

RECENT PROJECTS IN THE LEEWIN-NATURALISTE NATIONAL PARK AND OTHER PLACES

– Anne Wood

A school group enjoying the new facility
at Giants Cave. Photo: Anne Wood.



Life is very busy here in Margaret River. I think organizing a conference could be a full time job! Arrangements are progressing and May will here before we know it! I am looking forward to catching up with you all soon. Life might be busy but it is not, as has been said in the past, one ACKMA Conference after another. I would like to share some other recent projects with you.

ADVENTURE ACTIVITY STANDARDS

First Victoria, then Tasmania, now it's Western Australia's turn. Adventure Activity Standards (AAS) benchmark the minimum industry requirements for people conducting outdoor adventure activities for groups. The WA AAS are being developed by an industry wide consultative process coordinated by Outdoors WA and with funding via the Dept of Sport and Recreation (DSR).

The AAS aim to maintain the perception of adventure whilst simultaneously reducing the risk for participants. They are also designed to promote knowledge and awareness of environmental impacts, and assist in the protection of biodiversity and other values.

The WA AAS for Caving have been developed over the later half of 2008. I have been involved with this process as a member of the Caving Technical Working Committee. This has included traveling through peak hour traffic to meetings in the city, finding out how to get into (and out of) DSR headquarters in Perth after business hours, and discussing in detail the exact difference between 'horizontal caving' and 'vertical caving' and other juicy morsels such as 'should a toilet trowel be part of the leaders equipment or the group equipment' (not to be used inside the cave of course!).

The ASF affiliated WA caving clubs already have extensive codes of practice and guidelines, and access to the caves of the Leeuwin-Naturaliste National Park is managed under the Cave and Abseil Permit System and Cave Leader Accreditation. The new draft WA AAS for Caving acknowledges and accepts these prior initiatives. I am hoping that these new standards will act to reinforce appropriate procedures and attitudes in areas where controls are already in place, and more importantly extend to other areas of this enormous state.

NEW 'DISCOVERING CAVES OF WA' BOOK

The Department of Environment and Conservation (DEC) publishes a big range of small 'Bushbooks' and 'Discovery Books'. These are designed to fit into the pocket or bag of the traveler and are full of information on various plants and animals (Bushbooks) or places (Discovery Books). *Discovering Caves of WA* has been written by DEC publications officer Samille Mitchell, and myself. This is being reviewed by Kent elsewhere in this publication.

DEC also publishes a quarterly journal *Landscape*. The next edition, due out in March, is to include an article "intriguing underworlds: caves of Western Australia", based on the caves discovery book.



Dr Pauline Treble (middle) with husband Paul and daughter Soraya, and Anne Wood (right) outside Margaret River DEC office. Photo: Ian Fairchild.

GIANTS CAVE SHELTER

Giants Cave is one of the two caves that DEC has open to the public as a show cave in the Leeuwin-Naturaliste National Park. Giants Cave is also available for accredited cave leaders to book for groups via the 'Cave and Abseil Permit System'. It is reached via a spectacular collapse doline almost

100m in diameter. A trip through Giants Cave involves meandering through huge caverns, climbing ladders and scrambling by the light of a torch.

A large proportion of visitors to Giants Cave are children, and many of those are participating in school camps or excursions. It is quite common practice for groups to walk between nearby abseil sites and Giants Cave, and to lunch at Giants Cave before or after their caving activity.

We have recently completed an extension to the guides' office. This extension is bigger than the original building, which admittedly was very small. It provides a place for groups to gather out of the sun and the rain, and also provides a place for our new interpretive signs.



Anne Wood measuring soil CO₂ above Golgotha Cave. Photo: Ian Fairchild.

GOLGOTHA CAVE

For the past four years Dr Pauline Treble has been carrying out a project based in Golgotha Cave with the assistance of myself and other DEC cave staff. The aim of the project is to determine changes in rainfall for the past 700-1000 years.

As stalagmites are formed, regular layers of calcite are deposited. Various trace elements in the calcite have been found to indicate changes in rainfall. The SW of Western Australia has an ideal climate for this research with very wet winters and very dry summers which produces a clear seasonal response in the drip waters.



A school group in Giant's Cave.
Photo: Brian Combly.

The most useful indicators of rainfall are the ratio of oxygen isotopes and the amount of magnesium found in the calcite. Intense and long duration rainfall events tend to be depleted in ¹⁸O. (Most oxygen is ¹⁶O. ¹⁸O is a rare oxygen isotope) The amount of magnesium tends to increase in dry conditions and decrease in wet conditions.

The assistance provided by DEC caves staff involves taking monthly samples of cave drip water and cave air. Some of the water analysis is carried out on site in the cave, some back in my office and then samples are mailed to Dr Treble for further analysis. Soil carbon dioxide in the ground above the cave is also measured on a monthly basis, and in the past there has also been monitoring of soil moisture levels and collection of rainwater from above Golgotha Cave.

In addition staff at Calgardup Cave have been recording rainfall on a daily basis, and collecting a sample on every day where the rainfall is greater than 2mm. These rainwater water samples are analyzed for the ratio of oxygen isotopes.

This project is nearing its end, though it does seem a case of 'the more you find out the more you need to know'. It seems that by the conclusion of the project, as well as knowing more about past rainfall, we will also know more about the movement of water through aeolian calcarenite and the deposition of minerals within the limestone and associated caves.

ACKMA 2009

So back to the conference! As you all know, the 2009 ACKMA Conference is all set for May 3-9. For those that may not be aware, there is information posted on the ACKMA website concerning pre and post conference accommodation in Perth, proposed bus pick up site, transport to and from Margaret River and other items of interest. So see you all there!