top row of wire Gabions in position.



Human chain passing rocks out of Anticline to the Gabions.



All Gabions now filled and in place.



The solid floor partially lowered. More required!

PHOTOS: KEIR VAUGHAN-TAYLOR

commercial. One lady from the local arboretum came and hauled rocks all day and later over the barbecue provided us with a list of native plants and grasses for the replanting schedule. A lady from National Parks Office spent her weekend helping out apparently wanting to spend her weekends working, as well as the rest of her time!

Mike Augee runs the fossil center at Wellington and has been a long-standing supporter of the Anticline project. He has dug in the cave passed the heaviest of stones and barbecued with the best of us. At the last elections he won a position on the Wellington Council and has discovered the joys of rural politics. He is keen to promote educational tours at the caves and is presently embroiled in lobbying to get a fossil trail walk to be funded by the Council. Of course, we in ASF, very much support this project.

Last week I attended another meeting and it's a long drive five hours there and five hours back. Some people give to Community Aid Abroad. Me, I attend meetings on the other side of the State. With fuel prices at about \$1.40 a litre it can cost \$100 to fill the car. A tourism report given at the meeting presented a bleak outlook for the immediate future of tourism. Fuel prices are causing many cancellations of bus tours particularly the juicy school bus market. Jet fares are still low and while rising fuel prices are likely to change this, holiday destinations are presently focussed away from roads. Places such as Wellington, Jenolan and Wombeyan are apparently in for a downturn. In the light of this financial optimism we have to argue the case for equipping Anticline with a fence and a set of steel stairs.

There is to be one final Anticline cave dig and we need the cavers to come again. Soil in bottom of the doline is to be removed lowering the floor to its original level. This will help air circulate in the main

chamber and reduce carbon dioxide build up. The improvement in air quality is already much better than in the past probably because of the dry weather conditions. Nevertheless this final restoration may eliminate the problem completely. It will also provide a place for visitors to stand giving a tantalising view into the Lake Chamber down the historic stairs. Cool!

We still haven't found any extra cave that seemed possible. The cave is formed along arch of an anticline and lake poised beneath the arms of the folded earth may be sourced from the inflow from the entrance or perhaps the entrance is a roof collapse onto what was once a larger cave extending further to the south. There are reported breezes in the rock pile and it does seem as though there could be more cave there.

There is a last cave-rescue session on the 12-13th November 2005. Families are welcome. We should have enough numbers to dig the remaining soil and do some cave trips as well. Ian Cooper is keen to get volunteers to survey some of the other caves where existing maps for these caves are quite imaginative and perhaps a new map could be based on some sort of measurement.

This is probably the last session we will have restoring this cave and we need a big group to finish it. The Council is again generously supplying quality meats and veggies for evening barbecues.

Once the soil is removed we will need a fence and then a set of steel stairs into the cave will be installed. One well known ASF member has made a generous offer to help with the costs and installation of fencing.

After that Council may provide the resources to bring the cave to its completion and display as an educational value adding feature of Wellington.

Cave Diving Death Trap

With the increasing attention being paid to the exploration of cave diving sites across Northern Australia, a new type of hazard has been unwittingly revealed. Paul Hosie (WASG) our regular cave dive writer and Ken Smith (CEGSA) explain a recent 'near death' trap experience.

By Paul Hosie and Ken Smith.

Sounds a bit dramatic doesn't it?! Images of trapdoors and deep pits into which the hapless victim falls spring to mind. Well, not quite 'hap-less' in this case, as a matter of fact Paul Hosie is very 'hap-py' to be here to tell you his story so that you don't become the cave diving victim he very nearly was.

With the increasing attention being paid to the exploration of cave diving sites across Northern Australia, a new type of hazard has been revealed. That is not to say it is unheard of, on the contrary, Parker Turner, a highly experienced cave diver died in Indian Springs in 1991 under similar circumstances to what happened to Paul Hosie in Waterfall Cave (KNI-19) near Kununurra, Western Australia on Thursday 16 June 2005.

Setting the Stage

On Tuesday 14 June, ASF cave divers Paul Boler, Ken Smith and Paul Hosie set up their rebreathers and all stage tanks required for a series of push dives planned beyond the Crystal Waterfall. The waterfall was flowing at a steady pace, a result of cyclonic rain having fallen on the Ningbing Ranges during March. The plan for Wednesday's dive was to drop a stage bottle at the bottom of the First Escalator Room as well as a pinger (see footnote) and stage bottle at the line's current end, some 600m beyond the waterfall.

The dive on Wednesday went according to plan, the stage bottles were dropped, a pinger was placed at the end of the line and the dive was recorded on video. The water in the cave was very clear although the slight flow was carrying some particles reducing visibility to about 10-15m. Exhaust air disturbed some of the silt from the roof and walls during the dive but the visibility was only marginally reduced during the exit. However, this was not the case when Paul Boler dived the following morning.

On Thursday morning the gear was prepared for a big push on the end of the cave as the passage was still continuing in a large horizontal tunnel at -27m depth. To go further and push the end of the cave, the plan was now to use closed circuit rebreathers to continue exploration. Paul Boler dived and when he returned he had not had a good dive. The visibility was inexplicably only 1 to 2m throughout the cave, much worse than the previous day. In spite of the bad conditions Paul Boler pushed the end of the cave a further 30m into a silted up terminal chamber before turning the dive. Paul Hosie dived next with the aim



PAUL HOSIE

Ken is one of Australia's most experienced cave divers. He started cave diving more than 30 years ago and is still very active with CEGSA today.



ALAN SHARP

Paul Hosie shortly after finding a new cave diving site. Happiest man alive because he's marrying Kym (and WoofyDog) this Easter.

of verifying the end chamber as well as retrieving the pinger and stage bottles. Paul Hosie commenced his dive with the Inspiration rebreather and a single 100cuft of nitrox 40 for bailout. In the cave was a single 100cuft of nitrox between the first and second Elevator Rooms as well as a 100cuft bottle of nitrox, a pinger and a reel near the end of the 550m penetration.

Altered States

Paul Hosie relates: "I began the dive, which was essentially a repeat of the previous day's, in utter disbelief. The visibility had changed overnight from relatively clear to absolutely atrocious – a phenomenon I hadn't witnessed before. As I approached the bottom of the Second Escalator Room, the visibility reduced to zero and the passage seemed a bit lower and narrower as I slid down and through the cave's deepest point at -30m. Because the visibility was so poor, the entire dive was simply a line following exercise and it was with great relief I reached the Pinger and stage tank. A brief look at the terminal chamber showed that the way on was well blocked with the flow coming from a silted up low flattener. We would now have to wait for a good wet season to flush clear the way on upstream."

"The return trip was an equally unenjoyable experience, this time with an additional 100cuft cylinder, pinger and a reel attached. The only places the visibility was greater than 2m was under the flat rock roof sections of passage above the silt mounds. As I approached the -30m dip and zero visibility point, the line that was previously attached to a single tie off rock at the deepest point had now disappeared beneath sand. The line wouldn't pull up out of the sand – it held firmly. The buried line was a little unsettling, but in zero viz all I could do was feel my way forward to try and get through. By feeling the

roof ahead of me, I moved forward until I could go no further. The counterlungs were pressed against the sand floor and the Inspiration box was wedged against the roof. There was no doubt now, I was trapped and that unsettled feeling started mutating into fear. I reached out from where I was wedged and could feel the sand and rock meeting in front of me. I could push my hand through the soft sand and into what I hoped was just beyond the blockage. Clearly the sandpile in the second Escalator Room had slumped down to block the passage and I was left in what could colloquially be referred to as a 'shithouse situation'! All I could think was: 'DIG', although I admit I was having some intellectual difficulty 'digging' the situation at the time!!"

"I backed off a bit until I had room under my elbows to start scooping the sand out to the sides and behind me (fortunately, it's about 2m wide at this point). I did this for a while (the VR3 download later showed it was 10 minutes) and could feel that I had in fact made a small hole in the sand ahead of me. I squeezed and struggled to worm my way through that hole but the box on my back was never going to allow it. My breathing rate was elevated from the workload and I started feeling a bit frantic. I decided to back up and take a break, gather my thoughts in the water back into the cave where it was spacious and I could at least read my displays. The rebreather displays (PO2) and the VR3 (decompression obligation) showed that everything was OK, the rebreather was working perfectly. I was glad I had several bailout decompression scenarios on my survey slate pages, but they were of no use to me where I was. I had to get through this blockage but I was having difficulty seeing how that was possible. The fear was certainly increasing. I had a knot in my stomach and thought about crapping myself to provide relief but felt that maintaining control was more important."

"It was at this point I realised that the situation was pretty desperate and with the arrival of this realisation, logical thought departed, leaving my mind in a susceptible state. As I hung onto the line, taking a few moments to relax, it felt as if I was an impartial observer of myself. I observed my brain trying to make sense of the patterns in the silt swirling in front of my facemask. Realisation struck hard that my mind was about to take a time out. I was about to lose consciousness and if that happened, I wouldn't be waking up again. This is the closest I have been to death, I believe I was only seconds away from blacking out. Instinctively, all I could think of was that I had to regain some logical thought process, so I began counting from one to ten. Thousand One, Thousand Two, Thousand Three, Thousand Four . . . I think I got to about 6 or 7 before my brain jumped back into first gear and enabled me to analyse the situation."

A Fresh Outlook

"My first realisation was that I was never going to get through the hole I was digging with the rebreather on my back or the tanks on my side. I had to remove the rebreather and breathe from one of my bailout bottles to get my body through the hole, then I would have to drag the gear through and put it all back on in order to complete my long decompression obligation. I had removed and remounted the Inspiration before in -40m at the end of Weebubbie



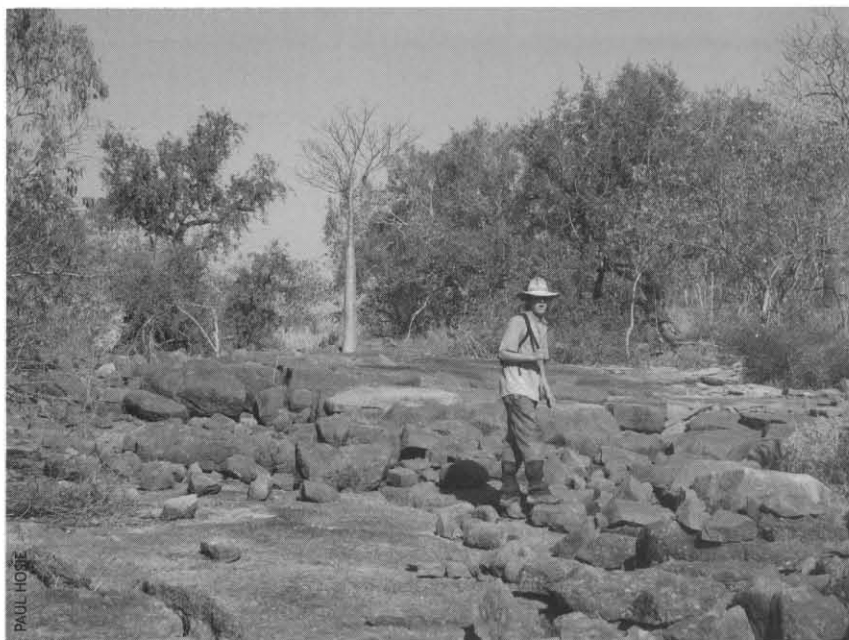
Can I come Cave Diving too please Daddy? (WoofyDog is Paul's adopted daughter).



Ningbing Pinging.

so I knew I could do that. I also had to connect the tanks to each other in a daisy chain so I could get them through the gap as well. So, I had a plan and because I had the skills and experience to know I could do this, it provided me with some much needed confidence for the task ahead."

"It took me a few minutes to disconnect everything, remove the rebreather and sort everything to where I needed it. When I shut off the rebreather mouthpiece and took my first breath from the open circuit regulator, I got a lung full of small rocks and grit (Note To Self #1 — mesh over mouthpiece not such a bad idea after all!!). After hacking and spluttering for another minute or two, to clear my airways, I braced myself and headed back down into the muck for the second attempt at digging through. It proved to be a further ten minutes of scooping/digging before I could pull myself through the small hole I had created. I pulled the two cylinders up and then reached back in to pull the rebreather through. Because of its bulk, I had to apply some force to pull the unit through the small hole and I ended up damaging a handset but we didn't find this out until we got to Kija Blue sinkhole the following week."



Dave Woods on Ningbing Karst Pavement.

"On the 'out' side of the hole, I was flushed with relief but my concern now turned to the whereabouts of the line as a line entanglement now would really be annoying ! I felt all around but the line was buried under the sand. I knew it had run down the left hand side of the passage at this point so I kept over to the right wall to avoid it. I put the rebreather back on and shortly after breathing from it again it started alarming out. I had no idea what the problem was as it was still zero visibility — I could not read the displays held against my face mask. Running through the possibilities I realised that I hadn't turned the O2 back on and when I did, the problem resolved immediately (Note To Self #2 — LED Head Up Display (HUD) critical for cave diving with a CCR)."

"My next problem was depth — I had virtually no idea because zero visibility means you can't read a dive computer placed against your face mask. All I could tell was whether the first numeral of the depth was a 1 or a 2. This was quite concerning because I knew I had at least an hour of decompression to do and at least one microbubble stop was required by the VR3 algorithm at about 24m. I ascended very slowly by feeling my way up the cave wall and was able to read the computer again at -18m after which I referred to my bailout decompression tables and completed the most conservative schedule I had listed. I did approx 90minutes of decompression and this gave me ample time to reflect on, and rationalise my near death experience. I felt fortunate to have survived and realised I had an obligation to make sure others were made aware of this hazard. By the time

I was ready to ascend the last few metres and swim back along the -3m passage to the canals and the surface, I was quite calm."

"Upon surfacing, I was amused to find out that Ken & Paul B thought I was pushing the end of the cave and laying line rather than having a major crisis. When I related my misfortune, Ken at once realised what had caused the sand blockage. The following is Ken's account of his experience and how this had happened."

A Different Perspective

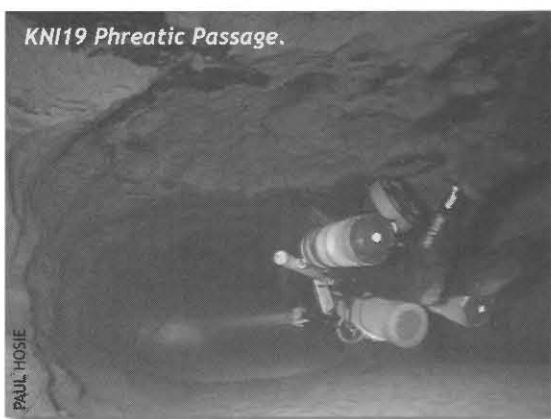
Ken Smith's recollects the events in KNI19 on Thursday 16 June 2005.

"When Paul Hosie Left on his push dive Paul Boler and I returned to the top of the crystal waterfall to wait for his return. This was a convenient place to wait as the water was quite shallow and we could get mostly out of the water by lying on the soft mud bank. The water temperature was 29 degrees Celsius so it was not an uncomfortable wait once we cooled down from our exertions. It was peaceful too, just the gentle splashing sound of water cascading down the crystal waterfall. Paul Boler said he was disturbed from time to time by snoring, but I didn't hear anything myself.

I had enjoyed the dive with Paul Hosie on the previous day. The cave passages had been quite clear and I had almost reached the end of the line when I had used a third of my air and had to turn back. The return dive was almost as clear with a small amount of silting in the narrower sections. The cave was clearly an active streamway. The large chambers contained dunes of fine brown sand which had covered the line in a few places. The narrower sections tended to be deeper and were scoured clean of any sand, exposing white limestone with just a few larger rocks scattered on the floor. There was no perceptible current when we were diving, but clearly the water moved quite quickly in the wet season.

The second escalator room had a particularly high and steep mound of sand from about 18 metres depth down to the rocky restriction at a depth of 30m. I didn't give this much thought during my dive but next day when Paul returned after his epic struggle I began to think about what may have happened.

During the high flow in the wet season the sand would be kept in suspension in the narrow sections of cave where the flow velocity was high. In the larger chambers the sand would tend to settle out forming the large dunes that we saw. In the second escalator room the sand slope was not in a wide chamber but in a narrow sloping tunnel. This means that the flow



KNI19 Phreatic Passage.



KNI19 Ken at Restriction.

would be higher in the wet season and the particle size of the sand would be larger since the finer material would be carried away. At times of high flow the water rushing up the slope would counteract the tendency of the sand to flow down into the restriction. As the water flow diminishes the sand would steadily settle out forming a uniform slope at the critical angle of repose. This sets the trap for the unwary diver.

The trouble with an underwater sand slope like this is that even a small disturbance can start a flow of sand down the slope which does not stop. The disturbed sand suspended in water forms a slurry which is denser than water. This starts to flow down hill disturbing more sand as it goes. Once started this flow will continue until the entire slope settles at a new, less steep, angle. The poor visibility that Paul Boler encountered on the first dive may have been due to the sand starting to move before his dive. It seems likely that this process continued, trapping Paul Hosie at the base of the escalator room. We don't know whether the sand movement had stopped when Paul Hosie returned or whether it was still moving. If it was still moving Paul was lucky he didn't return any later than he did.

Next day, when we returned to the crystal waterfall to remove the remaining gear, we noticed that the flow had stopped and the gour pools at the top of the waterfall had partially emptied. This seems to suggest that the sand flow had continued after Paul's escape and had completely blocked the tunnel at the base of the second escalator room. Presumably it will remain blocked until sufficient pressure builds up behind the blockage to clear it. This may not happen until the next wet season"

Conclusions / Lessons Learnt

1. Turbid Flow causing silt slump and cave blockage is a very real risk in Australia's top end caves. Annual wet season deluges will most likely reset these traps.
2. An awareness of the hazard is required, look for signs of steeply sloped sand or silt mounds, particularly where passages are narrow or the ceiling is low.
3. Avoid disturbance of silt mounds at all costs. Buoyancy control is critical and use of CCRs will minimise disruption of silt on ceilings.
4. Access to decompression and PO₂ information during a dive in zero visibility conditions needs to be considered. Luminous and Head Up Displays or other methods of data access should be considered.

5. Fine mesh filters or nylon stockings covering open circuit bailout regulator mouthpieces should be seriously considered, particularly for CCR cave divers
6. Laying the line on the roof may be an advantage in restrictions where sand flows can occur. This reduces the risk of the line being completely buried.

Final Reflections

Paul Hosie found that counting was enough to restart the logical thought processes and he believes he understands how it is that many deceased cave divers have been recovered with plenty of air still in their tanks. If Paul's experience is considered relevant, life ends in confusion and brain shutdown which results in loss of consciousness and subsequent drowning.

What we are taught about taking deep breaths in order to regain composure, again if people think Paul's experience is relevant, this is probably not enough in high stress situations and cave diving instructors may wish to consider this in their training programs.

Being on a CCR was an enormous benefit as there was no additional stress of having a limited open circuit gas supply. Theoretically, Paul could have dug away for another hour or more before he would have had to start consuming his bailout supply in order to safely complete his decompression obligations. The reduction in stress due to this alone should not be underestimated. It was also noted that an LED HUD (head up display) is critical for CCR cave diving.

Safe Diving to you all.

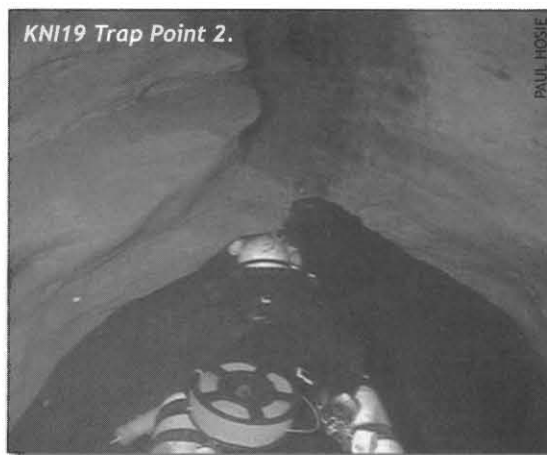
Paul Hosie, ASF-CDG

Ken Smith, CDA

FOOTNOTE

— the "Pinger"

The "Pinger" mentioned in this article is a submersible radiolocation transmitter. Three pingers were used in KNI19 to locate surface positions corresponding to the entrance lake, the crystal waterfall and the end of the fixed line. GPS readings were taken on the surface directly above these points to assist with mapping of the cave.



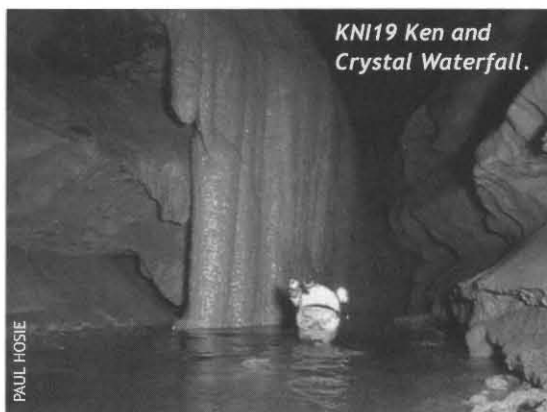
KNI19 Trap Point 2.

PAUL HOSIE



KNI19 Ken prepares to Place the Pinger.

PAUL HOSIE



KNI19 Ken and Crystal Waterfall.

PAUL HOSIE



ASF Special Interest Group (SIG) Cave Diving

Hi There fellow ASF cave divers. Following our proposal last year to establish trimixdivers as a cave diving special interest group (SIG) of the ASF, the ASF council met and made some decisions about the way ahead for cave diving under the ASF name.

The SIG idea was generally accepted, but not for trimixdivers. We have decided that trimixdivers will become simply a diving club and this will be discussed further at the OzTek Conference. This just means that the more technical information associated with cave diving on the trimixdivers website will be shifted over to the ASF website under the cave diving section.

Tim Payne and I were tasked with figuring out what this SIG should do and the way ahead for such a group. We got together earlier last year in Adelaide and did this. This email details what we came up with and it is now up to the cave divers of the ASF to determine whether they want to pursue this in the proposed form (or some modification to it) and reap the benefits of doing so (ie project collaboration, shared information etc) or continue along different paths doing our own thing, never building upon each others' work.

This discussion has coincided with new requirements of the ASF to take charge of cave diving activities being conducted in its name. The bottom line is that we, the cave divers of the ASF must self regulate our divers' qualifications and competence. The objective of this is to prove that the risks associated with cave diving are being actively managed – the SIG is to provide this oversight for the ASF.

What we came up with (this is the actual ASF resolution that was passed) was to "[establish] a Cave

Diving Special Interest Group, open to all members of the ASF, with the purposes of:

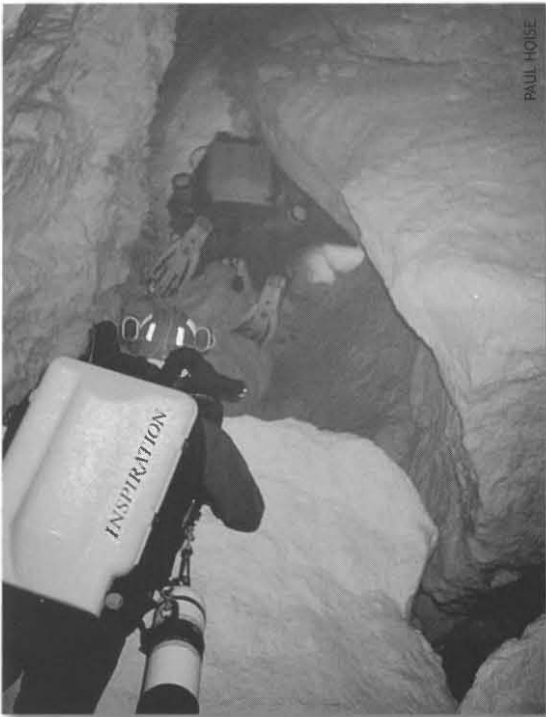
- a) Co-ordinating the exploration, research and documentation of Australian cave diving sites, and
- b) Publishing all findings, excluding cave locations, consistent with the ASF codes of practice."

The ASF council also changed the ASF cave diving code to require that all ASF cave divers satisfy the ASF cave diving competencies but left the method of managing this up to the SIG.

To satisfy the ASF's requirement for cave diving risk management the ASF – Cave Diving Group (which was constituted under the ASF a number of years ago for this purpose) will become the diving arm of the ASF. Therefore, the SIG and the ASF-CDG will be one and the same thing but the rules for the ASF-CDG will be developed to meet the ASF's new resolutions. Tim & I have done a fair bit of work on this and the guidelines we've come up with so far are:

1. Membership of the ASF-CDG will be open to any ASF member but diving under an ASF-CDG permit will only be open to suitably qualified cave divers who are members of the ASF-CDG. Trips must be lead by a cave diving ASF Club Trip Leader. This is to ensure cave safety and conservation standards are maintained.
2. The recognition of ASF cave divers will be according to their cave diving as well as their dry caving competence and this will allow trip leaders to determine what caves and cave diving sites are appropriate for cave divers within their group. While assessment of dry caving level will be provided by the member's parent Caving Club, the cave diving level will be coordinated through the ASF Cave diving commission. The diving level recognition will not be an assessment but will be based on qualifications held and/or logged dives. The register of individual competencies will be maintained and available on the ASF-CDG website.
3. Establish list of current cave diving projects and nominate regional co-ordinators for them (NO – we do NOT want controllers!!!!!!) The idea of this is to improve communication about what's going on with cave diving in different parts of

ASF Cave Divers in Weebubbie Cave.



David Apperley at 40m in Weebubbie Cave.

the country so that if you want to join in, you have a single point of contact who can advise you what trips are planned and what work needs to be done in each cave (probably via website).

4. ASF-CDG trips are open to all ASF-CDG members or members of other ASF clubs. All diving trips are to be run by an ASF-CDG trip leaders who can apply for permits to sites in the name of the ASF-CDG provided that they have notified the regional coordinator or site coordinator (in the case that a site has a specific coordinator) and that all divers are members of the ASF-CDG.
5. Establish a Mailing list and data repository for all ASF cave diving information. This will be in the form of a sub section of the ASF website. A project to catalogue the existing club cave diving information will be a goal we will work on.
6. Establish minimum standards for data collection and storage (ie survey data, trip reports). Data will be stored on the ASF-CDG website and access to update it will be restricted. Data format and mapping standards need to be worked out & specified.
7. Establish minimum requirements for trip reports and their distribution. This is to help ensure all interested persons get the feedback and that it is readily accessible to future cavers and cave divers.
8. Establish points of contact for cave diving specific scientific information. For example — you see what you think is a new species of swimming cave critter or underwater speleothem — who are you gonna call? (not Ghostbusters!) This should encourage interaction between scientists and cave divers as well as raise awareness of these aspects of cave diving speleology.

Clearly, there are more details to add to this outline and once we get feedback from enough ASF cave divers to move ahead, we'll put together more info about how regional co-ordinators and competency assessment works.

I hope you can understand what we are aiming to achieve with all this. It's not about control, it's about setting up a co-ordinating framework for the future. A lot of work has been done and information collected to date on Oz cave diving by various groups, but very little of it is readily available to many of us now.

Exploration of remote areas is increasing and effort to do so has been unwittingly duplicated, this can be easily avoided. The last point and probably the most poignant is the insurance bugbear and the requirement placed on the ASF to demonstrate risk management and minimization throughout its activities.

It should be noted that ASF 'Individual' members (ie not a member of a club) are not covered by ASF insurance unless they are caving or cave diving under an ASF Trip Leader.

Once the ASF executive are happy with the proposal and guidelines as outlined above, we will be able to dive in caves in all parts of Australia on behalf of the ASF as the national speleological group.

Please let us know what you think so we move on with it.

Any mistakes or incorrect assumptions in the above are my fault entirely. Apologies in advance!! Sorry for the Gi-normous email !!

Cheers,

Paul Hosie

ASF Cave Diver (and Proud of it !!)



John Renwick in Weebubie Cave



Dean Slater after pushing Cave C215 to new depths.

Paul Hosie pushing new leads in Nurina Cave.



Video Still by Paul Boler

BOOK REVIEWS

JOE SYDNEY



2004 Alpine Karst book

A revival after 26 years. *Alpine Karst* (130pp) was last published in the 1970's. Chuck Pease, Jim Chester/Ron Zuber produced four issues from 1975 to 1978.

Alpine Karst focused on the unique challenges and rewards of exploring and documenting caves located in Montana, Wyoming, Idaho, Colorado, California, Utah, Canada, and Europe. It also featured articles on advanced techniques, geology, and equipment. Most alpine caves are located in wilderness areas adding interesting dimensions to the explorations and articles. And despite the 26 year gap, some things are timeless. This issue of *Alpine Karst* continues the classic stories of exploration and science as one reads of groans, llamas, skis, toboggans, rafts, mountain bikes, scuba flippers, the Grizzly and some very sore feet. And in the end, we survive to explore and document the caves. Articles of science and exploration are included from Utah (the complete account of exploration of Nielsons Cave), California, Montana, Alaska, Colorado, Europe and Canada.

Vertical techniques and new options for wetsuit technology are explored. A generous amount of photos and maps accompany the publication.

For more information go to <http://www.alpinekarst.org>

Cost: US \$16 plus postage

Send cheque or money order to:

Alpine Karst Foundation

3290 Canyon Mill Rd

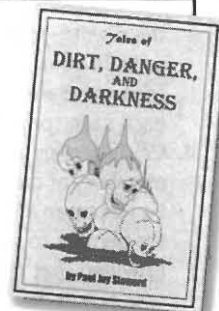
Ronan, MT 59864

Tales of Dirt, Danger, and Darkness

Paul Jay Steward, 1998

120 pages

Published by Greyhound Press



Lock the doors. Put the kids to bed. Turn on all the lights. Find a comfortable chair and get ready to read. The Sultan of Suspense, the Grim Reaper of Writing, the Master of Mud, Murder, and Mayhem transports you into the dark world of caves.

Twenty-six stories from the twisted mind of Paul Jay Steward take the reader on a roller coaster ride of hell-filled passages. Paul explores the dark side of caving: from alien encounters under Roswell, to murder and fear in dark, twisting underground passages. Guaranteed to give even the seasoned of cavers the chills. Paul has a story about anything you can possibly imagine that cave happen in a cave.

"Paul Steward's stories remind me of my favorite New Jersey cavers: occasionally depraved, prone to maniacal humor, wildly inventive, and always without fail, fun to be around."

Michael Ray Taylor (Author: *Cave Passages: Roaming the Underground Wilderness*)

"Are you sure Paul Steward isn't Stephen King? You never see them together. Buy this book and nobody gets hurt."

Lou Simpson (Author: *Sex, Lies, and Survey Tape*)

"Reading Paul Steward's stories leads one to wonder two things: first, whether he can find anyone to cave with him, and second, what happened to those who did? I know I'd be afraid to cave with him. This collection of his stories reaffirms that fear. Steward has crafted a book with its own body count. A fun read for those dreadful days when a caver is trapped above ground."

Bob Springston (NSS News columnist)

"I don't know where I went wrong. He was such a nice boy until he started crawling around in caves and writing all those weird stories."

Catherine Steward (Paul's mother)

The latest from CAVE BOOKS Publishing

TRUE TALES OF TERROR IN THE CAVES OF THE WORLD

Paul Jay Steward (141 pp)

They say that truth is stranger than fiction, and this book proves it. These stories will stretch the imaginations of the best fiction writers. Discover which cave contains the remains of more than 30,000 people, or the cave in which the police find a woman's body cut into eight pieces, and her head encased in cement. Can you imagine entering a cave and finding human limbs hanging from the walls and ceiling, and barrels of remains pickled for human consumption? How about finding a cave whose walls were painted with the blood from torture victims, or the ceiling blackened from the burning of human flesh?

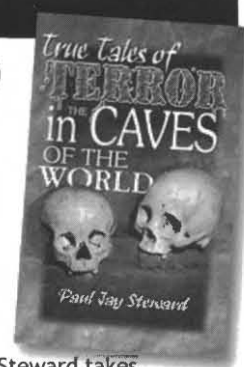
The stories in this book will take you on a journey across the globe and into the depths of the Earth where some of the most vile and cruelest acts imaginable have been committed. You have been warned. "Paul Steward tells a must-read set of cave stories that will scare the daylights out of you while the horror will impel you to turn the pages fast. Yes, caves are dangerous and can snuff out lives in a wink, and this heightens the emotional impact of this book. It intertwines the mysteries of caves and motives and will cause readers to think deeply

about the role of alienation between environments and relationships."

Roger W. Brucker, Coauthor of *Beyond Mammoth Cave; Trapped! The Story of Floyd Collins; The Longest Cave; The Caves Beyond* "In this remarkable compilation and examination of the topic, Steward takes the reader on a tour-de-force journey into the darkest recesses and depths of the earth, of the human mind, and of human cruelty."

Michael Mott, Author of *Caverns, Cauldrons, and Concealed Creatures* "Paul Steward's new book is not one that you want to read while deep underground-for you will soon be afraid to stay there! This collection of horrific stories from around the globe is a unique volume of chilling tales." --Troy Taylor, Author of *Down in the Darkness*

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TIMOR PROJECT ASSISTANCE REQUIRED

NHVSS is calling for assistance in the documenting of the Timor Caves in the Upper Hunter Valley of NSW. Do you have...

Experience in cave surveying?

- Knowledge of the local Timor Caves area history?
- Artistic skills and might like to assist us in drawing diagrams for the final production?

Knowledge & Experience in identifying cave invertebrates?

- Fauna knowledge/identification skills?

We also would love to hear from you if you have any old photos of Timor Caves or if you or your club has done any tagging or survey work in the last 20 years.

2006 Field Trip list

14/15th January
26/29th January
11/12th February
11/12th March



This two year project was made possible through the State Governments Environmental Trust. Reimbursement of some fuel costs will be offered to participants. For more information or to participate please contact the project manager Jodie Rutledge on jodie@rutco.com.au or during business hours on 02 49261889.

Voronya challenged by Greeks and 'Hades', god of the underworld.

This coming Saturday, 2 July 2005, a Greek speleological expedition will set off to take part in exploration of the deepest known cave on the planet, the cave Voronya-Kruber. This very deep cave is in the western Caucasus in Abkhazia. The cave's entrance is at a height of 2,300m and the vertical height of the cave reaches the record figure of -2,080m. The cave was explored just this last October (2004) and the aims of the present international expedition which begins in July is the continuation of the exploration to greater depth and the recalculation of the cave's depth using measuring equipment of great accuracy.

Descent into the cave is extremely difficult and is carried out with many overnight stops in underground camps. The Greek cavers will remain below ground for about two weeks. The descent is made at some times through narrow passages at other times through huge well-like shafts which end in a final chamber 2 kilometres under the surface of the ground. All the members of the Greek team will need to dive through one of the cave's underground lakes (sumps) in order to reach the deepest place on earth.

The participation of the Greek team is the result of many years of collaboration of the Greek Caving Club SELAS (member of the Hellenic Speleological Federation) with cavers from Russia, the Ukraine and France, and is possible thanks to the sponsorship of the international courier company TNT which is covering the whole of the cost of the Greek expedition. In 2004, Greeks conquered the highest point on earth, Everest. Let's hope that the Greek cavers' attempt to conquer the deepest point on earth will have the same fortune and bring Greece another superlative achievement.

More details and daily coverage: <http://selasvoronya.blogspot.com>

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The DUO range of headlamps provide economical waterproof* hybrid lighting.

DUO LED



The DUO LED comes in two models with either 5 or 8 LEDs, giving a very white close proximity light and a long burn time, alongside a halogen bulb for long range light (up to 100m).

The 8 LED model has three switchable lighting levels and a long duration survival light function. Uses 4AA batteries in a battery pack carried on the head.

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*Waterproof to 5m using IP X8 standard.
These lights are NOT intended for diving!

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Photo: Réseau de Bufo Fret, in the French Pyrenees. © Christophe Levillain