

A SUMMARY OF RECENT CAVE & KARST CONSERVATION ISSUES IN TASMANIA

- Arthur Clarke

Introduction

This article is based on a report document presented to the recent ASF Council Meeting held in Melbourne on the Australia Day weekend, January 2002. This document was the final report to ASF, presented in my capacity as a Co-Convenor of the ASF Conservation Commission, following my resignation from this position in May 2001.

Exploration/mining proposal in Mt. Cripps karst area

This issue was more or less resolved during 2001, when a compromise position was established between the mining company and the remaining appellants (ASF, STC and SRCC). In 2000, Western Metals Resources Limited (based in Perth W.A.) sought an Exploration License (EL) to establish quarrying sites for limestone in the *Mt. Cripps* karst area (WNW of Cradle Mountain) - in an area that lies within two kilometres or less from the recently closed Hellyer Mine site in NW Tasmania.

Following an earlier mediation session with the mining company and Mineral Resources Tasmania (MRT), this EL area was reduced by two-thirds - removing most of the known karst, caves and karst related features from the eastern part of the EL - to a lesser 13sq. km application area, further west. This modified area, predominantly situated west of the *Southwell River* and the *Southwell Inlet* (draining into *Lake Mackintosh*), incorporates a rarely visited limestone area with unconfirmed karst, partially buried by Quaternary sediments (glacial deposits).

Despite this down-sizing, in 2000 all three caving bodies variously maintained their objections to the exploration proposal for limestone quarrying sites, based on the following facts:

- This is a pristine untouched/ unlogged myrtle rainforest area in a region known to include areas of glaciated polygonal karst, archaeological sites and rare cave fauna;
- There are a number of known karst features including effluxes and a cave in the modified EL area (east of the *Southwell Inlet* in the northern arm of *Lake Mackintosh*);
- There has been no preliminary on-ground limestone geology or karst geomorphology assessment in the proposed (modified) area. ASF are maintaining that this assessment needs to be undertaken an independent person, not aligned to private or government mining interests and that caving bodies should have input into the personnel selection process (MRT maintain they would establish a Mineral Exploration Working Group assessment after an approved exploration work programme had been established following the granting of the EL.);
- There are already existing limestone quarry operations in the general area including Railton,

from where product could be railed direct to the company mine site. There are also additional areas of possibly non-cavernous limestone that have not yet been investigated;

- 13 sq. km is still considered to be excessively large for a site that will supposedly have a 2million tonne quarry output;
- The viability/ possibility of the mineral extraction technique from the tailings dumps has still not been proven.

ASF involvement in the Mt. Cripps case during 2001

A preliminary court hearing to determine the legal standing of appellants in the Mining Tribunal of Tasmania had been scheduled for late February 2001. In the latter part of 2000, the Tasmanian office of the Environmental Defenders Office in Hobart was out of action, but ASF (and STC) were fortunate in gaining some free legal assistance from Sydney barrister: Tim Moore. In January 2001, the ASF Executive decided that ASF could not afford to be involved in the case any further because of the potential on-going open-ended cost of air fares and accommodation etc. for legal advisors and witnesses. The Executive also felt that ASF might do itself a dis-favour in future hearings, if we were unsuccessful in gaining legal standing this time around. ASF took the view that the EL should no longer be opposed, but that ASF should ensure there was adequate karst related guidelines and safeguards incorporated into the E.L., but still maintain an option to oppose any future proposals for limestone mining in the area. A further mediation session had already been planned for early January 2001.

Final mediation/resolution and outcomes for Mt. Cripps

On 11 January 2001 (immediately following my return from the ASF Conference at Bathurst and the post-conference field trips), four of us were present at the Wivenhoe (Burnie) offices of Western Metals: the new Acting Manager (Andrew Platt), the MRT



Neil Kell in the new Hastings Visitor's Centre

Registrar (Dennis Burgess), Frank Salt (representing Savage River Caving Club) and Arthur Clarke (for ASF and STC).

Although Western Metals are considering alternative supply options including limestone via rail from Goliath at Railton, their main concern relates to transportation costs – hence their preference to establish a limestone quarry site with short distance road haulage in the Mt. Cripps area that adjoins their present lease. We (ASF, SRCC and STC) agreed to support the EL provided that the following points of agreement or resolutions are included in the EL conditions:

1. Western Metals Resources Ltd may carry out activities involving the use of hand tools over the whole licence area prior to independent karst studies on target sites. Access to be existing tracks and/or foot (including access by boat on *Lake Mackintosh*);
2. Prior to the carrying out of any groundbreaking disturbing activity the licensee shall arrange for an independent karst study of the area(s) where the disturbance is planned. Disturbance includes sampling (other than hand collecting), drilling, costeaning, track construction and track upgrading;
3. The licensee shall liaise with the Savage River Caving Club and the Australian Speleological Federation before carrying out any activity on the licence; and
4. The caving clubs reserve the right to comment if the project moves to a mine feasibility and development approval phase.

Although it may appear that the issue has been amicably settled by mediation – avoiding the need for appearance in the Mining Tribunal – following agreement to our compromise position, we (ASF or STC) have NOT YET received the official copy of the revised Exploration License with the new agreed conditions attached and have not heard anything back from either MRT or Western Metals in relation to their exploration activity in this modified EL area. (I don't have time to follow this up.). Having said this, I am not entirely happy with the longer-term implications of the decision by ASF to withdraw from the case – see recommendation at conclusion of this report.



Walkway to Newdegate Cave, Hastings, Tas. Listing of Mt. Cripps by KWI as one of the Ten Most Endangered Karst Ecosystems

A few months after signing off on the mediation agreement described above, I received advice from the Karst Waters Institute (KWI) in USA that my nomination of Mt Cripps had been accepted for this year's KWI list of the Ten Most Endangered Karst Ecosystems of the world. My efforts in compiling argument and lobbying KWI for listing of the Mt. Cripps karst had been assisted by the fact that I was able to actually have personal face-to-face discussions with KWI members in southern France during my attendance at the Subterranean Biodiversity & Mapping Ecosystems workshop held at Moulis in March 2001 (ACKMA journal #43: 34-36).

Although KWI listing has no legal foundation, it serves to strengthen our case and to draw wider attention to a karst conservation issue that might otherwise have gone unnoticed on the mainland, never mind overseas. The KWI is now requesting further information such as general map location and images of the caves & karst biota at Mt. Cripps: images that ably illustrate the area (for inclusion on their KWI website), but I don't have time to put these items together at present.

Magnesite Mining Proposals in the Arthur-Pieman Region of NW Tasmania

As I have reported for the last few years – there are two separate areas of magnesite karst in the so-called “Tarkine” (*Arthur River/ Pieman River*) region of NW Tasmania; both areas are covered by tall tree forest with sections of climax rainforest. Magnesite karst is extremely rare on a global scale. Most other known occurrences of magnesite karst in other parts of the world relate to buried karst, but in NW Tasmania there are many surface karst landforms in magnesite with solution pinnacles & canyons, a few small solution caves, boulder caves and both cold and warm water springs. In March 1999, the Tasmanian Government released a detailed report of the magnesite karst produced by Ian Houshold, Clive Calver & Chris Sharples; this followed on from an earlier late 1998 report on the significance of the magnesite karst prepared by Prof. Paul Williams (based on a draft edition of the subsequently released Houshold, Calver and Sharples report). A feature of

these reports was the revelation of the numerous water-filled subterranean cavities within the magnesite (proven by exploration drilling) and interaction between the thermal waters and magnesite. These submerged water filled cavities potentially support a diversity of ecologically adapted subterranean aquatic fauna.

The proposed mining development of the magnesite resource and establishment of a magnesium smelter site in Tasmania appears to have shelved for an indefinite period due to economic considerations related to transport costs and distance from markets for processed magnesium. An upshot of all this magnesite mining proposal, is that despite it being an uneconomic proposal these rare karst features and the equally magnificent forests that the magnesite karst is in, are now probably set to perpetually remain as exploration/ mining leases, rather than becoming reserved land. Although mineral extraction may no longer be on the agenda, the economic potential of the subterranean karst waters is still an on-going conservation concern. The *Victory Springs* lease has been taken over by another commercial mineral water operator who is also keen to establish a mineral water bottling plant at *Lyon Spring*, a warm spring site (within the magnesite) near *Lyon River*.

Cave conservation issues & access at Mole Creek in northern Tasmania

A number of cavers and speleological groups were not happy with the Mole Creek karst draft management plan (DMP) initially distributed by Dept. of Primary Industry, Water & Environment (DPIWE). There had also been a separate management plan for *Kubla Khan* - considered to be one of the mostly highly decorated wild caves in Australia; this management plan was overdue for renewal. In addition to the management of caves that fall under the jurisdiction of DPIWE, there are many other problems related to karst management at Mole Creek, largely because the *Mole Creek Karst National Park* (MCKNP) is actually a series of small parcels of land separated by tracts of karst or integral karst catchments that form part of lands under control of Forestry Tasmania or private land ownership. Rolan Eberhard is now employed by DPIWE, rewriting the Mole Creek DMP and developing a karst conservation and management strategy, which is a multi-tenure approach to karst management at Mole Creek. When completed, this document - through karst sensitivity zoning, geomorphic mapping and hydrological work (along with a booklet on '*Living with Karst*') - will provide a strategy to link land management across the boundaries of managers of varying land tenures.

Access to *Herberts Pot* (beyond *Wet Cave/Honeycomb*) has been denied for well over a decade now, by private property owners who control land and parts of the catchment above these cave systems. In 2001, there were newspaper advertisements seeking expressions of interest for the proposed commercial development of two wild caves at Mole Creek: *Wet Cave* and *Honeycomb*. Private landowners, enforcing the rights of their "*Centre-Of-Earth*" titles, have denied access to these caves. The entrances to both these caves are located within

parcels of land that form part of the MCKNP, but the cave/s continues beyond these Park boundaries and under private land. Cavers who have ignored the "closure" sign - situated well inside *Wet Cave* - have been threatened with legal action by landowners.

Government acquisition of karst land in Tasmania

The Tasmanian government has recently acquired several parcels of karst lands in northern and NW Tasmania. Three parcels of private land have been recently acquired in the Mole Creek area:

- A large block of the Mole Creek karst catchment adjacent to the *Westmoreland* block of the *Mole Creek Karst National Park*;
- Half of *Herberts Pot* - getting actual ownership of half the cave itself - by acquiring full "Centre of Earth" titles; and
- Most of the known parts of *Mersey Hill Cave* (approx. 1.5km of cave passage) by acquisition of more "Centre of Earth" titles.

In NW Tasmania, the government has acquired additional land in the *Montagu* karst in order to protect the fossil bone heritage of Pleistocene mammal fauna, now controlling two of the caves with the most significant deposits: *Main Cave* (or *Montagu Cave*) and *Pleisto Scene Cave*.

DMP for Mount Field National Park and Junee Cave State Reserve

The Mount Field National Park (MFNP) area of southern Tasmania includes a substantial portion of the *Junee-Florentine* karst - especially on the lower western flanks of *Mount Field West* - where the western boundary of the Park abuts with State Forest in the former ANM forest concession. In April 2000, a draft management plan (DMP) for the MFNP was released by DPIWE; annexed to the MFNP, the DMP also included the Junee Cave State Reserve (JCSR), formerly managed as a separate entity to the MFNP.

Although the DMP referred in vague terms to a future "Karst Management Strategy", there was no clear statement that defined this strategy or the policy proposed for management of the karst. Apart from the numerous other inadequacies of the DMP, it appeared that karst management issues were going to be addressed in much the same manner as for ski-fields, bushwalking areas, horse-riding trails and other recreational activity sites - but with one exception: the currently abandoned forestry roads and other tracks that extend into Park area (from the State Forest boundary) are to be rehabilitated! These old forestry roads are all currently maintained by speleo groups to provide access to the *Junee-Florentine* caves & karst in the lower western flanks of *Mount Field West*.



Neil Kell checks the Newdegate Cave Lighting Plan

Neil Kell (left) & Peter Price in Newdegate Cave.



New area of karst in State Forest in the Blakes Opening region, near Huon River

In early May 2000, in my dual roles as a Co-Convenor of the ASF Conservation Commission and (then) Executive Secretary of ASF, I submitted a detailed 7-page report that addressed inadequacies of the DMP in relation to *Junee-Florentine* cave and karst conservation issues. This submission highlighted the absence of management policies related to protection of cave fauna species and also promoted the safety of caves and interpretation/presentation of significant cave sites such as *Growling Swallet*. This submission also suggested that the ASF Code of Ethics and Minimal Impact Caving Code could be used by DPIWE as a management tool in controlling access to caves. In late September 2000, in response to a request from DPIWE, I provided a detailed list of the 73 known invertebrate species from caves in the *Junee-Florentine* karst (based on the RFA cave fauna report), requesting that this list be appended to the management plan as a dedicated list of cave species.

In early January this year (2002) – a time when many outdoor adventure people including cavers are away on holidays – the Resource Planning & Development

Commission (RPDC) distributed a document to the 20 individuals or organisations that had sent in submissions to the DMP for MFNP and the JCSR; this document included a memorandum listing the changes to the DMP accepted by the Director of Parks and Wildlife. The memorandum detailed a few changes to the DMP that were accepted from the various submissions, but most of the other constructive comment in the submissions was sidelined with the comment: “*No change to the plan*”. My list of cave species was noted as being recorded by DPIWE, but not being included as part of the DMP. Numerous other recommendations related to cave & karst management were simply recorded as forming part of the nebulous “*Future Karst Management Strategy*”, but not being incorporated in the DMP.

The memorandum did not acknowledge the role of ASF or national karst management organisations in this future karst management strategy or in the DMP itself, but did include the statement that “local” caving groups would be consulted within the framework of this strategy and in relation to rehabilitation of access roads. Respondents were requested to reply to RPDC before 21 January 2002, if they wished to further their submissions for amendments to the DMP. The very few respondent contributors who replied to the Director’s memorandum were invited to further the case for their respective submissions during three days of public hearings being held in mid February this year (2002). (My attendance at this hearing will represent my FINAL involvement on behalf of ASF in relation to karst conservation issues in Tasmania.)

Tourist developments in the Hastings area of southern Tasmania

The new Hastings Caves Visitor Interpretation Centre – now sited opposite the old Caves Chalet, alongside the revamped thermal pool – was officially opened in April 2001. However, the public toilets near the tourist cave (*Newdegate Cave*) are still situated beside a doline that lies topographically upstream from the thermal springs (and thermal pool). Although no hydrological connection has been proven by dye tracing, it is suspected that these toilet facilities near *Newdegate Cave* were responsible for the recent pollution of the Hastings thermal pool by various strains of coliform bacteria – because these forms of bacteria are typically found in untreated human wastes.

The toilets near the cave empty into a septic system that at times becomes overworked and may also become less efficient during prolonged periods of cold weather when there are heavy rains. It is suggested that the toilets be relocated or upgraded to a system where the toilet wastes can be flushed into a temporary storage container for subsequent removal or pumping out on a regular basis. Some good news for *Hastings*: following the Regional Forest Agreement (RFA), the nearby World Heritage Area (WHA) boundary was moved so it now abuts the *Hastings Reserve* (which itself has been extended, but still does not cover all the karst). It may be coincidence, but this additional area of the *Hastings Reserve* roughly coincides with the increased area

recommended in the RFA cave fauna management report that prescribed a number of requirements for protecting cave biota, including the reservation of caves - or the land above them - and karst catchments in areas defined in the report. (Interestingly another suggested management prescription in the RFA cave fauna report included the recommendation to extend the pre-existing WHA boundary to incorporate the *North Lune* karst area and it appears that this has occurred... and it is this extended WHA boundary incorporating the *North Lune* karst that now abuts to the *Hastings Reserve*.) By abutting the WHA boundary to the Reserve, the *Hastings Reserve* could effectively become an extended part of the WHA when a draft management plan (DMP) is completed and it is probably no coincidence that proposals for such a plan are now being put in place. The Parks & Wildlife section of DPIWE will be seeking input from caving clubs or groups for information about caves and cave surveys for inclusion in the DMP.

New Hastings Cave timber-getting Interpretation Sign



Another positive development for Hastings is the present re-lighting of *Newdegate Cave*, following the partial (but successful) rehabilitation of the cave.

Once described as one of the most degraded tourist caves in Australia – due to the in-cave dumping of discarded old staircase timbers and light globes etc., plus the build-up of lampenflora – the cave is now being re-illuminated by Neil Kell with a modern 12 volt power lighting system.

(Interestingly, some of the discarded staircase timbers now form the habitat for an array of invertebrate species including “new” previously unknown troglobites.)

Along with a new innovative system of track lighting, Neil's cave lighting includes placement of minimal impact low wattage globes positioned & powered in a manner to minimise lampenflora growths. Enabled by a budget of \$120,000,

Neil Kell is being ably assisted by Roger Griffiths and Peter Price. The new positions of revamped cabling, switch boxes, wiring and light fixtures will be marked

on the recently completed new survey map of the cave prepared by Jeff Butt & Arthur Clarke.

There have been recent reports of forestry workers and bushwalkers visiting two or three separate new areas of karst (with caves) - for recreational caving purposes - inspecting new caves in the *Huon*, *Picton* and *Weld River* areas of southern Tasmania.

Officers from Forestry Tasmania are refusing to give out any information to local cavers or ASF about these areas or any details about the caves.

There is a confirmed report that forestry bulldozers recently traversed a limestone karst area while extending their roads to open up a forest coupe; this road passed within metres of a swallet and there are now over a dozen predominantly horizontal caves in this area that are known to forestry workers (and their selected friends).

Located in the vicinity of *Blakes Opening*, this area is known to some forestry workers as “Road End Creek”, but is recorded in the Tasmanian Karst Index as “*Hustling Creek*”. One of these recently discovered caves is a reportedly 400metre long through cave that has the potential to be established as a tourist cave; it supposedly has sections of cave decoration that surpass the renowned chambers in *Newdegate Cave*! There are unconfirmed and conflicting reports of speleothem damage & pilfering of cave formations from one of these new caves.

Re-bolting of *Midnight Hole* at Ida Bay in southern Tasmania

Midnight Hole is a 170m deep vertical cave system with six pitches, leading into *Mystery Creek Cave* - via *Matchbox Squeeze* - at Ida Bay. Since being bolted in the early 1970's – with bolts positioned for laddering – the cave has been frequently used as an introduction to vertical caving techniques in Tasmania and following the advent of SRT, *Midnight Hole* has become a regularly visited site for recreational cavers and is often used as a classic through trip cave by interstate and overseas visitors. Apart from the fact that some of the old laddering eyebolts were become loose and the eye bolts were developing pronounced grooves from rope wear, the use of SRT ropes in the old bolt positions was creating grooves in the limestone at the head of several pitches.

Following some rigorous testing procedures in the old (now rehabilitated) *Benders Quarry*, Jeff Butt and other STC members have recently removed the old eye-bolts in *Midnight Hole* and installed a series of glue-in “P-hanger” bolts at the head of all pitches – positioned in pairs & in a manner to give a free-hanging rope descent – along with appropriate signage about the new hangers outside the cave entrance.

National Audit of Wetlands

Following the acceptance of karst as a subterranean wetland by the RAMSAR Convention of Wetlands held in Cairns in 1998, the preservation of biota in karst systems is now being accorded some “official” consideration on a national and international scale.

During the recent Tasmanian hearings for the National Audit of Wetlands - at a workshop in Hobart in mid-December 2001 - I was initially able to put forward the names of about 20 karst areas in Tasmania where there were known significant biological values - based on invertebrate species numbers, species diversity and other karst related wetland habitats such as tufa deposits, mound springs and warm springs. The national audit of wetlands is adopting a more whollistic approach to preservation of wetlands, incorporating natural features and landforms as well as significant biological attributes and habitats. Consequently, the audit list of significant subterranean wetlands in Tasmania has now been extended to around 40 karst areas to incorporate a number of other karsts where there are significant geomorphic values.