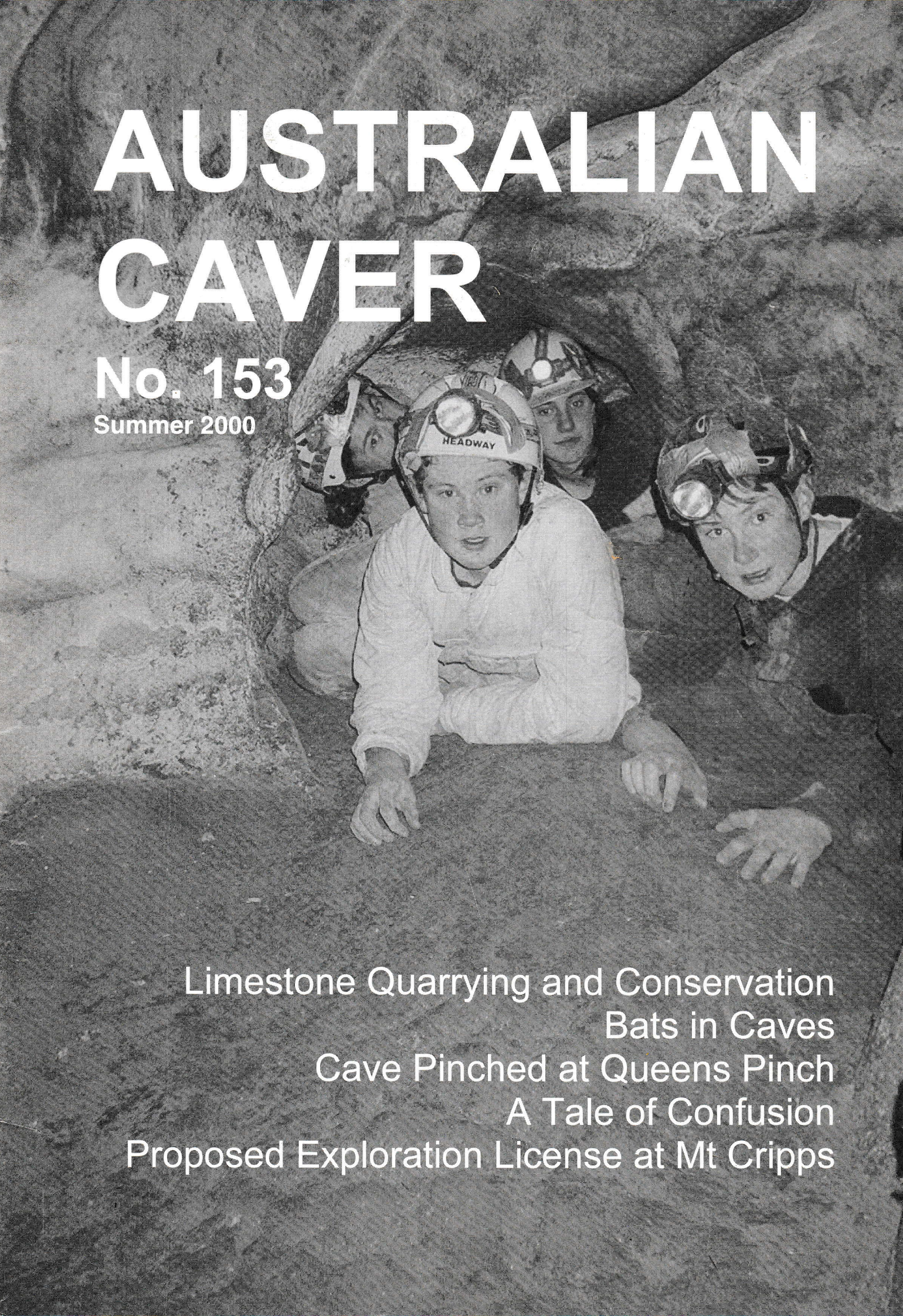


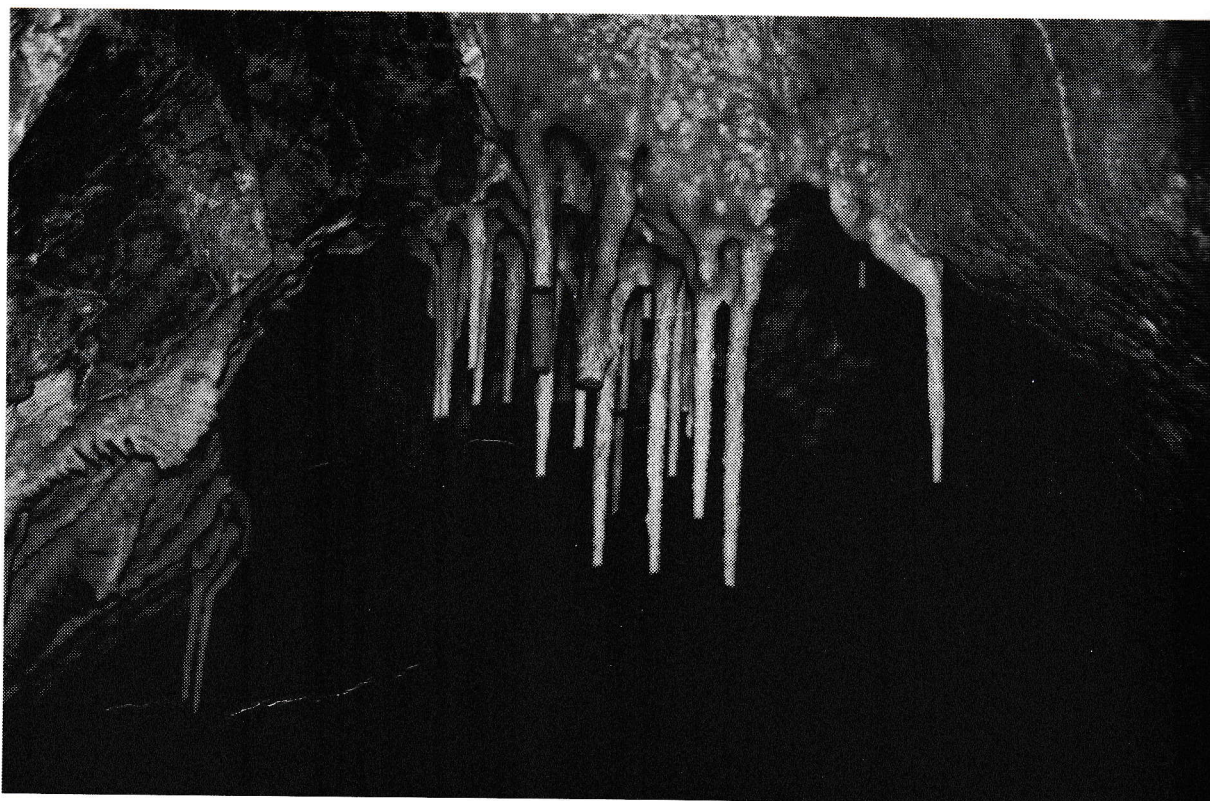
AUSTRALIAN CAVER

No. 153

Summer 2000



Limestone Quarrying and Conservation
Bats in Caves
Cave Pinched at Queens Pinch
A Tale of Confusion
Proposed Exploration License at Mt Cripps



A sight which is now only viewable as a photograph,, ceiling decoration from the now demolished Queens Pinch cave near Mudgee, unearthed and subsequently destroyed during limestone Quarrying.

Picture courtesy of John Dunkley.

Coming Events

23rd A.S.F. Bi-ennial Conference, Bathurst, from 28th December 2000 to 2nd January 2001. Late applications should be made directly to the Conference Convenor, Angus Macoun on (02) 9416-2588 or by e-mail to amacoun@eagles.com.au.

15th - 22nd July 2001 is the time for the **13th International Congress of Speleology**, Speleo Brazil, Brasilia, Brazil. <http://www.speleobrazil2001.org.br> .

Australian Cave and Karst Management of Australia Conference, 14th Australasian Conference on cave and karst management. Theme, 'Karst Management into the Third Millennium'. Sun 29th Apr - Sat 5th May, at Wombeyan Caves. Conference emphasis 'the use and management of wild caves, Karst rehabilitation and innovations in Tourist cave management'. See also ACKMA note on page 7.



**Australian Caver
Issue Number 153
Summer 2000
Edition**

Editor
Geoff Crossley
44 Pridham Street
FARRER ACT 2607

Phone and Fax: (02) 6286 1113
Mobile 0417 437 931
E-mail gkcrossley@bigpond.com

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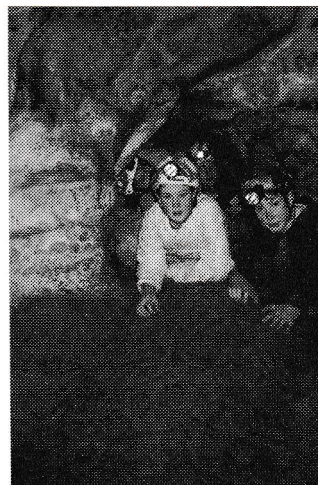
The views expressed in the Australian Caver are not necessarily those of the editor or of the ASF.

Please Note:

The e-mail address for the editor included in issues 151 and 152 were incorrect. I apologise for any difficulties this may have caused potential contributors and can confirm that the one above will work.
Geoff.

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Front Cover:

Young cavers emerging from the phreatic area in Signature cave.
Wee Jasper.

"I hear, I forget.
I see, I remember.
I do, I understand."

Australian Speleological Federation Inc.

Annual Report for 2000

Peter Berrill, President

Yet another highly productive year has passed with a further increase in membership, acquisition of the scientific journal *Helictite*, completion of outstanding grant projects, involvement in the Cape Range and Mt Cripps mining exploration issues, representation at a symposium on guidelines for limestone quarrying, and a joint role in preparation of an educational kit on Australian caves. Once again I have been blessed with a hard-working Executive, and many other members have contributed more than their share to ASF this year, especially Mike Lake, Peter Dykes, Sue White and Rauleigh Webb. I am also grateful to Debbie Roberts (CQSS) who again acted as an electronic liaison between me and the Executive, clubs and individuals

1. HIGHLIGHTS OF 2000

Membership

Individual membership reached a new high of 1,151, an increase of nearly 50% in the last 4 years. Welcome to Mole Creek Caving Club and the Victorian Limestone Caving Team as Provisional Members of ASF.

Conservation

Detailed Conservation Commission reports for WA, Tasmania, NSW and Qld will be presented at the Council meeting, so only a few highlights are mentioned here. WASG and SRGWA joined ASF in objecting to exploration leases over Cape Range and a hearing took place in Perth in October, with Rauleigh Webb doing most of the hard work. In December a similar hearing involving ASF and STC is taking place in Hobart over exploration leases on Mt Cripps in north-west Tasmania, in which Arthur Clarke is appearing.

After its executive bureau had twice rejected the proposal, the World Heritage Committee meeting in Cairns on November 29 accepted the nomination of Greater Blue Mountains to the World Heritage List. Jenolan Caves is included in the listed area, not for its cave values as such but rather because karst is an integral part of the diversity for which Blue Mountains was listed. For 20 years ASF has been arguing that Jenolan's values met the requirements and it was our consultants who ensured that seeking World Heritage listing was included as the very first Management Goal in the Management Plan of March 1988.

Natural Heritage Trust Grant – Central West Catchment, NSW

This \$27,330 grant was received and managed by the NSW Speleological Council through ASF. All outcomes have been achieved and we expect the grant to be acquitted shortly. The 104-page main report contains 51 recommendations for management action on protection of karst and karst vegetation. The inventory of karst features known in the region has increased from 46 to 548! Details are contained in a secondary report to NHT that will form the basis of one of our replacement volumes for the Australian Karst Index. Our sincere thanks to the 9 clubs and about 65 members who contributed to the field work and to fencing and revegetating a karst outcrop at Stuart Town. As Project Officer, Peter Dykes conceived the project, browbeat people into assisting, and has done a truly outstanding job in bringing it to completion..

CSIRO Grant

This \$2,000 grant to define karst areas in NSW was made to Peter Dykes. The report has been completed and its publication as part of the volumes for the new Karst Index is awaiting only a decision on agreed guidelines for the new Karst Index.

"Discovering Caves" Kit - Australian Geological Survey Organisation

Late in 1999 we received an invitation to contribute to this educational kit. An excellent example of cooperation between ASF and other organisations, it includes a fine map of Australian karst areas and is highly recommended to cavers as well as its primary target of school children. Cathy Brown represented ASF at the Official Launch at Yarrangobilly in October 2000.

www.caves.org.au

Mike Lake obtained the new domain name and a new ISP, and Carol Layton designed the new web pages and will progressively transfer material from the old site. We thank Peter Matthews who pioneered the old site at a time when few of us had heard of the World Wide Web, and who maintained it for a decade.

Helictite

As foreshadowed last year, in October 2000 ASF became the owner and publisher of the journal *Helictite*, which is now edited and produced by Sue White, Ken Grimes and Glenn Baddeley as a Commission of ASF. Now 38 years old, *Helictite* is well established as one of only 4 or 5 refereed journals in the world specifically publishing cave and karst science. I urge all clubs and individual members to subscribe (and to contribute – the editors will be glad to advise), thus maintaining the high reputation of Australian speleology.

Quarrying Symposium

ASF received an invitation to a small seminar at Bathurst in October under the auspices of the International Union for the Conservation of Nature, to explore common ground between environmentalists and industrialists and to draw up guidelines for minimising the impact on karst of limestone mining. After the Mt Etna experience I would really have liked to attend, but could not afford the time. John Dunkley and Bruce Howlett were able to represent ASF and a few other members were present in other capacities among the academics, mine managers and consultants.

Cave Guides Gabfest

In response to an invitation to talk about ASF to cave guides from around Australia, John Dunkley represented us at this gathering at Wombeyan in March. He reports that they had not realised the wide scope of activities which ASF is involved in, and that there is a need for better PR with cave operators.

2. MEMBER SERVICES & COMMUNICATION

Australian Caver & Speleo E-Bulletin

We published 4 issues of Australian Caver under a transition of editors – thanks to Sherry Mayo (150), COSS (especially Debbie Roberts) (151) and Angus Macoun (152). We welcome the new editor, Geoff Crossley who has debuted with issue 153. Geoff is an experienced editor and he didn't even have to be asked – he volunteered (in fact rumour has it that he joined ASF just to do the job!). Thanks Geoff. The Speleo E-Bulletin begun last year has continued with Angus Macoun's energy and initiative and has proven invaluable in distributing administrative matters.

Insurance

Many thanks to Alan Jevons who continues to field a steady flow of enquiries about this or that aspect of the Public Liability insurance policy. During the year the coverage was extended to include cave diving and we also have obtained a service for travel insurance and equipment insurance as detailed in E-Bulletin 5.

Representation on other bodies

Following an invitation from the Minister to nominate a representative on the Board of Jenolan Caves Reserve Trust, we again put Patrick Larkin forward, on the recommendation of the NSW Speleological Council. The Members Handbook (p. 5) has a full list of representatives on various bodies

3. ASF ADMINISTRATION

Executive Meetings

Four meetings were held during the year by telephone and e-mail. This pushed up the cost of Executive telephone calls but was a lot cheaper than a face-to-face meeting as in previous years. The resulting

savings enabled us to further support the Mining Wardens Courts hearing about the Cape Range issue in WA

Finances

Our new Treasurer Grace Matts (widely known as the World's Greatest Cave Treasurer) has computerised our finances in a form which has greatly reduced auditing costs. Grace also steered us through the shoals and reefs of the GST – no mean feat! Thanks Grace.

4. PROGRESS ON OTHER IMPORTANT ISSUES

Registration as an environmental organisation

An unexpected hitch occurred when we found that the registration requirements had been changed and tightened shortly before we applied this year. John Dunkley and Chris Norton put a lot of work into the constitutional amendments to be voted upon at the January 2001 Council Meeting and were assured by Environment Australia that this should clear all obstacles to this important step forward.

Intellectual property and products

In the last 3 years this has generated a great deal of discussion – a paper to an Executive Meeting in 1998 (Alan Jevons), a paper (Evalt Crabb) and discussion at the Yepoon Council Meeting, a Committee report (see the ASF 1999 Annual Report), and a workshop at the last Council Meeting in Canberra (Jill Rowling). This is an important issue, but some of the legal discussion was of the bush-lawyer variety. The urgency of the matter was highlighted when, during 2000, we had to deal with a specific example of breach of ASF's copyright in certain materials by another organisation. The Executive therefore agreed to contribute towards the cost of professional advice on how to protect intellectual property of both ASF and member clubs, in such materials as cave leadership training materials, field surveys and survey data, cave maps, unpublished reports and cave data generally. The advice received will be available to clubs on a confidential basis.

Australian Karst Index - Software Working Group

Mike Lake has been the driving force in this complex task which has been coordinated by John Dunkley. A tender for new PC-based software was let in November, some results are already available, and we expect to have a version for testing by dummies like me at the Bathurst Conference. The Working Group is meeting in Bathurst on 27/28 December with representation from all states and territories, to test the software, discuss state needs and plan the next stage, so 2001 will probably be a year of great activity in documentation.

The structure of the system was developed by Peter Matthews and adopted by the International Union of Speleology as a world leader. Our immediate task is

to facilitate and encourage updating of the Australian data (now totalling 10,000 records) and expansion of the fields to cater for the vast increase in our knowledge of Australia's caves and karst.

5. FUTURE FUNCTIONING OF A.S.F.

Are there better ways of spreading the workload among Executive members?

In the light of changes in the last decade or so, should we review the practice of holding Biennial conferences around the New Year period? How can we make the Conferences of wider appeal?

What's the best way to handle and fund our involvement in specific conservation issues?

Do we need to draw up guidelines/ policies to protect intellectual property of ASF & member clubs?

How should we improve our public relations image among cave operators and guides?

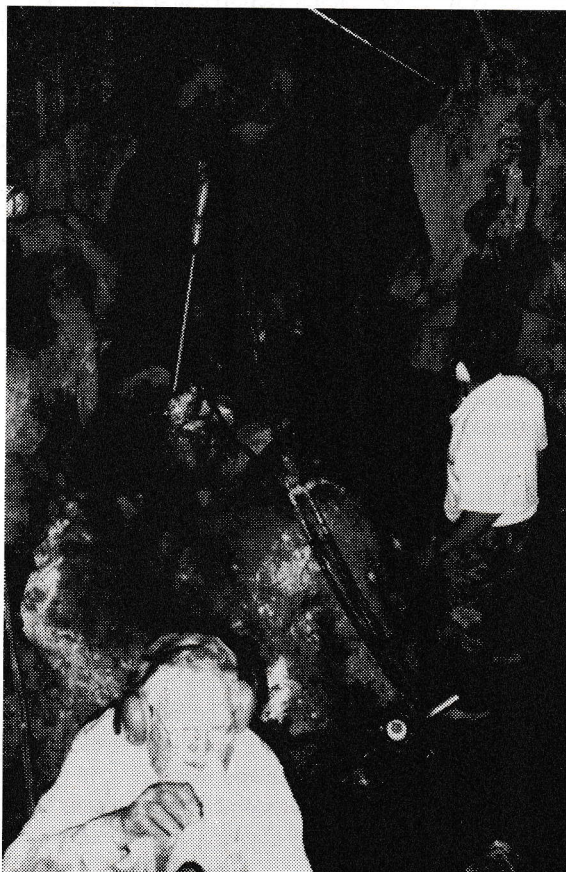
How can we build on the massive investment by members in several states (especially Tasmania) in Cave Safety Training and Cave Leadership Training? ■

Roof collapse at Careys Cave

A very large rock (estimated to weigh 9 tonnes) fell late in November, blocking the stairway just inside the entrance to Careys Cave at Wee Jasper, closing the cave to visitors.

Six members of CSS assisted Council workers in breaking up the boulder and removing the pieces from the cave. A flying fox with block and tackle was rigged to haul rocks out of the site to a point where they could be barrowed away. Presiding over the sweating masses and lending more than his share of the weight of labouring was Andy Spate of NPWS Queanbeyan who did an excellent job of organising and supervising.

This was a double misfortune for the lessee, Geoff Kell, who suffered a broken leg in a fall inside the cave a few months earlier. However latest information is that the debris has all been removed and that the cave will be open as usual for its peak season which runs from Christmas to Easter. For those passing through the area en route to or from the ASF Conference, the cave is well worth visiting, its attractiveness belies the low rolling limestone hill above it, and Geoff is an enthusiastic and knowledgeable guide.



9 tonne rock completely blocks the passage beyond entrance chamber. (Andy Spate in the foreground)



The passage after the removal of the rock.

Limestone Quarrying and Conservation

A workshop was held at Bathurst, NSW, 6-9 November 2000. The following is a synopsis of the issues and outcomes.



Elery Hamilton-Smith has been working with the World Bank and the International Union for the Conservation of Nature (IUCN) for a number of years. Some of this work has been developing environmental guidelines for limestone quarrying in Asia.

Noting the fact that the Australian Banana Republic could well benefit from some holistic land use and resource planning initiatives, Elery conceived the idea of getting karsty people together with limestone miners to establish common ground. As Australia is actually six states and several territories with less legislatively in common than some aspects of the European Economic Community this seemed to be a "courageous" act (in the "Yes, Minister" sense)!

So, about twenty of us gathered at Charles Sturt University at Bathurst in early November 2000. Elery circulated a discussion paper which established the basis of the workshop as:

"Australia has experienced some 30 years of conflict [some might argue that conflict over Bungonia (South Marulan) goes back sixty

years] over the extraction of limestone for cement and lime, for agricultural lime production and various other purposes. This has caused immense costs to both quarry owners and to conservationists; and often the conflict has not served either party, nor the environment, well.

This workshop will attempt to address these limestone resource management issues. Its aims are:

- To establish a better basis for communication and joint resource management planning between quarry operators and those interested in the conservation of limestone areas.
- To develop an agreed policy and practice document which will provide guidelines for the identification of appropriate sites for limestone extraction and the utilisation of the most effective and environmentally responsible quarrying practices."

Some might well argue that the above premises are loaded against limestone miners?

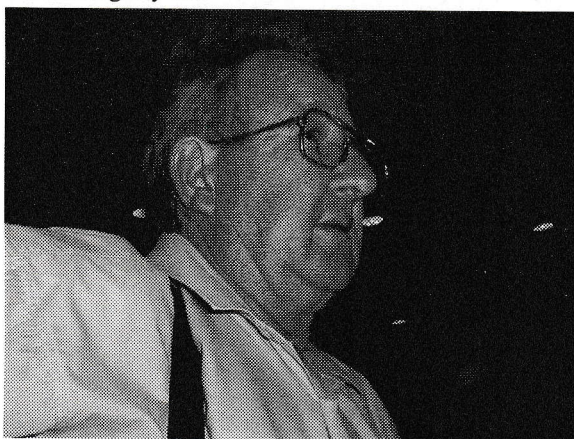
In any event we gathered at Charles Sturt University under the *aegis* of Elery and Dr Al Gibbs, Head of the Environmental Studies Unit at Charles Sturt University, to discuss the aims outlined above.

Another set of meetings, I said! Further sets of lunchtime sandwiches! Renewed attempts at passing-off brown liquids as coffee! Motherhood statements to be generated? Well, it was all of this and more – much more.

It was great gathering. I renewed friendships with a number of limestone botherers, some geological bureaucrats, some karst “gods” and a variety of other people. The discussions were good and balanced with considerable acceptance of other’s views.

Let’s look at who was there. Their affiliations are as claimed by each individual!

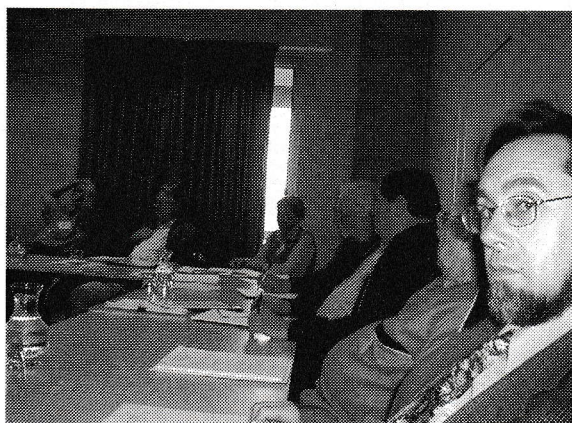
Ken Grimes	Regolith
Mapping	
Glenn Porter	Carbonne Shire
Council – Molong Limestone Quarry	
Bill Marshall	Blue Circle
Southern Cement	
Lawrence Sherwin (part)	NSW Dept of Mineral Resources
Elery Hamilton-Smith	Rethink
Consulting Pty Ltd	



Ernst Holland (part)	retired (formerly
Jenolan Caves Reserve Trust)	
Roger Mathews	SA Dept of Primary Industries and Resources
Tony Smurthwaite	Land Access
Branch, WA Dept of Minerals and Energy	
Kay Oxley (part)	NSW Dept of Mineral Resources
Al Gibbs	Environmental Studies
Unit, Charles Sturt University	
Andy Spate	NSW National Parks and Wildlife Service/ACKMA
Nigel Beeke	David Mitchell
Ltd (Tamworth)	
Armstrong Osborne	University of
Sydney	

John Dunkley (part)	Australian
Speleological Federation Inc.	
Jamie Gibbins	David Mitchell
Ltd (Riverton)	
Stuart Ritchie	Queensland
Cement Limited	
Grant Gartrell	ACKMA
John Quirke	South Australia
Arthur Clarke	University of
Tasmania	
Bruce Howlett (part)	Australian
Speleological Federation Inc.	
Mia Thurgate (part)	Jenolan Caves
Reserve Trust	
Susan White	Earth Science
Dept, Latrobe University	

I have used a lot of space perhaps by giving this list in full. But it is important to recognise the breadth of involvement – and also to identify players who were not represented in any way – the various state planning departments spring speedily to mind. They were invited...



Attendees at presentation 1 including Armstrong Osborne, Ernst Holland and John Dunkley.

The workshop commenced with four papers and a MS-Powerpoint presentation. The latter was from the United States Geological Survey and outlined an “*Hierarchical systems analysis - one approach to issues in assessing karst areas*”. This was prepared by Dr William Langer of the USGS and was made available to this workshop and to the Charles Sturt University’s Karst Management Course that commences next year. We did not have the opportunity to explore this approach in any great detail but it does appear to be a useful methodology to provide warnings and checklists to the proponents of limestone mining.

The four papers addressed the non-commercial values of caves and karst (*A Personal Perspective* by Grant Gartrell and *The Scientific Perspective* by Armstrong Osborne) and industry perspectives (*The Approach of QCL - A Direction for the Future* by Stuart Ritchie and *Environmental Responsibility in a Small Operation* by Glenn Porter). The four presentations promoted much discussion – which

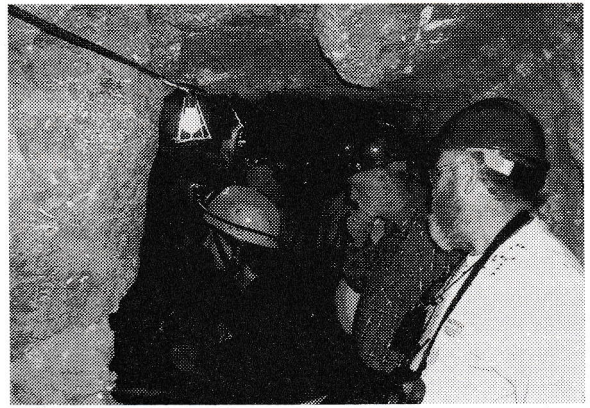
seemed to weld together the idea that we all needed to work together.



Attentive Audience at LQ and C Workshop

The group then broke into two groups to explore Elery's discussion paper. The intention was, and is, to develop the ideas generated by the World Bank team into a set of ideas, guidelines and recommendations suitable for Australian limestone users (cavers and industry alike) so that conflict is avoided and more sensible resource allocation and use is generated.

On Wednesday we took off to the bush and visited the Limekilns (aka Benglen) Caves area to the north of Bathurst – the site of the first hardrock limestone quarrying on the Australian mainland (and perhaps the first show cave?). Then on to Molong to look at Glenn's operation. This is a limestone quarry producing a variety of limestone products run by the Carbone Shire Council. It is almost in the township of Molong (the only town in NSW significantly on karst) with the nearest neighbours only a few hundred metres away. A very clean and quiet operation that keeps the municipal rates down! Much interesting karst and palaeokarst in the quarry. Then to Wellington Caves for a superb Dale and Janelle lunch (not sandwiches!). Mike Augée and Armstrong then provided some boffin-background and interest to reinforce karst values to our limestone mining colleagues as we inspected the Phosphate Mine, Cathedral Cave and some "surface" features. And the "sculpture"...



Sue, Al, Elery, Armstrong and Andy at the Phosphate Mine inspection tour.

Thursday – back to workshopping for the morning – establishing the "triple bottom line plus one" (Western Australian Government speak!). The two groups further discussed the draft paper and hacked it about considerably. Elery and Stuart, with input from a few others, are going to further develop the paper for circulation throughout the caving, cave management and limestone using industry.

One of the biggest issues that must be resolved is that of information sharing. Miners want high quality limestone – and that is usually where the cave and karst values are concentrated. We are competing for the same resource. If we don't share our hopes and aspirations and values we are doomed to expensive and – often unproductive – conflict. Miners must learn to share their ideas and values with cavers. And *vice versa* – caver's values and knowledge can contribute to the knowledge base. Establishing mutual trust and respect is essential.

All-in-all I found it to be a most useful three days – and have high hopes that better dialogue between the two "sides" – I don't really want to use that word – will help us better conserve Australia's caves and karst – and to better sustain the limestone industry that we ALL utilise every minute of our days. ■

This report compiled by Andy Spate.
Images provided by Arthur Clarke.

ACKMA Conference

The Australian Cave and Karst Management Association has written extending a special invitation to all ASF members to attend and contribute to their Conference, at Wombeyan, NSW from 29 April to 5 May 2001, with field trips to Bungonia, Wee Jasper and elsewhere. Depending on accommodation options and whether or not you are a member of ACKMA, the cost ranges from about \$474 to \$588 for enrolments before 1/2/2001. For information, contact Mick Chalker on 02-4843-5976.

Publisher's Report

This year has seen a change of Editor for "Australian Caver". I thank Sherry Mayo for her considerable efforts and achievements and wish her well in her role as Mother. I am sure that all Members of the Federation recognise the enormous contribution that she has made.

Through careful money management, it was determined that we could have a colour cover for the Journal once in a while. This was started with issue 150. There were some very positive comments about this and we hope that it can continue.

With the winding up of the Mount Etna campaign, it was though appropriate to produce a commemorative issue of the Journal. As there was no Editor and CQSS had most to do with the campaign, they assumed the role. It was disappointing that this took so long to produce.

John Dunkley, Heather Jeffries and I put together the Members Handbook which was published as Issue 152 of the Journal to fit into Members' collections. I was pleased to see this finally happen after the first draft was presented at the ASF Council meeting in Melbourne. This is the first time this has been updated since Issue 135 in 1993. Much has happened in the Federation since then and more general information was included. However, much of the material that Clare Buswell assembled for Issue 135 was used and updated. I thank her and Keven Cocks for making this available. John and Heather put a considerable amount of effort into the Handbook and should be applauded for their efforts.

I welcome Geoff Crossley to the Journal team as the new Editor. Geoff has not been involved with the ASF for very long although he has considerable experience in caving and other adventurous activities, mostly as a Venturer Leader in the ACT Scouts. Please support Geoff by sending him articles.

Articles for the Journal might be a trip report, invention, photo, drawing, cartoon, poem, short story, research, new discovery, survey symbol, theory, joke,

name, definition, description, science, recreation, test, history, equipment or anything else you might think of.

The money set aside at the last ASF Council meeting for purchase of desktop publishing software for the Editor has not been spent yet as there was no appointed Editor for a while. This purchase will go ahead next year when Geoff has examined the options and decided on his preference.

Posting Issues 151 and 152 together saved a considerable amount in postage expenses. Printing expenses were not greatly affected by the GST although paper costs continue to rise. Mailing processing costs have risen considerably along with a rise in postage which also both attract GST. Projecting the expected rises, I recommend that funding to the Journal Commission be increased in the next budget by 50 cents to \$12.50 per Member.

Another means of improving the Journal is by generating money from advertising. This would allow the use of colour more often, better paper stock, better print quality and more pages. However, an Advertising Co-ordinator is needed to seek out and liaise with advertisers. Any offers of assistance are greatly appreciated.

One of the hardest things to deal with as Publisher is the continuing inaccuracy of the Membership List which affects people receiving the Journal. As I have no control over the list, it is very frustrating to receive complaints about missing Journals. In my opinion, this is the most important issue that the Executive should be addressing as the Journal is the prime means of communication within the ASF and it uses half of the Federation's income.

In looking to what the future holds, Geoff as the new Editor will put his own stamp onto the style that the Journal will take. Nonetheless, I would love to hear any ideas, comments and opinions of what Members expect from the Journal and in what ways it can be improved. ■

Angus R. Macoun,
"Australian Caver" Publisher.

Club Email Addresses

Please keep your club or society's email address up to date. It is your responsibility to keep this accurate. If you do not, you will not receive the Speleo E Bulletin or up to date, urgent and extra information, especially concerning Federation administrative matters. Please send any address changes to Angus Macoun at artoflight@eisafree5.com.au. Currently, CCC, ECRC and HS do not have correct email addresses.

This Draft paper has been prepared by a sub-committee of the Australian Bat Society to describe the place of caves as habitat for bats, and to outline policy and practice for bat conservation. Please send all comments to Elery Hamilton-Smith, P.O. Box 36, Carlton South, Victoria 3053, or to <elery@alexia.net.au>.

It is being circulated in draft format to members of the society and also to both the Australian Speleological Federation and the Australian Cave and Karst Management Association. Hopefully, all three organisations will in due course adopt it as a policy paper.

Bats in Caves

Introduction

Bats are an integral part of the natural environment. They undertake a range of important ecological functions including the control of insects and other invertebrates, the pollination of trees and the dispersal of rainforest seeds. A number of Australian bat species rely on caves for shelter during daylight hours as well as to raise young, mate and fulfil a range of other functions. For many of these species, caves provide the only habitats at which critical life functions necessary for their survival can occur.

This statement of recommended policy and principles in the conservation and management of cave-dwelling bats has been prepared to provide guidance to both land managers (both public and private) and those who visit caves.

The Place of Caves in the Life of Bats

Although some bats (see appendix) appear to use caves only occasionally or opportunistically, there are many species of bats which always or very often roost in caves (or substitute environments such as mines and water tunnels) throughout each day. It appears that this is generally related to the regulation and/or maintenance of required body temperatures at specific seasons of the year. Thus, the specific sites chosen often vary from season to season for each species, but often they are critical for survival.

Many of these species may also use mines, tunnels or other artificial structures as an alternative to caves. As special considerations apply to these, they will be dealt with in further papers.

The species using caves on a consistent basis are listed below.

<i>Flying Foxes</i>	
<i>Pteropus alecto</i>	Although generally tree-dwelling, in some areas this species will roost in the entrance zone of caves.
Genus <i>Dobsonia</i>	Commonly roosts in caves or mines, but within sight of daylight.

Horseshoe Bats	
Genus <i>Rhinolophus</i>	Gather in summer at specific maternity sites, sometimes shared with bent-winged bats, but throughout rest of year are widely dispersed in other caves or mines. In southern states, large numbers may roost in specific hibernation sites.
Genus <i>Hipposideros</i> and <i>Rhinonycteris aurantius</i>	Normally roost throughout year in caves or mines, various of which may be used as a maternity site.
Ghost Bat	
<i>Macroderma gigas</i>	Normally roosts throughout year in caves or mines, one of which in each region may be used as a maternity site.
Sheath-tailed Bats	
Genus <i>Taphozous</i>	Commonly roost in caves or mines, often in the twilight zone, but also found in forest roosts.
Vespertilionid Bats	
<i>Chalinolobus dwyeri</i>	Usually roosts in caves or mines
<i>Chalinolobus morio</i>	Generally a tree-dwelling bat in Eastern Australia, but in Western Australia and the Nullarbor Plain, it generally roosts in caves in very large populations. Like the bent-winged bats, it selects specific caves as maternity sites.

Bent-winged Bats Genus <i>Miniopterus</i>	This genus is widely distributed from Europe to the South Pacific. In Australia, it virtually always roosts in caves. Each population is based upon a single maternity site which appears to be chosen for the suitability to enable the bats to build up a high temperature (up to 36°C) in order to provide a suitable environment for the birth and survival of the young bats, which occurs in summer. Other caves (or mines) throughout the population range, which may extend for several hundred km. from the maternity site, are used throughout the rest of the year.
Genus <i>Myotis</i>	Often roost in caves, although their definition of a cave is commonly a small cleft or hollow only 10-15 cm. in diameter.
Genus <i>Vespadelus</i> <i>V. caurinus</i> (Kimberly, N.T.) <i>V. douglasorum</i> (Kimberley) <i>V. finlaysoni</i> (Central deserts) <i>V. troughtoni</i> (Qld & northern NSW dividing range)	Usually Roost in caves throughout the year

Issues and Threats

Cave dwelling bats are particularly vulnerable because very large numbers may occur in one site; in some cases a maternity site may contain virtually all the female and juveniles of a bat population which when dispersed will spread over an area of up to 1,000 square kilometres. They are also dependent upon the cave environment for management of their own body temperature and metabolism. At the same time, they also depend upon the availability of food in the surrounding countryside. There are a wide range of potential threats to their survival.

Habitat Destruction	By mining, quarrying, inundation, filling of entrance
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Habitat modification	Tunnelling or obstruction Damage during road building Rock collapse Rubbish dumping
Habitat modification continued	Microclimate changes as a result of regional changes, e.g., in groundwater levels or as a result of clearing surface vegetation Use of badly designed cave gates Invasive plants (e.g., lantana, blackberries) blocking entrances Alterations to predator access Tourism infrastructure or fencing at entrance
Reduction of food supply	Changes in land use or land management practices, including increased use of insecticides, land clearance, mono-culture planting etc. Draining of wetlands Wildfire
Poisoning	Impacts of some insecticides or fungicides Drinking from poisoned waters, e.g., some mine tailing dams Use of internal combustion motors in or near caves with risk of CO poisoning. Other pollutants
Human Interference	Inappropriate visitor behaviour or major disturbance of maternity or over-wintering sites

Sites of special importance include:

- Where bats are in a torpid state during winter, particularly in Southern Australia, as disturbance may use up the energy reserves required for over-winter survival
- During the birth and nursery period in acclimatising and maternity sites

Every effort must be made to minimise disturbance of bats during the seasonal use of these sites.

Unusual weather conditions, when bats may not be able to feed normally, may be a significant problem and again cause run down of energy reserves

Recommended Policies and Practices

1. All bat species are protected by appropriate legislation, but there should be continuing programs of public education to ensure the people are (a) aware that bats are protected species and (b) understand the ecological value of bats and hence the reasons for protection.

2. All Environmental Impact Assessments should include consideration of impacts on the biodiversity (including bats and insects) of the area concerned. It must be recognised that the feeding territory is of central importance, not just the roost site.

3. Where any changes or construction are to be undertaken in the vicinity of a roost site, every effort should be made to have an adequate Environmental Impact Assessment carried out (even informally) in order to minimise the impact upon the bat population.

4. All sites identified as being critical to the survival of bats should be given the most appropriate effective protected status. These sites certainly include maternity sites and caves or mines used for over-wintering by large numbers of bats. They may occur in existing parks or nature reserves, but if not, efforts should be made to ensure their inclusion under proper reservation. If on private land, the owner may well, and many do, ensure effective oversight and protection; may be willing to ensure a permanent covenant for protection purposes; or may agree to selling a site for inclusion in a park or other protected area.

5. Any changes, whether natural (e.g., rock collapse) or caused by human intervention (e.g., gates, viewing platforms, etc.) must be carefully reviewed to determine any damaging impacts upon bat populations and where possible, remedial action undertaken.

6. Where it is absolutely necessary, caves may be gated for protective purposes but this should be a strategy of last resort. If this is done, gates should be designed to provide continuing accessibility for the bat species which occur on the site, and after installation must be monitored to ensure that access has been maintained. All gates should be accompanied by an information sign explaining the reason for the gate, the need to avoid undue disturbance of bats, and a contact for further information or access permission. Gates once installed should also be inspected regularly.

7. Every effort should be made to educate regular, occasional or potential cave visitors about the importance of bat protection. In any given region, this should give special attention to defining periods when and sites where disturbance is particularly undesirable.

For further information or species identification.

see Churchill, Sue, 1998. *Australian Bats*. Sydney: Reed New Holland.

Appendix 1. Species only occasionally found in caves

Chaerophon jobensis
Chalinolobus picatus
Chalinolobus tuberculatus (N.Z.)
Mystacina tuberculatus (N.Z.)
Nyctophilus geoffroyi

Jenolan Caves included in World Heritage listing of Blue Mountains

After its executive bureau had twice rejected the nomination, the World Heritage Committee meeting in Cairns on 29 November accepted the nomination of Greater Blue Mountains to the list. Jenolan Caves is included, not for its cave values as such, but because its karst is an integral part of the diversity of the Blue Mountains which was the key determinant.

It is now 15 years since we (ASF) first raised the issue with the then responsible authority, the NSW Department of Sport, Recreation & Tourism. World Heritage was not exactly flavour of the month at the time – the Director & other bureaucrats in Sydney were in no hurry to take that suggestion on board. Perhaps they envisaged F111s swooping around the Grand Arch the way they did down the Franklin.

In March 1988 we managed to get it as the very first goal for management action when the current Management Plan was drawn up. ASF has had statutory representation on Jenolan Caves Reserve Trust for the last decade – a Trust that has shown itself to be somewhat more enlightened than the old school of bureaucrats.

There will no doubt be debates about what practical advantage there can be for World Heritage listing. Although Jenolan is a relatively small part of the 1m ha. listed, its significance certainly outweighs its size.

Cave pinched at Queens Pinch

In August 1999, during a field trip in connection with the Natural Heritage Trust project, a landowner at Queens Pinch (15km south of Mudgee, NSW) informed us of a nearby quarry and mentioned that he had heard of a cave being exposed: *"this young bloke from town turned up with a bulldozer, used explosives and took away thirty truck-loads in the first week"*. He claimed it was his land although it is accessed through what may be a TSR (travelling stock reserve). We (Evalt Crabb, Chris Dunne and Peter Dykes) were welcome to investigate.

The limestone at Queens Pinch occurs in an almost continuous belt for a few kilometers and contains some abandoned quarries, now filled and cultivated. The new site is at the start of upward slopes from the Mullamuddy Creek floodplain - a 30° slope to about 20m, backed by much higher hills leading to Mt Margaret. The quarry base is at floodplain level, cutting laterally into the hill. There is a 5m diameter, 4m deep doline above and behind the quarry face, containing the locally obligatory upside-down rusted Holden ute, a recent pile of cattle bones and some noxious weed species.

The exposed cave had two entrances but we didn't explore for more than 10m - the nature of the blasting had created a rather scary unstable situation. The first portion included a bank of active shawl speleothems and some cave coral.

Exploring new caves was not a high priority in the NHT project, but the cave was still there when we passed again in April 2000. However, in September 2000 Evalt and Joan Crabb found that more rock had been removed from the rear face of the quarry. The shawls were now on the left hand side of the quarry wall and were desiccated. Instead of a cave there was an unstable rock pile with cavities too small for a human body. The rusted Holden remains ... as do our photos and reports. There may be more extensive caves in the hills to the south but as yet there are no surface indications. Perhaps one day...

Other caves in the region have similarly met their demise. Two caves, MU-7 and MU-8 were stream caves taking captures on Mt Frome to the Cudgegong River. They were ripped open and filled during roadworks. The "improved" road level is now about 3m higher. Similarly, a few caves were revealed by quarrying at Buckaroo, probably in the 1890s. In the 1960-70s four other caves were found nearby by HCG. These were part of a former stream capture from Mt Buckaroo, and gave access to the later, upstream capture which is at the head of an extensive aquifer. By September 2000 caves MU-1 - MU-6 were gone, along with the limestone hill that had contained them. Inspection was inhibited by lots of secure fencing. The hydrological regime has, quite likely, changed. Again, photos and records are all we have

There never were more than a handful of caves known in the 9 karst regions in the Lithgow - Mudgee region. Around Mudgee 8 have been destroyed or filled in, those at Kandos were quarried, some at Cudgegong may have been drowned by Windamere Dam, and two at Capertee contain waste. None of them ranked with, say Sellicks Hill Cave which suffered a similar fate in South Australia. However, the loss of *any* caves in an area with so few is cause for concern and it's ironic that this loss came just a few weeks before the seminar at Bathurst (reported elsewhere in this newsletter) on guidelines for quarrying in karst areas.

It must be appreciated that many landowners are mainly concerned with good grazing land - rugged limestone terrain is often ignored, particularly on large holdings. Thus there was no local interest in the cave. We hope that one of the longer-term outcomes of the NHT project will be enhanced awareness among catchment and water quality planners and managers, of the significance of karst landforms and caves, for remnant vegetation, biodiversity, geodiversity and for groundwater quality. Hopefully, no more caves will be pinched from Queens Pinch or anywhere else in the region. ■

Report by Evalt Crabb

Travel Insurance

Have you ever tried to travel somewhere and wanted to have travel insurance but wanted it to still cover you while doing something adventurous like caving or mountaineering? You will know that it is virtually impossible to find this sort of cover. When I went overseas this year, through the ASF's broker, I tracked down cover that does just this. The company is Marsh Pty Ltd and they are based in Adelaide, although the actual policy is arranged through London. They cover most of the normal things that the normal travel insurance policies do as well as covering you while doing adventurous things that other companies won't cover because they think they are "dangerous". You can also insure valuable items. They are also very competitive on price. The contact at Marsh is Helen Oswald, who can be contacted on (08) 8211-7655. For further information, contact Angus Macoun at <artoflight@eisaafree5.com.au> or on (02) 9416-2588.

A Tale of Confusion

By Bob Kershaw (ISS), John Brush (CSS) and Jill Rowling (SUSS)

This is a story of a cave. One cave but with two names, and effectively two numbers, and the subsequent confusion this caused.

Below is the story of how a cave at Wyanbene acquired two names, why it was tagged incorrectly, how the situation was discovered 20 years after the cave was tagged and what was done to rectify the situation.

References to WY 5 cave and how it acquired its name:

Webb (1957) said "The Bat Cave is right at the top of the ridge, on the NE corner of the outcrop, and the entrance lies just over the top, on the E slope... which is very shallow (not completely dark) were three clusters (of bats) and about 10 solitary *Miniopterus*..."

The Speleo Handbook, published in 1967, page 176 refers to WY5 as Goat Cave, but we have not been able to establish the origin of the name.

Pavey (1973) refers to a bifurcating passage as tentatively identified as Goat Cave WY5 and includes a map of the cave which included a reference to a small colony of bats guessed to be *Miniopterus*

Davey (1978) refers to WY 5 as Goat Cave.

Hart (1978) refers to Bat Cave and gives the correct location which is WY5.

Rowling (1995a) refers to WY 5 as Goat Cave and Rowling (1995b) refers to Goat Cave "on the south east and Deua side of the Minuma Range... as a small two-chambered cave...is an important roost for Horseshoe bats".

It seems that Canberra people refer to WY5 cave as Bat Cave, while others call it Goat Cave.

John Brush suggested it could be because of the wild goats in the area. Bob Kershaw tends to think that you had to be a mountain goat to get to the cave!

So what we are left with is Bat Cave and Goat Cave and seeing that bats roost in it, Bat Cave may be more appropriate.

Why was it tagged incorrectly?

Apart from the problem of two separate names, the

cave also became known by two different numbers. It was numbered WY5 in the Speleo Handbook, but when it was tagged more than a decade later, the WY8 number was affixed to the entrance.

The problem arose because the cave was not tagged when it was assigned the number as published in the Speleo Handbook. The club responsible for the tagging in the area at that time, did not tag the caves as they found or recorded them. This situation highlights the difficulties that can result when responsibility for documentation of an area passes from one club to another, in this case from ISS to NUCC, without adequate records being passed on as well.

Mistake found 20 years later

In March 1999, ISS had a trip to Wyanbene and found a cave tagged WY8 but descriptions from some of the journals mentioned in the references described it as Bat Cave which should have been numbered WY5!

After numerous E-mail messages between Bob Kershaw, John Brush, and Jill Rowling, for several months, we agreed to visit Wyanbene and attempt to solve the problem.

At the 11th hour of our proposed trip, in February 2000, John had been able to find and contact Peter Hart the NUCC member who had tagged the caves in 1979 and conveyed the following story.

"Peter knew instantly about the issue and informed me [John] that the numbering problem arose because at one stage, NUCC thought Bat Cave and Goat Cave were different caves, not 2 names for the one thing. They knew Bat Cave was WY5 and so when they found Goat Cave they tagged it WY8 and then tagged a new one (Compass Pot) WY9. However, some time after this, Peter realised Bat and Goat were one and the same, ie WY5, and thus started to refer to Compass Pot as WY8 (hence the indication on the sketch map Peter gave me years ago). However, Peter and the others never got around to fixing up the tags - basically Peter got a job and moved away from Canberra."

So WY 8 is in fact WY5.

Rectification to avoid future confusion

With that misnaming/tagging problem solved, we had to determine the course of action with regard to the tag.

Jill said "Strictly speaking, you should never re-tag unless there are two tags out in the field.

This is because there may be other organisations (eg police, rescue squads) who may refer to the field tags in their notes. Once a tag goes in, it should not be altered. If there was some confusion over tags

(according to Club records), then, provided there aren't two tags of the same number out there, perhaps it's best to keep the field tags and update the Club paper records."

Mike Lake, Jill's husband, suggested to:

- "a) Put dual tags on
- b) Tell Peter Matthews (Karst Index) and Peter Dykes (NSW Documentation Convenor) and the NSW Speleo Council and
- c) Put an article in Australian Caver explaining the interesting history.

In the case of the article, it should mention all the references that you have (so far) dug up, that way the various clubs won't have to rummage through it all again. Eg such-and-such an article refers to Goat Cave as WY5 (or whatever).

Peter Matthews commented: "However, if both numbers have been used to refer to the cave, and a tag has been there a while, I feel that you might need to leave both there and add a comment to the file of each that 'this is the same cave as....' and perhaps convert one of the numbers to a 'misc feature' and describe what it is in the comments. This way you don't artificially increase the 'cave' count in a database. On any map, both tags could be shown. Anyway, whether you physically leave or remove the 2nd tag, its number should never be used for anything else, and its place in the records should describe the situation."

Others suggested the use of dual tags would perpetuate the confusion and believed the best course of action was to consider what had been published. Most published references were to WY5 and while there were references to WY8, they were largely in terms of questioning whether the number was correct.

Well what we did is as follows:

- a) We placed the number '5' on the right hand side of the existing tag and punched over the 8 a couple of times. The "8" will not be used on a tag at Wyanbene.
- b) The relevant persons will be notified. All the caves now have a Cave Identification Sheet completed so that the records are complete.
- c) This is the story about the events, the references and descriptions. A surface map of the Wyanbene Caves area by Jill Rowling accompanies this article to assist in clarifying the problem.
- d) We found a new cave and immediately tagged it WY10, named "Exocarpos" (because of the large *Exocarpos cupressiformis* adjacent to the cave),

completed a Cave identification sheet and Grade 1 map of the cave.

So to set the record straight, what is known at Wyanbene?

- WY1 Wyanbene Main
- WY2 The lower entrance/Efflux to WY1
- WY3 Ridge Mine Pot
- WY4 Watts Cave (sometimes referred to as Tom Waite's Cave or Helix Cave)
- WY5 Bat Cave (or Goat Cave)
- WY6 unnamed cave (small cave at bottom of hill)
- WY7 Clarkes or Bushrangers Cave
- WY9 Compass Pot
- WY10 Exocarpos Cave

Conclusion

This article has outlined a common problem in Australian Speleo documentation. WY5/8 and numbering at Bendethera are examples of the problems that can result from caves being assigned numbers without the cave entrance being physically marked in some way, tagged incorrectly or end up with two names. Even on the Nullarbor last year, ISS improvised and used the base of soft drink cans siliconed to the entrances of new caves and scratched numbers into the base after we ran out of tags. At least they can be replaced with correct numbers on "proper" tags at a later date.

And they all lived happily ever after!

References:

- Davey, A. "Conservation of the Wyanbene Caves" The Journal of the Sydney Speleological Society Vol 22 no 6, June 1978
- Hart, P. Trip Report , 6-7/5/1978 in Speleograffiti Vol 14 no.2 p14
- Matthews, P(ed) Australian Karst Index 1985, ASF Inc, Victoria, Australia
- Pavey, A. Trip Report and maps in SPAR 25 May 1973
- Rowling, J(a) "Investigations of the Wyanbene Caves area" in Vulcon Preceedings 1995, page 81
- Rowling, J(b) "Investigations of the Wyanbene Caves area" Helictite 33 (2) 1995
- Webb, J. "Bat Survey Trip Report 9-7/1957", reprinted in Canberra Speleological Society The Very Latest Vol 9 no 1
- ISS Newsletter March 1999
- The Speleo Handbook , published by ASF in 1967

Proposed Limestone Exploration License at Mt. Cripps NW Tasmania: ASF has its say in court

Arthur Clarke

Introduction

Representatives of three caving bodies opposed to the Exploration License (EL) for limestone quarrying at Mt. Cripps in NW Tasmania, recently had their first day in court. At 2.15pm on Monday December 4th 2000, the Mining Tribunal of Tasmania was convened for the first time ever – as a Listing for Mention for the case relating to EL 17/1999 - to determine future court time and learn about the nature of the dispute. A Perth-based (W.A.) company – Western Metals Resources – has applied for an EL area in Crown Land adjoining the site of its recently closed silver-lead-zinc Hellyer Mine in NW Tasmania. Western Metals are seeking high-grade limestone to neutralise an acid leaching process designed to extract residual heavy metals from its Hellyer Mine tailings.

There was no pomp and ceremony; no barrage of press journalists or photographers. Yet this was essentially history in the making – it was the first time that the new *Mineral Resources Development Act of Tasmania* (1995) had been taken to a court of law: the new Act was facing a civil jurisdiction for the first time.

The Mount Cripps karst area in NW Tasmania is a relatively “new” area of karst, located about 20km WNW of Cradle Mountain and a little over 15km SW of the *Vale of Belvoir* limestone that adjoins the Cradle Mountain Link Road. The Mt. Cripps karst is contained within an extensive tract of glaciated Ordovician limestone approximately 17km long and 6-7km wide at its widest point (Clarke, 2000b) – forming part of a more extensive belt of limestone mapped further west beyond the *Southwell River* (Clarke 2000b; 2000c) where it is recorded as the “Charter-Southwell” karst area (Kiernan, 1995). The known karst includes an area of rare polygonal karst, plus 61 recorded karst features and another 218 documented caves (Gray, 2000). The Mount Cripps (CP) karst area was originally recorded in the 1985 ASF Karst Index as Mayday (MY). In February 2000, Western Metals applied for an EL area of 29 sq. km. to search for limestone quarrying sites; this original application area covered 7/8ths of the known recorded karst. As a result of a mediation meeting with the mining company, Mineral Resources Tasmania (MRT) and the EL objectors on June 1st 2000, the exploration license area was modified to exclude most of the known karst features, caves and

polygonal karst and was down-sized to a 10 sq. km area (Clarke 2000a), then subsequently increased

to a 12 sq. km. area. However, the three caving groups originally opposed to the EL have maintained their objections.

At this recent “Listing for Mention”, Arthur Clarke represented both ASF and Southern Tasmanian Caverneers (STC); Robyn Claire also attended as an STC member; Bevis (Fred) Dutton and Frank Salt represented the Savage River Caving Club (SRCC). Apart from the Magistrate (Michael Hill) and his clerk who formed the Mining Tribunal, the only other attending party was Mineral Resources Tasmania, represented by the Registrar of Mines (Dennis Burgess) and the MRT Senior Geologist: David Pemberton. There were no representatives from the EL applicant (Western Metals) in attendance.

Some background history of the Mt. Cripps karst area and land tenure

Members of the Southern Caving Society (SCS) attempted exploration of the limestone karst from its northern end in late 1960's and early 1970's, but without success. SCS members subsequently discovered the first caves at the southern (*Lake Mackintosh*) end of this Mount Cripps karst area in the early 1980's. The Hydro-Electric Commission of Tasmania created *Lake Mackintosh* in 1981 as a water storage impoundment for a power scheme to supply nearby consumers including the two former Aberfoyle sulphide mines (recently acquired by Western Metals in 1998). The lake that provided the early access to cavers had drowned a substantial part of the southern end of a large tract of limestone, submerging outflow caves and aboriginal occupation sites (Heap, 1999). This karst area and new lake formed part of an extensive 25,000 sq. km “1926 Burnie Concession” - an area of Crown Land granted to Associated Paper and Pulp Mills (APPM) Burnie by the Tasmanian Government in the 1920's to promote the development of the fledgling pulp and paper industry in Tasmania. APPM (subsequently North Forests) were responsible for all planning, road making, timber harvesting, regeneration and fire fighting/ fire control in their concession area, with additional controlling activities being provided by the State forestry services.

APPM commenced its logging activity north of the peak of Mt. Cripps in the early 1980's accessing high quality timber for use in the sawlog and timber veneer industry. The APPM forest activity continued around

the western flank of Mt. Cripps in the mid-1980s and when heading south, limestone was encountered. In February 1986, Tasmanian Forestry Commission workers discovered limestone and karst features while cutting an access track through the Crown Land (State Forest concession) into a potential logging area for the forest leaseholder: APPM. During the subsequent period from December 1986 to February 1987, Forestry Commission workers located seven caves. In early February 1987, Andy Warner - the superintendent of forest management and planning for APPM's Associated Forest Holdings (AFH) - accompanied a group of Forestry Commission workers including their senior geomorphologist Kevin Kiernan and located a large cave, subsequently named *APPM Cave*. In mid-February, a team of Forestry workers including Rodney Walters and Philip Taylor found another substantial cave further east; when subsequently explored ten days later it revealed large chambers and speleothems including a 4.5m long straw stalactite. The cave was named *Philrod Cave*.

As a direct result of these cave discoveries, all logging activities including track making and tree counting by forestry workers stopped and all the similar operations including road-making in the area by the leaseholder (APPM) was also immediately stopped. AFH (APPM) subsequently made contact with Frank Salt, a mining engineer at Savage River Mines in western Tasmania, who was locally/ regionally known as a person interested in limestone and caves, with a view to having him (and any other cavers) explore the cave/ karst potential of the area. In February 1988, the Savage River Caving Club was formed, largely with members who lived in the Burnie and NW Tasmania area. APPM sought the input of SRCC and the Senior Geomorphologist with Forestry Commission of Tasmania to provide the land manager with information by submitting reports to the company to assist them to determine further management strategies.

In 1990, the limestone area east and west of the *Southwell River* including the known karst area was proposed for inclusion in the World Heritage Area (WHA) in a Ministerial Report prepared by the Tasmanian Dept. of Parks, Wildlife and Heritage (PWH, 1990). The process would have entailed moving the existing nearby WHA boundary further west of Cradle Mountain. The Tasmanian Government did not endorse this report. On December 4th 1991, legislation was passed enabling the section of forest including the Mt. Cripps karst to be declared as "deferred forest area" - a public land area identified as having both high conservation and high timber values. It was deferred from timber production pending the subsequent determination of conservation values (or wood production value) of the land by the Public Land Use Commission (PLUC).

Subsequently declared as a Recommended Area for Protection (RAP) by Forestry Tasmania (formerly Forestry Commission of Tasmania), they took on the role as primary land manager.

During the period of karst assessment - mainly by cavers - the karst geology was determined by Henry Shannon and others (Shannon *et. al.*, 1991) for much of the area east of the *Southwell River* and two natural feature names were registered by SRCC and subsequently added to area maps: *Caverneers Creek* (which extends south from the Mt. Cripps peak) and *Southwell Peak* (a sandstone capped peak to the south, lying above this main mapped area of limestone karst, just north of the *Lake Mackintosh* impoundment). In mid-1992, AFH (APPM) and the Forestry Commission of Tasmania gave SRCC approval to erect a semi-permanent hut on APPM leasehold land at the edge of the karst. SRCC advertised the availability of the hut to cavers and ASF members and others used the hut after "TAS-TROG" during the post-Conference expedition trip to in mid-January 1993, when caves such as *Snowy Mountains Cave* were explored and extended.

As the karst potential became apparent, APPM (and the Forestry Commission) recognised that compromise was not an option in the Mt. Cripps area and made the conscious decision to manage the area for its karst and geomorphological value, rather than just for wood production (Warner, 1995). AFH was bought out/ taken over by North Forest Products - a division of North Broken Hill (subsequently North Limited) - and the APPM (Burnie) boss (Andy Warner) continued to work as the Tasmanian manager for North Forest Products maintaining a dialogue with cavers. Addressing the May 1995 ACKMA Conference in Tasmania, Warner stated: "*While I cannot speak for the land managers in Forestry Tasmania, I believe that the planning systems in the State are capable of ensuring the Mt. Cripps area continues to be managed principally for its karst value, with the active, enthusiastic and disciplined involvement of the local caving group.*" He added: "*For you see effective land management only starts with the decision on what to do with a parcel of land - the ongoing active management process involves continually updating the information on the area, revising the options available and regularly reviewing the information. Land management is a dynamic process...Mount Cripps is an example of how joint effort can facilitate successful land management practices. I wish it a continuing history of active management*" (Warner 1995).

Under the auspices of the 1997 Tasmanian Regional Forest Agreement (RFA), the Mt. Cripps karst and its limestone were the subject of two separate protection measures. Firstly, it was proposed for Listing on the Register of the National Estate to protect its karst geo-heritage (Dixon and Duhig, 1996) and secondly it was recommended for proclamation as a Crown Land Reserve to protect its cave fauna communities and cave ecosystems (Clarke, 1997). Both these proposals were

ignored during the RFA - a process focused on aspects related to biodiversity and tall growth timber forests, with no consideration of geodiversity values (Clarke, 2000b). All non-reserved lands such as deferred forest areas (including Forestry Tasmania RAP's) were subsequently subjected to another new authority: the RPDC (Resource Planning and Development Commission) - the successor to PLUC - for determination of future tenure. Since the RFA, the former RAP area incorporating the Mount Cripps karst has been recommended for inclusion as part of the *Reynolds Fall Nature Recreation Area* - the proposal is now awaiting proclamation, sometime before the end of the year 2000. Like other similar non-reservation tenures in Tasmania, this Nature Recreation Area and Crown land "reserves" (including Conservation Areas) are now available for exploration and mining.

The limestone quarrying EL proposal at Mt. Cripps and the mediation process

Prior to MRT advertising their EL, Western Metals contracted Ken Grimes to assess the karst impacts of limestone quarrying at four preferred quarry sites and prepare a report on the environmental (karst) impacts of quarrying. With assistance from cavers, Grimes documented the cave and karst features of the known area (Shannon, et. alia, 1991; Heap 1999) near three potential limestone quarry sites and recommended against quarrying, since this "...would violate the overall integrity of the Mount Cripps karst area..." (Grimes, 1999). Grimes was advised by Western Metals that a 4th quarry site option - Area D - west of the northern arm of *Lake Mackintosh*, was not a preferred option so no on-ground environmental karst assessment of this western area has occurred. Along with statements relating to the likely impacts of quarrying and detrimental effects to the known karst, his consultancy report included appendices of possible alternate limestone sources (Grimes, 1999).

Mineral Resources Tasmania (MRT) received four objections to the EL application - from ASF, SRCC, STC and the North West [Tasmania] Walking Club. The latter group based its objection on concerns for loss of wilderness and forest values, potential destruction of flora and fauna species (including cave species) and visual degradation of the landscape. The objections from ASF, SRCC and STC detailed various aspects of the known karst and its significant attributes: the polygonal karst, the caves, invertebrate fauna, fossil deposits and archaeological values. In addition to these objections, MRT received a submission from Henry Shannon, who forwarded the proposal of lowering the *Lake Mackintosh* impoundment to permit limestone quarrying on the

present lake floor, with the lake being back-filled after the quarry was completed (Shannon, 2000).

The new (1995) *Mineral Resources Development Act of Tasmania*, states that all objections to an EL or mining license are taken to the Mining Tribunal in Tasmania. The four objectors to the EL received notices from MRT advising that an "informal meeting" was being convened in Burnie on June 1st 2000 between Western Metals, MRT and the EL objectors - with the MRT Registrar of Mines (Dennis Burgess) acting as mediator. Henry Shannon was also invited to attend. Although there is nothing in the Act that specifically refers to the mediation process, the MRT letter stated that the mediation session was arranged so the applicant (Western Metals) could "...discuss your concerns and provide an opportunity for the applicant to provide further details on the proposed work program and exploration activities."

Following discussion with the objectors in the Tasmanian offices of Western Metals at Wivenhoe (near Burnie), the Tasmanian Manager (Greg Marshall) agreed to modify their EL to avoid the high sensitivity karst areas (highlighted in the Grimes report). Defining boundaries on the Sophia 1:100,000 sheet, Marshall agreed to reduce their 29km² EL proposal by two-thirds to a lesser 10km² area west of Gridline 395mE and south of Gridline 5393mN. This 10km² area, now centred on the *Southwell River* valley and the northern arm of *Lake Mackintosh* would include their fourth non-preferred quarry site, located more distant to the mine site and present access roads. (This 10km² area also includes a known efflux spring on the lower western slopes of Southwell Peak, east of the *Southwell River*.) In similarity with the recommendations in their consultant's report (Grimes, 1999), Marshall also agreed that Western Metals would investigate alternative limestone deposits where there were no known karst values (Kiernan, 1995) and consider sourcing their product from the existing limestone quarry at Railton, transporting it to their now-defunct ore transporting railhead at the Hellyer Mine (Clarke, 2000a). The proposal by Shannon to quarry limestone from the lake floor was not given a hearing. However, both MRT and Western Metals were interested to hear Shannon's reports of other limestone outcrops in the *Southwell River* valley, not described by Grimes.

Subsequent to the mediation session in Burnie, the objectors received three notices from the MRT Registrar (Dennis Burgess). Firstly, copies of "notes of the meeting" with the agreed (?) "Resolutions", plus the request to confirm whether we were withdrawing or not withdrawing their objections. Secondly, the notice of a modified EL17/99 application by the Western Australian office of Western Metals, showing an area of 13km² (Clarke, 2000b; 2000c). The three additional kilometre squares contain the additional outcrops of limestone reported by Shannon at the mediation session in Burnie. Subsequent to this (and return correspondence from ASF pointing out discrepancies in the agreed outcomes and the modified EL), we

received a third notice advising that the modified EL was now a 12km² area. Following the MRT responses, all three caving bodies: ASF, SRCC and STC initially continued to maintain their objections.

Outcomes from the Mining Tribunal hearing on December 4th 2000

The Mining Tribunal magistrate explained that the purpose of the hearing - the Listing for Mention - was to allocate subsequent court hearing time, learn the nature of the dispute and/or recommend booking time for further discussions/ mediation between the parties. If the EL case and objections are likely to go ahead, the magistrate foreshadowed another date in January when the case would be Listed for Mention again and at such time a more defined schedule of court sessions would be determined. The Mines Dept. Registrar stated that he believed another court hearing might not be required because the case could be near to resolution following the recent correspondence from SRCC and Western Metals, though SRCC had not formally withdrawn their objection. However he stated that ASF and STC still had some outstanding unresolved issues.

The magistrate set aside another preliminary hearing date for March 22nd, at 10am in Court #4 (Hobart Magistrate Court) - if the EL case was still going ahead. The MRT Registrar then reminded the magistrate that the objectors might have to prove their standing before the court prior to any case going ahead. The magistrate said he would allow the first two hours of court procedure (on March 22nd) to be set aside to determine "Standing" of appellants/ objectors. The magistrate also mentioned that since this case was now before/ within a civil jurisdiction, we the objectors (and MRT / Western Metals etc.) could apply to the court for "direction" and also seek to have documents provided.

A summary of the outcomes from the Mining Tribunal in Hobart:

(a) SRCC (and MRT) announced that SRCC had come to an agreement with the company: Western Metals (WM) during recent private discussions with company management (on October 10th) in regard to SRCC concern for the karst area east of the Southwell River (known to include some efflux springs). SRCC had now reached agreement with WM for the EL to go ahead NOW, with the proviso that an independent karst assessor was engaged and that SRCC had input into the choice of the assessor.

(b) ASF (and STC) announced that PRIOR to the EL possibly going ahead in the future, an independent karst assessment was required FIRST, with input from a steering committee of

representatives from ASF (and other caving bodies), Forestry, Mines and Parks in Tasmania.

(c) By way of further explanation, ASF raised the point that prior to the original 29 sq. km. EL area being advertised, Western Metals had engaged a consultant to examine the likely environmental impacts to karst from limestone quarrying at specific preferred sites. However, there had been no on-ground assessment of the karst (if any) or environmental impacts in the modified area now being applied for.

(d) MRT stated that the EL application had already been downsized and modified to a 12 sq. km. area as a result of the previous environmental assessment by the WM consultant. MRT went on to add that both the further suggested independent karst assessments, particularly the latter ASF proposal, were unnecessary procedures because MRT already had its own body: MEWG (the Mineral Exploration Working Group) that was deployed to operate during the course of any EL. The MEWG was designed to critically examine "sensitive" areas (such as karst) after a mining/ exploration company has established an approved exploration work programme with MRT. MEWG would consult with the karst expertise available within Tasmanian government, primarily and preferably with Parks (Ian Houshold) and possibly also within the Tasmanian Forest Practices Unit (Kevin Kiernan) - a body that is now independent from Forestry Tasmania.

(e) SRCC stated that the company (Western Metals) had closed down its Tasmanian operation at the Hellyer Mine (adjacent to this EL application area) and was now in "Caretaker" mode with future operations likely to be run from their Perth-based (W.A.) exploration office. There were two subsidiary implications arising from this:

(i) The present Tasmanian management of Western Metals with whom SRCC and the other bodies involved (MRT, ASF and STC) had been dealing with, would soon be leaving Tasmania and if we were not "quick-off-the-mark", we would lose the opportunity for continued dialogue and repour with these known people in terms of finalising a satisfactory and agreed outcome for the continued EL.

(ii) Although the company had tested the reprocessing of mine tailings by atmospheric and pressure oxidation (acid) leaching processes in a laboratory, the ensuing process of neutralising the acid generation from tailings (with high grade limestone) and subsequent solvent extraction, electrowinning of zinc and cyanidation to recover gold and silver had not yet been viably proven on a commercial production basis.

(f) MRT stated that despite these shortcomings, Western Metals would not be walking away from what was essentially a substantial ore body lying within its 10.8 million tonne mine tailings dump with a high concentration of valuable heavy metals. [In their "Annual Report" for 1999, Western Metals calculate that an annual throughput of 1 million tonnes of reprocessed mine tailings from the Hellyer Mine would

produce 24,000 tonnes of zinc cathode, 2.2million ounces of silver, 39,000 ounces of gold and 500 tonnes of copper over a ten year project life (Western Metals, 1999).]

In private courtroom discussion following the Mining Tribunal hearing:

(g) SRCC propose that we objectors (ASF, STC) along with SRCC and MRT meet with Western Metals a.s.a.p. (this month) in Burnie (NW Tasmania) to resolve any differences to allow the EL to go ahead. SRCC are concerned that if the company fails to get its reprocessing procedure to work and the future operation does not get off the ground for whatever reason (including technical difficulties), we (cavers and especially SRCC) will be blamed for the demise because we hindered the company in its access to limestone. MRT gave an assurance that SRCC (and others) would not get blamed!!

(h) MRT requested that ASF (Arthur Clarke) meet privately with MRT officials at their offices at Rosny (in Hobart) to discuss ASF concerns and the ASF requirement for a karst assessment prior to the EL. MRT added that if ASF wanted an independent karst assessment this might be possible, but Western Metals would be unlikely to pay for that if it did not have an EL in place, if only because shareholders would query the expense when it was not being conducted as part of an exploration programme.

(i) MRT also expressed concern that they had a Ministerial brief to ensure that proposed Exploration Licenses were advanced as quickly as possible, without delay and this current scenario was potentially going to cause them (MRT) some embarrassment if having to be delayed further and go to another court hearing.

(j) MRT stated that it would be very unlikely for ASF to gain Legal Standing to oppose the EL in any subsequent hearing of the Mining Tribunal. However, if we (ASF) allow the EL to continue and some time further down the track there is a mining proposal, the company would have to perform an Environmental Management Plan or Environmental Impact Statement which would be available for public scrutiny and we (ASF) like other members of the public would then have legal standing to oppose (or suggest amendments to) the mining proposal.

References

Clarke, A. (1997) *Management prescriptions for Tasmania's cave fauna*. Report to the Tasmanian Regional Forest Agreement Environment and Heritage Technical Committee. March 1997. 167pp. ISBN 0 7246 4578 0

<<http://www.rfa.gov.au/rfa/tas/raa/other/caves/index.html>>

Clarke, A. (2000a) The limestone quarrying proposal in the Mt. Cripps karst area of NW Tasmania. *Speleo Spiel*, #319: 12-16.

Clarke, A. (2000b) Proposal for a limestone quarry in NW Tasmania wilderness karst. *Tasmanian Conservationist*, #272: 12-13 (September 2000).

Clarke, A. (2000c) Update on the limestone quarry proposal in NW Tasmania. In Press *ACKMA Jnl.*, 41 (December 2000).

Dixon, G. and Duhig, N. (1996) *Compilation and assessment of some places of geoconservation significance*. Report to the Tasmanian RFA environment and Heritage Technical Committee. 78p.

Gray, L. (2000) Mt. Cripps – Project Report. *Speleopod* 38 (December 2000): 24.

Grimes, K.G. (1999) *Mt. Cripps Karst Area: Implications of karst for proposed limestone quarry sites*. Unpublished report to Western Metals Resources, Ltd., August 1999: 30pp, with 24pp. appendix of alternate limestone & dolomite sources.

Heap, D. (1999b) Human Impact on the Mount Cripps Karst. *ACKMA Jnl.*, 37: 4-11.

Kiernan, K. (1995) *An atlas of Tasmanian karst*. Tasmanian Forest Research Council, Inc. (Volume 1) 255pp.

PWH - Dept. Parks, Wildlife & Heritage (1990) *The appropriate boundaries of a World Heritage Area in Western Tasmania*. Report to the Minister for Parks, Wildlife and Heritage. 70p.

Shannon, H., Dutton, B., Heap, D., & Salt, F., (1991) The Mount Cripps Karst, northwestern Tasmania. *Helictite*, 29(1): 3-7.

Shannon, H. (2000) *Submission on conservation priorities of the Mt. Cripps karst*. Unpublished report (and map) forwarded to Mineral Resources Tasmania, March 2000.

Warner, A. (1995) Mt. Cripps karst management – Land management, thoughts and actions. *Proceedings of the 11th Australasian Conference on Cave and Karst Management, Tasmania 1995*. Pp: 97-102.

Western Metals (1999) *Western Metals Limited – Annual Report 1999*. 100pp. ■

Exerpts from Speleo E-Bulletin Number 5

Publications

Please advise the Publications Convenor, Angus Macoun at artoflight@eisafree5.com.au of any publications that anyone has for sale on caving and related topics within Australia. This will enable a list to be put together which can then be distributed to members to publicise the publications.

ASF Caving Training Course

Following requests from our members, the Executive has approved development of an ASF Caving Training Course. This will be a national course which will fit in with modern training practices and all statutory requirements so that the course will be transportable outside the Federation and our members will not need to pay outside bodies to do a training course. The aim is to make this the best course that we possibly can. The way we would like to address this is for all Corporate Members to send any training material that they have to the Caving Leadership Commission Convenor, Alan Jevons at PO Box 301, Fullarton, South Australia, 5063.

A small group of people will then take the best bits out of all the material submitted and turn out a fabulous course built from all our knowledge. If you are interested in assisting in developing this course, please contact Alan on 0417 837-894 or at alan@box.net.au. It is recognised that many people have put many hours into developing training materials. Copyright will be respected. Acknowledgements will be made. If a licence arrangement is required, this will be addressed. It would be most beneficial to the Federation and its members, especially the small clubs without the resources of the larger ones, if we could work together to produce a training course that our members can use.

Codes & Guidelines Review

The Code of Ethics and Conservation, the Minimal Impact Caving Code and the Cave Safety Guidelines are all currently under review. Please forward any contributions to the Convenor of the Codes and Guidelines Commission, Evalt Crabb at evalt@cyber.net.au or on (02) 9607-2142.

Caves and Karst Educational Kit

The ASF was approached by the Australian Geological Survey Organisation (AGSO) for material for an educational kit on caves and karst. ASF supplied data on location of karst areas and tourist show caves around Australia from the Karst

Index Database. Our logo and website are publicised and we will receive in exchange a number of copies of the kit. A number of individual clubs and members also contributed to what looks like a fine educational resource. These kits are now available from the AGSO. For further information, contact Cathy Brown at cathy.brown@agso.gov.au.

Tribute to Joe Jennings

We have been advised that the text editing for this book is now complete (this was the main stumbling block), the manuscript has gone to the photographic editor, and the University of NSW Press expects to publish it for us by the end of the year. This will be worth the wait!!

Book Sales

ASF is setting up a facility to handle sales of books and other cave-related goodies, with all net proceeds to go to ASF. A trial running for two years will commence soon. With the Jennings book on the horizon and the AGSO educational kit complete, we are negotiating favourable wholesale deals and expect to make another announcement soon.

Cape Range

The ASF is opposing a mining lease application for 82 sq km of Cape Range in Western Australia by Learmonth Limestone. The proposed mine within the mining leases is only a very small area but clearly the intent would be to have a number of mines spread over the very large mining lease.

Over the 10th and 11th August the first two days of the court proceedings were heard in the Mining Wardens court at the Central Law Courts in Perth. This case will be reconvened on the 24th and 25th August and will also extend into September 21st & 22nd.

The ASF has contracted the Environmental Defenders Office in Perth to act on their behalf. During these two days the following witnesses were called to give evidence on our behalf:-

Andy Spate - provided geomorphology information to the Warden particularly relating to micro and meso-caverns in the Cape Range karst

Elery Hamilton-Smith:- provided details of why the Cape Range should be placed on the World Heritage list, how that process is conducted, and why granting the mining lease may impact the listing. **Stefan Eberhard** - provided details of the impacts of pollutants on cave fauna - in particular the impacts of quarry activities on the Ida Bay karst

Bill Humphreys - provided details of the unique nature of the cave fauna at Cape Range and how

Cape Range (continued)

any mining activity may adversely impact the fauna. All of the witnesses recommended an alternative site at Rough Range to the south of Cape Range. Overall the case appears to be progressing very well and we have some very strong evidence yet to be placed before the court. It is important that we do not provide details of our case to the mining company and therefore further details of our case

must remain with the lawyers but will be fully reported once it has been placed before the court. This case has been well supported by the ASF with a \$1000 donation which went to the EDO for legal expenses. Other costs have been borne by WASG and SRGWA who have provided significant donations. A further donation from a WA cave conservation fund, CAVCARE, paid for airfares for some of the witnesses. Unfortunately we still have

some expenses to come and hence we are calling on clubs around Australia to provide small donations < \$100 to cover the extra legal costs and photocopying (would you believe this is likely to be between \$500 and \$800!). Clubs who wish to donate can send cheques made out to CAVCARE to 27 Beckenham St, Beckenham. Any monies not used on this case will be returned to the ASF for future conservation battles.

Note that details of this case are not being released to media outlets as our lawyers have indicated that a low profile is preferable so that the Warden, who will be making recommendations to the Minister, does not think we are trying to influence decisions via the media. So please do not broadcast this message widely but rather within the ASF. Your assistance would be greatly appreciated. ■

Rauleigh Webb Co-Convenor ASF Conservation Commission.

NHT Project Completed in NSW Central West

Late in 1998 the Federation received on behalf of the NSW Speleological Council, a grant to raise awareness of karst and karst-adapted vegetation in the central west of New South Wales, update documentation of all karst features, and to prepare a Regional Karst Management Strategy in consultation with other agencies.

Chris Dunne did a great deal of administrative work in 1998 and 1999, tightening the original application, liaising with government agencies and managing the project until his departure for Brisbane. Since then it has been brought to completion by a management team chaired by John Dunkley and including David Bennett and Evalt Crabb. Documentation was conducted by OSS and HCG, the key field team included Bruce Howlett and Denis Marsh (OSS), and the driving force behind it was Peter Dykes, who conceived and coordinated it from beginning to end.

9 clubs and 65 members assisted in this

mammoth task, visiting 22 karst areas and increasing the number of known karst features from 46 to 548. Hundreds of trees were planted, fences erected, community workshops conducted and other land management agencies consulted. The 104-page main report lists 51 recommendations for management action to protect the karst, caves and remnant vegetation, and to improve groundwater quality. An interesting conclusion is that the 255 dolines in the region are probably the most significant karst feature and require much better management. Detailing all karst features in the region, a supplementary report to the funding body will be used as the basis for a future volume in the new Australian Karst Index series.

Only 97 of the features are caves but the work by so many clubs and individuals demonstrates that speleologists are prepared to put time and effort into the conservation and sound management of *all* karst features. Copies of the Report will be available to all participating clubs and a summary may be prepared for future publication. ■

Rear Cover : The entrance to the Queens Pinch Cave. See article on page 12 and other picture inside front cover.

