

Nineteenth Australasian Conference on Cave and Karst Management

Ulverstone, Tasmania
8 May to 13 May 2011



CONFERENCE HANDBOOK

CONFERENCE CONVENER: **Tony Culberg**

Handbook draft prepared by: Kent Henderson
Final Version edited by: Tony Culberg, Cathie Plowman and David Butler



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8 May to 13 May 2011.

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Cover Photo: Shawls in Gunns Plains Cave.
Photo: Kent Henderson.

Map acknowledgements:

Ken Grimes (maps on pages 27 & 77)
Dave Smith (map on page 60)

Conference Organising Committee – ACKMA 2011

Tony Culberg (convener)
Pat Culberg
Chris Sharples
Greg Middleton*

Serena Benjamin
David Butler
Cathie Plowman

* Gone AWOL for the conference for a palaeontological dig in Mauritius, funded by National Geographic.



The **Conference Organising Committee** in session. Left to right: Chris Sharples, Tony Culberg, Pat Culberg, David Butler, Greg Middleton, Cathie Plowman and Serena Benjamin.

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WELCOME TO THE CONFERENCE

The Conference Organising Committee warmly welcomes you to Tasmania and the 19th Australasian Cave and Karst Management Conference. The seaside town of Ulverstone has been chosen as a convenient central location allowing travel to the cave and karst areas of Mole Creek, Gunns Plains, Rocky Cape and Dismal Swamp at Togari. As well, the Ulverstone Surf Life Saving Club is an enjoyable conference venue beside the beach and with views over Bass Strait. It is within easy walking distance of the accommodation.

While practicality dictates a need for a conference venue some distance from the Tasmanian wilderness, the conference theme of wilderness karst celebrates the large areas of wild and still largely unexplored karst that lie within the Tasmanian Wilderness World Heritage Area. The conference theme and field trips highlight the contrasts between the need to properly manage show cave and adventure cave geotourism, and also protecting the ecological values and scope for rare adventure that wild karsts embody.

Caves at Mole Creek and Gunns Plains have been famed Tasmanian beauty spots for more than a century while the Dismal Swamp polje has been developed as a surface karst tourism site in recent years. We look forward to visiting these places with you on the field trips, enjoying their splendour and discussing management issues and options with you.

The Conference Organising Committee members feel very privileged that His Excellency Honourable Peter Underwood, AC, Governor of Tasmania is officially opening the conference and that His Excellency and Mrs Underwood have accepted our invitation to visit Gunns Plains Cave after the conference opening.

Thank you for coming to Tasmania to participate in this conference. There is a great program of speakers and field trips. We hope you will enjoy the conference and your time in Tasmania. If there's something you need our assistance with during the week, please ask one of the locals and we'll try and assist.

– Conference Organising Committee



Tony Culberg – Conference Convener

GENERAL INFORMATION

INTRODUCING ULVERSTONE

Ulverstone is located at the mouth of the Leven River on Bass Strait and is part of the Central Coast Region of Tasmania. The area was first settled by Europeans in 1848 and the name Ulverstone was first used in 1854 when Hugh McKay opened the Ulverstone store.

With a population of 10 000, Ulverstone is Tasmania's largest town. It is served by six schools. Well known Australians with links to Ulverstone include former Prime Minister Sir Joseph Lyons who lived here for part of his childhood and sports personalities Richard Fromberg (tennis), Ben Hilfenhaus (national and state cricketer) and Luke Ockerby (cyclist).

BUSINESS AND SHOPPING

The central shopping area is in Reibey Street. This can be readily located by walking west (towards the mountains, the Dial Range) along Alexandra Road. (Alexandra Road is between the Big 4 and the Beachway Motel.) The prominent clock-tower is at the top end of Reiby Street. A more scenic option is to head west from the Surf Club following the parklands and water front.

By either option, it's about a 10 minute walk to the heart of town from our accommodation venues.

MEDICAL

Doctors

Patrick Street Clinic, Ulverstone, 6425 1611
Victoria Street Clinic, Ulverstone, 6425 2900

Hospitals

Mersey Community Hospital, Bass Highway, Latrobe, 6426 5111
(located 25 kms from Ulverstone).
North West Regional Hospital, Brickport Road, Burnie, 6430 6666
(located 28 kms from Ulverstone).

EMERGENCIES

Police

38-40 Victoria Street, Ulverstone, 6429 8606

Ambulance

In the event of an emergency dial 000.

Ambulance Tasmania has a reciprocal agreement with all Australian states except South Australia and Queensland re coverage of Ambulance costs.

CONFERENCE COMMITTEE

CONTACTS:

Tony Culberg: 0418 996 248
Cathie Plowman: 0427 947 686

FITNESS DURING THE CONFERENCE


Several ACKMA *heavyweights* (☺) – including Steve Bourne and Kent Henderson – will be **REGULAR** (well fairly regular...at least occasional...) attenders at gym in Ulverstone during the conference – specifically **BUFF's GYM**, at **3 Gollan Street** (just behind Coles). It is open daily **at 6.00 am**. The cost is \$10.00 per visit (or \$50.00 for a month, if you want to hang around...). So, come along at 5.55 am every morning to see all the ACKMA luminaries (well some...a few maybe...) lined up ready to stretch their metacarpals. **See YOU there !!!**
(???)

ACKNOWLEDGEMENTS

Support for the conference

The conference has not had the benefit of any sponsors or the backing of a government agency. We are grateful for the following individuals and organisations for their assistance.

- Julie Hawkins, *In Graphic Detail* for her design and donation of the conference logo.

The logo for 'In Graphic Detail' is enclosed in a thin black rectangular border. The text 'In Graphic Detail' is written in a black, elegant serif font, with 'In' and 'Detail' in a smaller size than 'Graphic'.

- Geoff and Trish Deer, Gunns Plains Cave for complimentary admission to the cave.
- *Tasmanian Parks and Wildlife Service* for providing complimentary admission to the Mole Creek Caves and Rocky Cape National Park.



- *Forestry Tasmania* for providing complimentary access to the Tarkine Forest Adventures (Dismal Swamp polje).



- *Business Events Tasmania* has provided a small subsidy.
- *The Wilderness Gallery*, Cradle Mountain, has kindly lent its collection of photographic images of Kubla Khan Cave taken by Fred Koolhof. Thanks to the gallery manager, Tracy Thomas, for her assistance.
- The Ulverstone Surf Life Saving Club has provided us with a great venue and kind support. Our special thanks to committee member and clubhouse manager, Graeme Rollins.

We thank the following businesses and community groups that have provided accommodation, transport and catering for their friendly and helpful assistance:

- In Style Uniforms, Launceston
- McDermott's Coaches
- Beachway Motel
- Big 4 Holiday Park
- Ish Catering
- Anglican Womens Group, Ulverstone
- River Arms Hotel
- Togari Community Hall
- Graham and Michelle Gallaher, Tarkine Forest Adventures

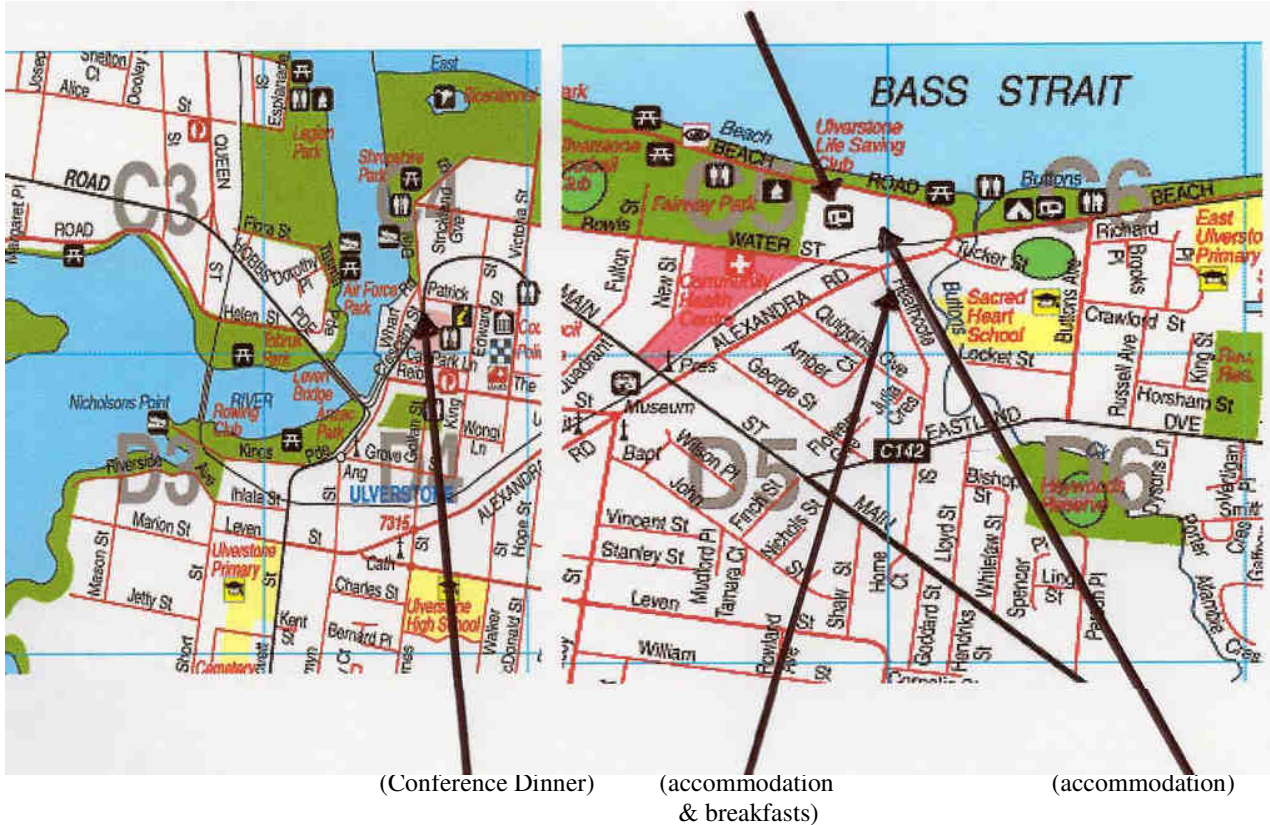
We extend our thanks to Northern Caverneers members Stephen Blanden, Nic Haygarth, Janice March, Jean and Paul Van Nynanten, David Wools-Cobb and Jessica Wools-Cobb for their assistance with organising the Conference and leading associated caving trips. Thanks also to Deb Hunter from Mole Creek Caving Club for her assistance in various ways. We thank Linda Pittard for her kind assistance with re-visiting history in Marakoopa Cave. A special thanks to Joy Wools-Cobb for harnessing her creative talents into decorating our conference dinner venue.

CONFERENCE POLICY on ALCOHOL

Apart from the Official Conference Dinner on Friday Night (where some alcoholic refreshments will be provided), it needs to be made clear that, at all other functions, attendees are responsible for buying your own alcoholic drinks. Both ULSC & the Motel are licensed. In your own rooms, you may consume alcohol purchased elsewhere.

CONFERENCE LOCATION MAP

Ulverstone Surf Club (conference venue)



NINETEENTH AUSTRALASIAN CONFERENCE on Cave and Karst Management **CONFERENCE PROGRAM**

Conference Theme:
Wilderness Karst



The **Conference Logo** features the leaves of *Nothofagus cunninghamii*, commonly known in Tasmania as myrtle beech. This is the dominant tree of the cool temperate rainforests of Tasmania. *Nothofagus cunninghamii* has its origins in Gondwana and has close relatives in New Zealand and South America.

Thanks to Julie Hawkins of *In Graphic Detail* for her design and donation of the logo.

MARSHALL (with a loud voice): **Kent Henderson**

DAY 1 – SUNDAY 8 MAY – ARRIVAL DAY

Evening:

- 5.45 pm until late: **REGISTRATION** desk open at Ulverstone Surf Life Saving Club (USLC)
- 6.30 pm: **WELCOME BARBECUE** at Ulverstone Surf Lifesaving Club (USLC)
Bar open courtesy of USLC volunteers. BYO
SPECIAL GUEST: Paul O'Halloran MP, Greens Member for Braddon,

DAY 2 – MONDAY 9 MAY

Morning:

- 7.30 am Breakfast at the Beachway Motel (no need to book, pay at the motel.)
- 8.40 am **PLEASE ARRIVE** at the USLC by this time.
- 8.50 am **PLEASE BE SEATED** by this time.

Master of Ceremonies: Steve Bourne, President of ACKMA Inc.
- 9.00 am Arrival of His Excellency the Honourable Peter Underwood, AC, Governor of Tasmania, who will conduct the **OFFICIAL OPENING** of the Conference, accompanied by Mrs Underwood

WELCOME by Ms Jan Bonde, Mayor, Central Coast Council.
- 9.45 am Governor's Party departs for Gunns Plains Cave.

PAPER SESSION ONE: Chair: Steven Bourne

10.00 am **Paper 1:** Professor Arrigo Cigna. **KEYNOTE ADDRESS**
State of Show Cave Management in the World

10.45 am **Morning tea**

11.10 am **Paper 2:** Chris Sharples. **KEYNOTE ADDRESS**
Tasmanian Wilderness Karst for the Armchair Explorer

12.00 pm **Paper 3:** Andy Spate **KEYNOTE ADDRESS**
An Overview of the Mole Creek Karst

12.45 pm **Lunch**

Afternoon:

PAPER SESSION TWO: Chair: Andy Spate

1.45 pm **Paper 4:** Arthur Clarke
Lost in Tasmania's wilderness karst

2.05 pm **Paper 5:** Dr Nic Haygarth
Dan Pickett, Pioneer Cave Guide

2.30 pm **Paper 6:** Michael Driessen
What turns glow-worms on? Baseline monitoring of the Tasmanian glow-worm and other cave fauna in Exit and Mystery Creek caves.

2.55 pm **Afternoon tea**

3.15 pm **Paper 7:** Arthur Clarke
Bioluminescence in cave glow-worms: do tours have an effect?

3.40 pm **Paper 8:** Deborah Hunter
Landslides of January 2011 in part of the Mole Creek karst catchment

4.05 pm **Paper 9:** Nicholas White
Karst in Mid-Proterozoic dolomite, Pungalina Station, Northern Territory, Australia – its significance and management

4.30 pm Day one paper sessions **CONCLUDE.**

Beach volleyball!!

Evening:

6.30 pm **Dinner** at USLC

8.00 pm **ACKMA COMMITTEE MEETING** at USLC

All other delegates have free time. Some DVDs may be screened

DAY 3 – TUESDAY 10 MAY

Morning:

7.00 am Breakfast at the Beachway Motel (no need to book, pay at the motel.)

8.15 am Buses depart from the Beachway Motel for a **MOLE CREEK FIELD TRIP**

9.50 am Arrive at **King Solomons Cave**

Morning tea at King Solomons Cave picnic shelter

11.20 am Depart King Solomons Cave.

11.50 pm Arrive **Marakoopa Cave**.

Afternoon:

Packed lunch at a convenient place and weather opportunity

1.20 pm Depart Marakoopa Cave.

1.30 pm **Circular Ponds** (for main group, European history group separate).

2.30 pm Depart Circular Ponds.

Toilet stop in Mole Creek

3.00 pm **Bus A: Honeycomb Cave** (surface karst only).

OR

3.00 pm **Bus B: Trowunna Wildlife Park** (\$8.00 admission fee applies) **or Alum Cliffs State Reserve**.

4.00 pm **Afternoon tea** at the Mole Creek Hotel.

PAPER SESSION THREE: Chair: Serena Benjamin

4.30 pm **Paper 10:** Deborah Hunter
Tourism micro-business, Mole Creek, Tasmania

4.55 pm **Paper 11:** Stuart Brownlea
Planning in a Land Use Mosaic—Innovative Approaches on the Mole Creek Karst

5.20 pm **Paper 12:** Rod Pearse
The Mole Creek Karst Forest Program

5.40 pm **FREE TIME.** Tiger Souvenir Shop and bar open.
Platypuses are regularly seen in the creek behind the hotel. *But you need to be very quiet.*

Evening:

6.30 pm **Dinner** at the Mole Creek Hotel.

8.30 pm Buses depart for Ulverstone.

DAY 4 – WEDNESDAY 11 MAY

Morning:

7.30 am Breakfast at the Beachway Motel (no need to book, pay at the motel.)

PAPER SESSION FOUR: Chair: Kent Henderson

9.00 am **Paper 13:** Dr Anne Musser
Palaeontology and Cave Tourism: Opportunities for Engagement

9.25 am **Paper 14:** Sasa Kennedy
Children's and youth activities at Jenolan—an evolutionary tale

9.50 am **Paper 15:** Sasa Kennedy
Why train adventure cave guides?

10.15 am **Morning tea**

PAPER SESSION FIVE: Chair: Associate Professor Julia James

10.40 am **Paper 16:** Dr Timothy Moulds
The Biodiversity and Management of the Phong Nha-Ke Bang Karst, Vietnam

11.05 am **Paper 17:** Peter Gazik
An Overview of Caves and Caving in Slovakia

11.30 am **Paper 18:** Árni B. Stefánsson, Reykjavik, Iceland (presented by Pat Culberg)
The Vatnshellir Project - a First for Iceland

11.55 am **Paper 19:** Greg Martin
Waitomo Glowworm Cave Visitor Centre Rises from the Ashes

12.20 pm **Paper 20:** Moira Lipyeat
The Impact of Earthquakes on New Zealand caves

Afternoon:

12.45 pm **Lunch**

PAPER SESSION SIX: Chair: Jay Anderson

2.00 pm **Paper 21:** Ted Matthews
Structural Control in Limestone Cave Formation

2.25 pm **Paper 22:** Associate Professor Julia James
The Enigma of Bellholes

2.50 pm **Paper 23:** Andy Spate
Caves and Ruiniform features in Sandstones of Northern Australia

3.15 pm **Afternoon tea**

3.40 pm **Paper 24:** Simon Ambrose
*Managing Climate Change Impacts in karst
– The Lake Cave Eco-Hydrology Recovery Project*

4.05 pm **Paper 25:** Denna Kingdom
*History and Long-term Conservation Management of Karst
at the Vale of Belvoir, North-West Tasmania*

4.30 pm **ACKMA ANNUAL GENERAL MEETING**

Evening:

6.30 pm **Dinner** at USLC

DAY 5 – THURSDAY 12 MAY

Morning:

7.00 am Breakfast at the Beachway Motel (no need to book, pay at the motel.)

8.30 am Buses depart from the Beachway Motel for north-west field trip.

9.30am Arrive at **Rocky Cape**. One group to the Rocky Cape National Park, the other group to the Rocky Cape Tavern for morning tea. The two groups will swap over.

10.45am Depart Rocky Cape for Togari.

Afternoon:

12.00 noon Arrive Togari Hall and **lunch**.

PAPER SESSION SEVEN: Chair: Cathie Plowman

12.30pm **Paper 26:** Chris Sharples
The Plains Karsts of the Smithton Basin.

12.55pm **Paper 27:** Dr Nic Haygarth
'It is an alluvial soil, and capable of being drained': the perilous integrity of Dismal Swamp.

1.20pm **Paper 28.** Ian Brumby
Dismal Swamp—a modern tourism venture set in an ancient karst sinkhole.

2.00pm **Dismal Swamp polje.**

4.00pm Buses depart for Ulverstone.

5.30 pm Arrive Ulverstone.

Evening:

6.30 pm **Dinner** at the Beachway Motel.

DAY 6 – FRIDAY 13 MAY

Morning:

7.30 am Breakfast at the Beachway Motel (no need to book, pay at the motel.)

PAPER SESSION EIGHT: Chair: Greg Martin

9.00 am **Paper 29:** David Wools-Cobb
Gunns Plains Cave – Cavers' Contributions

9.25 am **Paper 30:** Anne Wood and Peter Wood
Managing Access to Caves in the Digital Age

9.50 am **Paper 31:** Professor Arrigo Cigna
Use of Chemical Methods for the Control of Lampenflora: Sodium Hypochlorite and Hydrogen Peroxide

10.15 am **Morning tea**

10.35 am **Paper 32:** Samantha Webb and Rauleigh Webb
The ACKMA Conference Paper Template

11.00 am **END OF FORMAL SESSIONS**

11.15 am Buses depart for Gunns Plains

11.40 am Arrive Gunns Plains Hall

11.45 am Presentation by Geoff Deer, operator of Gunns Plains Cave:
Six Months in the Life of Gunns Plains Cave

Afternoon:

12.15 pm **Lunch** – Gunns Plains Hall

1.00 pm **Bus A** to **Gunns Plains Cave**
Bus B to **Leven Canyon**

Groups swap over.

4.30/5.00 pm Bus departure for Ulverstone

6.15 pm First bus transfer to **River Arms Hotel** (Friday 13 Theme)
An alternative is a 10–15 minute walk...

Evening:

6.45 pm **CONFERENCE DINNER** commences at River Arms Hotel, Ulverstone.
Master of Ceremonies: Andrew Colrain.

DAY 7 – SATURDAY 14 MAY – departure day

Morning:

- 8.00 am Breakfast at the Beachway Motel (no need to book, pay at the motel.)
- 9.30 am Bus departs for LAUNCESTON AIRPORT, arriving about 11.00 am/11.30 am.

ABSTRACTS OF PAPERS in order of scheduled presentation

Presenters are reminded that the final version of each paper, in the Conference Paper Template format, is required ***NO LATER THAN 1st June, 2011*** please, to enable publication of the Conference Proceedings. Please email the same, with attachment(s), to Rauleigh Webb: webmaster@ackma.org

DAY 1 — MONDAY 9 MAY

PAPER SESSION ONE (KEYNOTES) Chair: Steven Bourne

- 10:00–10:45 am Paper 1. **KEYNOTE ADDRESS:** *State of Show Cave Management in the World*. Prof. Arrigo A. Cigna, International Union of Speleology, Italy. arrigocigna@tiscali.it

Human interest in caves started in prehistory for very practical reasons. Only much later did such an interest develop for other reasons. For instance in Roman times, people were attracted to the ‘Dog’s Cave’ near Naples, Italy, because of the peculiar release of carbon dioxide close to the floor which killed small animals (hence its name) while standing people were not affected. Later, in the Middle Ages, in the cave of Postojna, Slovenia, visitors left their signatures in a passage, now known as the ‘Passage of the Ancient Names’ . If a show cave is defined as a cave where a fee is paid in order to have access and visit it, then the oldest one is Vilenica Cave in Slovenia. Now much attention is paid to avoiding damage to the cave environment. A show cave can have a great influence on the local economy and data concerning such influences from around the world are reported here. In order to protect the cave environment, recommended guidelines for the development of show caves were drafted recently and these have received strong support from the IUS Department of Protection and Management. These guidelines are outlined.

- 10:45–11:10 am **Morning Tea**

- 11.10–12:00 pm Paper 2. **KEYNOTE ADDRESS:** *Tasmanian Wilderness Karst for the Armchair Explorer*. Chris Sharples, School of Geography & Environmental Studies, University of Tasmania, Hobart, Tasmania. chris.sharples@utas.edu.au

A significant portion of the Tasmanian Wilderness World Heritage Area is underlain by karstic bedrock in terrain having high relief and high rainfall. With such ideal conditions for the development of extensive caves and other karst features, it is no surprise that the limited exploration of the karsts of the Tasmanian wilderness to date have indeed yielded discoveries of limestones underlie wilderness areas such as the Weld Valley and many other places, yet the amount of exploration of these karsts has been surprisingly limited. Indeed, the fact that most intensive karst and cave exploration in Tasmania has been focused around existing known caves and easy access points is exemplified by the fact that even the nearby surface boundaries of the carbonate rock blocks in which some of Tasmania’s best known caves are found -- at Hastings and Exit Cave -- are still geologically unmapped and little explored. However this presentation is not a plea for increased exploration of Tasmania’s wilderness karst impressive cave systems and other features. However it is also notable that with a few exceptions, most exploration of wilderness karst to date has been issues-driven, focusing on areas such as the karst of the Lower Gordon and Franklin Rivers when and because they were under threat from development proposals. Elsewhere it is evident that extensive high relief karstic dolomites and, rather, It is a

celebration of the fact that an area with so much evident potential for extensive and impressive cave

systems, in relative proximity to intensively explored and accessible areas, can remain so little explored and little known for so long. Along with vaguely pointing to some of the potential that Tasmania's wilderness karsts have, and describing some of the limited exploration of these to date, this presentation will consider reasons why the exploration of wilderness karst has been so limited, and will touch on philosophical issues surrounding the desirability or otherwise of even talking about wilderness karst.

12:00–12:45 pm

Paper 3. **KEYNOTE ADDRESS: *An Overview of the Mole Creek Karst.*** Andy Spate, Optimal Karst Management, Denham, Western Australia aspate1@bigpond.com and Ian Houshold, Water Management Branch, Dept. Primary Industries, Parks, Water and Environment, Tasmania

In 1963, Dr J.N. (Joe) Jennings (considered by many as the 'father' of Australian karst science) stated to the Australian Heritage Commission that:

Australia as a whole is not well off for karst caves.... The Mole Creek area ranks amongst the most valuable. Indeed it could be argued that it is the most valuable single cave area intrinsically and its comparative nearness to Sydney and Melbourne enhances its value.

It was ultimately listed on the Register of the National Estate in 1983. The Marakoopa section of the Mole Creek Karst National Park was added to the Tasmanian Wilderness World Heritage Area in 1989. It is thus one of the six Australian World Heritage properties (out of 17 properties) with internationally recognised karst values. In 2003 the Mole Creek karst was identified by Australia's leading karst scientists as one of fifteen most significant karst areas in Australia and thus is a candidate for the new Australian National Heritage List.

The Mole Creek karst is also home to a significant population of farmers, foresters and people developing tourism businesses – one of the few parts of Australia where a dynamic karst landscape provides the background to the well-being of the local community. This highly significant place, then, is the host site for the 19th Australasian Conference on Cave and Karst Management.

This paper, which was commissioned by the conference organisers, briefly outlines the values and significance of the Mole Creek karst area, concentrating on the significant surface karst features and on the subterranean systems and their contents. It also touches on the complex cultural features of the Mole Creek karst which include the interests of indigenous people, the development of cave tourism in Australia and the development of scientifically based management.

12:45–1:45 pm

Lunch

PAPER SESSION TWO Chair: Andy Spate

1:45–2:05 pm

Paper 4. ***Lost in Tasmania's wilderness karst.*** Arthur Clarke, School of Zoology, University of Tasmania. akclarke@utas.edu.au

From 1962 to 1995, four young men disappeared without a trace after traversing separate areas of Tasmania's southern wilderness karst. During the latter part of this same period, a young woman teacher and two younger students drowned in *Mystery Creek Cave* in the far south of Tasmania. To this day, the disappearance of the 15 year old Guy Bardenhagen near Mount Picton in late January 1962 remains a mystery. However, given the proximity of nearby karst and pseudokarst, it is possible he may have accidentally fallen into a crevice or vertical opening following his separation from other bushwalkers. In mid-October 1969, a 26 year old Sydney-based caver, John Boyle, became lost when separated from four other cavers in the forested sub-alpine dolomite karst on the upper reaches of the northeast ridge of Mount Anne. Despite an intensive search by cavers and bushwalkers, some of whom reportedly heard cries for help, no trace of Boyle was ever found. Fifteen years later, the writer was one of many Tasmanian cavers involved in the search for the 26 year old Richard Ferguson who disappeared without a trace during Easter, 1984. Mick Flint, then another Dover-based caver, had collected Ferguson from the Lune River Youth Hostel on 22 April 1984 and dropped him off at the start of the track to *Mystery Creek Cave* (and the Southern Highlands). Prepared only for a short day walk, Ferguson told Flint and other hostellers that he was heading to the old limestone quarry then taking the Southern Highlands track to Moonlight Flats and possibly Moonlight Ridge, returning to the hostel that same evening; he was never seen again. On 2 July 1990, following a 5-6 day period of intense rainfall, a party of students and teachers from Taroona High School were caught by a flood surge in *Mystery Creek Cave* at Ida Bay. Two young students, Anita Knoop and Frances O'Neill and student teacher Joanne Cuthbert were swept off their feet, drowning in the passage that now bears the name: Walls of Sorrow. It was the same day that the writer guided Rolan Eberhard to IB-47 National

Gallery, inserting fluorescein and achieving the first successful dye trace to *Exit Cave* from a cave south of the former Benders Quarry. In mid-November 1995, Wade Butler (son of Sydney mountaineering pioneer Dot Butler) disappeared during a solo walk to Precipitous Bluff (PB) near Tasmania's south coast. It is highly likely that Butler fell into one of the steep-sided dolines in the polygonal limestone karst high up on the upper western side of PB. The writer also suffered a mis-adventure in the same area in the late 1970s, traversing these high level dolines in the dense King William Pine forest on the western side of PB, subsequently surviving a night on his own without a tent, seemingly lost in Tasmania's wilderness karst on the lower western slopes, almost within sight of New River Lagoon.

2:05–2:30pm

Paper 5. ***Dan Pickett, Pioneer Cave Guide.*** Nic Haygarth, Honorary Associate, University of Tasmania. lakelea22@yahoo.com.au

The house-breaking son of a Berkshire 'strumpet' may have been Australia's first professional cave guide. Dan Pickett submerged his convict roots by hobnobbing with Tasmanian governors, both as host of a country inn and guide to Wet Cave, its nearby tourist drawcard. In the tradition of cave gurus elsewhere, he took on an heroic status as underground explorer. Despite his age being the subject of legend, however, Pickett did not achieve immortality. He is buried in an unmarked grave, anonymous in death as he was at birth.

2:30–2:55pm

Paper 6. ***What turns glow-worms on? Baseline monitoring of the Tasmanian glow-worm and other cave fauna in Exit and Mystery Creek caves.*** Michael Driessen, Senior Zoologist, Biodiversity Monitoring Section, Dept. Primary Industries, Parks, Water & Environment, Hobart, Tasmania. michael.driessen@dpi.pwe.tas.gov.au

Exit Cave and Mystery Creek Cave in the Ida Bay karst system in south-east Tasmania contain a diverse and significant cave fauna. The most superlative faunal feature of these caves is the light displays by the Tasmanian Glow-worm *Arachnocampa tasmaniensis*. These displays have been recognised as a world heritage value under the criterion relating to outstanding natural phenomena. Remarkably, there has been no previous study on the ecology of the Tasmanian glow-worm. Glow-worms and other cave fauna were monitored monthly for 24 months to obtain information on their ecology and to establish baseline population data. A strong seasonal pattern was found for glow-worms, with pupae and adults most common in spring and summer. The increase in numbers of pupae and adults coincided with an increase in the number of prey caught in silk threads produced by the larvae. Larvae were present throughout the year but the number glowing varied both seasonally and spatially. In Mystery Creek Cave, the

number of larvae glowing was generally highest during summer and autumn, and lowest in winter and early spring. In Exit Cave, there was no consistent seasonal pattern in the number of larvae glowing among sites, and overall there was less variation between monthly counts than at Mystery Creek Cave. This difference in seasonal patterns between the two caves may be due to a difference in cave climate, with Mystery Creek Cave possibly experiencing a greater drying out of the cave air in winter than Exit Cave. Monthly counts of cave crickets and other cave fauna, which were common in Exit Cave and uncommon in Mystery Creek Cave, revealed few interpretable patterns. The only consistent pattern observed was in the part of Exit Cave known as the 'wind tunnel' where cave cricket and cave beetle numbers were high during the warmer months and low during the cooler months. This is likely to be a response to the winter effect in that part of Exit Cave.

2:55–3:15pm

Afternoon Tea

3:15–3:40pm

Paper 7 ***Bioluminescence in cave glow-worms: do tours have an effect?*** Arthur Clarke, School of Zoology, University of Tasmania, Hobart. akclarke@utas.edu.au and Dave Merritt, School of Biological Sciences, The University of Queensland. d.merritt@uq.edu.au

Australasian Cave & Karst Management Association Inc. Glow-worms emit light to attract prey into their webs. They are found in suitable wet caves as well as in rainforest settings. In wild caves of Tasmania and New Zealand, glow-worms (*Arachnocampa tasmaniensis* and *A. luminosa*, respectively) maintain synchronised rhythmic light output. The time of peak light output is different to forest glow-worms. Cave populations glow most brightly when it is daylight outside the cave and most weakly during the night: they are completely out of phase with adjacent rainforest populations. We show that cave glow-worms

<http://ackma.org/>
synchronise their bioluminescence by detecting and matching each others' glows. Placing artificial lights in caves causes glow-worms to synchronise to the imposed light cycle because they interpret light as coming from other glow-worms.

We show that in Marakoopa Cave, the timing of tours happens to coincide with the brightest component of the natural bioluminescence cycle. Further, the artificial lighting in the main glow-worm viewing chamber, Zambezi Falls, does not substantially affect the display.

3:40–4:05 pm

Paper 8. ***Landslides of January 2011 in part of the Mole Creek karst catchment.*** Deborah Hunter, Member: ACKMA, Mole Creek Caving Club, ASF Jutburra-Gregory Karst Research Special Interest Group. debhunter8@bigpond.com

Northern Tasmania's wet conditions of the 2010/2011 season commenced in spring, following drought. Caves of the Mole/Lobster drainage sub-system experienced a series of floods. Saturated conditions were maintained in the catchment until 8 mass movements occurred concurrently on the 14th January. Included was a 2.5 km

debris flow that has changed the hydrology and precipitated some amusing local media coverage. The discussion includes a briefing on local fluviokarst hydrogeology and a destroyed convict built water scheme. Implications for the popular wild caves of the sub-system are considered.

4:05–4:30 pm

Paper 9. ***Karst in Mid-Proterozoic dolomite, Pungalina Station, Northern Territory, Australia – its significance and management.*** Nicholas White, Vice-President, Australian Speleological Federation. nicholaswhite@netspace.net.au and Susan White, Environmental Geoscience, Latrobe University, Bundoora, Vic.

In the published literature, karstification in dolomite (dolostone) is not as well documented as for limestone and as it is less soluble in natural waters than limestone, cave development is generally less. However extensive karst is reported from several places in the Northern Territory, Australia and the Transvaal. A previously little known karst area, of about 150 km², in the Mid Proterozoic stromatolitic and cherty Karns Dolomite on the southwestern coast of the Gulf of Carpentaria (N.T.) contains significant karst, over 50 caves, 20 significant dolines, 2 poljes and several karst springs.

Much of the karst has the characteristics of a highly eroded landscape where the present features are the relics of previous conditions. Two periods of karst development can be identified; an upper/older one, preserved as remnant streams, dolines and caves on ridge tops and a lower/younger one with currently active caves. These caves contain areas of calcite speleothems, interspersed with extensive areas of solutional features. There is extensive evidence that the area was a more impressive karst landscape in the past.

The caves are generally shallow phreatic, joint and/or bedding plane controlled passage networks. Two cave levels can be identified: a dry upper series in the high grounds and residual hills, and an active lower one in the pediplain and valley bottoms. The caves contain aragonite and/or calcite speleothems, sometimes with chert breccia, which show evidence of repeated phases of deposition and re-solution.

This karst area was not well known until the Pungalina Station owner Owen Davies started operating it as a Safari Operation in partnership with Kirkhope Aviation. Their interest in the caves was as additional features to the usual safari activities for tourists. At that stage they knew of one major cave with bats and a few other smaller caves. In 2005, VSA undertook its first expedition to the area. The first trip discovered, explored and mapped a number of caves. It also found an alternative show cave, the Ballroom Cave, which avoided frequent visits to the big cave, Totem Pole Cave, which was the maternity cave for a colony of Ghost Bats. In 2008, the property was purchased by the Australian Wildlife Conservancy (AWC). VSA continues its exploration trips to the area, further documenting caves and providing karst knowledge and management advice to AWC.

The region has a hot monsoonal climate dominated by distinct wet and dry seasons but the cave temperatures are higher (29-34°C) than the expected yearly average (26.4°C) plus a humidity close to 100%. This is possibly due to a combination of summer rain temperature and effect of soil heated up by the sun. Water floods into the caves during the summer monsoonal rains.

DAY 2 — TUESDAY 10 MAY 2011 — MOLE CREEK

PAPER SESSION THREE (at MOLE CREEK HOTEL) Chair: Serena Benjamin

4:30–4:55pm

Paper 10. *Tourism microbusiness, Mole Creek, Tasmania.* Deborah Hunter, Member: ACKMA, Mole Creek Caving Club, ASF Jutburra-Gregory Karst Research Special Interest Group. debhunter8@bigpond.com

Wild Cave Tours was commenced in 1989 as a cave tour specialist business catering to the tourism and special interest group markets. It maintains part time operation, mainly in the summer season. This presentation allows insight into an example of the cave tourism industry at

the smallest scale. The discussion critically examines the modus operandi of Wild Cave Tours over the years and how it has achieved the ideals and aspirations held at its establishment.

4:55–5:20pm

Mole Creek Karst.

Paper 11. *Planning in a Land Use Mosaic — Innovative Approaches on the*

Stuart Brownlea, N.R.M Officer, Meander Valley Council, Tasmania.

stuart.brownlea@mvc.tas.gov.au

The Mole Creek karst system in northern Tasmania is extensive, complex and contains unique values that require consideration in a planning context. Imposed on this natural system is a mosaic of land uses, including a variety of agricultural enterprises, forestry, lifestyle blocks, quarries and reserves. Planning tools to effectively manage karst in such a setting are not well developed in Australia. Historically, planning in this karst area has taken a broad compliance approach that

poses challenges for both developers and Local Government officers seeking to assess potential impacts. In step with general planning changes under way in Tasmania, Meander Valley Council has initiated an innovative approach to land use planning in a karst context. Science, through risk matrices, provides a robust guide for collaborative assessment between Council and specialists within the Tasmanian Government. Thus improved transparency, consistency, streamlining of process and karst values management are expected.

5:20–5:45pm

Paper 12. *The Mole Creek Karst Forest Program.* Rod Pearse, Tasmanian Land Conservancy, Lower Sandy Bay, Tas. rpearse@tasland.org.au

The Mole Creek Karst Forest Program was funded by the Commonwealth Government as a component of the Tasmanian Forest Conservation Fund. The object of the program was to provide landowners in the Mole Creek area with native forest overlying karst the opportunity to either sell the land to the Tasmanian Government so that it could be added to the public land reserve system or to receive a financial consideration for placing a conservation covenant on the land. The Tasmanian Land Conservancy was contracted by the Department of

Environment Water Heritage and the Arts, now Department of Sustainability, Environment, Water, Population and Communities, to implement the program. A technical panel identified and allocated a priority to karst areas, a guidance group assisted with implementing the program. The program was successful in adding 376 ha of karst to the reserve system on public land and protecting a further 201 ha with conservation covenants on private land.

DAY 3 — WEDNESDAY 11 MAY

PAPER SESSION FOUR Chair: Kent Henderson

9:00–9:25am

Paper 13. *Palaeontology and Cave Tourism: Opportunities for Engagement.*

Anne M. Musser, Guide, Jenolan Caves; Honorary Research Associate, Australian Museum. anne.musser@austmus.gov.au

Fossil bones are often found in caves, where a constant cave environment and undisturbed sediments can result in exceptional preservation. Most cave fossils are of Pleistocene age ('Ice Age'), since bones older than this usually disintegrate over time. Extinct animals first known from caves include the massive marsupial *Diprotodon*, the marsupial 'lion' *Thylacoleo*, and the northern Cave Bear. Some tourist caves have capitalized on their fossil faunas by promoting scientific research and showcasing the results in interpretive centres and publications. This provides visitors with new excitement, education and a deeper understanding of the caves' history. An outstanding example is Naracoorte Caves in South Australia, a World Heritage area because of the unique nature of its fossil mammals. Cave displays of extinct animals, an interpretive centre and publications greatly enrich the visitor experience. Jenolan Caves in New South Wales -- the oldest show cave system in the

fauna, although Ice Age species have been found (for instance, Tasmanian Devil fossils are showcased on the Imperial Cave tour). New research into Jenolan's fossil fauna, the initial results of which are presented here, aims to investigate Jenolan's deeper history through identification and analysis of fossil bones within the caves. Work to date includes the identification of a probable *Zygomaturus*, a large marsupial herbivore nearly as large as *Diprotodon*; confirmation of a Tasmanian Thylacine in the Jersey Cave, and the 'discovery' of many Jenolan fossils at the Australian Museum in Sydney. Many of these species are now either completely extinct or gone from the Jenolan area (as in the case of the Tasmanian Devil). Fresh insights into Jenolan's past will undoubtedly bring new opportunities to add to the visitor experience in many ways, as well as help to raise the scientific profile of Jenolan Caves.

9:25–9:50am

Paper 14. *Children's and youth activities at Jenolan — an evolutionary tale.* Sasa Kennedy, Jenolan Caves: cave guide, adventure cave guide; Western Sydney Institute of TAFE: teacher, vertical cave guiding and interpretive guiding; member: SUSS; JCHAPS. sasa.kennedy@tafensw.edu.au

Cave tours have been running officially at Jenolan Caves in New South Wales since 1867, with adventure tours added to the mix in the 1980s; in 2004 Ted Matthews, Jenolan Caves guide, developed our first child focused activity - 'Stones 'n' Bones', a paleontological and geological treasure hunt for kids. The popularity of this tour alerted us to visitor interest in activities specifically aimed at children. A range of tours was developed and

trialled with varying success; activities were modified and more added to the school holiday program. In 2010 activities aimed specifically at the youth market were developed and were an instant hit with high school students. This paper looks at the philosophy behind the children's and youth program at Jenolan and charts the evolution of those activities.

9:50–10:15am

Paper 15. *Why train adventure cave guides?* Sasa Kennedy, Jenolan Caves: cave guide, adventure cave guide; Western Sydney Institute of TAFE: teacher, vertical cave guiding and interpretive guiding; member: SUSS; JCHAPS. sasa.kennedy@tafensw.edu.au

In 2000 the first nationally recognised training course for guiding caving trips was developed as a skill set within the Certificate III in Outdoor Recreation as part of the Australian Qualification Framework. The set of training modules has since been extended and modified on two occasions. It is used by both TAFEs and non-government Registered Training Organisations (RTOs) to deliver

competency-based training to adventure cave guides. This paper begins with an overview of the current training modules and then looks at where adventure caving fits within the Outdoor Recreation Industry. It discusses the need for standardised training; then briefly covers what the training entails and how it can be tailored to meet the needs of different organisations.

10:15–10:40am

Morning Tea**PAPER SESSION FIVE (INTERNATIONAL)** Chair: Associate Professor Julia James

10:40–11:05am

Paper 16. *The Biodiversity and Management of the Phong Nha-Ke Bang Karst, Vietnam* Timothy Moulds, Senior Ecologist, Ecology and Marine Sciences, GHD, Perth, WA. tim.moulds@ghd.com and Pham Dinh Sac, Head of Soil Ecology Department, Institute of Ecology and Biological Resources, Academy of Science and Technology, Hanoi, Vietnam, and Renee Mouritz, PO Box 170, Yallingup, WA.

The Phong Nha-Ke Bang National Park (PNKBNP) is situated in the Quang Binh province of north central Vietnam. It was inscribed on the UNESCO World Heritage list in 2003 for its outstanding geomorphological features. The central park area is approximately 860 km² and contains over 300 known caves. To date no investigation of the fauna has occurred, despite the high likelihood of a significant endemic cavernicolous fauna.

limited amount of time available for the preliminary survey it was decided to use active hand searching (hand foraging) to enable a wide variety of different habitats and caves to be surveyed quickly and detect the majority of species present. The field component of the survey was conducted over five days, with multiple sites visited each day.

The current preliminary survey was undertaken during May 2010 and provides an initial overview of the invertebrate fauna in two cave systems, Phong Nha Cave system (Phong Nha River Cave, Bi Ki Grotto, Fairy and Royal Grottos, and Tien Son Cave) and Dark Cave. These two caves are located approximately 5 km apart within a continuous block of karst. Due to the very

The preliminary study of the cave fauna from the PNKBNP collected 248 individual specimens, representing at least 41 species from the three caves examined. The species include five Classes, 14 Orders, and 29 families. Five species are common across the three caves, three spiders, a raphidophorid cricket and a millipede. The Dark Cave was found to contain many species that were not recorded from either Phong Nha or Tien Son caves, with 58% of species present found only from Dark Cave, compared with 55% in Phong Nha Cave and 44% in Tien Son Cave.

The survey collected 116 individual specimens from Phong Nha Cave comprising of four classes, 10 orders, 19 families, and 20 species. The survey collected 41 individual specimens from Tien Son Cave comprising of four classes, 7 orders, 12 families and 16 species. Diversity in the Dark Cave was high with five classes, 7 orders, 15 families and 19 species recorded.

The presence of a blind scorpion in the wild section of Tien Son cave is highly significant, as there are currently only 20 described cave-dwelling scorpions in the world that exhibit troglomorphic characteristics. This species is undoubtedly new to science and represents the first troglotic scorpion in mainland Asia. This is the most significant discovery from the current preliminary survey of cave biodiversity in the PNKBNP.

The main differences in faunal assemblage shown by the preliminary survey are the dramatic differences in faunal diversity and abundance between areas used by tourists and the wild sections of the same caves. The majority of fauna recorded from the Fairy and Royal Grottos are relatively common species found in several other areas. The abundance of the oniscoid isopod in these areas appears to be unnaturally high compared with Dark Cave populations, most likely a result of the rubbish and food scraps providing additional resources in this area.

The presence of bins within the caves also affects the faunal diversity, with virtually all the species recorded from the tourist section of Tien Son cave being located under or near bins. This fauna is likely to occur in much higher abundances than natural cave levels due to the

11:05–11:30am

Paper 17. *An Overview of Caves and Caving in Slovakia*. Peter Gazik, State Nature Conservancy, Slovak Caves Administration, Liptovsky Mikulas, Slovakia. gazik@ssj.sk

The tradition of professional and organized caving in Slovakia will be presented, including the history of the Slovak Caves Administration and its changes over the time. The legislative background and consequent tools for cave preservation will be mentioned. Also an overview of the types of karst and caves, approach to

additional food resources available. The lack of these food sources in the wild section of Tien Son Cave resulted in much lower populations, or a complete absence, of species such as millipedes and staphylinid beetles, with only six of the 16 species common between the two sections surveyed.

The results of the current preliminary study do not allow a meaningful comparison with other karst areas, either in Vietnam or the remainder of Asia. The preliminary results do, however, provide an indication of the diversity that may be revealed from this important karst area. The presence of undoubtedly the first cave dwelling troglomorphic scorpion from mainland Asia would suggest that the PNKBNP has a high potential for further important cave biology discoveries.

The preliminary survey results lead to 8 very important recommendations to ensure the caves maintain their biodiversity in the future. These recommendations are the same as those made by Brian Clark (Clark 2009a, b), to stop the destruction of the caves and formations and ensure World Heritage Values are maintained, but are made here in order to ensure the biodiversity values of the caves are preserved.

The caves of the Phong Nha -- Ke Bang National Park are highly likely to contain a very important and diverse community of cave fauna. This preliminary survey provides only a small insight into the biological treasures to be discovered by future research in this rich and unique World Heritage Site.

11:30–11:55am

Paper 18. *The Vatnshellir Project — a First for Iceland*. Árni B. Stefánsson, Reykjavik, Iceland (presented by Pat Culberg) gunnhildurstef@simnet.is

Vatnshellir ('Water Cave') in Snæfellsnes, Iceland, is a 205 m long lava cave/tube on three levels. The uppermost part (first level) is the 'original' Vatnshellir, from where the farmers at Malarrif, a farm and a lighthouse, 3 km to the SSW, fetched water for their livestock. This part of the cave is partially collapsed, just under the surface and 35 m long.

The lower part is on two levels (floors) and in a surprisingly good condition. It is accessible through a

cave management and operation of show caves in Central European conditions will be described. The practices in protection of both wild and show caves will be introduced. Ways of computer handling of different issues connected with caves will be presented as well.

skylight, or funnel, in the downfall basin of Vatnshellir. This part of the cave has been named Undirheimar (Underworld). The middle level (floor) is 12-20 m under the surface and about 100 m long. At the southern end of the middle level is a 12 m high vertical lavafall, leading into the 12 m deeper lowermost level. This part of the cave is about 32 m below the surface, almost horizontal and just over 70 m long. In December 2009 a platform was built over the entrance funnel leading into Undirheimar.

In May 2010 an 8 m high spiral staircase was put up, leading into the 100 m long middle floor. This part of the cave was opened to the public on 15 June 2010 as 'the first 20 vertical metres of the route to the centre of the earth' (alluding to the fact that Jules Verne placed the start of the journey in this vicinity in his 1864 novel, *Journey to the Centre of the Earth*). In October 2010 a second spiral staircase, now under construction, will provide access down to the lowermost level, to about -32 m. (Then there will be just 6,370 km to go!)

It is an interesting project; the first of its kind in Iceland. It is done with humility, wit, nature protection and service to the community in mind. The mayor of the community, a renowned architect, the head of the ruined school in Gufuskálar and his son, Lions, some members of the Rotary Club and the rescue squad at Hellissandur are taking part. Among other things some 28 cu metres,

or 60 tons of rock, volcanic ash and soil has been hauled from a depth of 10-12 m. The Environmental Institute is financing about 1/3 of the cost, the platform over the funnel and the two spiral ladders, the rest is voluntary labour and donation. Vatnshellir is within the Snæfellsjökull National Park, the park manager and the management have wholeheartedly supported the project from the very beginning.

Four broken spatter stalagmites found in Vatnshellir have been repaired and put back. Vandalism to two of these, The Twins, was in fact the spark that led to the development of the cave into a tourist cave. Replicas of the 37 stalagmites (now all gone) that decorated the end of Borgarhellir in Hnappadalur, when found in 1957, were put up in a sheltered corner in the north end of the middle floor, to give people a feeling of how the great caves, a world that was, once looked.

11:55–12:20pm

Paper 19. *Waitomo Glowworm Cave Visitor Centre Rises from the Ashes*. Greg Martin, Waikato Conservator, Department of Conservation, Waikato Conservancy, Hamilton, New Zealand. gmartin@xtra.co.nz

Building on the information item in ACKMA Journal, No. 81, December 2010, this paper looks at some of the design considerations and challenges in the award-winning visitor centre at the Waitomo Glowworm Caves constructed following the complete loss of the former facilities to fire in December 2005. The presentation will cover some of the elements of the design and the consideration given to the inclusion of cultural aspects into the visitor centre itself, with the purpose of providing visitors with an insight into life and the local community in this remarkable part of the world. The new

facilities were formally blessed for opening at a dawn ceremony by the co-owners and local people, the Ruapuha Uekaha Hapu Trust, in May 2010 and the creation of the new facilities were further celebrated with the Tourism Industry and the Minister of Conservation in a visitor industry event in October 2010. This paper will also touch on the development of the Glowworm Cave tour and the behind the scenes improvement and monitoring programme for this regionally significant visitor attraction.

12.20pm- 12.45pm.

Paper 20. *Impact of Earthquake on New Zealand Caves*. Moira Lipyeat, New Zealand Speleological Society.

2:25–2:50pm

Paper 22. *The Enigma of Bellholes*. Julia James, School of Chemistry, The University of Sydney, NSW. j.james@chem.usyd.edu.au

Bellholes will be defined and described. Bellholes were first recorded in Sarawak in 1966. During the ACKMA, AGM held in Mulu National Park, many caves were visited that had excellent displays of bellholes. Prolific bellholes are also present in the caves of the Caribbean and Madagascar. The riddle lies in how these surprisingly symmetrical speleogens form. Exhibited in Langs Cave was the official Mulu National Park explanation. In Lagang Cave, beneath an excellent display of bellholes, ACKMA members held a brain

storming session focusing on their formation. It resulted in a wide range of theories. In the recent speleological literature, only two theories have been put forward both of which have been substantiated by research. Theories are that bellholes are formed by harems of bats and that they are formed by condensation corrosion. The hypothesis will be introduced that bellholes are initiated by condensation corrosion and modified by bats. Bellholes are believed to be a fast forming speleogen in tropical caves. The question will be asked are they?

2:50–3:15pm

Paper 23 *Caves and Ruiniform features in Sandstones of Northern Australia*. Ken G. Grimes, Regolith Mapping, ken.grimes@bigpond.com; Robert A.L. Wray, School of Earth and Environmental Sciences, University of Wollongong; Andy Spate, Optimal Karst Management, Denham, Western Australia; Ian Houshold, Tasmanian Department of Primary Industries, Parks, Water and Environment.

The flat-lying sandstone areas of tropical north Australia have a range of interesting landforms that include caves, dolines, and other karst-like features, and also spectacular ruiniform terrains. These landforms can be classed as silicate karst, parakarst, pseudokarst and non-karst (but the last have ruiniform areas that have considerable scenic and scientific interest). Caves range from small rock shelters through small tunnels and large tubes which may have dark zones, to larger stream caves (both active and abandoned) and complex maze systems. Dolines are mainly collapse or subsidence features, and some may be due to subjacent karst effects. Blind valleys and stream sinks are associated with the stream caves. Small-scale features include solution pans and runnels, sculptured walls that resemble karren, and sandstone pillars within some caves or exposed in cliffs. The pillars appear to be a type of diagenetic cementation by focussed vertical water flow.

Ruiniform features are giant grikefields, stone cities and stone forests which result from structurally controlled weathering and erosion. At the edge of a plateau developed on flat-lying sandstones one finds that erosion first attacks the joints, widening them to form grikes which grow larger and deeper to become giant grikefields. As the grikes enlarge further they widen at the expense of the higher areas between them to make stone cities. Eventually the low ground dominates and we get a stone forest and finally scattered pinnacles on a low-level pavement. Stone cities are referred to by the tourism industry as ‘lost cities’. These features are analogous to karst grikes, pinnacles and towers, but solution is not the main process involved. Whilst solution of silicate cement may be involved in the original weathering process (along with oxidation of iron and

aluminium compounds, and clay mineral formation), the majority of material is subsequently removed by fluvial processes, or, less commonly, by wind. Grikes etc on both limestone and sandstone are best classed as ruiniform, rather than ‘karst-like’, as the structural control is more important than the processes of chemical and physical weathering that are involved.

Many important sites have developed in Proterozoic sandstones and quartzites. Whalemouth Cave in WA is a particularly large and spectacular stream cave in sandstone. On the plateau above the cave several blind valleys and stream sinks can be seen from the air. In the NT there appear to be large and complex horizontal maze cave systems at Kakadu and possibly at Bunju, but these have not been studied in any detail and access is difficult. Also in the NT, large collapse dolines, some with water-table lakes (i.e. cenotes), occur in sandstones of eastern Arnhem Land, near Borroloola and on the Newcastle Range in the Gregory/Judbarra NP. Again, access is difficult and the genesis is uncertain as the host sandstones either have a carbonate cement or are underlain by limestone units. In Queensland, Widdallion Cave in the Lawn Hill (Boodjamulla) NP is a stream cave similar to, but much smaller than Whalemouth. Further east in Queensland, Mesozoic sandstones have a range of features. A surface stream within the grikefields of Cobbold Creek Gorge has several underground segments. In the sandstone ranges of central Queensland there are many rock shelters, and also large tubes and small tunnel caves. The main interest there is in the extensive small horizontal tubes, and three-dimensional networks of smaller tubelets, even though they are too small for human access.

3:15–3:40pm

Afternoon Tea

3:40– 4:05pm

Paper 24. *Managing Climate Change Impacts in karst — The Lake Cave Eco-Hydrology Recovery Project*. Sarah Davies, Research Officer, Augusta Margaret River Tourism Assoc., Margaret River, W.A. sarahd Davies@margaretriver.com (presented by Simon Ambrose); Jayme Hatcher, Attractions Manager, Augusta Margaret River Tourism Association, W.A.; Dr Stefan Eberhard, Director, Subterranean Ecology Pty Ltd, W.A.

Lake Cave, located in the Margaret River region of southwest Western Australia is renowned for its beautiful and spectacular underground lake. The cave has been visited by tourists for more than 100 years, and it continues to be a major tourism drawcard in the region, attracting more than 44,000 visitors annually. Besides its important tourism values, the cave also harbours a

Subterranean Groundwater Dependent Ecosystem (SGDE) comprising aquatic subterranean invertebrates (stygo fauna) recently nominated as a Threatened Ecological Community (TEC) under the *Environmental Protection and Biodiversity Conservation Act* (status critically endangered).

Groundwater levels in Lake Cave remained relatively stable and showed no sign of decline up until 2005, after which time there has been a progressive decline and noticeable reduction of the size of the lake in the cave. This has reduced the visual appeal for visitors, and threatened the stygofauna community. Without management intervention, at the current rate of decline (1 mm per week) the lake will be dry within two to three years.

Lake Cave is managed by the Augusta Margaret River Tourism Association (AMRTA), and its Environmental Management Plan makes a commitment to conserving natural values within the cave and its water catchment, including monitoring and maintenance of hydrology, subterranean fauna and habitats (AMRTA 2008). As part of this commitment, AMRTA initiated the Lake Cave Eco-Hydrology Recovery Project in July 2010, supported through grant funding from the W.A. Government's Natural Resource Management Grant Scheme.

The Lake Cave Eco-Hydrology Recovery Project aims to:

1. Control the water level decline in Lake Cave, by harvesting rainfall and using this to supplement recharge of the lake;
2. Monitor the ecological condition of the aquatic root mat community and other stygofauna in Lake Cave;
3. Develop a hydrological model of the cave and karst catchment with a view to managing water resources and dependent SGDE's in the face of a drying climate future.

4:05–4:30pm

Paper 25. *History and Long-term Conservation Management of Karst at the Vale of Belvoir, North-West Tasmania*. Denna Kingdom, Reserves Manager, Tasmanian Land Conservancy, Sandy Bay, Tas. dkingdom@tasland.org.au

The Vale of Belvoir supports a unique mosaic of biological and geomorphological values, layered with a rich historical background. In addition to its extensive list of threatened flora, fauna and vegetation communities, the Vale is significant as one of Australia's few subalpine karstlands. The property was purchased in

Since October 2010, AMRTA has been supplementing the natural flow of water in Lake Cave by subsoil discharge of rainwater into the cave. Initially this is a 12 month trial with assessment of the success of the trial to take place in September 2011. Baseline monitoring of water quality was undertaken during the preceding year to ensure that ongoing post-trial monitoring can detect any changes within the cave system, enabling appropriate management actions to be taken. This presentation documents baseline water quality and water levels, and the ecological condition of the aquatic root mat community and stygofauna, prior to commencing the recharge trial.

In relation to water quality, EC, pH, DO, redox and major ions were analysed for both lake water and drip water in the cave. The two water bodies exhibited different characteristics, confirming earlier indications that a portion of the lake water is of different origin from the vadose percolation waters.

In relation to stygofauna, the declining water levels and drying out of the root mat habitat in Lake Cave has resulted in a 74% decline in species richness over the past 10 years. Fourteen species with root mat associations were not recorded in 2010. Maintenance of the current water level is imperative for the conservation of the remaining stygofauna community.

The next stage (12 months) of the Project will continue monitoring of water levels, water quality and stygofauna, and undertake a detailed catchment-scale investigation to build a hydrological model of the cave and its catchment. This will be used to inform management and conservation of Lake Cave's water resources and SGDE's in the face of a drying climate future.

2010 by the Tasmanian Land Conservancy, following on from a 150-year history of summer cattle grazing. The TLC is now managing the land for its conservation values, and is undertaking practical on-ground work in partnership with the community to research and conserve these values into the future.

DAY 4 — THURSDAY 12 MAY — ROCKY CAPE/ TOGARI /DISMAL SWAMP

PAPER SESSION SEVEN. Chair: Cathie Plowman

12:30–12:55pm

Paper 26. *The Plains Karsts of the Smithton Basin*. Chris Sharples, School of Geography & Environmental Studies, University of Tasmania, Hobart, Tasmania. chris.sharples@utas.edu.au

The Togari Group of younger Precambrian rocks in the Smithton Basin of far northwest Tasmania includes two thick horizons of karstic dolomite, namely the upper Smithton Dolomite and the lower Black River Dolomite, separated by volcanics and clastic sediments. These were folded into a broad north-south oriented synclinorium, and subsequently reduced to a broad coastal plain by an unusually long (for Tasmania) period of continuous sub-aerial exposure and erosion lasting over 400 million years from Late Cambrian through to Early Tertiary times. Lateral karstic corrosion at the water table has created very broad, flat and (formerly) swampy karst plains on the Smithton Dolomite in the Duck and Montagu River valleys, with characteristic short steep marginal slopes. This extensive karst plain is one of the largest distinctively karstic landscapes in Tasmania. Mound springs in the Duck Valley are a notable feature of the plains karst; however the high water tables and flat relief mean that only a few caves have developed on isolated residual outcrops of dolomite rising above the plains surface; nonetheless some of these contain notable

marsupial megafauna remains as at Montagu Caves. The mostly poorly-drained conditions resulted in accumulation of peat swamps during the Pleistocene, from which numerous megafauna bones have also been recovered near Smithton. Nonetheless much of the plains karst has been cleared and developed for agriculture, which historically required development of possibly the most extensive complex of artificial drainage channels in any part of Tasmania. The underlying Black River Dolomite is relatively siliceous, and so outcrops in a fringe of hillier country surrounding the plains karst, where sinkhole lakes such as Lake Chisholm and the Trowutta Arch cenote have developed along with some cave development as at Julius River Caves. Despite this, Tasmania's best example of an enclosed plains karst or polje has also developed in carbonate rocks assumed to correlate with the Black River Dolomite at Dismal Swamp. Although some logging has occurred in the past, Dismal Swamp remains undrained and much of the polje has been protected as an important remnant Blackwood swamp forest habitat.

12:55–1:20pm

Paper 27. ***'It is an alluvial soil, and capable of being drained': the perilous integrity of Dismal Swamp.*** Nic Haygarth, Honorary Associate, University of Tasmania. lakelea22@yahoo.com.au

Surveyor John Helder Wedge clambered knee-deep through wet swamps while searching for grazing land in the Circular Head region in 1828. Among them was Dismal Swamp, one of a few intact poljes known in Tasmania today. Like the nearby Mowbray, Montagu, Welcome and Brittons Swamps, Dismal was a favourite habitat of blackwood (*Acacia melanoxylon*) timber — a staple of the Circular Head sawmilling industry for more

than a century now. When logging began in Circular Head, swamps were synonymous with disease, degradation and fear of the primeval. Clearing them represented not just financial profit but social justice. Precambrian dolomite swamps were logged and never regenerated, since agricultural land was needed for post-World War I and II soldier settlement. Only Dismal Swamp survived Wedge's quest for pastoral supremacy.

1:20–1:45pm

Paper 28. ***Dismal Swamp—a modern tourism venture set in an ancient karst sinkhole.*** Ian Brumby, Planning Coordinator, Forestry Tasmania. ian.brumby@forestrytas.com.au

Dismal Swamp is a polje or large sinkhole at Togari in the far north-west of Tasmania. The swamp was a source of valuable blackwood timber for several generations but was reserved in the 1970s to prevent it from being converted to pasture. Dismal Swamp has been developed by Forestry Tasmania into a modern tourism attraction that includes a sensitively constructed visitor centre, the option to descend to the sinkhole floor via a 110 metre slide ride, a maze of paths that take the visitor into secluded crannies of the ancient blackwood forest and

the installation of artistic pieces that give people opportunities for contemplation.

Besides allowing visitors to experience the blackwood swamp forest, the development of the site successfully sought to showcase Tasmania's fine timbers. Since opening in 2004, the site has had successes and challenges as a tourism destination. In late 2010, Forestry Tasmania leased the business, now known as Tarkine Forest Adventures, to private operators Graham and Michelle Gallaher.

DAY 5 — FRIDAY 13 MAY

PAPER SESSION EIGHT Chair: Greg Martin

9:00–9:25am

Paper 29. ***Gunns Plains Cave—Cavers' Contributions.*** David Wools-Cobb, PO Box 20, Ulverstone, Tasmania. tascaver@bigpond.net.au

Gunns Plains Cave is a developed tourist cave located 30 minutes drive south of Ulverstone, and is included on the ACKMA conference itinerary. David Wools-Cobb coordinates an environmental group in Northern

Tasmania called KarstCare: cavers looking after caves. In this paper David will outline what work his group have achieved, both within the tourist section and in the 'wild' section of this particularly beautiful cave.

9:25–9:50am

Paper 30. *Managing Access to Caves in the Digital Age.* Anne Wood (Dept of Environment and Conservation, W.A.) and Peter Wood (Cavers Leeuwin Inc., W.A.) anne.wood@dec.wa.gov.au

After an explosion of caving activity in the south west of WA in the 1960s to 1980s, controls have been gradually put in place. WA speleological groups initiated the Caves Access Committee to manage access to the more vulnerable sites. This incorporated voluntary restriction of group size and trip frequency as well as gating selected sites. Later Government initiatives included the formation of the Caves Management Advisory Committee, the introduction of the Cave and Abseil Permit System, removal of restricted access caves from maps, and the introduction of a Cave Leader Course.

These initiatives have seen a reduction in cave rescues, a reduction in non-show cave visitor numbers, and a reduction in visitor impacts. Several developments in recent years have the potential to reverse much of the progress made in the past two decades. The power of the internet and associated search engines, the development of GPS technology and its infiltration into broader society and the activity of geocaching are examples of digital technology that can potentially impact on the management of access to caves and increase undesirable visitor impacts.

9:50–10:15am

Paper 31. *Use of Chemical Methods for the Control of Lampenflora: Sodium Hypochlorite and Hydrogen Peroxide.* Professor Arrigo A. Cigna, International Union of Speleology, Italy. arrigocigna@tiscali.it

The first action to avoid the development of lampenflora is proper attention to the lighting. But if lampenflora develops, notwithstanding a good lighting system, action should be taken to stop its growth. The chemical

methods, which have the best risks/benefits ratio, utilize sodium hypochlorite and hydrogen peroxide. Advantages and problems arising from the use of these compounds are discussed.

10:15–10:35am

Morning Tea

10:35–11:00am

Paper 32 **The ACKMA Conference Paper Template.** Samantha Webb and Rauleigh Webb, Beckenham, Western Australia. rauleigh@inet.net.au

The ACKMA holds conferences every two years and produces an electronic proceedings from each conference. The quantity of work required to produce these proceedings is considerable. In order to significantly reduce this quantity of work into the future a Conference Paper template has been designed to allow the proceedings editor to easily complete the proceedings document as well as the required HTML file for the Proceedings CD-ROM.

Using the Conference Paper template the addition of each paper to the Conference Proceedings document takes about 10 minutes and the HTML document about 2 minutes. This is achieved by using word macros that perform 90%+ of the work to generate each of these required documents. This paper describes the use of the template and how it will greatly reduce the time spent editing conference proceedings in the future. Demonstrations of papers created with the template being processed will be shown.

END OF FORMAL SESSIONS

11:15am to Gunns Plains.

11:45am

Presentation by Geoff Deer, operator of Gunns Plains Cave:
Six Months in the Life of Gunns Plains Cave.

POSTER PRESENTATIONS

The following posters will be presented at the Conference (for which abstracts have been received):

The effect of light on bioluminescence in the glow-worm *Arachnocampa flava*

Rebecca Morley and David Merritt

School of Biological Sciences, The University of Queensland, Brisbane, QLD 4072

This study characterises the natural bioluminescent output of the glow-worm *Arachnocampa flava* and investigates the effect of extraneous light exposure upon bioluminescence. Specifically, the effect of varying light intensity, duration and wavelength (colour) were investigated. *Arachnocampa flava* larvae respond to all light exposures by reducing their bioluminescence. It took an average of 33 ± 6 minutes for larvae to recommence glowing after switching-off in response to light. Recovery back to pre-light exposure bioluminescent levels took an average of 70 ± 8 minutes. Bioluminescence reduction in response to light shows a dosage response with greater reductions occurring in response to increased intensity and duration of light exposure. All wavelengths (colours) of light tested caused a decrease in bioluminescence. Light in the ultraviolet and blue spectrum had the most impact on *Arachnocampa flava* bioluminescence, whilst red light had the least effect. A spectral sensitivity to blue light correlates with the bioluminescence spectral emission peak of *A. flava*, reinforcing recent findings that glow-worms may use bioluminescence for communication. The minimal impact of red light on bioluminescence leads to the recommendation that red filters be used in all lighting

scenarios for glow-worm tourism. This will minimise impacts on *A. flava* bioluminescence (and hence feeding patterns) and maximise tourist satisfaction levels.

Rebecca Morley (nee Mills) studied a Bachelor of Science and Bachelor of Education at The University of Queensland and graduated in 1998. Since then she has worked in many aspects of science education including as a secondary school teacher and project manager of the Entomology Curriculum Australia. She recently returned to The University of Queensland to complete her Bachelor of Science (Honours) within The School of Biological Sciences under the supervision of Dr David Merritt. Rebecca graduated in July 2010 with a result of first class honours.

David Merritt is an Associate Professor in the School of Biological Sciences at the University of Queensland where he has been since 1996. He teaches Developmental Biology and Insect Biology. Since 2000 his research has included a study of the regulation of light production by glowworms. He and student Claire Baker have presented their research results at a number of ACKMA meetings.

email: r.morley@uq.edu.au; d.merritt@uq.edu.au

The effect of biogenic amines on the bioluminescence of the glowworm

Lisa Rigby and David Merritt

School of Biological Sciences, The University of Queensland, Brisbane, QLD 4072

Glowworms are the bioluminescent larvae of a fly in the genus *Arachnocampa*. Neuroactive biogenic amines, the insect equivalent of adrenalin and serotonin, have been implicated in the initiation and regulation of bioluminescence in other insects such as fireflies, however no information is available on the role of these neuroactive compounds within glowworms (genus *Arachnocampa*). The cells of the light organ are innervated by nerves projecting from the terminal abdominal ganglion suggesting that bioluminescence could potentially be regulated directly by a neurotransmitter. The effects of biogenic amines on light output by *Arachnocampa flava* were determined by administering the amines orally, by injection and by bathing the light organ in biogenic amine solutions. Treatment with high-concentration octopamine caused larvae to emit bursts of bioluminescence at levels significantly greater than controls. Treatment with serotonin caused no significant alteration in light output, ruling out a role in the regulation of bioluminescence. The results suggest that the octopaminergic system plays a role in the regulation of

bioluminescence in *Arachnocampa* just as it does in fireflies.

Lisa Rigby completed her undergraduate degree with honours in the School of Biological Sciences at the University of Queensland in 2009. Her honours project focused on the effect of biogenic amines on the bioluminescence of the glowworm and the structure of its light-producing organ. This research was completed under the supervision of David Merritt. Lisa continues to research glowworm bioluminescence while working as a research assistant within the School of Biological Sciences at UQ.

David Merritt is an Associate Professor in the School of Biological Sciences at the University of Queensland where he has been since 1996. He teaches Developmental Biology and Insect Biology. Since 2000 his research has included a study of the regulation of light production by glowworms. He and student Claire Baker have presented their research results at a number of ACKMA meetings.

email: lisa.rigby@uqconnect.edu.au; d.merritt@uq.edu.au

LIST OF PARTICIPANTS

(alphabetically arranged)

FULL TIME ATTENDEES (attending 3–5 days):

1. JAY ANDERSON

4th Conference Attendance

PO Box 6327, South Bunbury, Western Australia, Australia 6230

Ph: 0407 473 539 (home) 0411 138 036 (mobile).

email: mrsjayanderson@gmail.com

Chair of the caves and karst specialist group, World Commission on Protected Areas within the International Union of Conservation and Nature.

2. ROSS ANDERSON

3rd Conference Attendance

PO Box 6327, South Bunbury, Western Australia, Australia 6230

Ph: 0407 473 539 (home) 0411 138 036 (mobile).

email: rossjay@inet.net.au

Caving, photography, rope access supervisor, ASF national cave rescue convener, President of Cavers Leeuwin.

3. ANN AUGUSTEYN

9th Conference Attendance

Capricorn Caves, 30 Olsen Caves Road, The Caves, Queensland, Australia 4702

Ph: (07) 4934 2087 (home) (07) 4934 2883 (work) (07) 4934 2936 (facs) mobile 0417 732 776.

email: annaugust@bigpond.com

Fellow of ACKMA. Ann and her family have owned and operated Capricorn Caves, Rockhampton, Queensland since 1988. Now semi-retired, Ann is happy to be back in Tasmania and interested in geotourism.

4. PETER AUSTEN

3rd Conference Attendance

4655 Jenolan Caves Road, Jenolan Caves, New South Wales, Australia 2790

Ph: (02) 6359 3913 (work) (02) 6359 3092 (facs) 0417 298 904 (mobile).

email: peter.austen@jenolancaves.org.au

General Manager, Jenolan Caves Reserve Trust.

5. SERENA BENJAMIN

3rd Conference Attendance

33 Coolamon Road, Taroona, Tasmania, Australia 7053

Ph: 0449 183 936 (mobile). email: serenab@utas.edu.au

Conference organising committee and Southern Tasmanian Caverneers member.

6. STEVEN BOURNE

7th Conference Attendance

PO Box 134 Naracoorte, South Australia, Australia 5271

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email: bourne.steven@saugov.sa.gov.au

President of ACKMA. Fellow of ACKMA. Works for the Department of Environment and Natural Resources as Deputy Regional Manager in the South East of South Australia, a region which contains numerous cave and karst features including Naracoorte and Tantanoola Caves and sinkholes world famous for cave diving. Has spent many years observing and researching the endangered bat population at Naracoorte Caves and involved with palaeontological research with partner Liz.

7. JOHN BRUSH

2nd Conference Attendance

PO Box 383, Erindale Centre, Australian Capital Territory, Australia 2903

Ph: (02) 6231 4294 (home) 0429 314 294 (mobile). email: johnbrush@ozemail.com.au

~~Member of Canberra Speleological Society Inc and has interests in the management of wild caves, cave~~
19th Australasian Conference on Cave and Karst Management

Australasian Cave & Karst Management Association Inc.
exploration, documentation and photography.

<http://ackma.org/>

8. DAVID BUTLER**5th Conference Attendance**

637 Deviot Road, Deviot Tasmania, Australia 7275

Ph: (03) 6394 7686 (home). email: lueena@bigpond.com

Conference organising committee. Northern Caverneers Inc member for a long time. Volunteer cave management and conservation with *Karst Care*. Tasmanian Speleological Liaison committee.

9. DALE CALNIN**9th Conference Attendance**

10 Gelantipy Road, Buchan, Victoria, Australia 3885

Ph: (03) 5155 9414 (home) (03) 5162 1908 (work) (03) 9619 0853 (facs) 0427 832 471 (mobile)

email: dcalnin@parks.vic.gov.au

Fellow of ACKMA. Ranger in Charge of Buchan Caves Reserves and Snowy River National Park (West). Responsible for the management of Buchan Caves and the national park, and the wider karst areas of Buchan and Murrindal.

10. DEBORAH CARDEN**7th Conference Attendance**

C/- Naracoorte Caves National Park, PO Box 134, Naracoorte, South Australia, Australia 5271

Ph: (08) 8762 3412 (work) (08) 8762 1231 (facs) 0409 006 710 (mobile)

email: carden.deborah@saugov.sa.gov.au

ACKMA Karst Science Officer. Fellow of ACKMA. Manager, Naracoorte Caves National Park and World Heritage Area Fossil Site. Interested in karst management and keen on fossil sites. Enjoys subterranean adventures with cave creatures.

11. LIBBY CHANDLER**4th Conference Attendance**

PO Box 4, Waitomo Caves, New Zealand 3993

Ph: (+64 7) 878 7621 (home) (+64 7) 878 7622 (work) (+64 7) 878 7622 (facs) 027 419 1644 (mobile)

email: pete_lib@xtra.co.nz

Operator of Spellbound Glowworm and Cave Tours.

12. PETER CHANDLER**12th Conference Attendance**

PO Box 4, Waitomo Caves, New Zealand 3993

Ph: (+64 7) 878 7621 (home) (+64 7) 878 7622 (work) (+64 7) 878 7622 (facs) 027 327 9892 (mobile)

email: pete_lib@xtra.co.nz

Life Member of ACKMA. Past President of ACKMA. Currently NZ Vice President. Operator of Spellbound Glowworm and Cave Tours. Previously co-owner of Blackwater Rafting (for 16 years). Interests in all aspects of cave management and visitor experience. Waitomo museum board member.

13. Professor ARRIGO CIGNA**1st Conference Attendance**

Frazione Tuffo, Strada Bottino 2, I-14023 Cocconato AT, Italy

Tel: +39 (141) 90 72 65 (home), +39 (141) 90 72 65 (facs). email: arrigocigna@tiscali.it

Arrigo served as President of the Italian Speleological Society from 1970–1979 and as President of the Union Internationale de Speleologie from 1973–1981. He was a founding member of the International Show Caves Association (ISCA). Arrigo's interest in cave meteorology led him to develop instruments and models of temperature distribution in different types of caves. He has carried out research in many caves in Italy and other parts of the world including Cango Cave (South Africa), Kartchner Caverns (USA) and Crystal Cave (Bermuda). Arrigo has worked extensively on measuring radon in caves, both from the scientific basis and compliance with national regulations.

14. ARTHUR CLARKE**7th Conference Attendance**

17 Darling Parade, Mount Stuart, Tasmania, Australia 7000

Ph: (03) 6228 2099 (home) (03) 6298 1107 (Dover). email: arthurc@internode.on.net

Fellow of ACKMA. Honorary Research Associate, School of Zoology, University of Tasmania. Cave biologist, investigating biodiversity and ecology of cave-dwelling species in cave/karst ecosystems in Tasmania, and elsewhere. Added interests are the conservation and history of caves and karst in Tasmania. Accompanying to the Conference: **Siobhan Carter**.

15. MARJORIE COGGAN

2nd Conference Attendance

PO Box 383, Erindale Centre, Australian Capital Territory, Australia 2903

Ph: (02) 6231 4294 (home) 0418 623 142 (mobile). email: marjoriec@ozemail.com.au

Member of Canberra Speleological Society Inc for more than 35 years and has a range of interests in karst systems and lava tubes.

16. DAN COVE

2nd Conference Attendance

4655 Jenolan Caves Road, Jenolan Caves, New South Wales, Australia 2790

Ph: (02) 6359 3926 (work). email: dan.cove@jenolancaves.org.au

ACKMA Interpretation Officer. Manager, cave operations at Jenolan Caves.

17. TRAVIS CROSS

4th Conference Attendance

Waitomo Glowworm Cave, Private Bag 501, Otorohanga, New Zealand 3940

Ph: (+647) 8788 288 Ex 722 (work), (+647) 8788 858 (fax), 0212221415.

Email: travis.cross@thlonline.com

Environmental Officer for Waitomo Glowworm Caves, Ruakari and Aranui Caves, NZ.

18. PAT CULBERG

5th Conference Attendance

PO Box 122, Lindisfarne, Tasmania, Australia 7015

Ph: (03) 6243 0546 (home) (03) 6243 0829 (facs). email: culbergf@bigpond.com

Conference organising committee and retired geography teacher who was active taking school groups into caves while teaching.

19. TONY CULBERG

6th Conference Attendance

PO Box 122, Lindisfarne, Tasmania, Australia 7015

Ph: (03) 6243 0546 (home) (03) 6243 0829 (facs). email: culbergf@bigpond.com

Conference convener. Started caving January 1966, led the cave-in at Church Creek Caves in August 1968, attended 8th ASF Conference, and field trips, in Dec 1970 in Hobart. Has been Secretary of ASF, manager of ASF newsletter, co-convener 2nd Australasian Conference on Cave Management in 1976, and is now a Trustee of the ASF Gift Fund. In 1990 started Exit Cave Adventure Tours, which ran for five years. Was Treasurer of Tasmanian Licensed Guiding Operators Association from 1992 to 2007 and helped convene the 14th International Symposium on Vulcanospeleology in 2010.

20. GEOFF DEER

4th Conference Attendance

1479 Gunns Plains Road, Gunns Plains, Tasmania, Australia 7315

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email: gunnsplainscaves@bigpond.com

Owner/operator (with wife Trish) Gunns Plains Caves since 2004

21. TRISH DEER (attending part time)

3rd Conference Attendance

1479 Gunns Plains Road, Gunns Plains, Tasmania, Australia 7315

Ph: (03) 6429 1133 (home) (03) 6429 1388 (work) (03) 6429 1362 (facs) 0411 294 761 (mobile)

email: gunnsplainscaves@bigpond.com

I started work at caves when I was 13 years of age and fulfilled my dream when Geoff, Benjamin (our son) and I took over the lease in 2004. What a great office to work in.

22. KIRSTY DIXON

2nd Conference Attendance

28B Hughes Street, Denham, Western Australia, Australia 6537

Ph: (08) 9948 3274 (home) 0429 130 318 (mobile). email: ghostbat@hotmail.com

Reserves Officer, Monkey Mia, Shark Bay District, Department of Environment and Conservation and member of Western Australia Speleological Group.

23. Ing. PETER GAZIK

1st Conference Attendance

Bernolakova 20, Liptovsky Mikulas, Slovak Republic 031 01

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State Nature Conservancy of the Slovak Republic, Slovak Caves Administration. Head of Cave Research, Cave protection, GIS. Accompanying to conference: **Zuzana Gazikova** (wife) and **Katarina Gazikova** (daughter).

24. PETER GRILLS

2nd Conference Attendance

4 Ferguson Street, Cessnock, New South Wales, Australia 2325

Ph: 0419 820 920 (mobile). email: peter_grills@hotmail.com

Caving, cave diving.

25. Professor ELERY HAMILTON-SMITH AM

17th Conference Attendance

67 Heidelberg Road, Clifton Hill, Victoria, Australia 3068

Ph: (03) 9489 7785 (home). email: elery@alphalink.com.au

Life member of ACKMA. Elery has been involved in caves and karst matters as a cave explorer, documenter and scientist in a number of disciplines for more than six decades. He has an extraordinary wide knowledge which is reflected in his astounding breadth of publications. He is a foundation member of the Victorian Speleological Association, the Australian Cave and Karst Management Association amongst others. Accompanying to conference: **Angela Hamilton-Smith**.

On 26 January 2001 Elery became a Member of the Order of Australia: *For service to conservation and the environment, particularly in the areas of national park, wilderness, cave and karst management, to the development of leisure and recreation activities, and to the community as a contributor to social policy development and through programmes dealing with youth issues.*

26. Dr NIC HAYGARTH

3rd Conference Attendance

3/42 Frederick Street, Perth, Tasmania, Australia 7300

Ph: (03) 6398 1334 (home/work) 0400 463 657 (mobile). email: lakelea22@yahoo.com.au

Honorary Associate, University of Tasmania. Freelance historian and writer.

27. DAVID HEAD

3rd Conference Attendance

43 Huntingwood Drive, Huntingwood, New South Wales, Australia 2148

Ph: (02) 4729 0996 (home) (02) 9671 9999 (work) (02) 9671 9900 (facs) 0404 480 807 (mobile).

email: david.head@weidmuller.com.au

LED cave lighting designer and manufacturer Weidmuller Pty Ltd.

28. NICK HEATH

3rd Conference Attendance

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email: nicholas.heath@sa.gov.au

Manager, Kelly Hill Caves, Kangaroo Island.

29. KENT HENDERSON

13th Conference Attendance

PO Box 1080, Newport, Victoria, Australia 3015

Ph: (03) 9398 0598 (home) 0407 039 887 (mobile). email: kenthen@optusnet.com.au

ACKMA Life Member. ACKMA Publications Officer, and erstwhile Editor –*ACKMA journal*.

30. DEB HUNTER

3rd Conference Attendance

165 Fernleigh Road, Caveside, Tasmania, Australia 7304

Ph: (03) 6367 8142 (home) 0403 293 549 (mobile). email: debhunter8@bigpond.com

Owner-operator Wild Cave Tours, Cave expeditioner and researcher, academic research, environmental science.

31. DANIEL HUTH**1st Conference Attendance**

16 Cant Street, Kawana, Rockhampton, Queensland, Australia 4701
 Ph: (03) 0437 725 797 (home/mobile) (07) 4934 2883 (work) (07) 4934 2936 (facs)
 email: daniel_huth@msn.com
 Cave tour guide at Capricorn Caverns.

32. Associate Professor JULIA JAMES**4th Conference Attendance**

41 Northwood Street, Camperdown, New South Wales, Australia 2050
 Ph: (02) 9519 1415 (home/work) (02) 9351 3329 (facs). email: j.james@chem.usyd.edu.au
 Julia James is an honorary associate professor within the School of Chemistry, University of Sydney. She is a past president of the International Union of Speleology and a past editor of *Helictite*. At present she is a member of the NSW government committee on karst management.

33. NEIL KELL**7th Conference Attendance**

PO Box 351, Tumut, New South Wales, Australia 2720
 Ph: (02) 6947 5749 (home) (02) 0448 103 007 (mobile). email: neilkell@yahoo.com
 Fellow of ACKMA, and former Vice President. Lighting of Darkness – cave lighting and design consultancy. Yarrangobilly Caves – cave interpretation officer.

34. SASA KENNEDY**2nd Conference Attendance**

95 St Georges Crescent, Faulconbridge, New South Wales, Australia 2776
 Ph: (02) 4751 8431 (home) (02) 4753 2056 (work TAFE) (02) 6359 3924 (Jenolan) (02) 4753 2028 (facs) 0425 329 688 (mobile). email: sasa.kennedy@jenolancaves.org.au
 Jenolan Caves: cave guide, adventure cave guide. Technical and Further Education: teach interpretive guiding and vertical cave guiding. Jenolan Caves Historical and Preservation Society committee member, Sydney University Speleological Society member.

35. MOIRA LIPYEAT**4th Conference Attendance**

29a Celia Street, Redcliffs, Christchurch, New Zealand 8081
 Ph: (+64 3) 384 2570 (home). email: lipyeat@xtra.co.nz
 New Zealand Speleological Society member. Underground and overground limestone enthusiast.

36. GREG MARTIN**11th Conference Attendance**

Department of Conservation, Private Bag 3072, Hamilton, New Zealand 3240
 Ph: (+64 7) 854 0255 (home) (+64 7) 858 1562 (work) (+64 7) 858 1001 (facs) (+64) 274 751 460 (mobile).
 email: gmartin@doc.govt.nz
 Past president of ACKMA and a life member. Waikato Conservator (Department of Conservation, Hamilton, New Zealand) Chairperson of the Waitomo Caves Management Committee. Interests include photography, cookery and cycling.

37. DEREK MASON**8th Conference Attendance**

81 Maungakawa Road, RD4 Cambridge, New Zealand 3494
 Ph: (+64 7) 823 5525 (home) 0274 778 829 (mobile). email: thorntonridge@xtra.co.nz
 ‘Blackdown’ Private Land Resource Land Owner in association with Spellbound (Peter and Libby Chandler’s Waitomo based glow-worm tours) and Waitomo Wilderness Tours (Simon Hall’s Rap, Raft and Rock).

38. TED MATTHEWS**1st Conference Attendance**

65 Dover Place, Engadine, New South Wales, Australia 2233
 Ph: (02) 9520 1442 (home) (02) 6359 3924 (work) (02) 9520 1443 (facs) 0430 303 876 (mobile)
 email: tedwin43@bigpond.net.au
 Jenolan Caves adventure and cave guide. Retired secondary school science teacher, member of Sydney University Speleological Society and Jenolan Caves Historical and Preservation Society.

39. MARY McCABE

5th Conference Attendance

64 Wentworth Terrace, Rockhampton, Queensland, Australia 4700

Ph: (07) 4927 1051, 0427 377 455 (mobile). email: airdriecott@virginbroadband.com.au

Member of ACKMA, Central Queensland Speleological Society and the Australasian Bat Society.

40. PHILLIP McGUINN

2nd Conference Attendance

5606 Orbost Road, Buchan, Victoria, Australia 3885

Ph: (03) 5155 9226 (home) (03) 5162 1900 (work) (03) 5155 9490 (facs) 0429 175 191 (mobile)

email: phil.mcquinn@parks.vic.gov.au

Team leader, Buchan Caves, Victoria.

41. SCOTT MELTON

2nd Conference Attendance

3 Burmah Road, Jenolan Caves, New South Wales, Australia 2790

Ph: (02) 6359 3131 (home) (02) 6359 3927 (work) (02) 6359 3307 (facs) 0437 458 484 (mobile).

email: scott.melton@jenolancaves.org.au

Guide at Jenolan Caves for 18 years. Member Jenolan Caves Historical and Preservation Society for 30 years. Loves travelling, snow skiing, gardening and caves.

42. JAN MILLER

1st Conference Attendance

120 Canfell Road, The Caves, Queensland, Australia 4702

Ph: (07) 4934 2874 (home) (07) 4934 2883 (work) (07) 4934 2936 (facs) 0400 342 875 (mobile)

email: j&jmiller@gmail.com

I live on a cattle property and started work at Capricorn Cavers in 2002. My main roles are tour guide, wedding coordinator and property management. In attending this conference I am particularly keen to learn about cave lighting as we are about to tackle the re-lighting of our caves. Accompanying to conference: **Jeff Miller**.

43. Dr TIMOTHY MOULDS

4th Conference Attendance

C/- GHD, 239 Adelaide Terrace, Perth, Western Australia, Australia 6004

Ph: (08) 6468 1246 (home) (08) 6222 8973 (work) 0429 792 834 (mobile).

email: tim.moulds@ghd.com

Tim is a cave biologist working in environmental consulting based in Perth. He has caved throughout Australia and overseas and has undertaken cave biodiversity assessments in Australia and Vietnam.

44. Dr ANNE MUSSER

1st Conference Attendance

5099 Jenolan Caves Road, Jenolan, New South Wales, Australia 2790

Ph: 0467 593 197 (mobile). email: anne.musser@austmus.gov.au

Anne is an honorary research associate of the Australian Museum in Sydney and works at both the Australian Museum and Jenolan Caves. She is a vertebrate palaeontologist with a specialisation in monotreme mammals and in the reconstruction of fossil biotas and environments.

45. CATHIE PLOWMAN

4th Conference Attendance

637 Deviot Road, Deviot, Tasmania, Australia 7275

Ph: (03) 6394 7686 (home) 0427 947 686 (mobile). email: lueena@bigpond.com

Conference organising committee, Fellow of ACKMA, Northern Caverneers and Karst Care, special interests are interpretation, development of community partnerships in cave management and increasing the range of show cave experiences.

46. BARRY RICHARD

10th Conference Attendance

42 Edith Road, Jenolan Caves, New South Wales, Australia 2790

Ph: (02) 6335 6239 (home/work) 0428 619 709 (mobile). email: relax@jenolancabins.com.au

Fellow of ACKMA. Owns and operates 'Jenolan Cabins' at Jenolan Caves. Casual guide at Jenolan Caves. Life member and patron of Blue Mountains Speleological Club.

47. REGINA ROACH

1st Conference Attendance

Yarrangobilly Caves, PO Box 472, Tumut, New South Wales, Australia 2720

Ph: (02) 6454 9597 (home/work) (02) 6454 9598 (facs). email: regina.roach@environment.nsw.gov.au

Interpretive assistance, Yarrangobilly Caves.

48. CATHERINE SELLARS

2nd Conference Attendance

13 Young Street, Penola, South Australia, Australia 5263

Ph: (08) 8737 3417 (home) 0429 859 472 (mobile). email: cathy.sellars@hotmail.com

Previously worked at Naracoorte and Yarrangobilly Caves. Current work is as an environmental health officer in south-east South Australia.

49. CHRIS SHARPLES

2nd Conference Attendance

GPO Box 1941, Hobart, Tasmania, Australia 7001

Ph: (03) 6226 2898 (work) 0408 396 663 (mobile). email: chris@sharples.com.au

Geomorphologist, University of Tasmania.

50. CHESTER SHAW

11th Conference Attendance

PO Box 67, Mole Creek, Tasmania, Australia 7304

Ph: (03) 6363 1433 (home) 0418 362 341 (mobile). email: trog18@bigpond.com

Life Member of ACKMA. Retired manager, Mole Creek Caves, Tasmania. Now has a strong interest in collecting cave memorabilia.

51. DAVE SMITH

7th Conference Attendance

Counter Box 11, Waitomo Caves, New Zealand 3943

Ph: (+64 7) 878 8534 (home) (+64 7) 878 1050 (work) 0211 466 828 (mobile). email: dwsmith@doc.govt.nz

Department of Conservation, Maniapoto Area. Biodiversity programs including karst, which includes Waitomo Caves. Fellow of ACKMA and ACKMA Executive Officer. Recreational caver, Chair of Waitomo Caves Museum Society, Secretary, Waitomo Catchment Trust.

52. ANDY SPATE

15th Conference Attendance

28B Hughes Street, Denham, Western Australia, Australia 6537

Ph: (08) 9948 3274 (home/work) 0407 293 301 (mobile). email: aspate1@bigpond.com

ACKMA Life Member and Past President. Optimal Karst Management—Consultant on cave and karst management, interpretation training and landscape rehabilitation.

53. DIANNE VAVRYN

10th Conference Attendance

28 Barmoya Road, The Caves, Queensland, Australia 4701

Ph: (07) 4934 2788 (home). email: dlvavryn@tpg.com.au

Fellow of ACKMA. Casual ranger, Queensland Parks and Wildlife Service (Bat Cleft – guide for 32 years). Tour Guide at Cammoo Caves 1984, and Olsen's Capricorn Caverns, 1985–1997. Organising Committee Member: 10th Australasian Conference on Cave and Karst Management, 1993; and 8th Australasian Bat Society Conference, 1997. Sub-editor, ACKMA Journal.

54. RAULEIGH WEBB

13th Conference Attendance

27 Beckenham Street, Beckenham, Western Australia, Australia 6107

Ph: (08) 9356 5550 (home) 0419 947 664 (work). email: rauleigh@iinet.net.au

Fellow of ACKMA. ACKMA Webmaster and Information Technology Officer. Interested in cave conservation relating to cave management and the development of cave management practices that reduce impacts in caves and karst.

55. SAMANTHA WEBB

3rd Conference Attendance

27 Beckenham Street, Beckenham, Western Australia, Australia 6107

Ph: (08) 9356 5550 (home). email: rauleigh@iinet.net.au

56. NICHOLAS WHITE

14th Conference Attendance

123 Manningham Street, Parkville, Victoria, Australia 3052

Ph: (03) 9328 4154 (home) (03) 9328 4154 (facs) 0427 110 143 (mobile)

email: nicholaswhite@netspace.net.au

Fellow of ACKMA. Victorian Speleological Association, Australian Speleological Federation

57. ANNE WOOD

6th Conference Attendance

Dept of Environment and Conservation, 14 Queen Street, Busselton, Western Australia, Australia 6280

Ph: (08) 9758 8979 (home) (08) 9757 7035 (work) 0427 525 445 (mobile).

email: anne.wood@dec.wa.gov.au

Fellow of ACKMA and Australian Vice President. Caves manager, Department of Environment and Conservation, WA.

58. PETER WOOD

6th Conference Attendance

PO Box 388, Margaret River, Western Australia, Australia 6285

Ph: (08) 9758 8979 (home) 0427 387 272 (mobile). email: woodyche@westnet.com.au

Member: Cavers Leeuwin & Department of Environment and Conservation – Cave Management Advisory Group. A farmer/wine producer in the Margaret River Region.

59. DAVID WOOLS-COBB

1st Conference Attendance

PO Box 20, Ulverstone, Tasmania, Australia 7315

Ph: (03) 6425 3950 (home) 0429 143 245 (mobile). email: tascaver@bigpond.net.au

Member Northern Caverneers and Savage River Caving Club. President Karst Care. Forty years caving experience.

60. CELINA YAPP

1st Conference Attendance

Counter Box 1, Waitomo Caves, New Zealand 3943

Ph: (+64 7) 878 7640 (work) (+64 7) 8786184 (facs) 021 322 834 (mobile)

email: director@waitomodiscovery.org

Managing director of Waitomo Caves Discovery Centre, which is owned and operated by the Waitomo Caves Museum Society.

PART-TIME ATTENDEES (attending 1–2 days):

61. SIMON AMBROSE

62. STEPHEN BLANDEN

63. DENNA KINGDOM

64. IAN BRUMBY

65. MICHAEL DRIESSEN

66. ROD PEARSE

ACKMA OFFICE BEARERS: 2010 - 2011

PRESIDENT:

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NEW ZEALAND VICE-PRESIDENT, & ACKMA NZ ADMINISTRATOR:

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Email: <interpretation.officer@ackma.org>

KARST SCIENCE OFFICER:

Deborah Carden, Dept. of Conservation, 72 Russell Street, Westport, New Zealand.
Naracoorte Caves, P. O. Box 134, Naracoorte, South Australia 5271
Ph: (09) 8762 3412 (work), 021 023 575 61 (mobile). Email: <karst.science@ackma.org>

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Andy Spate, 28B Hughes Street, Denham, Western Australia 6537
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CONFERENCE CONVENER:

Tony Culberg, P O Box 122, Lindisfarne, Tasmania, Australia 7015
Ph: (03) 6243 0546 (home) (03) 6243 0829 (facs). email: culbergf@bigpond.com

PUBLIC OFFICER:

Miles Pierce, 42 Victoria Crescent, Mont Albert, Victoria, Australia 3127
Tel: (03) 9890 8319 (home), Email: <public.officer@ackma.org>

SUCCESSION OF ACKMA OFFICERS SINCE FOUNDATION

	1987-89	1989-91	1991-93	1993-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
President	E. Holland	E. Holland	A. Spate	A. Spate	M. Chalker	M. Chalker	G. Martin	G. Martin	B. Clark	B. Clark
Aust Vice President	J. Sutherland	A. Spate	K. Kiernan	N. Kell	B. Allen	A. Augusteyn	A. Augusteyn	R. McBeath	R. McBeath	R. McBeath
NZ Vice President	D. Williams	D. Williams	D. Williams	P. Dimond	G. Martin	G. Martin	P. Chandler	P. Chandler	P. Chandler	P. Chandler
Executive Officer	E. Hamilton-Smith	E. Hamilton-Smith	E. Hamilton-Smith	E. Hamilton-Smith	A. Spate	A. Spate	A. Spate	D. Gillieson	D. Gillieson	D. Gillieson
Treasurer	N/A	N/A	G. Hammond	D. Rebbechi	D. Rebbechi	D. Rebbechi	D. Rebbechi	D. Rebbechi	D. Rebbechi	D. Rebbechi
Conference Convener	K. Wilde	K. Tritton	A. Augusteyn	C. Shaw	P. Dimond	P. Dimond	B. Clark	B. Clark	M. Chalker	M. Chalker
Publications Officer	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson
Educ. Off. - Australia	N/A	N/A	N/A	S. Hardy	S. Reilly	S. Reilly	N/A	N/A	N/A	N/A
Educ. Off. - New Zealand	N/A	N/A	N/A	N/A	J. Ash	J. Ash	N/A	N/A	N/A	N/A
ASF Liason Officer	N/A	N/A	N/A	N/A	E. Holland	E. Holland	E. Holland	E. Holland	E. Holland	A. Clarke
Info. Off. - Australia	N/A	N/A	N/A	N/A	N/A	N/A	R. McBeath	P. Bell	P. Bell	M. Thurgate
Info. Off. - New Zealand	N/A	N/A	N/A	N/A	N/A	N/A	D. Smith	D. Smith	D. Smith	D. Smith
Karst Science Officer	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A. Spate	A. Spate	A. Spate
Public Officer	N/A	N/A	N/A	N/A	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
President	P. Dimond	P. Chandler*	R. McBeath	R. McBeath	S. Bourne	S. Bourne	S. Bourne	S. Bourne	S. Bourne	S. Bourne
Aust Vice President	S. Bourne	S. Bourne	S. Bourne	S. Bourne	R. Eberhard	R. Eberhard	R. Eberhard	R. Eberhard	A. Wood	A. Wood
NZ Vice President	P. Chandler	Vacant	P. Chandler	P. Chandler	P. Chandler	P. Chandler	P. Chandler	P. Chandler	P. Chandler	P. Chandler
Executive Officer	R. Lyons	R. Lyons	R. Lyons	R. Lyons	D. Smith	D. Smith	D. Smith	D. Smith	D. Smith	D. Smith
Treasurer	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell
Conference Convener	L. Little	L. Little	P. Wood	P. Wood	D. Calnin	D. Calnin	A. Wood	A. Wood	T. Culberg	T. Culberg
Publications Officer	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson	K. Henderson
Interpretation Officer	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D. Cove	D. Cove	D. Cove
Inform. Tech & Webmaster	N/A	N/A	R. Webb	R. Webb	R. Webb	R. Webb	R. Webb	R. Webb	R. Webb	R. Webb
ASF Liason Officer	A. Clarke	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	G. Gartrell	K. Henderson	K. Henderson	K. Henderson	K. Henderson
Info. Off. - Australia	J. Taylor	J. Vincent	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Info. Off. - New Zealand	D. Smith	D. Smith	D. Smith	D. Smith	N/A	N/A	N/A	N/A	N/A	N/A
Karst Science Officer (Aus)	A. Spate	A. Spate	I. Houshold	I. Houshold	I. Houshold	I. Houshold	I. Houshold	N/A	N/A	N/A
Karst Science Officer (NZ)	N/A	N/A	N/A	N/A	D. Carden	D. Carden	D. Carden	N/A	N/A	N/A
Karst Science Officer	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D. Carden	D. Carden	D. Carden
International Relations Off	N/A	N/A	N/A	N/A	N/A	N/A	N/A	A. Spate	A. Spate	A. Spate
Public Officer	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	E. Hamilton - Smith	M. Pierce	M. Pierce

LIFE MEMBERS & FELLOWS of ACKMA Inc.

FELLOWS OF ACKMA Inc.
Awarded to members who have made a distinguished
and ongoing contribution to the Aims of the
Association.

LIFE MEMBERS OF ACKMA Inc. Awarded
to members who have made an outstanding and long
term contribution to the Aims of the Association.

NAME:	Date elected a FELLOW	Date elected a LIFE MEMBER
Alan Costigan		21 May 1993
Roy Skinner (deceased)	4 May 1995	21 May 1993
Clyde Stiff (deceased)		21 May 1993
Michael Chalker	21 May 1993	4 May 2001
Ernst Holland	21 May 1993	4 May 1995
Prof Elery Hamilton-Smith	21 May 1993	4 May 1995
Andy Spate	21 May 1993	6 June 1998
Dave Williams	21 May 1993	4 May 1995
Dr. Kevin Kiernan	4 May 1995 *	
Kevan Wilde	4 May 1995	2 May 1997
Brian Clark	2 May 1997	4 May 2007
Kent Henderson	2 May 1997	11 May 2002
Rauleigh Webb	2 May 1997	24 April 2010
Nicholas White	2 May 1997	
Peter Dimond (deceased)	6 June 1998	
Greg Martin	6 June 1998	4 May 2007
Dennis Rebbechi	6 June 1998	
Neil Kell	23 April 1999	
Chester Shaw	23 April 1999	10 May 2003
Dianne Vavryn	17 June 2000	
Peter Chandler	4 May 2001	14 April 2005
Arthur Clarke	11 May 2002	
Peter Bell	10 May 2003 *	
Robyn McBeath	10 May 2003	
Dave Smith	10 May 2003	
Dr Grant Gartrell	31 May 2004	
Lana Little	31 May 2004	
Barry Richard	14 April 2005	
Phil Wood	14 April 2005	
Dale Calnin	6 May 2006	
Steve Bourne	6 May 2006	
John Ash	4 May 2007	
Ian Household	4 May 2007 *	
Ann Augusteyn	17 May 2008	
Deborah Carden	17 May 2008	
Cathie Plowman	24 April 2010	
Dr John Watson	24 April 2010	

* not currently an ACKMA Member

PRESIDENT'S AWARD

Presented at every ACKMA Conference (since the inaugural award in 2001) to the person adjudged to have written the best paper or article in the ACKMA Journal over the preceding two years. The judges are Professor Elery Hamilton-Smith and the President of the Day. Previous winners:

1999 – 2001	Steve Bourne	2005 – 2007	Rolan Eberhard
2001 – 2003	Mary Trayes	2007 – 2009	Dan Cove
2003 – 2005	Carol Ramsey		

ACKMA's OUTSTANDING CONTRIBUTION to CAVE AND KARST MANAGEMENT Award

This rare award was inaugurated in 2007. Thus far only three awards have been made:

3 May 2007 Jim Werker and Valerie Hildreth-Werker (U. S. A.)

28 March 2008 Michael Chalker

6 May 2009 Professor Elery Hamilton-Smith

PRESIDENTS of ACKMA Inc.

Ernst Holland 1987 – 1991

Andy Spate 1991 – 1995

Michael Chalker 1995 – 1997

Greg Martin 1997 – 1999

Brian Clark 1999 – 2001

Peter Dimond 2001 – 2002

Peter Chandler 2002 – 2003

Robyn McBeath 2003 – 2005

Steve Bourne 2005 – 2011

AIMS of ACKMA Inc.

- To develop improved standards in the management of the cave and karst heritage of the Australasian region.
- To provide for liaison between services to, and joint action by, those interested in cave and karst management.
- To carry out or cause to be carried out any scientific research which may further the improvement of standards in cave and karst management.
- To formulate and promote policies and initiatives in cave and karst management.
- To do any other things which are conducive or incidental to the attainment of the above.

A BRIEF HISTORY of ACKMA Inc.

Conferences on Cave and Karst Management have been held in this region since 1973. From then until 1983, they were organized under the auspices of (but not organised by) The Australian Speleological Federation, the first five being termed Australian Conferences on Cave Management and Tourism. The 6th Conference was held at Waitomo Caves, New Zealand in 1985. On 16 May 1987 the *Australasian Cave Management Association* (ACMA) was formed at a meeting held at Yarrangobilly Caves during the 7th Conference in New South Wales. All conferences since have been referred to as Australasian Conferences on Cave & Karst Management.

The Association re-named itself *The Australasian Cave & Karst Management Association* (ACKMA) at the subsequent biennial General Meeting associated with the 8th Conference held at Punakaiki, New Zealand, in 1989. At the 1995 biennial General Meeting at Derwent Bridge, Tasmania, during the 11th Conference, the Association became incorporated as *ACKMA Inc.* Prior to that date Officers of the Association were elected to two-year terms. The tenure of officers is now twelve months. The *Proceedings* of the first sixteen Conferences thus far held have been published, and are also available on CD Rom. A CD Rom of the Proceedings of the seventeenth Conference (Buchan 2007) will be published shortly.

The first edition of The ACMA (later ACKMA) Newsletter was published in June 1988 – a mere 12 pages. It was thereafter published half-yearly until 1993. For the subsequent 18 months, it was published quarterly, with two full 'Journal Editions', and two (minor) 'Newsletter Editions'. The publication was permanently renamed the **ACKMA Journal** from Edition 16 issued in September 1994, and from Edition 19 (June 1995) it was been issued quarterly as a full Journal.

SIGNIFICANT EVENTS

in AUSTRALASIAN CAVE & KARST MANAGEMENT since the FOUNDING of ACKMA in 1987

1987

- 10 – 17 May **7th Australasian Conference on Cave & Karst Management, NSW**
 16 May ACMA Founded, Yarrangobilly Caves, New South Wales.
 October Blackwater Rafting, Waitorno, New Zealand, opens for business.

1988

- June Edition 1 of the ACMA Newsletter published.

1989

- 10 –14 April **8th Australasian Conference on Cave & Karst Management, Punakaiki, NZ.**
 14 April ACMA becomes ACKMA - Biennial General Meeting, Punakaiki.
 February Ruakuri Cave at Waitomo closed to the public.
 June Water Cave re-discovered at Wellington Caves.
 July 1989 Ruakuri Cave Karst Walkway at Waitomo Caves completed.
 August 1989 ACKMA team prepares a Report on Cutta Cutta Caves, Northern Territory.
 September 1989 New Zealand ACKMA team advises on cave management in Tonga.

1990

- Early 1990 Jillabenan Cave, Yarrangobilly, re-wired & given universal access.
 13 –14 May 1st Cave Guides *Gabfest*, Yarrangobilly Caves, New South Wales.
 14 June Waitomo Glowworm Cave comes under a partnership of the Department of Conservation and Ruapuha Uekaha Hapu Trust for ownership and management.
 June Eastern Chamber Extension, Fairy Cave, Buchan, completed for opening.
 1 – 2 Severe flooding of Wombeyan and Abercrombie Caves, New South Wales.

1991

- 3 – 5 March 2nd Cave Guides *Gabfest*, Wombeyan Caves, New South Wales.
 9 – 15 September **9th Australasian Conference on Cave & Karst Management, Margaret River, Western Australia.**
 12 December 1991 National Parks and Wildlife (Karst Conservation) Bill and the Wilderness (Karst Conservation) Amendment Bill pass through the New South Wales Parliament.

1992

- 8 January Jersey Cave Centenary Celebrations, Yarrangobilly Caves, New South Wales (following complete re-wiring and re-development).

8 – 9 February	1st Australian Karst Studies Seminar/Workshop, Buchan, Victoria.
17 – 18 March	3rd Cave Guides <i>Gabfest</i> , Naracoorte Caves, South Australia.
February	International Network on Cave Protection and Management, established under the commission on National Parks & Protected Areas (CNPPA) with significant Australian involvement.
March	New Entrance Tunnel and re-development of Gaden Coral Cave, Wellington Caves, New South Wales, completed.
April	Olsens Caves, Rockhampton, Qld, universal access constructed and opened.
17 April	Cammoo Caves, Rockhampton, Queensland, becomes self-guiding.
31 July	Benders Quarry near Exit Cave, Tasmania, closed by the Federal Government.
9 August	Undara Volcanic National Park, North Queensland, officially opened.
August	Neil Kell awarded Churchill Fellowship to study cave lighting in U. S. A.
3 September	ACKMA Committee meets in Melbourne.
November	Glowworm Cave at Waitomo, New Zealand, re-lit.
Nov – December	Waitomo Museum of Caves extended.
26 December	Moondyne Cave, Western Australia, re-opened as an Adventure Tour cave.

1993

1 January	Peter Dimond, Waitomo Museum of Caves Director, received <i>the Queen's Service Medal</i> , in New Zealand New Years Honour List.
24 – 26 March	4th Cave Guides <i>Gabfest</i> , Buchan Caves, Victoria.
17 – 23 May	10th Australasian Conference on Cave & Karst Management, Rockhampton, Queensland.
24 – 29 May	Post Conference Study Tour to Undara and Chillagoe Caves, Queensland.
20 – 22 November	2nd Karst Studies Seminar/Workshop, Wombeyan Caves, New South Wales.
October	Wet Cave, Naracoorte, SA, opened as self-guided tourist cave.
13 November	ubilee Cave Centenary Celebrations, Jenolan Caves, New South Wales.
11 December	Grand Arch self-guided Tour officially opened, Abercrombie Caves, NSW.
December	Tinted Cave (self-guided), Wombeyan Caves, New South Wales, completed & opened.

1994

14 – 18 March	5th Cave Guides <i>Gabfest</i> , Jenolan Caves, New South Wales.
8 April	Newly-constructed <i>Education Centre</i> at the Waitomo Museum of Caves officially opened by Rt. Hon. J. B. Bolger, Prime Minister of New Zealand.
10 April	Victoria Cave Centenary Celebrations, Naracoorte Caves, South Australia.
14 May	ACKMA Committee meets in Sydney, New South Wales.

- 15 May Joint ACKMA – ASF Executive Meeting.
- 10 July 2nd Australian Seminar on Spelean History, Sydney University, NSW.
- July Rehabilitation Plan for Newdegate Cave, Hasting Caves, Tasmania, released.
- August New Zealand ACKMA members from both North and South Islands meet informally at Waitomo.
- December Naracoorte Caves inscribed on the World Heritage List.

1995

- 10 January New Lighting & Re-development of Princess Margaret Rose Cave, Western Victoria, officially opened.
- 29 April Cave Creek Tragedy, Paparoa National Park, South Island, New Zealand.
- 29 April – 7 May **11th Australasian Conference on Cave & Karst Management, Tasmania**
- 4 May **ACKMA Incorporated inaugurated.**
- 19 June *Determining an Environmental and Social Carrying Capacity for the Jenolan Caves Reserve* document officially launched.
- 11 August ACKMA officially incorporated (in Victoria).
- October ACKMA's *South East Karst Province of South Australia Report* published.
- 7 October *Bat Cave Teleview Centre* officially opened, Naracoorte Caves, South Australia.
- December *Blackwater Cafe* (new Blackwater Rafting headquarters) opened, Waitomo Caves, New Zealand.

1996

- January New Jenolan Caves Reserve Trust building opened in Bathurst, NSW.
- February ACKMA 'multilateral' Cave Guide exchanges.
- 13-15 February 3rd Australian Karst Studies Seminar/Workshop, Naracoorte Caves, SA.
- 4 – 8 March 6th Cave Guides *Gabfest*, Kelly Hill Caves, Kangaroo Island, South Australia.
- 20 May New Ticket Office opened, Jenolan Caves, New South Wales.
- 9 June **ACKMA Annual General Meeting weekend, Taralga, New South Wales.**
- 1 August *Directory of Caves in Australia & New Zealand* published.
- 7 September Redeveloped Cathedral Cave, officially opened, Abercrombie Caves, NSW.
- 13 November Mole Creek Karst National Park, Tasmania, proclaimed
- 15 November Phosphate Mine 'Cave' officially opened, Wellington Caves, New South Wales.

1997

- 16 January New day-use facilities officially opened, Royal Arch Cave, Chillagoe, Queensland
- 21 February *Caveworks* Interpretation Centre officially opened, Lake Cave, Margaret River, Western Australia.

- Early 1997 IUCN *Guidelines for Cave and Karst Protection*, edited by an ACKMA team, is published.
- 27 April – 4 May **12th Australasian Conference on Cave & Karst Management, Waitomo Caves, New Zealand.**
- 4 May – 8 May Post Conference Study Tour - Takaka Karst, South Island, New Zealand.
- 18 October Junction Cave Centenary Celebrations, Wombeyan Caves, New South Wales.

1998

- 26 January Anne Atkinson becomes a *Member of the Order of Australia* for services to geology at Undara in Australia Day Honours List.
- 10 – 13 February 4th Australian Karst Studies Seminar/Workshop, Mole Creek Caves, Tasmania.
- 15 – 20 March 7th Cave Guides *Gabfest*, Augusta/Margaret River Caves, Western Australia.
- March ACKMA Report on Cape Range karst released by the WA Government.
- March-April ACKMA team undertakes management study on Christmas Island.
- June 10th Anniversary Edition of the ACKMA Journal published (No. 31).
- 13 June **ACKMA Annual General Meeting weekend, Jenolan Caves, New South Wales.**
- July Severe flooding in the Glowworm Cave, Waitomo, New Zealand. August Wombeyan Caves Plan of Management, released, New South Wales.
- September Mammoth Cave, WA, upgrade completed, opened as a ‘ self guided’ cave.
- 3 December Giant’s & Calgardup Caves, Margaret River, Western Australia, re-opened as Tourist ‘ self Guided’ caves.
- 4 December Wonambi Fossil Centre, Naracoorte Caves, South Australia, officially opened by the South Australian Premier, Hon. John Olsen.

1999

- 18 – 24 April **13th Australasian Conference on Cave & Karst Management, Mt. Gambier, South Australia.**
- 24 April Te Anau Caves, South Island, New Zealand – cave upgraded officially opened.
- 25 – 27 April Post Conference Study Tour to Karst & Volcanics of Western Victoria.
- April ACKMA Life Member’s Fund inaugurated.
- April CD Rom – *ACKMA Insights* – launched.
- July Cammoo Caves, Queensland, sold to the Queensland Parks & Wildlife Service, closed as a Tourist cave, and added to the Mt. Etna Caves National Park.
- 8 October ACKMA & ASF Joint Executive Meeting, Canberra, Australian Capital Territory.
- 27 November Official Handover of Cammoo Caves to Queensland Parks & Wildlife Service.
- November Black Water Rafting Ltd. assumes control of Mason’s Glowworm Caves, NZ.
- 3 December New Visitor Facilities opened at the Glowworm Cave, Waitomo, New Zealand.

2000

- 4 – 7 February 2000 5th Australian Karst Studies Seminar, Wellington Caves, New South Wales.
- 28 February – 3 March 8th Cave Guides *Gabfest*, Wombeyan Caves, New South Wales.
- 12 June 2000 Brian Clark, Manager of Naracoorte Caves, South Australia, is awarded the Public Service Medal in the Queen's Birthday Honour List.
- 17 June **ACKMA Annual General Meeting weekend, Buchan Caves, Victoria.**
- 7 August New displays of Waitomo Museum of Caves, New Zealand, officially opened.
- 11 October Australian Geological Survey Organisation 'Discover Australian Caves' Education Kit launched, Yarrangobilly Caves, New South Wales.
- November Lake Cave, Margaret River, Western Australia, re-lighting and re-fit, completed.
- 6 – 9 November Limestone Quarrying and Conservation Workshop, Bathurst, New South Wales.
- 29 November Greater Blue Mountains Area, New South Wales (including Jenolan Caves), inscribed on the World Heritage List.
- December Upgrade of Lucas Cave, Jenolan Caves, New South Wales, completed.

2001

- 26 January Professor Elery Hamilton-Smith awarded Membership of the Order of Australia (AM) in Queen's Australia Day Honours List.
- 4 March Official Opening of new Hasting Caves Visitor's Centre, Tasmania.
- 30 April – 5 May **14th Australasian Conference on Cave & Karst Management, Wombeyan Caves, New South Wales.**
- 5 - 7 May Post Conference Study Tours to Yarrangobilly Cave & Cooleman Plains, and to Abercrombie & Jenolan Caves, New South Wales.
- 26 May – 29 May Asia Pacific Forum of Karst Eco-systems and World Heritage, Gunung Mulu National Park, Sarawak, Malaysia.
- 1 – 2 December Lake Cave Centenary Celebrations, Margaret River, Western Australia.

2002

- 3 –8 February 9th Cave Guides Gabfest (Cave & Karst Presenters Workshop), Naracoorte Caves, New South Wales.
- 5 May Professor Elery Hamilton-Smith awarded Honorary Doctorate of Applied Science by RMIT University, Melbourne.
- May Re-lighting of Newdegate cave, Hastings, Tasmania, completed by Neil Kell.
- 11 May **ACKMA Annual General Meeting, Yarrangobilly Caves, New South Wales.**
- 10 July – 10 August ACKMA has a stand at the International Cave Expo, Korea.

4 December New Visitor's Centre at Buchan Caves, Victoria, officially opened.

2003

5 – 12 May **15th Australasian Conference on Cave & Karst Management, Chillagoe Caves and Undara Lava Tubes, North Queensland.**

May Re-lighting of Cutta Cutta Cave, Northern Territory, completed by Neil Kell.

August River Cave Centenary Celebrations, Jenolan Caves, New South Wales.

20 December Memorial Dedication Ceremony to the late Peter Dimond, Waitomo Museum of Caves, New Zealand.

2004

24 – 28 May 10th Cave Guides Workshop, Mole Creek, Tasmania.

29 – 30 May **ACKMA Annual General Meeting Weekend, Mole Creek, Tasmania.**

24 July Launch of 'Friends of Wellington Caves', New South Wales.

11 September Lucas Cave Upgrade Officially Opened, Jenolan Caves, New South Wales.

10 – 19 October Limestone Coast (IGCP 448) 2004 Workshop, Naracoorte Caves, South Australia.

August Publication of the Mole Creek Karst National Park Management Plan, Tasmania.

6 November New Book: *Caves & Karst of Wombeyan* launched, Wombeyan Caves, NSW.

November *The Cave of the Spirit*, Waitomo, NZ, opened as a show cave by Spellbound Tours.

December *Caves and Caving* Exhibit opened at Tasmanian Museum & Art Gallery, Hobart.

2005

29 March – 2 April 10th Conference on Australasian Paleontology (CAVEPS), Naracoorte Caves, SA.

6 – 10 April ACKMA Pre-Conference Study Tour, South Island, New Zealand.

10 -17 April **16th Australasian Conference on Cave & Karst Management, Wespport, South Island, New Zealand.**

17 – 22 April ACKMA Post-Conference Study Tour, South Island, New Zealand.

28 July Re-developed Ruakuri Cave at Waitomo Caves, NZ, officially opened.

8th November Legislation passes the NSW Parliament transferring Wombeyan, Abercrombie and Borenore Caves, and the Jenolan karst, to the NSW Parks & Wildlife Service.

14 December Fire destroys above ground infrastructure at the Glowworm Cave, Waitomo, NZ.

2006

6 – 7 January Bushfires devastate Yanchep National Park, Western Australia.

- 17 February Damage to speleothems in Crystal Cave, Yanchep, Western Australia, after break-in by vandals.
- 26 February–3 March 11th Cave & Karst Presenters Workshop, Margaret River, Western Australia.
- 6 – 8 April Fire devastates external Infrastructure and doline at Mammoth Cave, Margaret River, Western Australia.
- 12 April New re-lighting of The Temple of Baal, Jenolan Caves, officially opened.
- 5 – 8 May **ACKMA Annual General Meeting Weekend, Kangaroo Island, South Australia.**
- 13 September Peter Chandler and John Ash received the New Zealand Order of Merit a ceremony in Auckland, for services to tourism.
- 23 October Newly-developed Nettle Cave at Jenolan officially opened as a self-guided tour.
- 21 – 26 October ACKMA represented at the 5q th International Show Caves Association, Bermuda.

2007

- 17 -18 March Centenary Celebrations of the Discovery of Fairy Cave, Buchan, Victoria.
- 29 April – 5 May **17th Australasian Conference on Cave & Karst Management, Buchan Caves, Victoria.**

2008

- 10 –16 February 12th Cave & Karst Presenters Workshop, Jenolan Caves.
- 14 March Michael Chalker retires as Manager of Wombeyan Caves, after 20+ years service.
- 17–19 May **ACKMA Annual General Meeting Weekend, Capricorn Caves, Queensland.**
- June/July Gunns Plains Cave, Tasmania, re-lit by Neil Kell.
- 1–10 September 13th International Symposium of Vulcanospeleology, Jeju Island, South Korea.
- 21–26 September 19th International Symposium of Subterranean Biology, Fremantle, Western Australia.
- 27 September Formal handover of the Mt Etna quarries by *Cement Australia* to the Queensland Parks and Wildlife Service.
- 7 October Yarrangobilly Caves, NSW, *Caves House* officially re-opened.
- 4 December 10th Anniversary celebrations of the opening of the Wonambi Fossil Centre
- 5 December Buchan Caves formally re-commissioned, after upgrade.

2009

- 6 January 2009 Celebration of the Centenary of the opening of Gunns Plains Cave, Tasmania.
- 15 February Death of Roy Skinner, the ‘Grandfather of ACKMA’.
- 4 – 5 April Celebration of the Centenary of the opening of Alexandra Cave, Naracoorte, SA.

- 15 April Centenary Celebration of the opening of Alexandra Cave, Naracoorte, South Australia.
- 2 May ACKMA-run Interpretation Workshop, Margaret River, Western Australia.
- 3 – 5 May **18th Australasian Conference on Cave & Karst Management, Margaret River, Western Australia.**
- 5 – 8 May Post Conference Study Tour, South-west Western Australia.
- June 2009 ACKMA Journal celebrates 21 years of publication.
- 20 August Official re-opening of Orient Cave at Jenolan, following its re-lighting.
- 25 August Death of Clyde Stiff, erstwhile Wombeyan Caves Manager and ACKMA Life Member.

2010

- 17 – 20 April 2nd Global Geotourism Conference, Mulu Caves, Malaysia.
- 21 – 29 April **ACKMA Annual General Meeting ‘week’, Mulu Caves, Malaysia.**
- 25 – 28 July 13th Cave & Karst Presenters Workshop, Wellington Caves, New South Wales.
- 12 – 17 August 14th International Vulcanospeleology Symposium, Undara, Queensland.
- September Kelly Hill Caves, Kangaroo Island, South Australia, re-lit in LED lighting.
- 20 – 24 October 6th International Show Caves Association Congress, Slovakia.
- 21 October Official Opening of the new Visitor’s Centre at the Glowworm Cave, Waitomo, NZ.
- 7 November Centenary Celebration of the opening of Royal Cave, Buchan, Victoria.

2011

- 14 – 17 January Significant flooding on Northern Tasmania show caves.
- 9 February Official Opening of Jewel Cave & new Visitor’s Centre re-development, Margaret River, Western Australia.
- February Water (anticline) Cave opened for self-guiding at Wellington Caves, New South Wales.
- 8 – 13 May **19th Australasian Conference on Cave & Karst Management, Ulverstone, Tasmania.**





Australasian Cave and Karst Management Association Inc
ANNUAL GENERAL MEETING

Wednesday 11 May 2011 (4:30pm)
 Ulverstone Surf Life Saving Club, Beach Road, Ulverstone, Tasmania 7315

The Annual General Meeting of the Australasian Cave and Karst Management Association will be held at the Ulverstone Surf Life Saving Club, Tasmania, on Wednesday 11 May 2011, commencing at 4:30pm. All members and interested people are invited to attend this meeting. Please come along and participate in the running of your Association.

AGENDA

1. Apologies
2. Confirmation of the minutes of the previous meeting held at the Royal Chamber, Royal Mulu Resort, Sarawak, Malaysia, on 24 April 2010.
3. Any actions arising from those minutes (none).
4. Receipt of reports from the Committee upon the business of the Association during the preceding year.
5. To elect officers of the Association and ordinary members of the Committee.

Note that the officers of the Association are a President, two Vice-Presidents, a Treasurer, an Executive Officer, the Convenor of the Association's next conference, and an Editor/Publications Officer. All these positions are vacant as of the date of the Annual General Meeting. Also to be elected are three ordinary members of the Committee. Currently these positions are allocated the following tasks: Karst Science Officer, Interpretations Officer, and Information Technology Officer & Webmaster. Note that the responsibilities outlined above for ordinary members of the Committee are not defined in the Rules of the Association and can be reset according to the wishes of the new committee.

Nominations for positions closed on 4 May 2011, and are as follows:

POSITION	NOMINEE	PROPOSER	SECONDER
President	Peter Chandler		
Vice President (Aus)	Dan Cove	Scott Melton	Peter Walsh
Vice President (NZ)	Dave Smith		
Executive Officer	Cathy Sellers	Steve Bourne	Andy Spate
Treasurer	Dr Grant Garterll	Kent Henderson	Elery Hamilton-Smith
Publications Officer	Kent Henderson	Steve Bourne	Andy Spate
Conference Convenor	Libby Chandler		
Committee Member	Sasa Kennedy	Dan Cove	Grant Commins
Committee Member	Kirsty Dixon	Steve Bourne	Andy Spate
Committee Member	Rauleigh Webb	Dianne Vavryn	Kent Henderson
Committee Member	Geoff Deer	Cathie Plowman	Kent Henderson

For all positions except Committee Member, nominations do not exceed vacancies. For the positions of Committee Member, three are to be elected from four nominees.

6. To consider the Treasurer's Report regarding budget, income and expenditure of the Association.
7. To set the membership fees of the Association.
8. To consider the day-to-day operation of the Association and the following items of general business:
 - 8.1. To consider a special resolution to add a new subrule to the Rules of the Association that: 'No person who is a candidate for any position shall either nominate or second the nomination of another person for any position.' (AC Culberg)
 - 8.2. To consider a special resolution to amend the Rules of the Association, by changing the pre-AGM deadline for committee and officer nominations from seven days to thirty days. (K Henderson)
 - 8.3. Selection of a venue for the 2012 ACKMA AGM.
 - 8.4. Selection of a venue for the 2015 ACKMA AGM and Conference.
 - 8.5. Report on the ACKMA Conference at Waitomo Caves in 2013. (P Chandler et al)
 - 8.6. Report on the 2014 International Show Caves Association Congress. (D Cove)
 - 8.7. Consider recommendations from the ACKMA Committee (if any).
 - 8.8. Elect Fellows and/or Life Members (if nominated).

Dave Smith
 ACKMA Executive Officer
executive.officer@ackma.org

MINUTES – ACKMA ANNUAL GENERAL MEETING

held at the Royal Chamber, Royal Mulu Resort, Sarawak, Malaysia, on 24 April 2010, commencing at 3:30pm.

CHAIRPERSON: Steve Bourne, President, ACKMA Inc.

PRESENT: Approximately 50 members

APOLOGIES: Elery Hamilton-Smith, Nicholas White, Susan White, Tony Culberg, Pat Culberg, Claire Baker, Brett Dalziell, Stefan Eberhard, Dominic Cove, Rolan Eberhard.

MINUTES: The minutes of the previous Annual General Meeting (held at the Margaret River Cultural Centre, WA, 6 May 2009) were accepted as read (and pre-circulated). Moved: Geoff Deer. Seconded: Peter Woods. Carried.

ACTIONS ARISING FROM THE MINUTES: Nil.

COMMITTEE REPORTS: The reports of the Committee Members for 2009-2010, with the exception of the Treasurer's report (below), were accepted as read (and pre-circulated). Moved: Andy Spate. Seconded: Tim Moulds. Carried.

ELECTION OF OFFICERS: Nominations received for positions were as follows:

POSITION	NUMBER TO BE ELECTED	NOMINEE	PROPOSER	SECONDER
President	One	Steve Bourne	Kent Henderson	Dianne Vavryn
Vice President (Aus)	One	Anne Wood	Peter Wood	Sharon Thwaites
Vice President (NZ)	One	Peter Chandler	Dave Smith	John Ash
Executive Officer	One	Dave Smith	Peter Chandler	John Ash
Treasurer	One	Grant Gartrell	Kent Henderson	Steve Bourne
Publications Officer	One	Kent Henderson	Dianne Vavryn	Grant Gartrell
Conference Convenor	One	Tony Culberg	Cathie Plowman	Kent Henderson
Committee Members	Three	Rauleigh Webb	Kent Henderson	Dianne Vavryn
		Deborah Carden	Mary Trayes	Paul Schramm
		Dan Cove	Barry Richard	David Rowling

As nominations did not exceed vacancies, the Chairman declared those nominated duly elected for 2010-2011.

The President and Andy Spate both spoke noting the lack of new nominees, and encouraging people to help run the organisation and stand for positions.

TREASURER'S REPORT: The Treasurer, Dr Grant Gartrell, presented the Treasurer's Report and Accounts for 2009-2010, which showed that the Association was in a sound financial position with an account balance of \$20,485.10. It was moved (Grant Gartrell, seconded Kent Henderson) that the Treasurer's Report and Accounts be received and adopted. Carried.

MEMBERSHIP FEES: The Treasurer recommended no change in the Membership Fees of the Association. Moved that membership fees remain the same, David Wools-Cobb. Seconded Di Vavryn. Carried.

LEGAL STATEMENT: At past meetings, a motion has been passed that the statement to Victorian Incorporation Associations Office by the Association in accordance with section 30 (3) of the Act, is to be submitted when prepared. After discussion it was agreed that this approach was redundant and unnecessary, and the statement could be submitted without a General Meeting motion.

GENERAL BUSINESS:

2011 Tasmania Conference

Cathy Plowman, on behalf of Tony Culberg and the Organising Committee, gave a presentation inviting everyone to attend the Tasmania Conference in 2011. It will be based in Ulverstone on the north coast. Dates have yet to be set and members are advised to watch the ACKMA website for updates.

2012 Annual General Meeting

Andy Spate spoke outlining some complications with the proposed AGM at Cango Caves, South Africa. From the Committee meeting it was decided that further nominations for host sites will be taken at the 2011 Tasmanian Conference and a decision made then. ACKMA will facilitate a trip to Cango Caves for those interested, as a separate event from the AGM. Around 20 members expressed interest in participating. The President asked members to consider nominating suitable sites at the Tasmania meeting.

Fellows

Kent Henderson proposed Dr John Watson. Seconded by Brian Clark. Carried by acclaim
Steve Bourne proposed Cathy Plowman. Seconded by Andy Spate. Carried by acclaim.
Both spoke and were presented with certificates.

Bid for ICSA Conference

Jenolan Caves propose to bid to host the International Show Caves Association Conference in 2014. The Committee had discussed supporting a member to attend the upcoming conference to support the bid, but decided against that. Moved and carried that ACKMA support in principle Jenolan's ISCA bid.

Thanks to Mulu organisers

The President spoke acknowledging the great organisation and hosting of the Mulu event by Brian and Sue Clark and all the Mulu staff. Supported by acclaim.

LATE ITEMS:

John Watson spoke about the draft DEC guidelines for cave and karst management, saying they are in progress and a draft is available.

Neil Kell thanked Carol Parker for her role in helping to organise travel for some attendees. Agreed to send a message of thanks. Moved Neil Kell, seconded Pete Chandler. Carried by acclaim.

CLOSURE: There being no further business, the meeting closed at 4:20pm.

SUBMISSION to hold the 2012 ACKMA Annual General Meeting 'Weekend', at Fitzroy Crossing, Western Australia

We warmly invite ACKMA to hold its Annual General Meeting 'Weekend' in the Kimberleys in northern Western Australia, based at Fitzroy Crossing in late May 2012 (last weekend suggested, climate-wise).

Except for those who may wish to drive to the Kimberley from other parts of Australia by car, suggested access to the region is largely by flying to Broome. There are now daily (or more) flights from most Australian state capital cities to Broome, which of latter years has become a

popular tourist resort. Indeed, members may well wish to *lay on the beach* at Broome either before or after the AGM 'Weekend'!

Travel from Broome to Fitzroy Crossing will be by hired four-wheel drive bus (about a 3+ hour drive). While an excellent sealed highway links the two locations, we will need the four-wheel drive facility for our field trips. There are two motels in Fitzroy Crossing, which between them will form our accommodation.

The suggested Draft Program would be as follows:

Friday Arrive in Broome. Travel by four-wheeled driver bus to Fitzroy Crossing. Welcoming BBQ.

Saturday Bus One: Visit Tunnel Creek NP and Windjana Gorge NP.
Bus Two: Visit Mimbi Caves and Geike Gorge NP.

Saturday evening – ACKMA Committee meets.

Sunday Bus One: Visit Mimbi Caves and Geike Gorge NP.
Bus Two: Visit Tunnel Creek National Park and Windjana Gorge National Park.
Sunday evening – ACKMA Annual General Meeting.

Monday Depart for Broome, or travel onto the Bungle-Bungle/Purnululu National Park – World Heritage Area. Camping tour option for several days in the Bungle Bungles. Transport would continue on to Kununurra (connecting flights to either Darwin or Perth)

Tunnel Creek, Windjana, Geike and Mimbi are all absolutely fabulous cave/karst sites – which Kent Henderson wrote about at length in a recent edition of the ACKMA Journal. Rather than expound their considerable virtues at length here, members can readily consult the web sites listed below.

Another good possibility, indeed probably the best option, for extending the program past the AGM Weekend, would be some sort of 4WD tag-a-long type tour.

Where a number of people have the vehicles with room for others to accompany them – heading to the Bungles for a few days (options there are to camp – need own equipment; or to book into one of the three wilderness lodges) and then continue on to Kununurra for visit to the Ningbing Ranges (karst!), as well as

perhaps also El Questro and/or the Gregory National Park caves/karst in the Northern Territory.

As to costs, we suspect they will compare with the Mulu excursion of last year – by the time members add their air fares and the on-ground costs. For the AGM 'Weekend', we have costed the weekend at approx. \$750 per person – which includes the bus to and from Broome, mid-range accommodation (twin share) and all meals, and all tours and fees. Clearly, this may vary a little between now and then. We will do our very best to keep costs as skinny as possible. Obviously, there will be additional costs for those choosing the extended option to the Bungle Bungles and through to Kununurra – though if it turns out as just suggested, these costs will be comparably smaller.

In summary, we suspect that most ACKMA members will have never been to The Kimberley, and this will be a fabulous opportunity for them to do so. We concede visiting The Kimberley is not particularly cheap (it is fairly remote...) compared to many other areas, but we also suggest it will cost members much more to 'do it themselves'.

We will supply a much more detailed costing closer to the event.

Regards,

Tracey Robins and Neil Taylor.

Windjana

<http://www.kimberleyaustralia.com/windjana-gorge-national-park.html>

Tunnel Creek

<http://www.kimberleyaustralia.com/tunnel-creek-national-park.html>

Mimbi Caves

<http://www.mimbicaves.com/>

Geike Gorge

<http://www.kimberleyaustralia.com/geikie-gorge-national-park.html>

Bungle Bungles <http://www.kimberleyaustralia.com/bungle-bungles.html>

http://www.dec.wa.gov.au/component/option,com_hotproperty/task,view/id,39/Itemid,755/

SUBMISSION to hold the 2012 ACKMA Annual General Meeting 'Weekend', at Wee Jasper Caves, New South Wales

Come to the place where Andy met Elery nearly five decades ago!

Careys Cave and the Wee Jasper Valley would like to invite ACKMA to hold its 2012 AGM in the beautiful Wee Jasper Valley. We cannot offer multiple caves, amazing adventures and the latest in cave lighting developments.

coral and fish fossils in the historic Cooradigbee Homestead and on the water-washed limestone itself. We intend inviting internationally-recognised palaeontologists to present information – and amazing 3D imagery of Devonian fishes' nervous systems.

What we can offer: a no-frills and inexpensive AGM in Australia's loveliest valley, coupled with great hospitality; the home of Australia's first cave map – including a long-section! ; the type locality of the Eastern Horseshoe Bat, *Rhinolophus megaphyllus*; an internationally significant Devonian fish fossil site; scientifically important caves that set the scene in modern research into Australia's caves; and of course the beautiful colours and sculpturing in Careys Cave.

Other activities available include: fishing, horse-riding, and potentially star-gazing with the Wagga Wagga Astronomical Society, bushwalking and possibly a concert in Careys Cave. We will also conduct a photo-competition – with the condition that they not be photo-shopped so everyone is on an even footing!

Geoff, Suzanne and Andy invite ACKMA to hold its 25th Birthday and the 2012 Annual General Meeting at Wee Jasper – about 1.5 hours drive from Canberra.

While we can organize and offer a range of such activities, the beauty of Wee Jasper is the low-stress natural environment and we hope above all to provide the opportunity for colleagues to relax and talk (round the campfire?) – something there is often not enough time for at ACKMA events.

Activities available include Careys Cave, inspections of Punchbowl, Dip, Signature and Dogleg Caves. Perhaps even the wonderful Nice Cave for a select (and thin) few. Caving will vary from easy strolls through pull-down abseil trips in Dip Cave – and for the more adventurous SRT visits to Punchbowl Cave. Andy will conduct his Punchbowl Hill karst walk on several occasions and if the level of Burrinjuck Dam is down Ian and Helen Cathles will show off their marvelous Devonian

There are more accommodation beds in the Wee Jasper valley than there are local inhabitants! They range from about four-star to bunkhouse – with plenty of camping locations including powered sites and showers. Unfortunately they are spread out over several kilometres. As we said it will be a no frills exercise with a central location for meals.

This event at Wee Jasper is fairly central to many ACKMA members (most come from NSW) and there is easy train, bus and air access to Yass and Canberra. Transport to Wee Jasper will be arranged. We hope to see all the old hands – plus all who haven't yet attended an ACKMA function.

SOME DETAILS:

Transport Rail To Yass/Canberra
 Bus Yass/Canberra
 Air Canberra
 Road Wee Jasper

Transport from Yass/Canberra to Wee Jasper

Accommodation

Cooradigbee Homestead	10 (5 rooms)
Cooradigbee shearers quarters	29
Cooradigbee shearing shed	10-20 (swags)
Cooradigbee cottage	6
Wee Jasper station shearers quarters	24
Garden Cottage	6
Jackaroo Cottage	4
Barbara/Nevilles	5-6
Cooradigbee shearers quarters	- camping
Wee Jasper station	- camping

Note: Some of this accommodation has double beds. Camping: \$7.00. Accommodation would run at approx. \$20.00 per person per night (2010 prices), excluding the homestead.

Things to do in Wee Jasper:

ACKMA AGM, Careys cave tour(s), Concert(?), fossils plus 3D demo etc, stargazing – wagga astronomy guys, campfire, bushwalking – bushwalking (Hume & Hovell Track) – WJ Hall to Fitzpatrick Trackhead section, horse riding, karst walk, wild caves – punchbowl, signature, dip – easy and SRT at two levels, swimming, fishing, social time, photo competition.

Food

Total food cost is estimated at \$95.00 per person. BYO booze – none available locally.

Regards,

Geoff and Suzanne Kell, and Andy Spate.

<http://www.weejaspercaves.com>

<http://www.visitweejasper.com.au/>

SUBMISSION TO HOST THE 21st AUSTRALASIAN CONFERENCE ON CAVE AND KARST MANAGEMENT, in 2015, at NARACOORTE CAVES, South Australia.

Naracoorte Caves are located in the South East of South Australia. Along with Riversleigh in North Queensland Naracoorte Caves National Park is inscribed on the World Heritage List for its outstanding natural universal values. Together these sites represent the key stages in the development of Australia's mammal fauna. The fossil deposits at Naracoorte illustrate faunal change spanning several ice ages, highlighting the impacts of both climatic change and humankind on Australia's mammals from at least 350 000 years before the present.

The Park operates a range of guided cave tours. The unique fossil record is showcased on the Victoria Fossil Cave tour; visitors are informed about the rare and endangered Southern Bentwing bats that breed in SA only at Naracoorte and viewed in 'real-time' via the renowned televue centre and Alexandra Show Cave provides a visual delight with its lovely formations. Novice and extended adventure caving are offered to the more venturesome and there is a variety of short and longer walks.

The Park has an excellent café offering fresh food and local wines. There is a campground with powered caravan sites as well as tenting and a bunkhouse that can sleep up to 50 people.

A palaeological research project is taking a new and exciting direction and a recovery project for the Bentwing bats is also underway. Naracoorte Caves last hosted an ACKMA Conference in 1999. By 2015 the research will be showing results in which ACKMA would be most interested.

There are many other attractions and places of interest in our region. We can offer a conference in an attractive and accessible setting, catering to different interests, ages and stages. I submit Naracoorte Caves to the ACKMA AGM as host for the 21st ACKMA Conference.

Deborah Carden
 Manager
 Naracoorte and Tantanoola Caves

Committee Annual Reports

2008 - 2009

PRESIDENT'S REPORT

– Steve Bourne

Here we are twelve months on from the Mulu AGM adventure and it is still front of mind for those who were fortunate to attend. It was a landmark event for ACKMA but when I look at the year since then a whole lot more has happened in the caving world. Most have been reported through the journal, but I would like to recap on a few key events.

First is the successful bid to hold the 2014 International Show Caves Association (ISCA) conference. It is a Jenolan Caves bid put forward by Dan Cove, supported by ACKMA, but will provide Australasian cave managers a chance to interact with internationals on our own turf. We regularly read reports from individuals who travel on other caves around the world and of course we compare to our own work. Comments and suggestions from our international peers will be most welcome.

The end of 2010 and beginning of 2011 saw Australia battered by a series of natural “disasters”. I hesitate to use disaster as these were natural events that while beyond the norm, our landscapes and caves have seen them all before. The challenge is the impact on business and for Anne Augustyn at Capricorn, Geoff Kell at Wee Jasper and Geoff and Trish Deer at Gunns Plains the recent events have been a major financial challenge.

On the positive side, some new developments were opened at Waitomo in New Zealand and Jewel Cave in Western Australia. I am yet to see these for myself but by all accounts both are exceptional pieces of work. There has been considerable investment in infrastructure at many (even most?) cave sites in Australasia but I often wonder if the same level of investment or effort is being put into

developing front line staff- guides, interpreters, hosts or whatever title we give these critical staff. There has been some really good documents produced to support staff training but still not all cave experiences live up to expectation. We need to ensure we continue to invest in staff, training and development is a never ending task. ACKMA can continue to play a role in this area.

At the final dinner at Mulu, Cathie Plowman led the charge to raise funds to support Mulu guide training. Brian Clark brought Syria and Henry to Naracoorte in March and they thoroughly enjoyed and learnt from their time in Australia. I am happy to report that ACKMA funds provided the opportunity but Henry and Syria's enthusiasm made the placement work. Another example of an ACKMA conference having a positive impact on a community.

This is my last meeting as president, it is time for a change. Leading ACKMA has been a pleasure, a challenge, frustrating, enjoyable and always rewarding. I wanted to see two major changes in ACKMA during my term; improve the balance in people involved in running the organisation, and a greater diversity of ages and a balance of the sexes at conferences. I feel both have been achieved to some extent, of course with the support of the committee and members. There are some constants of course which maintain the organisation; Kent, Rauleigh, Dave, Andy and Grant do more than their fair share of work. Others of us come and go and hopefully contribute. Thank you for the support I received as president and I look forward to being a part of ACKMA for many years to come.

AUSTRALIAN VICE PRESIDENT'S REPORT

– Anne Wood

Another year has gone by. ACKMA members in Western Australia have spread beyond the south west of the state with Andy Spate and Kirsty Dixon in the Cape Range area and more recently in the mid west, and Neil Taylor and Tracey Robins

recently moving from the Kimberley to Cape Range. The presence of these people will undoubtedly raise the profile of karst management in their respective areas.

The long awaited redevelopment of the surface infrastructure at Jewel Cave has been completed, with the official opening being held on 9th of February earlier this year. This was a grand affair with many politicians and two of the first explorers of the cave, Lloyd Robinson and Lex Bastion in attendance. Ron Spackman was also present to represent his father Cliff. Other projects include work on the lighting at Crystal Cave in Yanchep. There are also plans afoot for a major redevelopment of the lighting and an innovative audio system at Ngilgi Cave, Yallingup.

Water levels continue to fall throughout the caves in the Leeuwin-Naturaliste area. *Caveworks* is investigating the hydrology of Lake Cave and ways of maintaining water in the system. An exception to the falling water levels was observed in one of the

caves in the Boranup forest, where water has suddenly reappeared despite the drying climate. More research is needed in this area.

The draft Caves and Karst Policy developed by the Department of Environment and Conservation's Dr John Watson is still awaiting final approval. As previously reported this policy will be a significant step forward in karst management in Western Australia, raising the profile of karst management and encouraging and supporting good management of karst areas outside DEC managed areas as well as supporting conservation of karst within DEC managed lands. Western Australia has geographically diverse karst landscapes and ACKMA members within our state continue to lobby for an appropriate profile within both management plans and relevant districts.

NEW ZEALAND VICE PRESIDENT'S REPORT

– Peter Chandler

Looking back through the archives, I was nominated for this position after the *Waitomo Revisited* conference in 1997, previously held by a youthful Greg Martin while the late Peter Dimond was conference convenor.

Being the NZ administrator is perhaps the bigger part of the job, made a pleasure by those who renew their membership promptly!

It looks like a year for some new office positions, bringing new faces into these positions is essential for the future of the organisation. We also look forward to the Waitomo Conference in two years time although a home conference does represent much organisation hosting and hard work as has been shown by the Tasmanian conference

committee members and volunteers this week. It also must be mentioned what an achievement it is to be having the 2014 ISCA conference at Jenolan – in Australasia – congratulations to those who made it happen.

I would particularly like to thank Steve for his lengthy term as a dedicated and excellent President and Kent's continued energy and commitment as Publications Officer. I would also like to note Rauleigh's IT/ web work and Grant as treasurer – they are positions that require particular skills and a long term commitment; all the other office bearers and finally all the individual members who are all valuable members of our association.

EXECUTIVE OFFICER'S REPORT

– Dave Smith

As in previous years, the administration of the organisation has run smoothly with no significant events or hiccups. Minutes etc are up to date and correspondence is scant. We do need to sort out the rules of the organisation as we are currently in limbo with a set voted in but not accepted by the

Registrar. I will not be standing as Executive Officer again and, having only ever done the minimum required over recent years, it is time for someone else to take up the pen.

TREASURER'S (& MEMBERSHIP RECORDS OFFICER'S) REPORT

- Dr. Grant Gartrell

This report, together with a full financial statement, will be circulated at the Annual General Meeting.

INTERPRETATION OFFICER'S REPORT

– Dan Cove

It has been particularly pleasing in recent years to see an ever increasing general awareness of the importance of on-site interpretation and interpretive guiding as a vital component of the overall visitor experience.

Attendance at conferences in 2008 such as the Global Geotourism Conference in Freemantle, and the IAA conference in Adelaide have highlighted not only this pleasing trend, but also how well placed current best practice thinking in cave and karst interpretation is when compared to interpretation in other comparable tourist and nature based activities.

One great strength of cave and karst interpretation is its ability to transform a 'tour' experience into a broader message on environmental stewardship, and thus for cave sites to be flagship areas for eco-tourism and geo-tourism generally.

There has also been a great deal of recent healthy debate on the nature of guiding, with many cave sites experimenting with the traditional format of 'the guided tour'. This experimentation was a particular focus of the 'Cave Presenters Conference', held at Jenolan Caves in 2008, and is contributing a healthy avenue for debate.

The interpretation workshop to be held prior to the 2009 ACKMA conference is yet another positive step in the further development of interpretive skills within the profession.

Training of guiding staff is also increasingly identified as being of tremendous importance. It has been a focus area at Jenolan recently, and is an area in which I am hoping to conduct a review of on a national level over the coming twelve months.

PUBLICATIONS OFFICER'S REPORT

– Kent Henderson

The past twelve months has seen four ACKMA Journals published, Numbers 79, 80, 81, and 82. The success of the Journal is very largely determined by the quality of its contents, and I am most grateful to all our contributors, particularly those ACKMA committee members who contribute regularly, for their ongoing support.

The costs of production have remained relatively steady over past the twelve months. The print run per issue is currently 300 copies. This is something of an increase over recent years – reflecting higher ACKMA membership.

As will be noted, a 'colour cover' has become the norm. This has been possible with the advent, in recent years, of digital printing which has massively reduced the cost of printing in colour – to the point where a colour cover is now only \$200 more than a black and white one.

Even this small increase in costs has largely, thus far, been offset by advertising revenue.

I would like to particularly thank my sub-editors, Dianne Vavryn, Grant Gartrell and Steve Bourne who continues to do such a fantastic job. I usually send them page proofs with very little notice, which they always turn them around promptly. The quality of the Journal is in no small measure a reflection of their efforts.

I would also like to thank the members of the ACKMA Editorial Committee who have been a great support to me over several years now, particularly the Committee Chairman, Professor Elery Hamilton-Smith, although thankfully their services as arbitrators were not required in the previous twelve months.

I would also like to thank our Treasurer and Membership Records Officer Dr. Grant Gartrell, who has done a great job in his dual role. We have worked very well together, and together with the efforts of our Executive Officer, Dave Smith, the administration of ACKMA has flowed very smoothly indeed.

INTERPRETATION OFFICER'S REPORT

The past year has presented an increasing series of challenges to show cave operators in Australasia. To a large extent, these challenges are the continuation of a longer trend encompassing increasing visitor expectations and the need to offer a clearly differentiated product in a competitive consumer environment.

However, a further challenge has arisen in a general social decline in interest in, and engagement with, broad conservation values. These challenges put increased pressure on cave guides and show cave managers to continually reinvigorate their product offerings, and to find new ways to interpret cave values to create both return visitors and increase environmental advocacy.

It is pleasing to note that Australasian approaches to cave interpretation, including all related components such as lighting design, appear to remain at the cutting edge of world trends. At the ISCA Congress in October 2010, there was widespread acknowledgement from the International delegates to this end. It would also appear that the high standards being set within show-cave guiding are a contributing factor to many Australasian show-caves performing significantly above the broader tourism industry during the past year. It will remain a challenge to all such commercial sites to remain competitive and continue to reinvigorate their core product in the years ahead, and increased collaboration and cross-promotion will emerge as tools of increasing importance.

KARST SCIENCE OFFICER'S REPORT

– Deborah Carden

Karst is most often an intriguing landform, comprising unique geology, hydrology geomorphology, limestone-loving flora and karst fauna. Demands from multiplicities of use result in a broad range of issues for private land owners and public sector administrators.

ACKMA supports and encourages good management practices and scientific research that improves standards of cave and karst management and contributes to conservation and protection of values. ACKMA membership comprises a range of knowledge and skills across many different disciplines. Specialist expertise can be harnessed to optimise karstic brain-power; many heads provide better answers and conclusions. Cave and karst managers have to be multi-disciplinary in their approach to safeguarding the assets they manage. Conservation management practices are made smarter through collaboration. Wide ranging

research, including the climate change debate, is contributed by ACKMA members. I think these factors are ACKMA's strengths.

A key tool to maintain communication is the ACKMA Journal and again this year the journals have contained a range of interesting articles. Conferences and AGMs build contacts, maintain relationships and sustain information flows as well.

I have been on the ACKMA Committee for several years and have thoroughly enjoyed being involved at that level. I advised a few months ago I would not be seeking renomination for the committee as I think it is time for some new energy to come to the ACKMA table.

My best wishes to the new Committee and all ACKMA members.

INFORMATION TECHNOLOGY OFFICER / WEBMASTER'S REPORT

- Rauleigh Webb

The "Jobs" section that advertises jobs in the cave and karst arena has been very lean this year with NO jobs being advertised during the year. The "Members only" area Journal articles is now fully organised by journal

article number and with Kent Henderson and Sam Webb's assistance they now fully go back to as far as Journal 24. Previously they only went back to Journal 48.

This is an excellent resource but it would be better if all of the articles could be searched. I have located a free search engine and will be implementing that search engine in the near future. This will allow members to search all of the online Journal articles.

months compared with 98 in 2009/10. Probably all that Mulu stuff again- smile.

Costs for the website remain consistent. The hosting site remains very reliable with no outages during the year. The use of PayPal to pay annual ACKMA membership subscriptions online has again been examined. This appears now relatively easy to implement and would add little cost to the overall annual subscription. The ACKMA mailing list activity has increased significantly from last year with 121 messages posted in the last twelve

The guestbook was removed due to lack of interest. The usage stats for the website look good. Check out the website stats for the last 12 months in **Error! Reference source not found.** and **Error! Reference source not found.** below. Highlights are, downloads following the "Mulu week" are high because of significant downloading of photos and video from Mulu. The overall visits for the year are DOWN from 65,390 last year to 61,858 visits over the 12 month period with an average of 183 visitors per day WAY DOWN from 342 per day last year. As you can see from the trend in Figure 1 website visits have plateaued following the Mulu "event".

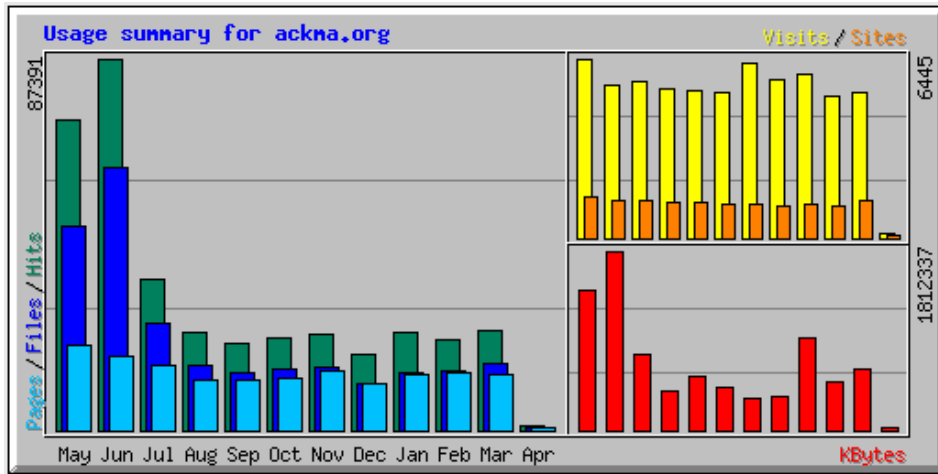


Figure 1

Summary by Month										
Month	Daily Avg				Monthly Totals					
	Hits	Files	Pages	Visits	Sites	kBytes	Visits	Pages	Files	Hits
Apr 2011	455	280	247	93	128	23200	186	495	560	910
Mar 2011	750	502	424	169	1328	628746	5260	13154	15565	23255
Feb 2011	761	503	485	181	1155	488371	5073	13606	14098	21332
Jan 2011	743	441	418	190	1192	942541	5902	12971	13701	23058
Dec 2010	570	361	359	182	1127	349575	5660	11138	11192	17678
Nov 2010	746	489	463	209	1200	329168	6289	13917	14696	22386
Oct 2010	703	460	399	169	1189	432692	5250	12396	14266	21800
Sep 2010	682	457	388	177	1280	542026	5325	11652	13729	20461
Aug 2010	747	496	381	173	1305	395690	5385	11841	15395	23177
Jul 2010	1152	813	491	180	1330	776674	5595	15250	25218	35722
Jun 2010	2913	2064	585	182	1337	1812337	5488	17565	61941	87391
May 2010	2559	1543	644	207	1454	1412926	6445	19980	47862	73144
Totals						8133946	61858	153965	248223	370314

Figure 2

As an indication of how everyone is accessing the website here's the top 20 pages used to enter the site for March 2011 – See **Error! Reference source not found.** I removed hits on items such as menu's, logos etc and left behind actual pages or groups of pages that are being accessed. The / at the top is the ackma home page. The journals_pub.html is the public access page to the list of journal articles which contains only one randomly chosen article per journal. Clearly this is a very popular page. Hopefully it is encouraging visitors to join ACKMA so that they can see ALL the journal articles.

Johnson from 1977-78 studies. Shows that the Lampenflora problem is of interest globally.

Good to see some interest in caving areas in Australia and New Zealand with hits on NSW caves the highest. Maybe the forthcoming ISCA conference at Jenolan has encouraged visits to these pages?

If you want to see how the website is going at anytime just go to:-

<http://ackma.org/webalizer/>

ACKMA members continue to have a big interest in Glowworm Poo as this journal article can only be accessed from the members page!! Claire can you please stop downloading your paper - smile. This paper and the Mt Etna paper continue to dominate the top two downloaded papers for the last two years.

This link will show you the last 12 months statistics for the site and you can look at many more statistics by the month.

The /papers/Wait3.html page is the Control Of Lampenflora At Waitomo Caves paper by Karl

Anyone wanting to put information onto the website is encouraged to contact me and have it placed online. Only too happy to help but I can't do things if no-one asks!!

Top 20 of 2462 Total URLs					
#	Hits	KBytes	URL		
1	2551	10.97%	14261	2.27%	/
2	1307	5.62%	36755	5.85%	/journal/journals_pub.html
8	239	1.03%	18298	2.91%	/journal/74/GLOWWORM POO - Peter Chandler and Dr Claire Baker.pdf
9	173	0.74%	228	0.04%	/conf2011/
10	149	0.64%	3351	0.53%	/2003/
14	143	0.61%	16507	2.63%	/journal/72/An Overview of the Mt Etna campaign - Peter Berill and Dianne Vavryn.pdf
15	131	0.56%	429	0.07%	/about.html
16	119	0.51%	819	0.13%	/auscaves/nsw/
17	116	0.50%	198564	31.58%	/conf2011/Registration Information.pdf
18	107	0.46%	4673	0.74%	/papers/Wait3.html
20	96	0.41%	154	0.02%	/links/
21	91	0.39%	8667	1.38%	/journal/59/Caves In The Tasmanian Wilderness - Greg Middleton.pdf
22	90	0.39%	78	0.01%	/nzcaves/north/
23	90	0.39%	1381	0.22%	/papers/class1.html
24	90	0.39%	4134	0.66%	/papers/cmprescriptions.html
25	88	0.38%	87	0.01%	/auscaves/qld/
27	86	0.37%	91	0.01%	/auscaves/wa/
28	85	0.37%	510	0.08%	/conf2005/
29	84	0.36%	152	0.02%	/members/aims/
30	79	0.34%	636	0.10%	/conf2007/

Figure 3

INTERNATIONAL RELATIONS OFFICER'S REPORT

- Andy Spate

Again not much to report ... only one overseas trip since Mulu – and that to the ISCA Congress in Slovakia. More on this below.

I have answered a number of queries from outside Australasia for information and for contacts with experts and show cave operations here.

As members will know by now the 6th ISCA Congress was held in Slovakia in October last year. I was asked to be one of the invited speakers – an honour for Australasia – and made ultimately made two presentations. The first, co-authored with Kent, Henderson, Dan Cove and Greg Martin dealt with the

history, functions and successes of ACKMA. The second was an introduction to Australian caves and karst.

In addition to these activities I have prepared two submissions to the South Australian Government at the request of President Bourne. ACKMA had been requested to respond to wilderness proposals for the South Australian portion of the Nullarbor and to a draft Visitor Strategy.

As it is clearly difficult, and maybe improper, for Steve to wear an ACKMA and a SA Government hat he asked me to respond on behalf of our organisation.



Location of New Zealand Show Caves and Adventure Tour Operations

ATTENDANCE AT AUSTRALASIAN CAVE & KARST MANAGEMENT CONFERENCES 1973 – 2011

Note: Attendees at only one Conference are not listed

- | | |
|---|--|
| <p>1ST CONFERENCE Jenolan, NSW, 1973.
40 Attendees.
Convenors: John Dunkley & Elery Hamilton-Smith</p> <p>2ND CONFERENCE Hobart, Tas., 1977.
18 Attendees.
Convenors: Roy & Andrew Skinner, Greg Middleton,
& Tony Culberg</p> <p>3RD CONFERENCE Mt. Gambier, SA, 1979.
30 Attendees.
Convenors: Ed Bailey, Graham Pilkington,
& Tony Robinson</p> <p>4TH CONFERENCE Yallingup, W A, 1981.
24 Attendees.
Convenors: John Watson, Joy Smith, Keith Tritton,
& Rauleigh Webb</p> <p>5TH CONFERENCE Lakes Entrance, Vic., 1983.
25 Attendees.
Convenors: Alan Costigan & Arnold Clarke</p> <p>6TH CONFERENCE Waitomo, NZ, 1985.
31 Attendees.
Convenor: Dave Williams</p> <p>7TH CONFERENCE New South Wales, 1987.
34 Attendees.
Convenor: Andy Spate</p> <p>8TH CONFERENCE Punakiki, NZ, 1989.
40 Attendees.
Convenor: Kevan Wilde</p> <p>9TH CONFERENCE Margaret River, WA, 1991.
47 Attendees.
Convenor: Keith Tritton</p> | <p>10TH CONFERENCE Rockhampton, Qld., 1993.
62 Attendees.
Convenor: Ann Augusteyn</p> <p>11TH CONFERENCE Tasmania, 1995.
63 Attendees.
Convenor: Chester Shaw</p> <p>12TH CONFERENCE Waitomo, NZ, 1997.
55 Attendees.
Convenor: Peter Dimond</p> <p>13TH CONFERENCE Mt. Gambier, SA, 1999.
82 Attendees.
Convenor: Brian Clark</p> <p>14TH CONFERENCE Wombeyan, N. S. W., 2001
83 Attendees.
Convenors: Michael Chalker & Andy Spate</p> <p>15TH CONFERENCE Chillagoe/Undara, Qld, 2003.
73 Attendees.
Convenors: Lana Little, Val Speedie & David Gillieson</p> <p>16TH CONFERENCE Westport, NZ, 2005.
72 Attendees.
Convenor: Phil Wood</p> <p>17TH CONFERENCE Buchan Caves, Vic, 2007
89 Attendees.
Convenor: Dale Calnin</p> <p>18TH CONFERENCE Margaret River, WA, 2009
101 Attendees.
Convenor: Anne Wood</p> <p>19TH CONFERENCE Ulverstone, Tasmania, 2011
69 Attendees.
Convenor: Tony Culberg</p> |
|---|--|

Those noted in **BOLD** below are registered as Attendees for the 19th Conference

17 Conferences

Hamilton-Smith, Professor Elery

I – 1973, II – 1977, III – 1979, IV – 1981, V – 1983, VI – 1985, VII – 1987, VIII – 1989,
IX – 1991, X – 1993, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XVI – 2005, XVII –
2007, XIX – 2011

15 Conferences

Spate, Andy

IV – 1981, V – 1983, VI – 1985, VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995,
XII – 1997, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011

White, Nicholas

III – 1979, V – 1983, VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XII – 1997,
XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XIX – 2011

13 Conferences

- Henderson, Kent** VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
- Webb, Rauleigh** IV – 1981, V – 1983, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XII – 1997, XIII – 1999, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011

12 Conferences

- Chandler, Peter** VI – 1985, VII – 1987, IX – 1991, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011

11 Conferences

- Chalker, Michael** V – 1983, VI – 1985, VII – 1987, VIII – 1989, IX – 1991, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVII – 2007
- Martin, Greg** VI – 1985, VIII – 1989, IX – 1991, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XIX – 2011
- Shaw, Chester** IX – 1991, X – 1993, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011

10 Conferences

- Clark, Brian** VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XIII – 1999, XIV – 2001, XV – 2003, XVII – 2007, XVIII – 2009
- Richard, Barry** IX – 1991, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
- Vavryn, Dianne** X – 1993, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011

9 Conferences

- Augusteyn, Ann** IX – 1991, X – 1993, XI – 1995, XII – 1997, XIII – 1999, XV – 2003, XVII – 2007, XVIII – 2009, XIX – 2011
- Calnin, Dale** V – 1983, IX – 1991, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
- Holland, Ernst** I – 1973, VI – 1985, VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XIII – 1999, XIV – 2001
- Williams, David** III – 1979, IV – 1981, VI – 1985, VII – 1987, VIII – 1989, IX – 1991, X – 1993, XII – 1997, XIII – 1999

8 Conferences

- Ash, John** VI – 1985, VIII – 1989, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XVI – 2005, XVII – 2007
- Dimond, Peter *** VI – 1985, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XII – 1997, XIII – 1999, XIV – 2001
- Mason, Derek** XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
- Wilde, Kevan** VI – 1985, VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XII – 1997, XIII – 1999
- Wood, Phil** VIII – 1989, X – 1993, XI – 1995, XIII – 1999, XIV – 2001, XVI – 2005, XVII – 2007, XVIII – 2009

7 Conferences

- Bourne, Steve** XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
- Carden, Deborah** XII – 1997, XIII – 1999, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
- Clarke, Arthur** XI – 1995, XIII – 1999, XIV – 2001, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
- Costigan, Alan** I – 1973, II – 1977, III – 1979, IV – 1981, V – 1983, VI – 1985, XVII – 2007
- Houshold, Ian** V – 1983, VII – 1987, XI – 1995, XIII – 1999, XV – 2003, XVI – 2005, XVII – 2007
- Kell, Neil** VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XIII – 1999, XVII – 2007, XIX – 2011
- Smith, Dave** XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XIX – 2011
- Tahi, Robert** XI – 1995, XII – 1997, XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005
- White, Dr Susan** V – 1983, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XIII – 1999, XVII – 2007

6 Conferences

Collinson, Neil	XI – 1995, XII – 1997, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007
Culberg, Tony	II – 1977, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
Gartrell, Dr. Grant	XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009
Kiernan, Dr. Kevin	VII – 1987, VIII – 1989, IX – 1991, X – 1993, XI – 1995, XV – 2003
McBeath, Robyn	XI – 1995, XII – 1997, XIII – 1999, XV – 2003, XVI – 2005, XVIII – 2009
Schurr, Geoff	VIII – 1989, X – 1993, XII – 1997, XIV – 2001, XV – 2003, XVI – 2005
Watson, Dr. John	II – 1977, IV – 1981, IX – 1991, X – 1993, XI – 1995, XVIII – 2009
Watson, Van	XI – 1995, XII – 1997, XIV – 2001, XVI – 2005, XVII – 2007, XVIII – 2009
Wood, Anne	XIII – 1999, XIV – 2001, XV – 2003, XVII – 2007, XVIII – 2009, XIX – 2011
Wood, Peter	XIII – 1999, XIV – 2001, XV – 2003, XVII – 2007, XVIII – 2009, XIX – 2011

5 Conferences

Baker, Clare	XIV – 2001, XV – 2003, XVI – 2005, , XVII – 2007, XVIII – 2009
Bell, Peter	IX – 1991, X – 1993, XI – 1995, XIII – 1999, XV – 2003
Butler, David	XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
Culberg, Pat	XV – 2003, XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
Dalzell, Brett	XIII – 1999, XIV – 2001, XV – 2003, XVII – 2007, XVIII – 2009
Grimes, Ken	XIII – 1999, XIV – 2000, XV – 2003, XVII – 2007, XVIII – 2009
McCabe, Mary	XIII – 1999, XV – 2003, XVII – 2007, XVIII – 2009, XIX – 2011
Mickie, Dr. Neville	XI – 1995, XIII – 1999, XIV – 2001, XV – 2003, XVII – 2007
Millar, Ian	VI – 1985, VIII – 1989, XII – 1997, XV – 2003, XVI – 2005
Pierce, Miles	XI – 1995, XII – 1997, XIII – 1999, XVI – 2005, XVII – 2007
Pierce, Rhonwon	XI – 1995, XII – 1997, XIII – 1999, XVI – 2005, XVII – 2007
Rebbechi, Dennis	IX – 1991, XI – 1995, XIII – 1999, XV – 2003, XVII – 2007
Reilly, Steve	XI – 1995, XIII – 1999, XIV – 2001, XVI – 2005, XVII – 2007
Tritton, Keith *	IV – 1981, VII – 1987, VIII – 1989, IX – 1991, X – 1993

4 Conferences

Anderson, Jay	XV – 2003, XVII – 2007, XVIII – 2009, XIX – 2011
Deer, Geoff	XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
Dunkley, John	I – 1973, III – 1979, V – 1983, XIV – 2001
Cross, Travis	XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
Eberhard, Rolan	IX – 1991, XI – 1995, XVI – 2005, XVII – 2007
Farquharson, Brett	XIV – 2001, XVI – 2005, XVII – 2007, XVIII – 2009
Gillieson, Prof David	XI – 1995, XIII – 1999, XIV – 2001, XV – 2003
Hearn, David	IX – 1991, X – 1993, XIII – 1999, XIV – 2001
James, A/Prof Julia	XV – 2003, XVI – 2005, XVIII – 2009, XIX – 2011
Little, Lana	IX – 1991, XI – 1995, XIV – 2001, XV – 2003
Lipyeat, Moira	XVI – 2005, XVII – 2007, XVIII – 2009, XIX – 2011
Moulds, Dr Tim	XV – 2003, XVI – 2005, XVIII – 2009, XIX – 2011
Plowman, Cathie	XV – 2003, XVI – 2005, XVII – 2007, XIX – 2011
Shaw, Kay	XIII – 1999, XIV – 2001, XV – 2003, XVI – 2005
Tane, Norman	IX – 1991, X – 1993, XI – 1995, XII – 1997

3 Conferences

Anderson, Ross	XVII – 2007, XVIII – 2009 , XIX – 2011
Augusteyn, Ken *	IX – 1991, X – 1993, XI – 1995
Austen, Peter	XVII – 2007, XVIII – 2009, XIX – 2011
Ash, Martha	VI – 1985, XII – 1997, XIII – 1999
Bauer, Jo	VII – 1987, VIII – 1989, IX – 1991
Benjamin, Serena	XVI – 2005, XVII – 2007, XIX – 2011
Bradley, Phil	IX – 1991, X – 1993, XI – 1995
Callaghan, John	I – 1973, V – 1983, XII – 1997
Carey, Adrian	I – 1973, III – 1979, VII – 1987
Deer, Trish	XVII – 2007, XVIII – 2009, XIX – 2011
Eberhard, Dr Stefan	XI – 1995, XII – 1997, XIII – 1999.
Fletcher, Andrew	XIII 1999, XIV – 2001, XVI – 2005
Gaukrodger, John	VI – 1985, VII – 1987, VII – 1989

Griffin, Alan	XVI – 2005, XVII – 2007, XVIII – 2009
Hardy, Sue	IX - 1991, X - 1993, XI – 1995
Haygarth, Nick	XVII – 2007, XVIII – 2009, XIX – 2011
Head, David	XVII – 2007, XVIII – 2009, XIX – 2011
Hunter, Deborah	XI – 1995, XIV – 2001, XIX – 2011
James, Cameron	XIII – 1999, XIV – 2001, XV – 2003
Kermode, Les *	VI – 1985, XII – 1997, XIII – 1999
Larkin, Patrick	IX – 1991, XI – 1995, XIII – 1999
Lyons, Dr. Ruth	XI – 1995, XII – 1997, XV – 2003
Macrow, Peter	II – 1977, III – 1979, IV – 1981
Matthews, Peter	III – 1979, IV – 1981, V – 1983
Merritt, Dr. David	XIV – 2001, XVI – 2005, XVIII – 2009
Middleton, Greg	I – 1973, II – 1977, XV – 2003
Parkes, Graham	VII – 1987, VIII – 1989, XVII – 2007
Scrimgeour, Ray	XI – 1995, XII – 1997, XIV – 2001
Taylor, Neil	IX – 1991, X – 1993, XII – 1997
Thurgate, Mia	IX – 1991, XI – 1995, XIII – 1999
Trayes, Mary	XIII – 1999, XV – 2003, XVI – 2005
Walker, Noel	XI – 1991, X – 1993, XI – 1995
Webb, Samantha	XVII – 2007, XVIII – 2009, XIX – 2011

2 Conferences

Abel, Martin	XIV – 2001, XVI – 2005	Kim Ryeon	XVI – 2005, XVII – 2007
Aitken, Ken.	III – 1979, IV – 1981	Prof Kyung Sik Woo	XV – 2003, XVI – 2005
Allen, Ross	IX – 1991, X – 1993	Lindberg, Kriste	XIII – 1999, XIV – 2001
Allen, Bruce	III – 1979, XI – 1995	May, John	II – 1977, IV – 1981
Baird, Jane	VIII – 1989, XVI – 2005	Newton, Mike	IV – 1981, IX – 1991
Brush, John	XVIII – 2009, XIX – 2011	McGuinn, Phil	XVII – 2007, XIX – 2011
Butz, Mark	I – 1973, VII – 1987	Melton, Scott	XVII – 2007, XIX – 2011
Champness, Graham	VI – 1985, VII – 1987	Mouritz, Renee	XVII – 2007, XVIII – 2009
Chew, Danny	XIII – 1999, XV – 2003	Osborne, Dr. Armstrong	V – 1983, XIV – 2001
Coggan, Marjorie	XVIII – 2009, XIX – 2011	Rautjoki, Harri	VI – 1985, VIII – 1989
Cove, Daniel	XVIII – 2009, XIX – 2011	Rea, Tom	XIII – 1999, XIV – 2001
Culley, John	I – 1973, III – 1979	Rebbechi, Carol	X – 1993, XV – 2003
Davey, Adrian	III – 1979, VII – 1987	Rebbechi, Sylvia	X – 1993, XV – 2003
Davidson, Penny	XIII – 1999, XIV – 2001	Robinson, Lloyd	I – 1973, IX – 1991
Dixon, Kirsty	XVIII – 2009, XIX – 2011	Rowling, David	XVII – 2007, XVIII – 2009
Ellis, Cliff	III – 1979, IV – 1981	Rumei, Bian	XVII – 2007, XVIII – 2009
Emery, Ephraim	XV – 2003, XVI – 2005	Sellers, Catherine	XVIII – 2009, XIX – 2011
Finn, Stephanie	XIV – 2001, XV – 2003	Sharples, Chris	XI – 1995, XIX – 2011
Flett, David	VII – 1987, X – 1991	Skinner, Andrew	II – 1977, III – 1979
Gertsner, Hein	XI – 1995, XVIII – 2009	Skinner, Roy *	I – 1973, II – 1977
Griffiths, Paul	XIII – 1999, XV – 2003	Speedie, Val *	XIII – 1999, XV – 2003
Grills, Peter	XVIII – 2009, XIX – 2011	Stokes, Dr Tim	XIV – 2001, XVI – 2005
Hamilton, David	VII – 1987, IX – 1991	Swabey, Dr Stephen	XV – 2003, XVI – 2005
Hardy, Sue	X – 1993, XI – 1995	Thomas, Julie	VII – 1987, VIII – 1989
Heath, Nicholas	XVII – 2007, XVIII – 2009	Vanderstaay, Keith	XIV – 2001, XV – 2003
Heyne, Ken	XII – 1997, XIII – 1999	Vavryn, Joe	IX – 1991, X – 1993
Ingafield, Jo	XIII – 1999, XIV – 2001	Wood, Graham (Chippy)	XVI – 2005, XVII – 2007
Kell, Geoff	XVII – 2007, XVIII – 2009.	Woods, Jonathan	XIV – 2001, XV – 2003
Kennedy, Sasa	XVIII – 2009, XIX – 2011		

* denotes deceased

SYNOPSIS of the 19th ACKMA CONFERENCE ATTENDANCE

Those attending their:

1st Conference	11	6th Conference	3	11th Conference	2
2nd Conference	10	7th Conference	5	12th Conference	1
3rd Conference	8	8th Conference	1	13th Conference	2
4th Conference	7	9th Conference	2	15th Conference	2
5th Conference	3	10th Conference	2	17th Conference	1

REPRESENTATION AT CONFERENCES 1973 to 2011

	<u>Buchan</u>	<u>Chillagoe</u>	<u>Cutta Cutta</u>	<u>Abercromb.</u>	<u>Hastings</u>	<u>Jenolan</u>	<u>Kelly Hill</u>	<u>Marg. River</u>
1st - 1973	a	a	a	a	a	a	a	x
2nd - 1977	a	x	a	x	a	a	x	x
3rd - 1979	a	x	a	x	a	a	a	x
4th - 1981	a	x	a	x	x	x	x	a
5th - 1983	a	x	x	x	x	a	a	x
6th - 1985	a	x	x	x	x	a	x	x
7th - 1987	a	a	x	a	x	a	x	a
8th - 1989	a	x	x	x	x	a	x	a
9th - 1991	a	x	x	x	a	a	x	a
10th - 1993	a	a	x	a	a	a	x	a
11th - 1995	a	a	x	a	a	a	x	a
12th - 1997	x	x	x	x	x	a	x	a
13th - 1999	a	a	x	a	a	a	a	a
14th - 2001	a	a	x	a	a	a	a	a
15th - 2003	a	a	x	a	a	a	a	a
16th - 2005	a	x	x	x	x	a	a	a
17th - 2007	a	x	x	a	x	a	a	a
18th - 2009	a	x	x	x	x	a	a	a
19th - 2011	a	x	x	x	x	a	a	a
TOTALS:	18	7	4	8	9	18	10	14
	<u>Mole Creek</u>	<u>Naracoorte</u>	<u>Capricorn</u>	<u>P.M.R.</u>	<u>Tantanoola</u>	<u>Te Anau</u>	<u>Waitomo</u>	<u>Wee Jasper</u>
1st - 1973	a	x	x	x	x	x	x	a
2nd - 1977	a	a	x	x	x	x	x	a
3rd - 1979	x	a	x	a	x	x	a	x
4th - 1981	x	a	x	x	x	x	a	x
5th - 1983	x	x	x	a	a	x	x	x
6th - 1985	x	a	x	x	x	x	a	x
7th - 1987	x	a	x	x	a	x	a	a
8th - 1989	x	a	x	x	a	x	a	x
9th - 1991	a	a	a	x	a	a	a	x
10th - 1993	a	a	a	x	x	a	a	x
11th - 1995	a	a	a	a	x	a	a	x
12th - 1997	a	a	a	x	x	a	a	x
13th - 1999	a	a	a	a	a	x	a	x
14th - 2001	a	a	x	x	x	a	a	a
15th - 2003	a	a	a	x	x	a	a	x
16th - 2005	a	a	a	x	x	a	a	x
17th - 2007	a	a	a	a	a	a	a	a
18th - 2009	x	a	a	x	a	x	a	a
19th - 2011	a	a	a	x	a	x	a	x
TOTALS:	12	17	10	5	8	8	16	7
	<u>Wellington</u>	<u>Wombeyan</u>	<u>Yallingup</u>	<u>Yanchep</u>	<u>Yarrangobilly</u>	<u>Other NZ</u>		
1st - 1973	x	a	a	x	x	x		
2nd - 1977	a	a	x	x	x	x		
3rd - 1979	x	a	a		a	x		
4th - 1981	x	a	a	a	a	x		
5th - 1983	x	a	a	x	a	x		
6th - 1985	x	a	x	x	a	a		
7th - 1987	a	a	a	x	a	x		
8th - 1989	x	a	a	x	a	a		
9th - 1991	a	a	a	a	a	a		
10th - 1993	a	x	x	x	a	a		
11th - 1995	x	a	a	a	a	a		
12th - 1997	x	a	x	x	a	a		
13th - 1999	a	a	x	x	a	a		
14th - 2001	a	a	x	x	a	a		
15th - 2003	x	a	x	x	a	a		
16th - 2005	x	x	x	x	x	a		
17th - 2007	x	a	a	a	a	a		
18th - 2009	x	a	a	a	a	a		
19th - 2011	x	x	x	x	a	a		
TOTALS:	6	16	10	5	16	13		

MEMBERSHIP OF ACKMA Inc. as at 1st April 2011

Member Name	Location
1. Abercrombie Caves	NSW
2. Aley C & T	USA
3. Alice Shanks	NZ
4. American Cave Conservation Association	USA
5. Anderson J & R	WA
6. Andrew Lawrence	Sultanate of Oman
7. Aquifer Tours	SA
8. Ash J & M	NZ
9. Atkinson A & V	Qld
10. Augee M	NSW
11. Augusta-Margaret River Tourist Bureau	WA
12. Austen P	NSW
13. Australasian Bat Society	ACT
14. Australian Serials Unit	ACT
15. Baddeley G	Vic
16. Baird J	NZ
17. Baker Dr Claire	Qld
18. Barnes R	VIC
19. Bat Conservation International	USA
20. Bauer J & P	NSW
21. Benjamin S	TAS
22. Blanden S	TAS
23. Bogdan Debevc	SLOVENIA
24. Bourne S	SA
25. Bradford G	NSW
26. Bradley C	ACT
27. Bromley R	NZ
28. Brush J	ACT
29. Buchan Caves	VIC
30. Butler D & Plowman C	TAS
31. Callaghan J	NSW
32. Calnin. D.	Vic
33. Cango Caves	South Africa
34. Canterbury Caving Group	NZ
35. Capricorn Caves	QLD
36. Carden D	NZ
37. CAREY'S CAVE	NSW
38. Cave Exploration Group [S.A.] Inc.	SA
39. Cave World	NZ
40. Chalker M	NSW
41. Chandler P	NZ
42. Chillagoe Caving Club	QLD
43. Chitty D	VIC

Member Name	Location
44. Choi M	SA
45. Clark B	MALAYSIA
46. Clark, Ian D, Ass. Prof.	Vic
47. Clarke A	TAS
48. Collinson N	NZ
49. Commins G	NSW
50. Cooney C.	NSW
51. Costigan A	VIC
52. Cove D & D	NSW
53. Culberg A & P	TAS
54. Dalzell B	SA
55. David Summers	BERMUDA
56. Davidson P.	NSW
57. Dept for Environment & Heritage	SA
58. Dept for Environment & Heritage	SA
59. Dept of Conservation & Land Management	WA
60. Dept of Environment & Heritage	SA
61. Dept of Environment & Heritage	SA
62. Devec A	SLOVENIA
63. Downey W	QLD
64. Dr Guilhelm de Gruilly	FRANCE
65. Dr Pavel Bella & Ing. Peter Gazik	SLOVAKIA
66. Drysdale Dr. R	NSW
67. DUNKLEY. J.	ACT
68. Eberhard R	TAS
69. Eberhard S	WA
70. Eddison A & I	NSW
71. ENGELBRECHT CAVE	SA
72. Farquharson, A.	NSW
73. Farquharson, B	NSW
74. FERRARI B.	VIC
75. Fiordland Travel	NZ
76. Flavel Stan	SA
77. Fleming K	NSW
78. Fleming N	NZ
79. Flinders University Speleological Society Inc	SA
80. Foulds Rob	WA
81. Francois Leguat Ltd	MAURITIUS
82. Friends of Naracoorte Caves	SA
83. Gahan M	QLD
84. Gartrell G.	SA
85. Geographe Bay Tourism Assn Inc	WA
86. Gillieson D Prof.	Qld
87. Gordon L Smith	USA
88. Griffin A	NSW
89. Griffiths P	Canada V9W 8A2

Member Name	Location
90. Grimes. K.G.	VIC
91. Grindley D	SA
92. Guiding Organisations Australia	QLD
93. GUNNS PLAINS CAVES	TAS
94. Hagen B	QLD
95. Hamilton Tomo Group	NZ
96. Hamilton-Smith. E.	VIC
97. Hammond. G.	VIC
98. HASTINGS CAVES	TAS
99. Hatcher J	WA
100. Haygarth N	TAS
101. HENDERSON. K	VIC
102. Henry R	NZ
103. Highland Caving Group	NSW
104. Hills Speleology Club Ltd	NSW
105. Holden C & J	NZ
106. Holland E	NSW
107. Howarth S	NSW
108. Hunter D	TAS
109. Hymeir Kamarudin	MALAYSIA
110. Illawarra Speleo Society Inc	NSW
111. Indiana Karst Conservancy	U.S.A.
112. James C	Qld
113. James J Dr.	NSW
114. Jenolan Caves Historical & Presevation Society	NSW
115. Jenolan Caves Reserve Trust	NSW
116. John Giulieri	JAPAN
117. Joy K	NZ
118. Karst & Geodiversity Unit	NSW
119. Kell N	NSW
120. Kim Ryeon	Republic of Korea 200-943
121. King Lisa M	QLD
122. Kyung Sik Woo Prof.	South Korea
123. Lewis, Ian D	VIC
124. Library	TAS
125. Lipyeat M & D	NZ
126. Little L	QLD
127. Lynn K. Roebuck,	USA 37360-9504
128. M. Alain Frances	FRANCE
129. Maclucas J	SA
130. Malaysian Karst Society	MALAYSIA
131. Maori Leap Caves - Scott Robinson	NZ
132. Marinelli R	Italy
133. Marshall C	NSW
134. Martin G	NZ
135. Mason D	NZ

Member Name	Location
136. Matthews E. W.	NSW
137. Matthews P.	VIC
138. McBeath R	WA
139. McCabe M	Qld
140. McKay K & J	NZ
141. Melton S	NSW
142. Merritt, Dr D	Qld
143. Michie N. A.	NSW
144. Middleton G	TAS
145. Millar I	NZ
146. Miller Tom	USA
147. Mole Creek Caves	TAS
148. Moore T	NSW
149. Mott K.	SA
150. Moulds T	WA
151. Moylan M & R	QLD
152. Nat. Parks & Wildlife Service	NSW
153. National Caves Association	U.S.A.
154. Ngarua Caves	NZ
155. Norwest Adventures Ltd	NZ
156. Nurse B S	NSW
157. NZ Speleological Society	NZ
158. Orange Speleological Society	NSW
159. Osborne Dr R	NSW
160. O'Toole D	TAS
161. Parkes. G.	VIC
162. Pavlovich Kathryn	NZ
163. Peck Dr W	VIC
164. Pfitzner V	SA
165. PIERCE. M.& R.	VIC
166. Poulton R K	NSW
167. Princess Margaret Rose Cave	VIC
168. QPWS Rockhampton	QLD
169. Ramsey C L	CANADA V9W 1A6
170. Rea T	USA
171. Rebbechi. D. A.	QLD
172. Reilly, S.	NSW
173. RICHARD. B.	NSW
174. Robins T	WA
175. ROBINSON. L.	NSW
176. Rowling D	NSW
177. ROWLING J	NSW
178. Ruapuha Uekaha Hapu Trust	NZ
179. Rumei Bian	MALAYSIA
180. Rutledge J	NSW
181. Scrimgeour R	NZ

Member Name	Location
182.Sellars C.	SA
183.Shades of Death Cave	QLD
184.Shannon C H	Tas
185.Sharples C	TAS
186.Shaw C & K	TAS
187.Short J	NZ
188.Slabe Dr T	SLOVENIA
189.Smith D	NZ
190.Smith G K	NSW
191.Smith M J	ACT
192.Southern Tasmanian Caverneers Inc	Tas
193.SPATE. A.	ACT
194.Speedie M. V.	QLD
195.SRGWA	WA
196.State Library of Victoria	VIC
197.Stiff C	NSW
198.Stokes Dr T	Canada V9T 197
199.Stone Dr F	USA
200.Strategic Management, University of Waikato	NZ
201.Stubbs, Angus	NZ
202.Sydney Speleological Society Inc.	NSW
203.Sydney, Joe	NSW
204.Taylor Neil	WA
205.The Geoscientist	TAS
206.Tomas Zorman	SLOVENIA
207.Traves M	NZ
208.UNDARA EXPERIENCE	QLD
209.VAN DYK. J.& K.	VIC
210.Vavryn. D.& J.	QLD
211.W.A. Speleological Group	WA
212.Waitomo Caves Museum - Celina Yapp	NZ
213.Waitomo Caves Museum - Glen Bailey	NZ
214.Waitomo District Council - John Moran	NZ
215.Waitomo District Council - P Davey	NZ
216.Waitomo Down Under	NZ
217.Waitomo Glowworm Caves Ltd - Robert Tahiri	NZ
218.Waitomo Glowworm Caves Ltd - Travis Cross	NZ
219.Waitomo Wilderness Tours att: Simon Hall	NZ
220.Walsh P	NSW
221.Watson V	NZ
222.Watson, Dr. J.	WA
223.Webb. R.	WA
224.Weidmuller	NSW
225.Wellington Shire Council	NSW
226.Wells V & G	NZ
227.White. N.	VIC

Member Name	Location
228. White. S.	VIC
229. Whittaker T	NZ
230. Whyte R	NSW
231. Wild West Adventures	NZ
232. Wilde K	NZ
233. Williams D	NZ
234. Williams. Prof. P	NZ
235. WOMBEYAN CAVES	NSW
236. Wood A	WA
237. Wood P	NZ
238. Wood P	WA
239. Wood S	VIC
240. Woodward A & P	NZ
241. Wylie J & G	NSW
242. Yanchep National Park	WA
243. Yarrangobilly Caves	NSW

RULES OF THE AUSTRALASIAN CAVE AND KARST MANAGEMENT ASSOCIATION INC.

ABN :87 698 816 592

NAME

1. The name of the Incorporated Association is the Australasian Cave and Karst Management Association Inc.(in these rules called 'The Association').
- 1.1 The association is incorporated under the law of the state of Victoria, in Australia
- OBJECTS & POWERS**
2. (1) To develop improved standards in the management and interpretation of cave and karst heritage in the Australasian Region.
(2) To enhance liaison between agencies and those interested in cave & karst management.
(3) To encourage and support scientific research which may further the improvement of standards in cave and karst management.
(4) To formulate and promote policies and initiatives in cave and karst management.
- (5) To do any other things which are conducive or incidental to the attainment of the above.
- (6) To achieve the above objects the Association has, inter alia, the power to:
 - (a) Publish magazines, Journals, Occasional Papers, whether printed, electronic, digital or other,
 - (b) Organise a conference, symposium, seminar, meeting, lecture or similar function
 - (c) Sponsor, subsidize, or otherwise support research consistent with the above
 - (d) Provide a clearing house for information and skills in karst management
 - (e) Enter into contracts to provide services related to Caves and Karst.

INTERPRETATION

- 3.(1) In these Rules, unless the contrary intention appears—
 - ' Committee' means the Committee of Management of the Association.
 - ' Conference' means a conference held in conjunction with each alternate Annual General Meeting, at which technical papers on topics relevant to ACKMA will be delivered
 - ' Fellow' means a person elected pursuant to clause 4(9)
 - ' Financial Year' means the year ending on 31 March.
 - ' General Meeting' means a general meeting of members convened in accordance with Rule 12.
 - ' Honorary Life Member' means a person elected pursuant to rule 4(10)
 - ' Member' means a member of the Association.
 - ' Ordinary Member of the Committee' means a member of the Committee who is not an officer of the Association under Rule 22.
 - ' Register' includes paper, electronic or other forms of record, provided that a printed copy can be readily created of the contents
 - ' The Act' means the Associations Incorporation Act 1981 of the State of Victoria in Australia.
 - ' The Regulations' means Regulations under the Act.
 - (2) In these Rules, a reference to the Secretary of an Association is a reference—
 - (a) where a person holds office under these Rules as Secretary of the Association—to that person; and
 - (b) in any other case, to the Public Officer of the Association.
 - (3) Words or expressions contained in these Rules shall be interpreted in accordance with the Interpretation of Legislation Act 1984 (Victoria) and the Act as in force from time to time, unless they are already defined in these rules.
- who was a member at that time but has ceased to be a member) shall not be admitted to membership—
- (a) unless nominated as provided in sub-clause (3); and
 - (b) the admission as a member is approved by the Committee.
- (3) A nomination of a person for membership of the Association—
 - (a) shall be made in writing; and
 - (b) shall be lodged with the Association.
 - (4) As soon as is practicable after the receipt of a nomination, the Secretary shall refer the nomination to the Committee.
 - (5) Upon a nomination being referred to the Committee, the Committee shall determine whether to approve or to reject the nomination.
 - (6) Upon a nomination being approved by the Committee, the Secretary shall, with as little delay as possible, notify the nominee in writing of the approval for membership of the Association and request payment within the period of 28 days after receipt of the notification of the sum payable under these Rules as the first year's annual subscription
 - (7) The Secretary shall, upon payment of the amount referred to in sub-clause (6) within the period referred to in that sub-clause, enter the nominee's name in the register of members and, upon the name being so entered, the nominee becomes a member of the Association.
 - (8) A right, privilege, or obligation of a person by reason of membership of the Association—
 - (a) is not capable of being transferred or transmitted to another person; and
 - (b) terminates upon the cessation of membership whether by death or resignation or otherwise
 - (9) In recognition of special services to the Association an Annual General Meeting may elect no more than three persons at any one such meeting to the standing of Fellow.
 - (10) In recognition of distinguished services to the Association an Annual General Meeting may elect no more than three persons at any one such meeting to the standing of Honorary Life Members.

APPLICATION FOR MEMBERSHIP

- 4.(1) A natural person who is nominated and approved for membership as provided in these Rules is eligible to be a member of the Association on payment of the annual subscription payable under these Rules.
- (2) A person who is not a member of the Association at the time of the incorporation of the Association (or

- (11) Honorary Life Members shall have the same responsibilities and privileges as other members, but shall be excused the payment of any annual subscription.

ENTRANCE FEE AND ANNUAL SUBSCRIPTION

- 5.(1) The annual subscription is as determined from time to time by resolution of the Annual General Meeting and is payable in advance on or before 1 July in each year.
- (2) The entrance fee shall be determined by resolution of the Annual General Meeting.

REGISTER OF MEMBERS

6. The Secretary shall keep and maintain a register of members in which shall be entered the full name, address and date of entry of the name of each member and the register shall be available for inspection and copying by members upon request.

DISPUTES AND MEDIATION

- 7.(1) The grievance procedure set out in this rule applies to disputes under these Rules between-
- (a) a member and another member; or
(b) a member and the Association.
- (2) The parties to the dispute must meet and discuss the matter in dispute, and, if possible, resolve the dispute within 14 days after the dispute comes to the attention of all the parties.
- (3) If the parties are unable to resolve the dispute at the meeting, or if a party fails to attend that meeting, then the parties must, within 10 days, hold a meeting in the presence of a mediator.
- (4) The mediator must be—
- (a) a person chosen by agreement between the parties; or
(b) in the absence of agreement—
- (i) in the case of a dispute between a member and another member, a person appointed by the committee of the Association; or
- (ii) in the case of a dispute between a member and the Association, a person who is a mediator appointed or employed by the Dispute Settlement Centre of Victoria (Department of Justice).
- (5) A member of the Association can be a mediator.
- (6) The mediator cannot be a member who is a party to the dispute.
- (7) The parties to the dispute must, in good faith, attempt to settle the dispute by mediation.
- (8) The mediator, in conducting the mediation, must—
- (a) give the parties to the mediation process every opportunity to be heard; and
(b) allow due consideration by all parties of any written statement submitted by any party;
- and
- (c) ensure that natural justice is accorded to the parties to the dispute throughout the mediation process.
- (9) The mediator must not determine the dispute.
- (10) If the mediation process does not result in the dispute being resolved, the parties may seek to resolve the dispute in accordance with the Act or otherwise at law.

RESIGNATION AND EXPULSION OF MEMBER

- 8.(1) A member of the Association who has paid all moneys due and payable by the member to the Association may resign from the Association by first giving one month's notice in writing to the Secretary of his or her intention to resign and upon the expiration of that period of notice, the member ceases to be a member.
- (2) Upon the expiration of a notice given under sub-clause (1), the Secretary shall make in the register of members an entry recording the date on which the member, by whom the notice was given, ceased to be a member.
- 9.(1) Subject to these Rules, the Committee may by resolution—
- (a) expel a member from the Association;
(b) suspend a member from membership of the Association for a specified period; or
(c) fine a member an amount not exceeding twice the annual subscription.
- If the Committee is of the opinion that the member—
- (d) has refused or neglected to comply with these Rules; or
(e) has been guilty of conduct unbecoming a member or prejudicial to the interests of the Association.
- (2) A resolution of the Committee under sub-clause (1)—
- (a) does not take effect unless the Committee, at a meeting held not earlier than 14 and not later than 28 days after the service on the member of a notice under sub-clause (3) confirms the resolution in accordance with this clause; and
(b) where the member exercises a right of appeal to the Association under this clause, does not take effect unless the Association confirms the resolution in accordance with this clause.
- (3) If the Committee passes a resolution under sub-clause (1), the Secretary shall, as soon as practicable, cause to be served on the member a notice in writing—
- (a) setting out the resolution of the Committee and the grounds on which it is based;
(b) stating that the member may address the Committee at a meeting to be held not earlier than 14 and not less than 28 days after service of the notice;
(c) stating the date, place and time of that meeting;
(d) informing the member that he or she may do one or more of the following: (i) Attend that meeting; (ii) Give to the Committee before the date of that meeting a written statement seeking the revocation of the resolution; and (iii) Not later than 24 hours before the date of the meeting lodge with the Secretary a notice to the effect that he or she wishes to appeal to the Association in general meeting against the Resolution.
- (4) At a meeting of the Committee held in accordance with sub-clause (2), the Committee—
- (a) shall give to the member an opportunity to be heard;
(b) shall give due consideration to any written statement submitted by the member; and
(c) shall by resolution determine whether to confirm or to revoke the resolution.
- (5) If the Secretary receives a notice under sub-clause (3), he or she shall notify the Committee and the Committee shall convene a general meeting of the Association to be held within twenty-one days after the date on which the Secretary received the notice.
- (6) At a general meeting of the Association convened under sub-clause (5)—
- (a) no business other than the question of the appeal shall be transacted;
(b) the Committee may place before the meeting details of the grounds for the resolution and the reasons for the passing of the resolution;
(c) the member shall be given an opportunity to be heard; and
(d) the members present shall vote by secret ballot on the question whether the resolution should be confirmed or revoked.

- (7) If at the general meeting—
 (a) two-thirds of the members vote in person or by proxy in favour of the confirmation of the resolution, the resolution is confirmed;
 and
 (b) in any other case, the resolution is revoked.

ANNUAL GENERAL MEETING

- 10.(1) The Association shall in each calendar year, and no later than 31 July, convene an annual general meeting of its members.
- (2) The annual general meeting shall be held on such day as the Committee determines.
- (3) The annual general meeting shall be specified as such in the notice convening it.
- (4) The ordinary business of the annual general meeting shall be—
 (a) to confirm the minutes of the last preceding annual general meeting and of any general meeting held since that meeting;
 (b) to receive from the Committee reports upon the transactions of the Association during the last preceding financial year;
 (c) to elect officers of the Association and the ordinary members of the Committee; and
 (d) to receive and consider the statement submitted by the Association in accordance with section 30 (3) of the Act.
 (e) to fix the annual subscription and entrance fee
- (5) The annual general meeting may transact special business of which notice is given in accordance with these Rules.
- (6) The annual general meeting shall be in addition to any other general meetings that may be held in the same year.

SPECIAL GENERAL MEETING

11. All general meetings other than the annual general meeting shall be called special general meetings.
- 12.(1) The Committee may, whenever it thinks fit, convene a special general meeting of the Association and, where, but for this sub-clause, more than fifteen months would elapse between annual general meetings, shall convene a special general meeting before the expiration of that period.
- (2) The Committee shall, on the requisition in writing of members representing not less than 5 per cent of the total number of financial members, convene a special general meeting of the Association.(3) The requisition for a special general meeting shall state the objects of the meeting and shall be signed by the members making the requisition and be sent to the address of the Secretary and may consist of several documents in a like form, each signed by one or more of the members making the requisition.
- (4) If the Committee does not cause a special general meeting to be held within the month after the date on which the requisition is sent to the address of the Secretary, the members making the requisition, or any of them, may convene a special general meeting to be held not later than three months after that date.
- (5) A special general meeting convened by members in pursuance of these Rules shall be convened in the same manner as nearly as possible as that in which those meetings are convened by the Committee and, all reasonable expenses incurred in convening the meeting shall be refunded by the Association to the persons incurring the expenses.
- (6) Notwithstanding sub-rule (5) above, if any special general meeting called pursuant to sub-rule (2) or (4) lapses for want of

a quorum, those members who signed the requisition for, but fail to attend, the special general meeting shall reimburse the Association for the costs of calling the meeting and the reasonable travel costs of all who did attend such failed meeting.

NOTICE OF MEETING

- 13.(1) The Secretary of the Association shall, at least 14 days before the date fixed for holding a general meeting of the Association, cause to be sent to each member of the Association at the address appearing in the register of members, a notice by pre-paid post stating the place, date and time of the meeting and the nature of the business to be transacted at the meeting. A notice sent by email which has been acknowledged meets this requirement.
- (2) No business other than that set out in the notice convening the meeting shall be transacted at the meeting.
- (3) A member desiring to bring any business before a meeting may give notice of that business in writing or by email to the Secretary, who shall include that business in the notice calling the next general meeting after the receipt of the notice.

PROCEEDINGS AT MEETINGS

- 14.(1) All business that is transacted at a special general meeting and all business that is transacted at the annual general meeting with the exception of that specially referred to in these Rules as being the ordinary business of the annual general meeting shall be deemed to be special business.
- (2) No item of business shall be transacted at a general meeting unless a quorum of members entitled under these Rules to vote is present during the time when the meeting is considering that item.
- (3) Five members personally present (being members entitled under these Rules to vote at a general meeting) constitute a quorum for the transaction of the business of a general meeting.
- (4) If within half an hour after the appointed time for the commencement of a general meeting, a quorum is not present, the meeting if convened upon the requisition of members shall be dissolved and in any other case shall stand adjourned to another day in the same week at (unless another place is specified by the Chairperson at the time of the adjournment or by written notice to members given before the day to which the meeting is adjourned) at the same place and if at the adjourned meeting the quorum is not present within half an hour after the time appointed for the commencement of the meeting, the members present (being not less than 3) shall be a quorum.
- 15.(1) The President, or in the President's absence, a Vice-President, shall chair each general meeting of the Association.
- (2) If the President and Vice-Presidents are absent from a general meeting, the members present shall elect one of their number to chair the meeting.
- 16.(1) The Chairperson of a general meeting at which a quorum is present may, with the consent of the meeting, adjourn the meeting from time to time and place to place, but no business shall be transacted at an adjourned meeting other than the business left unfinished at the meeting at which the adjournment took place.
- (2) Where a meeting is adjourned for fourteen days or more, a like notice of the adjourned meeting shall be given as in the case of the general meeting.

- (3) Except as provided in sub-clause (1) and (2), it is not necessary to give notice of an adjournment or of the business to be transacted at an adjourned meeting.
17. A question arising at a general meeting of the Association shall be determined on a show of hands and unless, before or on the declaration of the show of hands a poll is demanded, a declaration by the Chairperson that a resolution has, on a show of hands, been carried or carried unanimously or carried by a particular majority or lost, and an entry to that effect in the Minute Book of the Association is evidence of the fact, without proof of the number or proportion of the votes recorded in favour of, or against, that resolution.
18. (1) Upon any question arising at a general meeting of the Association, a member has one vote only.
- (2) All votes shall be given personally, by proxy or by postal vote, as per rule 36.
- (3) In the case of an equality of voting on a question, the Chair of the meeting is entitled to exercise a second or casting vote, in accordance with the common law.
19. (1) If at a meeting a poll on any question is demanded by not less than three members, it shall be taken at that meeting in such manner as the Chair may direct and the resolution of the poll shall be deemed to be a resolution of the meeting on that question.
- (2) A poll that is demanded by the (on the election of a) Chairperson or on a question of an adjournment shall be taken forthwith and a poll that is demanded on any question shall be taken at such time before the close of the meeting as the Chair may direct.
20. A member is not entitled to vote at any general meeting unless all moneys due and payable by the member to the Association have been paid, other than the amount of the annual subscription payable in respect of the current financial year.
21. (1) Each member is entitled to appoint another member as a proxy by notice given to the Secretary no later than 24 hours before the time of the meeting in respect of which the proxy is appointed.
- (2) The instrument appointing the proxy shall be on the form distributed with the notice of meeting.
- COMMITTEE OF MANAGEMENT**
22. (1) The affairs of the Association shall be managed by the Committee of Management constituted as provided in Rule 24.
- (2) The Committee—
- (a) shall control and manage the business and affairs of the Association;
- (b) may, subject to these Rules, the Act and the Regulations, exercise all such powers and functions as may be exercised by the Association other than those powers and functions that are required by these Rules to be exercised by general meetings of the members of the Association; and
- (c) subject to these Rules, the Act and the Regulations, has power to perform all such acts and things as appear to the Committee to be essential for the proper management of the business and affairs of the Association.
23. (1) The officers of the Association shall be—
- (a) a President;
- (b) two Vice-Presidents;
- (c) a Treasurer;
- (d) a Secretary
- (e) the Convener of the Association's next ensuing conference
- (f) a Publications Officer
- (2) The provisions of Rule 25 so far as they are applicable and with the necessary modifications, apply to and in relation to the election of persons to any of the offices mentioned in sub-clause (1).
- (3) Each officer of the Association shall hold office until the conclusion of the annual general meeting next after the date of his or her election but is eligible for re-election.
- (4) In the event of a casual vacancy in any office referred to in sub-clause (1) the Committee may appoint one of its members to the vacant office and the member so appointed may continue in office up to and including the conclusion of the annual general meeting next following the date of the appointment.
24. (1) Subject to section 23 of the Act, the Committee shall consist of—
- (a) the officers of the Association;
- (b) no more than three ordinary members—each of whom shall be elected at the annual general meeting of the Association in each year, and
- (c) the immediate past president.
- (d) up to two co-opted members as provided for in section 24(4)
- (2) Each ordinary member of the Committee shall, subject to these Rules, hold office until the conclusion of the annual general meeting next after the date of election but is eligible for re-election.
- (3) In the event of a casual vacancy occurring in the office of an ordinary member of the Committee, the Committee may appoint a member of the Association to fill the vacancy and the member so appointed shall hold office, subject to these Rules, until the conclusion of the annual general meeting next following the date of the appointment.
- (4) The elected members of the Committee may at any time co-opt up to two additional members to the Committee to carry out specific functions. The co-opted members terms will lapse at the conclusion of the annual general meeting next following the date of the appointment, although they will be eligible to be further co-opted by the incoming committee as necessary. The co-opted members may fully participate in the affairs of the Committee except that they may not vote.
- ELECTION OF OFFICERS AND VACANCY**
25. (1) Nominations of candidates for election as officers of the Association or as ordinary members of the Committee—
- (a) shall be made in writing, signed by two members of the Association and accompanied by the written consent of the candidate (which may be included in the form of nomination); and
- (b) shall be delivered to the Secretary of the Association not less than seven days before the date fixed for the holding of the annual general meeting.
- (2) If insufficient nominations are received to fill all vacancies on the Committee, the candidates nominated shall be deemed to be elected and further nominations shall be received at the annual general meeting.
- (3) If the number of nominations received is equal to the number of vacancies to be filled, the persons nominated shall be deemed to be elected.
- (4) If the number of nominations exceeds the number of vacancies to be filled, a ballot shall be held.

- (5) The ballot for the election of officers and ordinary members of the Committee shall be conducted at the annual general meeting in such usual and proper manner as the Committee may direct.
- (6) A person may nominate for more than one position. Positions shall be filled in the order set out in rule 23(1). Election to a position shall cause all other nominations of that person to lapse.
26. For the purposes of these Rules, the office of an officer of the Association or of an ordinary member of the Committee becomes vacant if the officer or member—
- ceases to be a member of the Association;
 - becomes an insolvent under administration within the meaning of the Companies (Victoria) Code; or
 - resigns from office by notice in writing given to the Secretary
 - becomes of unsound mind or a person whose person or estate is liable to be dealt with in any way under the law relating to mental health
 - If at a special general meeting called for that purpose is removed from the position by a two thirds majority of those present and entitled to vote at that meeting

PROCEEDINGS OF COMMITTEE

- 27.(1) The Committee shall meet at least once in each year at such place and such times as the Committee may determine.
- (2) Special meetings of the Committee may be convened by the President or by any four of the members of the Committee.
- (3) Notice shall be given to members of the Committee of any special meeting. The notice shall specify the general nature of the business to be transacted and no other business shall be transacted at such a meeting.
- (4) Any six members of the Committee constitute a quorum for the transaction of the business of a meeting of the Committee.
- (5) No business shall be transacted unless a quorum is present and if within half an hour of the time appointed for the meeting a quorum is not present the meeting shall stand adjourned to the same place and at the same hour of the same day in the following week unless the meeting was a special meeting in which case it lapses.
- (6) At meetings of the Committee—
- the President or in the President's absence a Vice-President shall preside; or
 - if the President and Vice-Presidents are absent, such one of the remaining members of the Committee as may be chosen by the members present shall preside.
- (7) Questions arising at a meeting of the Committee or of any sub-committee appointed by the Committee shall be determined on a show of hands or, if demanded by a member, by a poll taken in such manner as the person presiding at the meeting may determine.
- (8) Each member present at a meeting of the Committee or of any sub-committee appointed by the Committee (including the person presiding at the meeting) is entitled to one vote and, in the event of an equality of votes on any question, the person presiding may exercise a second or casting vote, in accordance with common law.
- (9) Written notice of each committee meeting shall be served on each member of the Committee by delivering it to the member at a reasonable time before the meeting or by sending it by pre-paid post addressed to him or her at his or her usual or last known place or abode at least two business days before the date of the meeting.

- (10) Subject to sub-clause (4) the Committee may act notwithstanding any vacancy on the Committee.

SECRETARY

28. (1) The Secretary of the Association shall keep minutes of the resolutions and proceedings of each general meeting and each committee meeting in books provided for that purpose together with a record of the names of persons present at committee meetings.
- (2) Any financial member of the Association shall have access to the minutes and other records in normal business hours, subject to giving three working days' notice to the Secretary

TREASURER

29. (1) The Treasurer of the Association—
- shall collect and receive all moneys due to the Association and make all payments authorised by the Association; and
 - shall keep correct accounts and books showing the financial affairs of the Association with full details of all receipts and expenditure connected with the activities of the Association. All records shall be kept in Australian dollars.
 - may create an imprest account for the committee organising a conference, on such terms and conditions as the Treasurer deems appropriate.
 - may create an imprest account for any sub group of members, on such terms and conditions as the Treasurer deems appropriate.
 - the custodian of any such imprest account must provide the Treasurer with a statement of income and expenditure annually.

CHEQUES

- 30 (1) All payments shall be made by cheque or electronic funds transfer.
- (2) All cheques, drafts, bills of exchange, promissory notes and other negotiable instruments shall be signed by the Treasurer and one other officer.

REMOVAL OF MEMBER OF COMMITTEE

- 31.(1) The Association in general meeting may by resolution remove any member of the Committee before the expiration of the member's term of office and appoint another member in his or her stead to hold office until the expiration of the term of the first-mentioned member.
- (2) Where the member to whom a proposed resolution referred to in sub-clause (1) makes representations in writing to the Secretary or President of the Association (not exceeding a reasonable length) and requests that they be notified to the members of the Association, the Secretary or the President may send a copy of the representations to each member of the Association or, if they are not so sent, the member may require that they be read out at the meeting.

SEAL

- 32.(1) The Common Seal of the Association shall be kept in the custody of the Secretary.
- (2) The Common Seal shall not be affixed to any instrument except by the authority of the Committee and the affixing of the Common Seal shall be attested by the signatures either of two members of the Committee or of one member of the Committee and of the Public Officer of the Association.

ALTERATION OF RULES AND STATEMENT OF PURPOSES

33. These Rules and the Statement of Purposes of the Association shall not be altered except in accordance with the Act.

BYLAWS

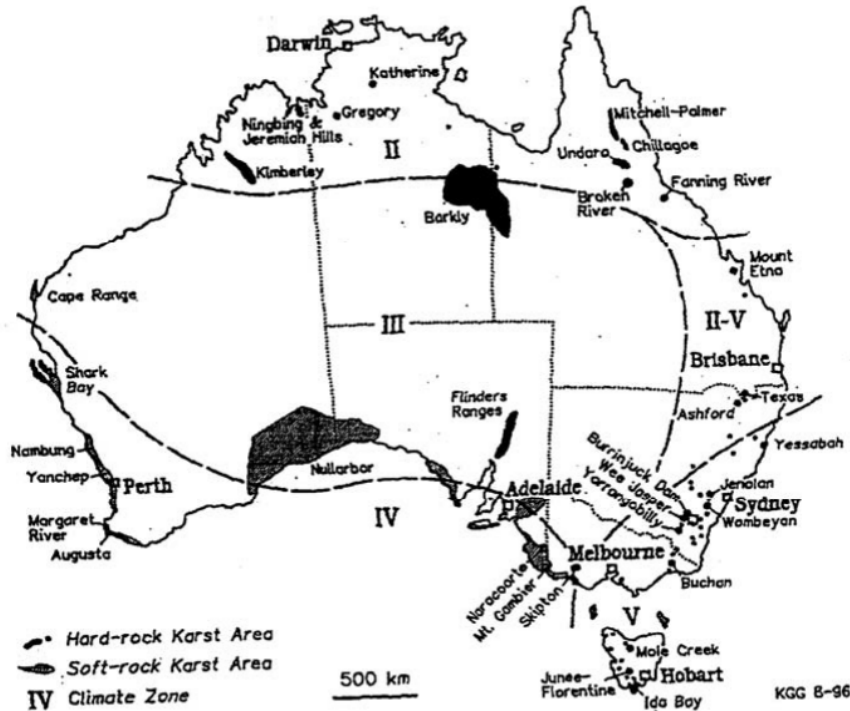
NOTICES

- 34.(1) A notice may be served by or on behalf of the Association upon any member either personally or by sending it by post to the member at the address shown in the Register of Members.
- (2) Where a document is properly addressed prepaid and posted to a person as a letter, the document shall, unless the contrary is proved, be deemed to have been given to the person at the time at which the letter would have been delivered in the ordinary course of post.

- 35. The Association in General Meeting may create, adopt, vary, modify, abolish or otherwise change one or more Bylaws. Any motion dealing with a Bylaw shall be included in the Notice of Meeting.

WINDING UP OR CANCELLATION

- 36. In the event of the winding up or the cancellation of the incorporation of the Association, the assets of the Association shall be disposed of in accordance with the provisions of the Act.



Distribution of karst areas and climate provinces in Australia

Tropical-climate zone (II); subtropical dry-climate zone (III); transitional zone with winter rain (IV); warm-temperate zone extending to warm-temperate/tropical transitional climates zone (V, II-V). Map compiled by Ken Grimes from data in Bridgewater (1987); Gillieson & Spate. Reference: Smith, D. W. (Ed). Cave and Karst Management in Australasia XII. Proceedings of the 12th Australasian Conference on Cave and Karst Management, 1997. p 17.

