

TROGalong

29th Biennial Conference of the
Australian Speleological Federation



Conference Handbook



"Entrance to St Clements Retreat"

Photo by Denis Marsh

6th-11th Jan 2013
St Clements Retreat Centre
Galong, NSW

Compiled by the *TROGalong* Committee

Sponsors

We would like to thank the following organisations and companies for their support in make this conference such a success.

	<p>Eden Road Wines 3182 Barton Highway Murrumbateman NSW for assistance with the wines for the conference</p>
	<p>Affleck Wines for assistance with Ports 154 Millynn Road Bungendore NSW 2621, Australia</p>
	<p>TradEvent for hosting the conference website and to Rod for his time making the site</p>
	<p>Kathmandu for supply of headlamps for SpeleoSports winning team</p>
	<p>Commonwealth Bank Quirindi for supplying the Conference bags, pens and paper</p>
	<p>New South Wales Speleological Council</p>
<p>Geological Survey A Division of Resources and Energy Minerals and Petroleum NSW Dept. Trade and Investment, Resources and Energy</p>	<p>Karst and Geodiversity Unit of the NSW Office of Environment and Heritage www.environment.nsw.gov.au/geodiversity</p>
	<p>Jenolan Caves Reserve Trust Tickets to the caves</p>
	<p>Pointer Mountain Honey - Gifts Near Milton on NSW South Coast 0244564541 0429476374</p>



Welcome to TROGalong

The Organising Committee of the NSW Speleological Council hopes the information in this handbook will assist you to find your way around the Conference site and facilities and that you enjoy the week ahead.

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TROGalong Committee (wearing the red coloured HOST polo shirts)

Convener	Bob Kershaw	Illawarra SS
Accommodation & Registration	Jodie Rutledge	Newcastle Hunter Valley SS
Treasurer	Grace Matts	ASF
Website	Rod Smith	Hills SC
Pre and Post conference Trips	Denis Marsh/Brian Evans	Orange SS/Illawarra SS
Abstract and program preparation	Jill Rowling	Sydney University SS
Proceedings	Kevin Moore	Sydney University SS
Transport and Speleo Sports	Jim Crockett	Metropolitan SS
Committee	Colin Tyrrell	Blue Mountains SC
	Cathy Brown	Highland CG
	Evelyn Taylor	Newcastle Hunter Valley SS
	Joan Crabb	Highland CG
Photographic Competition	Garry Smith	Newcastle Hunter Valley SS

Pronunciation: Galong is pronounced "Gay long"

"While a man remains alive who has stood within its gates, so long will the memory of Galong Castle keep fresh within some human heart."

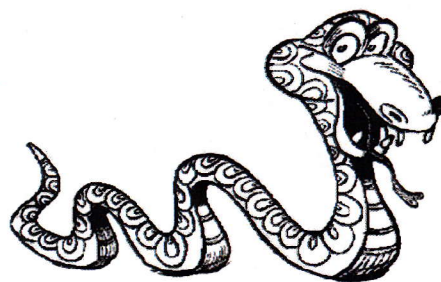
Kenneth Mackay, 1897

Warnings and Hazards

Please remember **SPANDS!**

- **Lookout!**

There are 1.5m (5ft) **Brown SNAKES ABOUT** – carry your bandages when walking. In the event of a bite apply the treatment and telephone 000 from the reception area at the Retreat.



- The **swimming pool** has a 2.75m (9 feet) deep end and **children must be accompanied by their parents at all times.**

- Pool Times are from 8.00am until the pool closes at 8pm nightly.



- **There are also ponds and dams on the property so be aware and no swimming in them.**

- **Alcohol** Consumption is allowed in the common rooms, dining area and grounds but **NOT** in your room, Chapels or pool area.

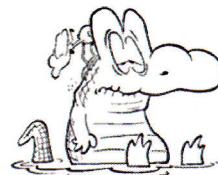


- **NOISE** - there is a **10.30pm noise curfew** as noise to the Brothers' Rooms carries easily to them. If attendees wish to talk in a group or party on, go to the opposite side of the laundry at Retreat House.



- Please drink water to stave off dehydration.

- The region can experience daytime temperatures in excess of 38° C.



There is a **40 k/mph speed limit** along the entrance driveway.

- **SMOKING** is **ONLY** permitted on the **western field**



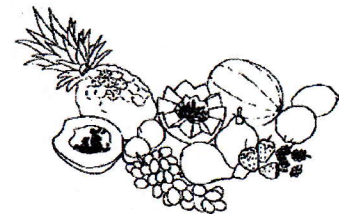
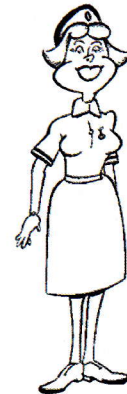
- Mobile phone coverage is close to non-existent.



- **Emergency Phone no** – best to use 02 6380 5222 but be aware that the office is not attended at night and the phone will go through to the Superior – best not to phone after say 8.30pm unless it is a genuine emergency. There is also a public phone in the Retreat House – 02 6386 7332

Facilities

- A laundry is located at the south east end of Retreat House. BYO pegs and detergent.
- Telephones in your room. Phone calls can be made by dialling ... then your number. But calls will be charged to you at checkout on Friday.
- First Aid. First Aid in the first instance will be the Registration area. Evelyn, Grace, Jodie will have bandages etc in this area in case you need their assistance. A hospital, pharmaceutical and medical facilities are located at Harden.
- There are meeting rooms for small groups in the Gartlan Common area the Gartlan Wing meeting room, the Retreat House Common Room, or the workshop room.
- A book store
- A local historic cemetery and grotto retreat
- Large Dining room where lunch and Dinner will be served. Breakfast is taken in your common room area, either in Gartlan Wing or Retreat House.
- Every room has a view to either the expansive gardens or the surrounding farmland.
- All rooms are individually air conditioned for your comfort, have a modern vanity basin, wardrobe, desk with reading lamp, desk chair, an easy chair, bedside cabinet with reading light and a comfortable bed.
- All bed linen and towels are provided
- Fresh fruit, tea, coffee and biscuits are available at all times.
- Wireless Internet facilities are available at a cost of \$5.00 per person per time period.
- lots of places to retreat to for your own quiet time

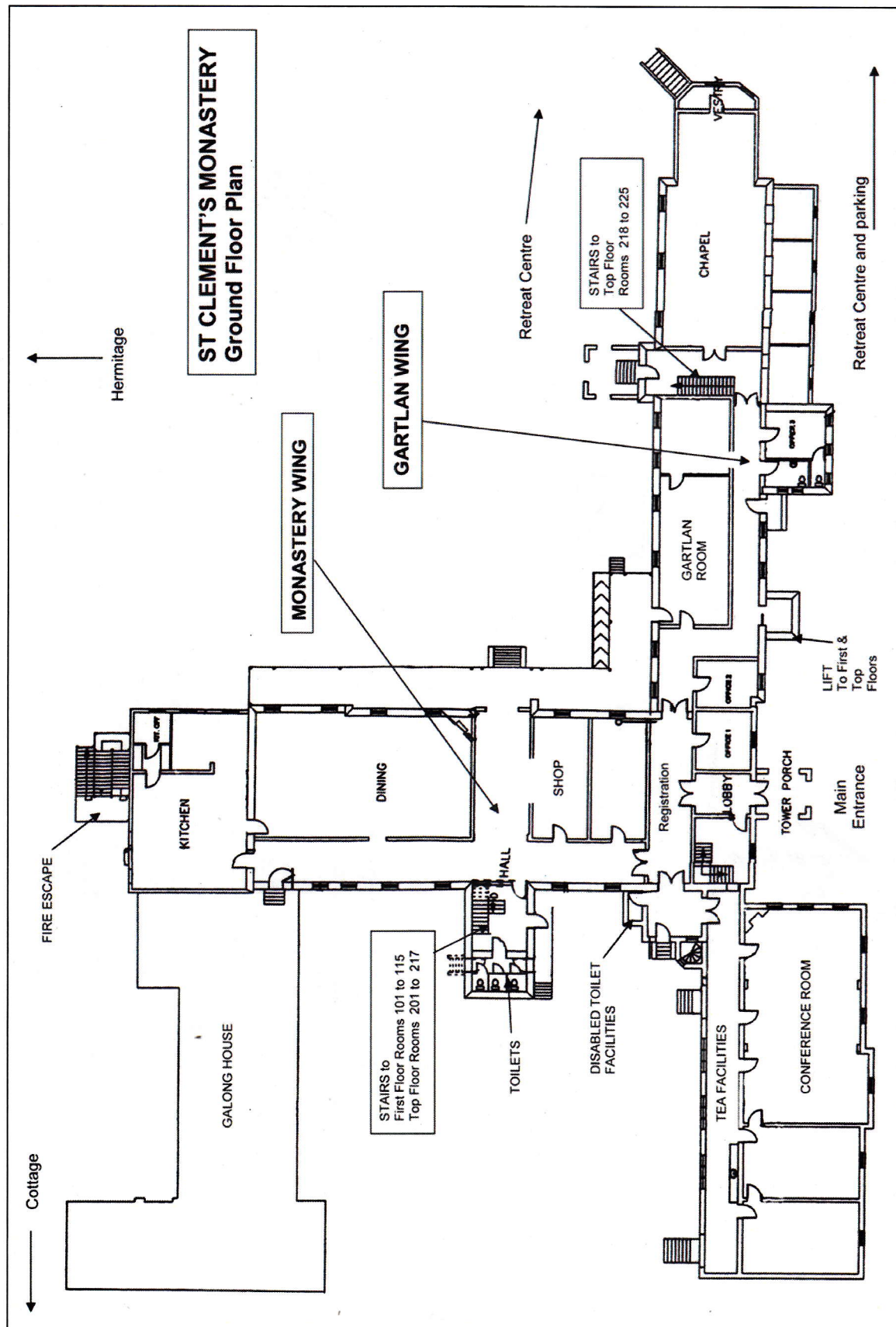


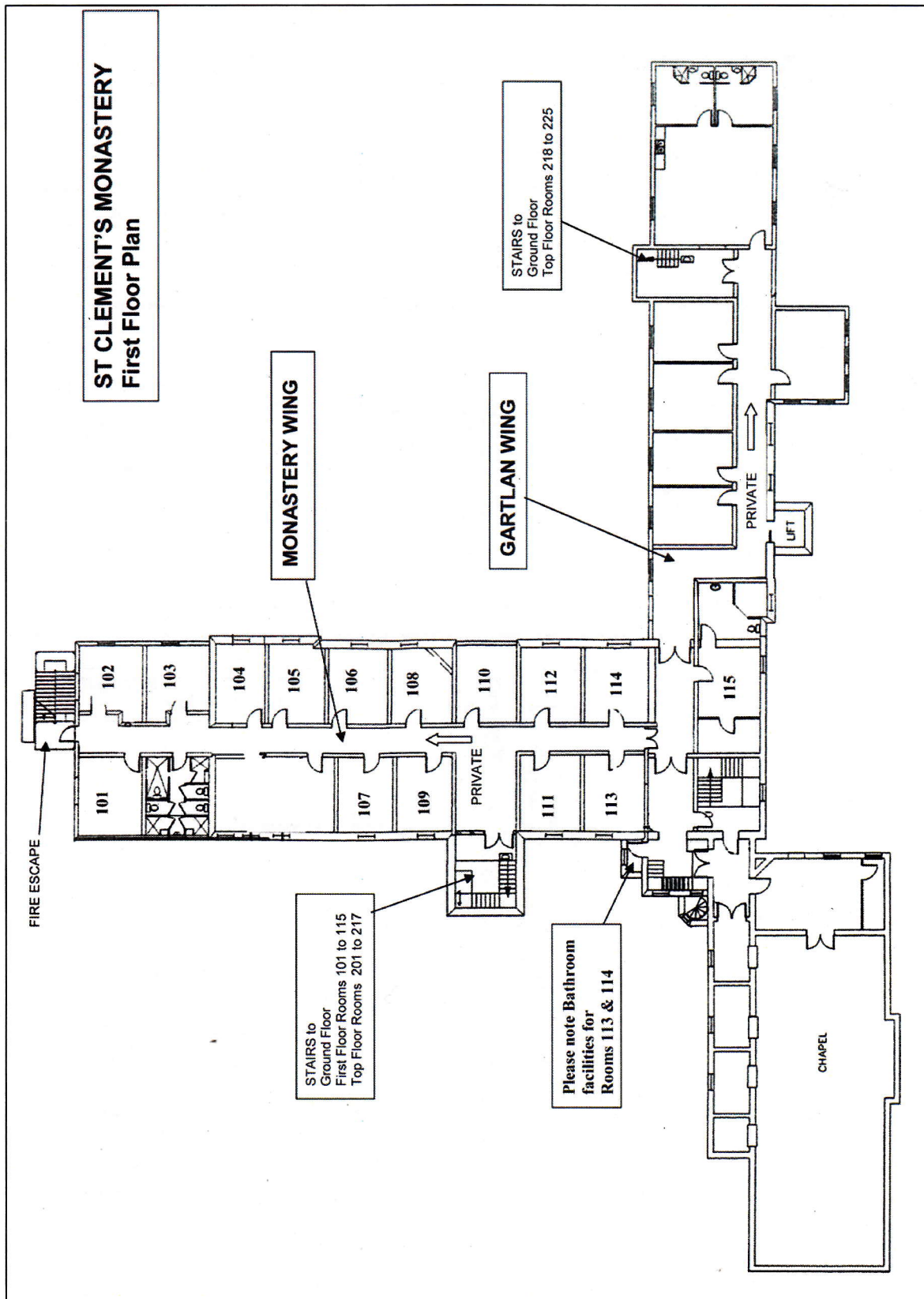
Meeting places

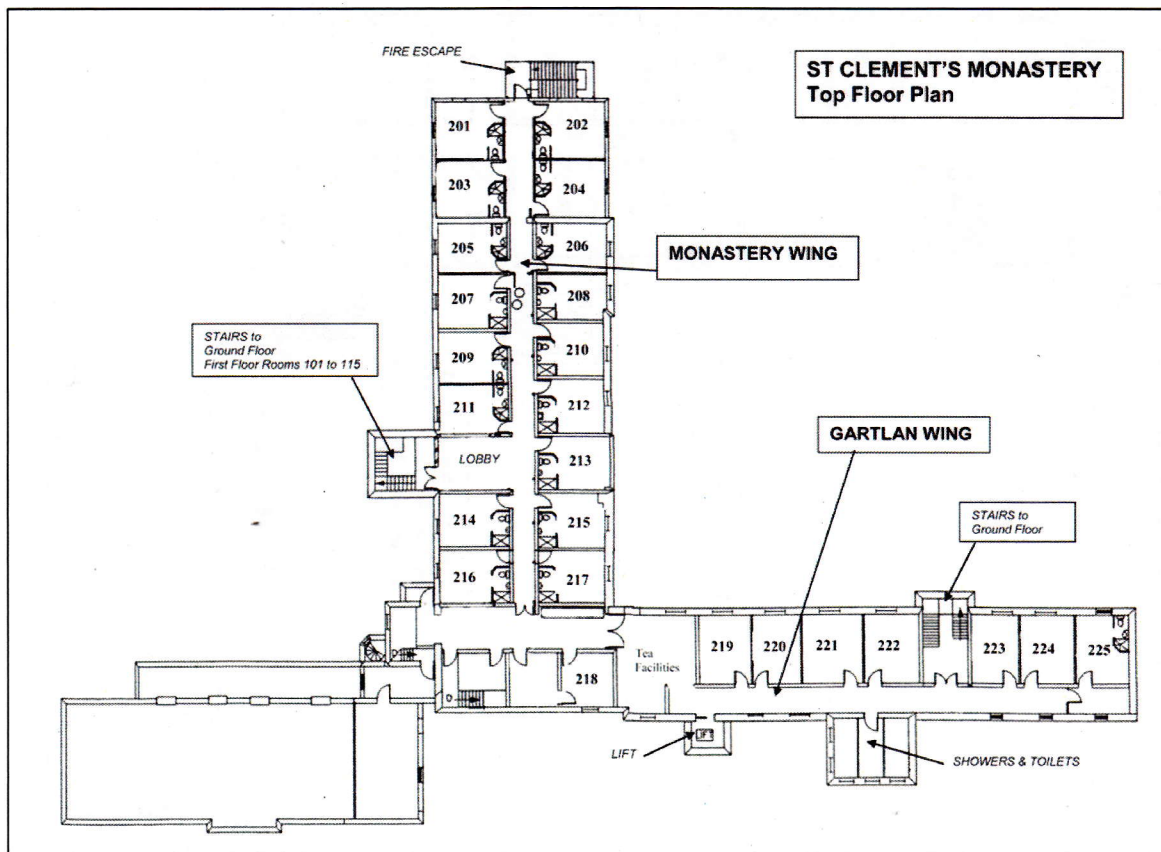
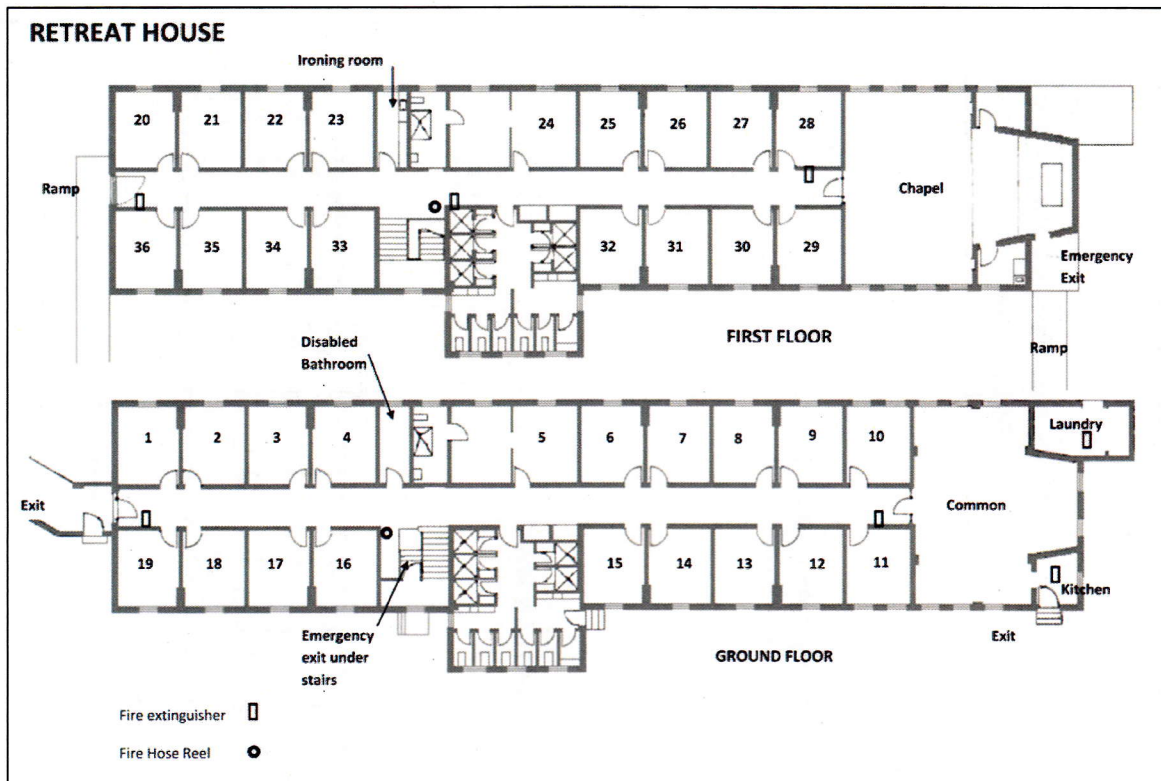
- The opening Welcome BBQ is in the outdoor quad just outside the bar to the north.
- The presentations and workshops will take place in the Conference Room
- The Photographic display is in the smaller of the 2 room to the east of the conference room
- Karst fund Auction items can be found in what is titled workshop room 1.
- The ASF Council meeting will take place in Galong House
- The Trivia night social evening will be in Galong House
- The partners program will be housed in the building titled craft space.
- There are meeting rooms for small groups in the Gartlan Common area the Gartlan Wing meeting room, the Retreat House Common Room, or the workshop room.
- The outside workshop on the cave rescue stretcher will be under a large tree somewhere and
- Speleosports teams will meet at the Labyrinth. The prussic challenge event will also meet here.
- Feel free to walk down to the old historic cemetery and up to the Grotto through Lourdes Gateway and find your own retreat.
- Parking is on the western side of the driveway near the camping area.
- Conference bar is just outside the photographic display and Merchandise can be purchased from the bar.
This bar will not be open during the day except to sell non-alcoholic drinks and will open at the conclusion of the day's presentations. It will close at 10pm.
- Book Sales from the ASF publications Commission and the Jenolan Caves Historical & Preservation Society will be available at the conference near the bar.

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St Clements Retreat History from the *St Clements Website*

Edward (Ned) Ryan was born in County Tipperary 1786, the son of John Ryan, a farmer. His mother was Anastasia Hennessy. In 1810 Ned married Ellen Nagle. The couple had three children: Anastasia, Thomas and John the youngest born in 1815. . Early in 1816 he was sentenced to death for his part in an act of violent protest against harsh economic conditions. For him and twelve companions the death sentence was commuted to a 14 year prison term in Australia. He was lucky enough

to be placed in the service of James Meehan upon his arrival in Australia. Meehan was an outstanding example of a convict who made good in Australia.

In 1825 Ned received his Ticket of Leave (left) and had almost full freedom although he was not at liberty to leave the Colony. This original certificate is admirably displayed at St. Clement's. Ned Ryan triumphed against the odds. At one stage his gazetted squattage added up to more than 200,000 acres. However gruff his exterior, his heart of gold was poorly hidden! There were people in Galong who lived on his bounty for thirty years. It was Ned who made the two acres of land available as a burial ground. Ned died in 1871.

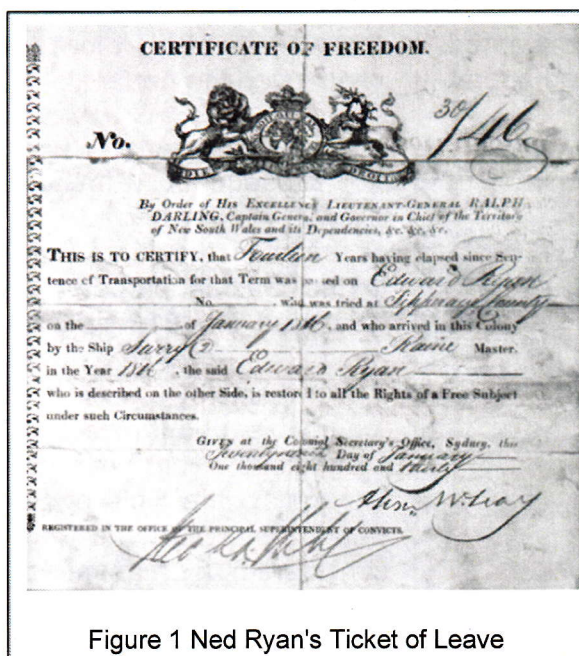


Figure 1 Ned Ryan's Ticket of Leave

Ned was a farmer without a farm. He urgently needed a living space of his own. He could either obtain a free grant from the government; purchase land at five shillings an acre or by squatting. He tried all three. The legend that grew up around his name stemmed from his success as a squatter. His Galong establishment was 25 kms beyond the plough mark at Mount Browning, which meant he was living clearly beyond the limits laid down by the law.



Figure 2 Galong House (left) was called a "Castle" not because of its magnificence, but because of the princely hospitality

Ned Ryan's son, John, became a Member of Parliament and in his will left the property to the Catholic order known as the Redemptorists.

By the terms of John Nagle Ryan's will, Galong Castle and 800 acres was bequeathed to the Cistercians of Melleray in Ireland and in the event of the monks not accepting his offer, to the Redemptorists of NSW. Ryan's sister, Anastasia, was to have possession of the Castle while she lived. She died on 12th July 1900. The Cistercians took a formal vote on the Galong foundation on the 25th August 1900. They voted in favour of the Australian foundation and yet three years later, they made a formal renunciation of any right to the Galong property. Dr. John Gallagher became Bishop of Goulburn in 1900 and when he was in Rome, he obtained a document from the Redemptorists in which he said the latter gave up all claim on their part to Galong. He was apparently concerned for the welfare of his diocese when both Cistercians and Redemptorists had apparently renounced the bequest.

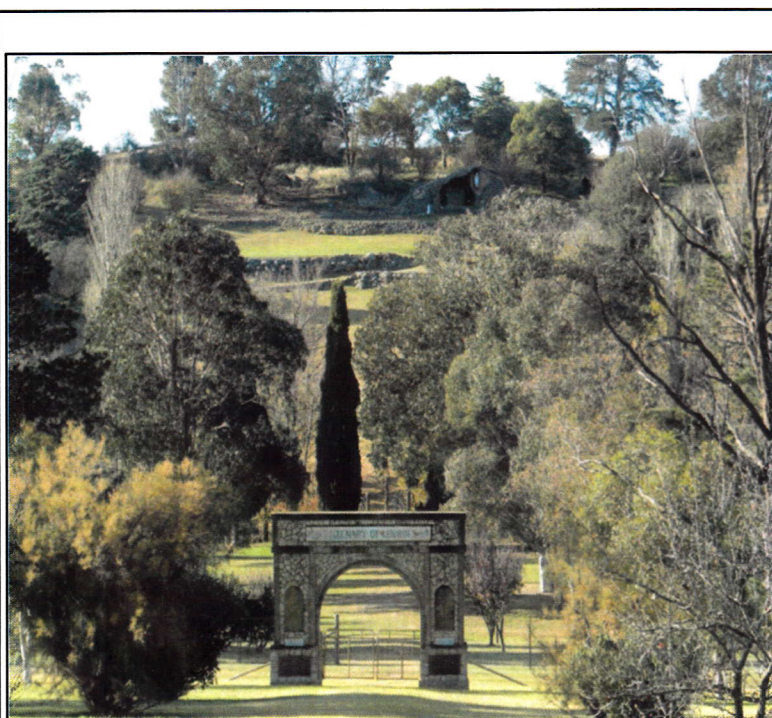


Figure 3 Walk through Lourdes Gate to the Grotto

A subsequent "friendly lawsuit" decided the question of the legal right to the Galong property. It was tried in 1914. It was ruled that the Redemptorists was a "charitable body", that the Cistercians were not as they follow the Rule of St. Benedict, which is not considered a manual of charitable conduct. Insofar as they are contemplatives, they did not come under the legal concept of a charity. Legal expenses of nearly 600 pounds were paid by the Redemptorists who laid the foundation stone of the new establishment in 1917.



Photos in this history section by Michael Rutledge

Program

Please note that the program below (version 20) is subject to change at the whim of the Convener!
The quilting activity is on an ad hoc basis and organised by Anna Binnie – thanks Anna.

time	6/01/2013 Sunday	7/01/2013 Monday	8/01/2013 Tuesday
8:00 AM		registration	registration
chairperson for day		Bob	Cathy
9:00 AM		welcome + housekeeping	Julia James Jenolan survey
9:30 AM		official opening	
10:00 AM		opening speaker - Dr. Armstrong Osborne Recent Developments in Cave and Karst Science	Garry Smith Watagan Boulder Caves west of Newcastle
10:30 AM		morning tea	morning tea
11:00 AM		Cheryl Mongan The history of St Clements Retreat	Bob Kershaw Wyanbene Cave Rehabilitation and GIS Workshop
11:30 AM		tour limited numbers	Lydia Belford: CO2 fluctuations in two Wombeyan caves and implications for speleothem
12:00 PM	Registration	Fiona Ferguson Volunteering in NFP organisations (40m)	Dr Andy Herries the world's first cavers (40-50 minutes)
12:30 PM	Registration	Fiona Ferguson: Volunteering	Dr Andy Herries
1:00 PM	Registration	lunch	lunch
1:30 PM	Registration	lunch	lunch
2:00 PM	Registration ASF EXEC meet	lunch	lunch
2:30 PM	Registration ASF EXEC meet	ASF council meeting	Dr Armstrong Osborne The Tasmanic Caves of Eastern Australia
3:00 PM	Registration ASF EXEC meet	ASF council meeting	Dr Julien Louys Cave palaeontology in the 21st Century
3:30 PM	Registration ASF EXEC meet	afternoon tea	afternoon tea
4:00 PM	Registration ASF EXEC meet	ASF council meeting	speleo sports
4:30 PM	Registration ASF EXEC meet	ASF council meeting	speleo sports
5:00 PM	Registration ASF EXEC meet	ASF council meeting	speleo sports
5:30 PM	Registration ASF EXEC meet	ASF council meeting	speleo sports
6:00:00 PM**	Welcome BBQ -meat and greet	dinner	BBQ + speleo sports
6:30 PM	Welcome BBQ -meat and greet	dinner	BBQ + speleo sports
7:00 PM	Welcome BBQ -meat and greet	trivia night and get to know you	BBQ + prussic challenge Al Warild
7:30 PM	Welcome BBQ -meat and greet	trivia night and get to know you	BBQ + prussic challenge Al
8:00 PM	Welcome BBQ -meat and greet	trivia night and get to know you	BBQ + prussic challenge Al
8:30 PM	Welcome BBQ -meat and greet	trivia night and get to know you	
9:00 PM	Welcome BBQ -meat and greet	trivia night and get to know you	
9:30 PM		trivia night and get to know you	
10:00 PM			

NOTE: if Tuesday is going to be very hot we will reverse the day's program after Julia's talk and have Speleosports and the Prussic challenge in the morning

time	9/01/2013 Wednesday	10/01/2013 Thursday	11/01/2013 Friday
8:00 AM	registration	registration	registration
chairperson Jim for day		Kevin	Denis
9:00 AM	Julia James presenting Historic Names at Jenolan by Kath Bellamy	John Dunkley Cave Music	Poster – Pippa Waterworth et al – WASG members.
9:30 AM		Bob Kershaw demonstration of new ASF Web Site	Bob Kershaw The History and future of Wyanbene Cave
10:00 AM	Bruce Welch Digitising club records, digital publishing	Greg Thomas CROP Terminology	
10:30 AM	morning tea	morning tea	morning tea
11:00 AM	AI Warild: Workshop on Auriga and electronic cave Surveying	Stretcher workshop with Ian Collette and Janice March	DR Sue White Flank Margin caves on a passive continental margin
11:30 AM			Jim Crockett UIS presentation
12:00 PM	Graham Pilkington workshop on CEGSA database		Greg Thomas 2015 ASF conference presentation SCoWA
12:30 PM	Graham Pilkington workshop on OZKarst		Bob Kershaw TROGalong thanks and closing
1:00 PM	lunch	lunch	lunch
1:30 PM	lunch	lunch	ASF council meeting
2:00 PM	lunch	lunch	ASF council meeting
2:30 PM	Dr Sue White (20 people max) Workshop: Geology for non-geologist cavers.	John Dunkley Salt cave photos	ASF council meeting
3:00 PM	Peter Dykes Tricketts Arch	Nic White/Daryl Carr Scrubby Creek Cave Acquisition	ASF council meeting
3:30 PM	afternoon tea		afternoon tea
4:00 PM	Dave Wools-Cobb Core Sampling in Western Sumatra	Garry Smith how to improve your cave photos	ASF council meeting
4:30 PM	Peter Dykes Biobanking agreements	Garry Smith how to improve your cave photos	ASF council meeting
5:00 PM		Karst Fund auction	ASF council meeting
5:30 PM		Karst Fund auction	ASF council meeting
6:00:00 PM**	CavePerson's Dinner pre dinner	dinner	Depart during afternoon for post Conference Trips or home
6:30 PM	CavePerson's dinner	dinner	
7:00 PM	CavePerson's dinner	Garry Smith photo winners	
7:30 PM	CavePerson's dinner	Post conference trip organisation	
8:00 PM	CavePerson's dinner -AI Warild	Post conference trip organisation	
8:30 PM	CavePerson's dinner -AI Warild	Post conference trip organisation	
9:00 PM	CavePerson's dinner	Post conference trip organisation	
9:30 PM	CavePerson's dinner		
10:00 PM	CavePerson's dinner		
1030pm	please keep noise to a minimum as the few Retreat residents do not wish to be disturbed. Thanks		

Yellow box indicates spare slot or free



Abstracts received for presentations and Workshops

Recent Developments in Cave and Karst Science
Dr Armstrong Osborne, University of Sydney

The collapse of the Soviet block and emergence of democratic governance in central Europe in the 1990s promoted the development of new ideas in the traditional homes of cave science. Coupled with better communication and ease of international collaboration this made late 1990s and makes the early 21st Century an exciting time in cave and karst science. I will illustrate these developments with reference to seven areas of change and controversy, four (2, 3, 4 & 5) are directly relevant to eastern Australian caves and two (6 & 7) may be relevant to studies of

sandstone landforms in the Sydney Basin.

1 Polje were long regarded as solutional karst landforms. During the 1990s some Slovenians suggested that these were principally tectonic features, sure got the Yanks upset!

2 The recognition and study of unroofed caves. The great Cvijić and the old geography texts were wrong, there was karst in the past and stalagmites can outlive the caves they formed in.

3 Detailed study of caves: - This may sound strange, but it was only in the 1990s that people started to study caves in significant detail, or look up! The results have been dramatic.

4 The hypogene (or per ascensum) revolution: - the traditional view is that caves form by surface water sinking into the rock. From about 1996 the idea that caves can form from the bottom up became popular and remains controversial. This explains a lot of what we see in eastern Australian caves, many of which have no fluvial features and are isolated from the surface hydrology.

5 The recognition of ancient cave sediments and ancient caves, not palaeokarst but accessible caves surviving for hundreds of millions of years. This is quite a radical idea, but cave sediments millions of years old are now being identified in Europe and we have Carboniferous cave sediments at Jenolan and ...

6 Phantom or ghost rock, the recognition that internal weathering fronts may mimic the shape of caves so that when the weathered material is removed a cave is left behind emerged in Belgium in the late 1990s. This strange idea is applicable to caves in impure carbonates and non-carbonate rocks.

7 Martian bacteria: - NASA is funding work on "extremophile" bacteria in caves. This work is not only important for extra-terrestrial life, the bugs are up to other things in caves on Earth and all is not what it seems.

Origins of Cave and Feature Names in the Jenolan Show Caves

Kath Bellamy and Craig Barnes

Authors - Kath Bellamy, 226 Rankin Street, Bathurst, NSW 2795 e-mail: dbellamy@tpg.com.au

Craig Barnes, 75 Wybalena Grove, Cook ACT 2614, e-mail: cbarnes6@bigpond.com

As guides strove to acquaint visitors with the "exotic" cave environment, a tradition of giving features familiar names was established, and continues to the present day. It links us with the discoverers and early visitors. To the informed, names of caves and formations can take on a hieroglyphic character that can guide you through the history of the cave. Being aware of the feature names can give a glimpse of the discoverers, prompt interest in the adventures of early visitors and even recognise the work involved in making the caves accessible.

Fishy Recipes for Volunteering

Fiona Ferguson, Manager Age of Fishes Museum Phone: 02 6344 1008, www.ageoffishes.org.au

How do small communities and community organisations create recipes to manage a shortage of volunteers?

Innovation, consultation and lots of work? It is possible to offer a 7 day a week operation run by volunteers?

Find out how the Age Of Fishes Museum has managed to motivate their volunteers and create a versatile program.

The Jenolan Show Cave Survey – Publish or Perish

Julia M. James, 41 Northwood Street, Camperdown, NSW 2050. jmj@chem.usyd.edu.au

The Jenolan Caves Survey Project began in the late 1980's and this presentation is a companion to that given at the ASF conference in 2009. The project aim was to produce a survey, which could be used by others for management and research. This talk will detail the problems encountered as the group strives to get the survey ready as a publication available to speleologists. The first decision that had to be made was whether the survey should be published in hard or soft copy or as both. The result is that it is being prepared for both. During the preparations problems were encountered with the use of Adobe Illustrator for drafting especially in the use of symbol, swatch and brush libraries. The symbol library contains a number of symbols or modifications that do not appear in the accepted survey symbol lists; the rationale for these will be discussed. A novel way of presenting graphically areas of the cave surveyed with different techniques will be introduced and discussed. The survey has been drawn at a scale of 1:200 and will be reduced to enable publication as a folio of A3 sheets. Jenolan Show Caves have numerous areas with passages overlying those below; the two methods of presentation of these areas have been used. As final drafts have been prepared and checked problems have been noted, such sections of the dive survey being of doubtful accuracy, these are still being re-surveyed. The representation of the many Jenolan Show Cave tours has required special thought and will be shown. Already the survey in its unpublished form has had many uses, one of which developed indirectly and will be presented in this conference as a paper on the Origins of Cave and Feature Names in the Jenolan Show Caves.

Gap Creek Boulder Caves

Garry Smith, Newcastle Hunter Valley Speleological Society

The Watagan Mountains are part of the Great Dividing Range to the west of Newcastle and are typically characterised by flat ridgelines, numerous sandstone cliffs, steep slopes and deeply fissured gullies. The steeply sloping valleys are eroded from sandstone and conglomerate bedrock. In many places 30 to 50 metre cliffs tower above, while other parts of the valleys have steep scree slopes covered in dense rain forest. Large boulders which have broken free of the cliffs over time are scattered among the forest. The caves at Gap Creek have been created by many large boulders, which originated from the cliffs above and tumbled down the slope to congregate in a perennial stream gully near the end of Bangalow Road. The voids between these large boulders have formed a network of small caves which are now home to a wide variety of flora and fauna. This paper discusses the geology and vegetation of the Gap Creek catchment and details two of the boulder caves in the area.

The World's First Cavers: dating the associations between man and caves over 3 million years of human history in South Africa

Associate Professor Andy I.R. Herries

Head of Archaeomagnetism Laboratory, Archaeology Program, La Trobe University, Melbourne.

The association between our early ancestors and caves is so strong that when many people think of our earliest relatives they most likely think of the term 'caveman'. Be it 'walking with cavemen' or 'Captain Caveman' this image permeates our consciousness and society. But when did humans first utilise caves and why and how has our use of caves changed over time? Human fossils are found in caves as long ago as 3 million years in northern South Africa, when we were little more than bipedal apes. Debates have raged over whether these early humans were living in the caves and eating the other animals that are found there, or whether humans were little more than the hunted themselves. This talk will explore the question of how caves have shaped our evolutionary history. From the dolomite Highveld caves of Gauteng Province to the coastal quartzite caves along the southern Cape coast, where groups of early humans struggling against the forces of nature first learnt to exploit the sea; perhaps even saving us from extinction some 200-150,000 years ago. Determining the age of many of these cave deposits has proven difficult and the talk will also focus on how new methods have been developed to date these ancient caves and how such methods are now being used to date marsupial fossil sites in Australia, like those at Wellington Caves in NSW.

Wyanbene Cave Rehabilitation and GIS Workshop

Bob Kershaw, Illawarra Speleological Society

Illawarra Speleological Society is using the ASF sponsored ESRI ARCmap to keep track of the sites cleaned in Wyanbene Cave along with photographs of pre and post cleaned areas. This workshop shows the cleaning items (brushes and collapsible back pack spray) and the GIS process from the development of the data, maintaining and producing maps and reports for NPWS and ASF that are both assisting in this project.

The history and future of Wyanbene Cave or "A Wyanbene Carol" (with apologies to C. Dickens)

Bob Kershaw, Illawarra Speleological Society

The Wyanbene Cave system has been used extensively since its discovery in the mid-1880's by caving club members, speleologists, members of the Scout movement, other youth groups and for Emergency Service Rescue training. A great deal of intentional damage has been noticed in the tourist section and unintentional damage has been done to the cave beyond the locked gate, since the extension to the end of the cave was found over 50 years ago. Little has been done to educate users or to restrict access to paths in well decorated areas or to rehabilitate the cave. Cave managers have restricted access by the use of a gate since 1986 and a permit system presently exists and it is intend to continue the permit process in the future in a more restrictive manner. In October 2011, members of Canberra Speleological Society and Illawarra Speleological Society encouraged the idea of a cleaning project to enable extra trips into the cave under the revised permit system implemented by the local office of NPWS to assist in the rehabilitation and education of users of the cave. This paper briefly examines the history of use of Wyanbene cave, the present Management plan in regard to access and the future cave cleaning program.

Cave palaeontology in the 21st Century: Unearthing our underground biodiversity records to help conserve our future

Dr Julien Louys

Vertebrate Palaeocology Research Group, School of Earth Sciences, The University of Queensland

Fossils preserved in caves have long been renowned for the spectacular glimpses of the past that they provide to the general public, technical enthusiasts and scientific professionals. Although these deposits are sometimes quite difficult to access, the material that can be recovered from caves is unparalleled. In particular, palaeontologists value cave fossils because of their often great level of preservation, completeness and the abundance of material preserved and available to study. These qualities in particular are essential for palaeoecologists - those scientists with an interest in determining ancient environments and their effects on both living and extinct animals. Such insights are critical to determining how communities and ecosystems have reacted to climate change in the past, and allow us to build realistic models of how future climate change might affect the biodiversity upon which we currently rely. This presentation will showcase some recently explored and excavated caves that have yielded abundant fossil material, and how this information can be interpreted to provide information critical to modern conservation efforts.

The Tasmanic Caves of Eastern Australia

Dr Armstrong Osborne, University of Sydney

Caves occur in Palaeozoic limestone from the southeastern corner of Tasmania to Mitchell-Palmer in north Queensland. These caves are developed in mostly small bodies of limestone in which surface karst features are relatively less significant than caves. The caves and the karsts in which they occur have many features in common. Many of them intersect palaeokarst, have complex histories with multiple periods of development (post-palaeokarst) caused by a variety of processes. They often have an early hypogene stage followed by multiple paragenetic stages. Some sections of the caves are extremely old. Very often these caves are disconnected from the present hydrology; some never intersect the water table while others have no obvious stream sink or spring.

This presentation takes a continental scale view of eastern Australian caves, suggests sites for international comparison and looks at where research might be heading.

Scrubby Creek Cave Acquisition

Nicholas White and Daryl Carr, VSA and Rimstone Cooperative Ltd

Scrubby Creek Cave was an exploration focus in the late 1950's by the Sub Aqua Speleological Group who tried to get dive the resurgence. It was not until 1961 that entry to the cave was gained by bypassing the resurgence. This revealed an initial section above the water until a difficult section was found which required immersion and very little breathing space. The cave continues along the stream for more than a kilometre and the cave has excited cavers for the last 50 years. There are a number of related caves on the Scrubby Creek Property and the neighbouring properties. The caving community has worked with the owners to control access because of the caving difficulties and in doing so developed a very strong conservation ethic for what is a very beautiful and complex cave.

Several cavers were advised that the property was on the market in late 2011 and quick action was needed as this was a once a generation chance to acquire the property. Rimstone Cooperative Ltd was started in 1973 with speleological aims and it acquired the Homeleigh property in Buchan. This has provided accommodation for Rimstone members, their friends and families and has always been open to cavers. Rimstone Cooperative is a Community Advancement Society and cannot make or distribute profits to its members. This fulfilled the requirements of compliance for the ASF Karst Conservation Fund to support the acquisition of the Scrubby Creek Cave Property by Rimstone. We thus signed contracts to purchase it and set about raising the funds. We were able to settle in May 2012 with the donations and a few loans.

Rimstone is now preparing a Management Strategy, which involves protecting the cave and karst, particularly the tufa banks and continuing the grazing regime.

The ownership structure will be discussed in relation to private versus public cave conservation of karst resources. The support of all the donors from across the caving community and their friends is acknowledged in this the first such purchase in Australia.

A Demonstration of the Electronic Database that is used by the Cave Exploration Group of South Australia.

Graham Pilkington CEGSA

First session: Overview of the CEGSA digital database focusing on the Articles data set.

The CEGSA digital database is an attempt to have all of our data available at call. It has a hierarchical index overview into relational subsets. The current data covers library items such as journal and book holdings; management items such as membership, and meetings; and karst records information.

To enable many people to contribute, the database is grouped into subsets, each of which can operate as an independent database.

The Articles database handles references to articles of all types. Currently this is limited to Newspapers & Magazines, Caving Journals, and Trip Reports but it's intended to include any document that can be referenced. Each type of reference data is itself a subset of the Articles database and can be operated independently but needs a special merge to realign into the main dataset. In keeping with the CEGSA database concept, not only is there a detailed index of each article, but the actual article can be displayed.

Second session: OzKarst: holds the CEGSA digital database karst information

It is intended to store all of CEGSA's karst information in OzKarst. This database is a subset of the CEGSA database and can handle karst information from anywhere in the world. The types of data currently stored include descriptive, measurements, drawings, image, biological, and history. OzKarst is based on the ASF's karst numbering system but has been extended to increase versatility and scope. Like all of CEGSA's digital datasets, the indexes can be used to access the data itself.

Geological and Outcrop information is handled; nearby features can be located; alternate and historical codes used; and data can be loaded into GPS units.

A GIS based on ESRI's ArcMap has been optionally incorporated into OzKarst. This allows karst features to be loaded into multi-layer maps of roads, rivers, topography and other spatial data. Alternatively, a simple feature location plot can be displayed.

Geology for non-geologist cavers

Dr Susan White, VSA & Latrobe University, Environmental Geoscience

Maximum numbers: 20

Do you really know what limestone is? How is basalt different from granite? What is the difference between a rock and a mineral? How do we describe the basic host of our caves? How has this changed over time? What is the context of fossils? How can I tell if information is seriously out of date?

These and other questions will be explored in a **BASIC but hands on geology workshop for non-geologists**. If you have done some formal geology in the past this is NOT FOR YOU. However if you are confused as to why some rocks look like they do and what the difference between bedding and cleavage planes are, come along for some fun.

Flank Margin caves on a passive continental margin: the evidence from Southern Australia.

Dr Susan White, VSA & Latrobe University, Environmental Geoscience

Flank margin caves (FMC) have been described specifically from the Bahamas and the islands of the north Pacific such as the Marianas. In the former case the relationship of the freshwater lens and the caves is clearly related to the fluctuations of sea level over the past ~20,000 years on a relatively tectonically stable basement. In the Marianas the relative sea level has dropped and there are a series of caves now well above the active cave forming level. FMC are typically described from relatively young, highly porous and permeable limestones, usually aeolianites.

Australia has a significant amount of aeolianites and other highly porous and permeable marine calcarenites. There is a lot of evidence that caves have formed in previous coastal locations in such host rocks. However the passive continental margin tectonic conditions of southern Australia are significantly different from either the Bahamas or the islands of the north Pacific.

This paper will discuss the speleogenesis and characteristics of caves forming in this context. The areas discussed will include the Nullarbor, Naracoorte, Glenelg River and Rottnest Island.

Core Sampling in Western Sumatra, Indonesia

David Wools-Cobb, Northern Caverneers

Researches from The Australian National University, Canberra in collaboration with the Indonesian Institute of Sciences, are conducting a series of climatic studies of the South East Asian monsoonal margin. The focus is to collect core samples from coral reefs (Sunda Strait) and stalagmites (Western Sumatra). I was appointed the research party's caving consultant. This paper is a brief outline of the caves we visited in June-July 2012 and our activities. At the stage of writing the palaeoclimatic data is still pending.

Conversion of printed Club Journals to Electronic Storage, and Specifications for Electronic Publishing

Bruce Welch, 21 Thompson Street, Marrickville NSW 2204
9569 9958 or 9029 1189, bruce@bookproduction.org

Caves have had the benefit of surveying and mapping grades and symbols for many years now, and as we move into electronic publishing and the desire for many clubs to digitise their earlier documents it is thought timely to present a paper which discusses best methods and suggests some overall specifications in this field.

A combination of audio-visual and written notes will present ideas and guidelines to help achieve good reproduction from hard-copy to digital form for records and will explain why it is important to provide electronic files in the best form and appropriate resolution for publication purposes.

Bruce Welch has over 35 years in the printing and book publishing field, has authored or co-authored many books. He has also digitised old publications, produced facsimile books (by scanning and digital manipulation) and manages the electronic publication of the *Proceedings of the Linnean Society of NSW* on the Sydney University Open Journal System.

POSTERS

Investigating rare microbial communities of the Nullarbor Plain.

P. Waterworth^{1,2}, D. Buckley², T. Brockhouse², P. Streit², B Bulled²

¹. School of Sports Science, Exercise and Health, The University of Western Australia, Perth, WA 6009.

². Australian Speleological Federation, PO Box 388, Broadway, NSW 2007.

The Nullarbor Plain is located in the South-West of Australia and forms the onshore region of the Eucla basin, one of the world's largest karst areas. The region contains many flooded features, filled with brackish water; however, relatively few of the flooded caves have been explored and even fewer have been the subject of published, aquatic ecological investigations. Observations made during previous phylogenetic research indicated the microbial communities found within the caves, may have limited re-growth and be vulnerable to disturbance by cave diving activities. In response to this anecdotal information, a systematic study commenced in 2010 and is centred on the microbial communities of 5 Nullarbor caves (Murra El Elevyn, Warbla, Weebubbie, Olwolgen and Burnabbie). The study includes growth, spatial distribution and photographing unique forms of the bacterial communities within the caves. Growth is being investigated by obtaining regular measurements from 9 sites within Murra El Elevyn cave and also from 10 sites within Warbla cave. Murra El Elevyn is a popular dive site, whereas Warbla is a reference cave and therefore is not subjected to the same level of visitation by divers. Along with obtaining growth information, it is anticipated the comparison of data from these caves will provide insight into the effect of diving upon bacterial growth. Spatial distribution patterns are being identified by using modified quadrat and visual counting methods. Although the bacterial communities have two generic forms, a hanging mantle and a supine mat form, it has become evident that there is a considerable amount of variation within these broad types. A unique mantle form observed within Olwolgen cave, appears to have a central core within a gelatinous outer coat, giving the impression that it is not a bacterial community - when in fact, it is. These communities are no more than 15 cm in length and are quite small in diameter. Several mat communities within Burnabbie cave have developed in a conical shape because they are growing upon a conically shaped silt pile. However, it is not evident why the silt or the bacteria have assumed this shape. The ongoing cataloguing of unique features will continue in conjunction with growth and distribution investigations until mid-2013, when the data will be analysed and the results published

Donating to the Karst Conservation Fund

You can donate to the Fund using any of the following methods.

1. To donate to the ASF Karst Conservation Fund download the [Donation form](#) from the ASF website, www.caves.org.au complete it and either: **post** to

ASF Karst Conservation Fund

C/- Mrs Grace Matts

176 William Street Bankstown, NSW 2200 OR

Fax to Grace Matts (02) 9708 4594.

2. Use the **DONATE NOW BUTTON** to donate through PayPal or Credit card.

Note that the Credit card and PayPal facility will be on the new ASF website in 2013.

3. ASF Inc encourages **donations from benefactors** including bequests.

For further information email karstfundinfo@caves.org.au

4. **EFT Direct Transfer Account**

Name: ASF Karst Conservation Fund at the CBA in Quirindi, NSW

BSB: 062 594

Account No.: 28002528

Please supply a reference of your payment for easy payment identification eg: Susan Smith,

5. **Periodic payroll deductions to the Karst Conservation Fund**

The Fund recently made arrangements for Telstra employees to be able to make periodic payroll deductions to the Karst Conservation Fund. These donations are matched up to \$1,000 per annum by Telstra.

Any Telstra employees willing to donate in this way would be very welcome.

Should other ASF members, friends etc wish to make periodic deductions either directly or by means of payroll deduction to the ASF Karst Conservation Fund then please contact karstfundinfo@caves.org.au and arrangements will be worked through.



Post Conference Trips

TROGalong is located centrally amongst many iconic NSW caving areas but most are several hours travel from Galong and from each other so consider spending a couple of days at least in each location and allow for travel between locations. For each location we've provided brief description of the types of caving available, why you might want to cave there, and camping/accommodation options.

Numbers on trips will be at the discretion of Trip Leaders.

Possible caving locations

Single cave locations	Trips available	Camping/Accommodation
Colong	<ul style="list-style-type: none"> About six hours of horizontal cave at the base of a strenuous 2 hour walk, 4km and 300 vertical m spur GRADE: 2-3 	<p>🏕️ Lovely road end NPWS campsite, no facilities or water. Alternatively camping available Peter Dykes's property at Jaunter</p> <p>➡️ Oberon or Jenolan are a bit over an hour away</p>
Tuglow	<ul style="list-style-type: none"> About eight hours of cave with some wading and vertical pitches with active and lovely streamway at the base of a 5km and 100 vertical m spur Wetsuit useful. GRADES: 3-4 regarded as the best streamway cave in NSW (by some!) 	<p>🏕️ near the cave, by the Kowmung, after 4wd access Alternatively camping available Peter Dykes's property at Jaunter</p> <p>➡️ Oberon or Jenolan are a bit under an hour away</p>

Locations with multiple caves







Bungonia	<ul style="list-style-type: none"> Several days of vertical caves. Pitches: 10-35m. GRADES: 2-3 Several days of horizontal caves. GRADES: 1-3 The spectacular 500m deep Bungonia Gorge through the limestone 	<p>🏕️ Beside-the-car NPWS campsite with toilets and showers and a camp kitchen.</p> <p>➡️ Goulburn and Marulan are about ½ hour away</p>
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Cliefden/ Walli/ Borenore	<ul style="list-style-type: none"> Several days of mostly horizontal, varied caving with trips ranging from 2 -6 hours at Cliefden. GRADES: 2-3 Several days of caving with vertical entrances. Pitches: 10-15m. Trips ranging from 2 -6 hours at Walli. GRADES 2-3 	<p>🏠 Caver's 'cottage' on a lovely creek on the farm at Cliefden, with ample camping room available. Kitchen and showers.</p> <p>➡ Motels etc in Cowra, 20 minutes away. Cliefden caves 15mins from camp</p> <p>• Walli: 30 minutes</p>
Jenolan	<ul style="list-style-type: none"> Several days of spectacular tourist caves. Several days of mostly horizontal caving with trips ranging from 1-12 hours. GRADES:1-3 	<p>🏠 No location for camping on site, although there's NPWS campsites 20 minutes away. ➡ Cavers Cottage with kitchen and bathroom. ➡ Caves House and nearby s/c accommodation offers more flash accommodation.</p>
Wee Jasper	<ul style="list-style-type: none"> Several days of mixed horizontal and vertical caving with trips typically 3-6 hours. GRADES: 1-3 	<p>🏠 Extensive grassy campsites with toilets/showers beside the Goodradigbee River.</p> <p>➡ Yass is about an hour.</p>
Wyanbene/ Big Hole	<ul style="list-style-type: none"> Wyanbene offers 3-12 hours of active streamway with the 100m aven, Gunbarrel. Mostly horizontal. You'll be participating in a cleaning project for an hour. This negates the 6 permitted trips per year. Trips range 1-10 hours. GRADES: 2-4 The Big Hole is a 100m deep open shaft with a forest and boulders at the base. It's a big, spectacular prussic. 	<p>🏠 Extensive grassy NPWS campsites with pit toilet.</p> <p>➡ Braidwood is about ½ an hour.</p>
Yarrangobilly/ Coolman	<ul style="list-style-type: none"> Yarrangobilly offers several days of mixed horizontal and vertical caving with spectacular formation. Trips range from 2-10 hours. GRADES: 3-4 Several days of tourist caving. There is also the Yarrangobilly gorge and natural bridge Coolman offers caves in a sub-alpine grassland and a pretty limestone gorge. Caving is mostly horizontal. Trips range from 1-4 hours. GRADE: 1-3 	<p>🏠 Cotterill's Hut has extensive grassy NPWS campsites with pit toilet and an old homestead that provides sheltered sleeping/ cooking space. (Damage repaired but may have to sleep and cook in tents outside).</p> <p>🏠 There are also nice grassy sites by the river at Blue Waterholes with a pit toilet.</p> <p>➡ Yarrangobilly Caves House has self-contained 'heritage' accommodation.</p>

Environment NSW have produced a more comprehensive description of NSW karst areas at <http://www.environment.nsw.gov.au/resources/geodiversity/110455nswkarstcaveguide.pdf>.

This book will also be available in your conference goodies bag!

Canyons

Kanangra	<ul style="list-style-type: none"> • Kalang Falls: 10 abseils of 30-50m; Dry; big walk back up. GRADE: 5 • Danae Falls: Huge day; 6 abseils of 30-50m; wet; huge walk back up. GRADE: 5 • Wallara: Easy day of 10-20m abseils and extensive creek walking. GRADE: 3 	 NPWS bush campsites with pit toilet.  Jenolan Caves House or the Cavers Cottage is about ½ an hour.
Newnes Plateau	<ul style="list-style-type: none"> • Many wet and dark canyons, some with abseils, some very short and nearly horizontal. • The Glow-worm tunnel is an old railway tunnel, worth a stroll. 	 Bush camping.  Lithgow is about ½ an hour.
Mt Wilson and Katoomba areas	<ul style="list-style-type: none"> • Many options – see what the trip program offers. Typically wet, tight and cold, although some are more horizontal, and require airbeds for a float through! 	  Any number of motels between Mt Victoria and Katoomba

There is excellent canyon information on the web. Just search for one by name or visit http://ozultimate.com/canyoning/canyon_guide.htm

Other specific requests may be able to be arranged subject to leader availability and early requests, so if you have a place on your agenda, ask us and we'll try to organise a leader for you.

Trip Schedule

Pre Conference Trips

Canyoning				
Trip Leader	Canyons	Grade - Wet/Dry	Requires	Date
Rod Smith (MSS)	Kanangra canyons various	Numerous options from easy to difficult. Mostly wet, requiring abseil.	Wetsuit, dry bag, abseil gear, good fitness (moderate walk in/steep hills)	2nd - 4th January 2013

Caving				
Trip Leader	Cave Area	Cave/s	Grade	Date
Bill Lamb (NUCC)	Wee Jasper			
Denis Marsh (OSS)	Cliefden	Numerous caves available depending on interest and fitness	Mostly horizontal, some sporty, short ladder in 1 or 2, mud	2nd - 4th January 2013

Post Conference Trips				
Canyoning				
Trip Leader	Canyons	Grade - Wet/Dry	Requires	Date
Brian Evans (ISS)	Twister/Rocky Ck	Wet, easy, some handlining	wetsuit, dry bag	12 - 15th January 2013
	Dargans Creek	Easy & shallow water, but with a tricky series of climbs up the exit	harness for exit climbs	
	Glow-worm Tunnel + canyon	Easy & short, dry	Light source for tunnel	
	Galah	5 x tricky abseils of <30m, wet, technically hard	Abseil gear	
Andrew Baker (NHVSS)	Mount Wilson (numerous options e.g. Bowens Creek North, Whungee Weengee)	Medium to difficult	Wetsuit, dry bag, abseil gear, good fitness (moderate walk in/steep hills)	12-13 January 2013
	Newnes Plateau (numerous options e.g. Hole in the Wall, Banks, Tiger Snake (dry))	Medium to difficult		
	Wolgan Valley (Numerous options e.g. Starlight (has 200m dark tunnel), Devils Pinch, Nightmare (technical but dry))	Medium to difficult		

Caving				
Trip Leader	Cave Area	Cave/s	Grade	Date
Bill Lamb (NUCC)	Yarrangobilly or Cooleman?			
Bob Kershaw (ISS)	Deua NP	Wyanbene WY1 includes help with a bit of cleaning	Moderate, wet: thermals, dry bag inside cave pack	12 - 15 January 2013
Alison Chau (SUSS)	Jenolan	Several caves available	Moderate	12 - 13 Jan 2013
Denis Marsh (OSS)	Cliefden	Numerous caves available depending on interest and fitness	Mostly horizontal, some sporty, short ladder in 1 or 2, some muddy others dry	12 - 16th January 2013

Peter Dykes (CWCG)	Kanangra Boyd NP	Tuglow	Sporty SRT vertical wading & abseil req'd	14 - 17th January 2013
		Colong	Horizontal, strenuous 2 hr walk to cave	
Joe Sydney (HCG)	Bungonia	Grill Cave	Easy Horizontal	12 - 13th January 2013
		B4-5	Sporty-mainly horizontal with abseil/SRT if you wish	
		B7-14	Abseil/SRT	
		B16-51	Sporty-Abseil/SRT	
		B33	Very sporty-Multi pitch abseil/SRT	

Map showing locations of post conference venues



AGE of Fishes Museum



If you are travelling to Cliefden and have the time drop into the museum at Corner of Gaskill st and Ferguson St, Canowindra.

Pronounced 'Can-noun-dra'

Position of wearing ASF Awards



The TROGalong Committee encourages you to wear your miniature medals of Australian Honours and the medals that reflect the ASF awards at our Opening Ceremony and the Formal dinner on the Wednesday evening.

Australian Honours recipients know that their medals are worn above the left breast and so to begin an ASF protocol (Executive approved), we ask you to please wear your ASF award medal/s above the right breast. If you have more than two ASF awards, the highest ASF award is worn closest to the breast bone.

See the diagram to the left.