

ASF

NEWSLETTER

WINTER

1974

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The Australian Speleological Federation was founded in 1956 "to further speleology in all its aspects on a national level, to gather together Australian speleologists and formulate national policies in furtherance of these aims."

Publications include ASF NEWSLETTER (quarterly), PROCEEDINGS (biennially), AUSTRALIAN SPELEOLOGY (annually — more or less), SPELEO HANDBOOK (an encyclopaedic work on speleology in Australia) and irregular reports on matters of timely concern, chiefly conservation matters.

The Federation is governed by a committee consisting of a delegate from each member society. Meetings are held annually, each second meeting being coupled with a convention open to any interested person. Continuing activities are administered by permanent commissions, while special aspects of policy are the subject of ad hoc study committees.

The Federation represents Australia on the International Union of Speleology.

Correspondents are requested, wherever possible, to direct enquiries to the relevant office-bearer or member society.

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E D I T O R I A L

"I have never given a thought to conservation or pollution in any project I have undertaken. All I am interested in is getting the ore out as quickly as possible and selling it. There is no limit to the amount of ore and we have to turn it into cash. If there is any mess left, somebody can clean it up afterwards."

(Lang Hancock, April 1970)

"To allow any particular river to flow into the west coast sea when there are rainfalls up to 150in a year to harness in this day and age would be a crime against mankind"

(Eric Reece, February 1974)

"Tasmanians can look forward to the future with confidence, according to the Premier (Mr Reece) (The Mercury, 20 May 1974)

Roll up folks, the hillbilly season is off to a flying start. As though we didn't have enough already with Gerrymander John (Mr Twenty Percent) and Co., the Libs are back in W.A. and the Honourable Eric has found another remote corner of Tasmania to introduce to the 20th Century.

Noticed the accelerating number and variety of conservation problems with which we're having to deal? D'you know what their strategy must be? Feint to the right, throw up a few more for the conservationists to knock down, and meanwhile the backroom boys have smuggled last year's Precipitous Bluff out the back door.

EDITORIAL AWARDS, 1973

With space here at a premium, I don't want a long dissertation, so here we are : The Best club Newsletter was, again, Spar (UNSWSS), edited by Andrew J. Pavey. Best ASF Newsletter article went to the Report of the Ad Hoc Committee on Cave Conservation (convenor Andrew Spate). Very little except my biased judgement perhaps separated Spar from the runners-up, Western Caver (very much improved), SSS Journal, and Down Under. Cave of the year? Awarded jointly and severally to Bungonia Caves, which were scarcely out of the news all year following monumental legal battles by Warwick Counsell, and equally monumental feats of organization by SSS to bring the case to the attention of the public

NOTICES

TENTH BIENNIAL CONFERENCE, December 1974, Brisbane

The Tenth Biennial Conference of the Australian Speleological Federation will be held at the University of Queensland, Brisbane, from 27 - 30 December, 1974. Field trips will be available to Mt Etna - Mimestone Ridge, Kempsey and Texas by private transport, and to Camooweal and Chillagoe where wet weather conditions may impose group transport (remember the plan to charter a DC3? - ed.)

By all accounts of the organization, this promises to be the greatest gathering ever of Australian speleospoSymposia, discussions, films and slides, displays and demonstrations, and the new; improved S P E L E O S P O R T S (Can you beat that tough SSS-UNSWSS-TCC teams?) No evening sessions - instead, films, slides and yak around the KEG.

All on the ASF mailing lists should by now have received a more detailed circular about the Conference. Further information may be obtained from UQSS at this address :

The '74 ASF Conference Committee,
P.O. Box 29,
ANNERLEY, Qld. 4103

THINK ABOUT IT NOW - START MAKING YOUR PLANS. Want to go to Tassie instead, eh? Well, there should be NO trouble fitting both in, and you should not even have trouble getting a ride back from Brisbane to Melbourne after the Conference. You can see Tassie any time. Go to de cave con tho.

MASTER PLAN FOR DEVELOPMENT OF JENOLAN CAVES - A.S.F. Invited

The Federation has received an official invitation to participate in the preparation of a master plan for the development of the Jenolan Caves Reserve, including objective technical advice, opinions and criticisms. The development plan is intended to cover all aspects of the Caves Reserve, including not only the problem of providing accommodation, parking and ancillary facilities for the anticipated continuing increase in visitor usage but also, presumably, what should be left untouched.

A Sub-committee to prepare submissions will be established at the July meeting of the NSW Liaison Council of the Federation. At press time this had not been held and for this reason enquiries may be directed to Mr L. Rieder, 20 Fig Tree St, Lane Cove, NSW 2066. Tel. 428 2034 (home). Mr Rieder is handling liaison between the Federation and the Department of Public Works. Further details will be announced in the next issue of the Newsletter.

FEDERATION TEAM REPORTS ON DEVELOPMENT OF CUTTA CUTTA CAVES, N.T.

Earlier this year the Northern Territory Reserves Board invited the A.S.F. to investigate the future development of Cutta Cutta Caves, near Katherine, NT. A three man party including Elery Hamilton-Smith and Lloyd Robinson made a short flying trip north. We hope to include a longer report on this important exercise in the next issue of the Newsletter.

T.C.C. EXPEDITION TO THE CRACROFT AREA, January 1976

by Andrew Skinner

TCC is planning an expedition to the Cracroft area which because of its relative remoteness has never been fully explored. The area is to the west of the Harz Mountains National Park and can be reached by a ten hour walk along a marked route starting from the Picton River. There is a lot of potential for extensive caves, both vertical and horizontal. Vertical caves up to 300 metres deep are a good possibility while extensive horizontal development is indicated by Judds Cavern, which already has 1000 metres of surveyed passage. Further discoveries through a near siphon have not yet been followed up. The cave system may drain an area of ten square miles. The area is part of proposed extensions to the South West National Park and in order to provide conservationists with a better cave for its inclusion it is important that we find out as much as we can about the caves in the area. As yet we know very little about the ecology, hydrology and cave biology. Members of all clubs are invited and there is ample scope for both sport and scientific work. The area is within walking distance of impressive mountain scenery at Mount Bobs, South Picton Range and Federation Peak. Plans are to air drop food supplies so that expedition members can walk in carrying only personal gear. Costs are likely to be low. Expenses would thus be mainly food supplies and the air drop. Those who wish to take part should be experienced cavers and be at home in the bush.

The expedition is thus similar to the Precipitous Bluff one - wet suits being essential. The scrub in the area is just as bad. We have an advantage in that Brian Collin and crew are fairly familiar with the area now. The dates are from January 25 to February 2, 1976. This would probably suit some of the ASF Conference field trippers after a summer's trogging. Also, the Tasmanian bush should be 'dry' at this time of the year.

ADDRESS CHANGE : In response to numerous queries, John Dunkley gives his address as Flat 13 Garran Place, GARRAN, ACT 2605. This is definitely only temporary (pending an improvement in economic conditions). Non-personal enquiries re Newsletter should go to Paul Murphy (see bottom p. 1)

CONSERVATION A N D T H E

G O R D O N R I V E R

by *Kevin Kiernan*

The Hydro-electric Commission is Tasmania's biggest employment machine. It is charged with planning, design, construction and maintenance of facilities for the generation, transmission, distribution and sale of electrical energy within Tasmania. While the Australian trade union movement deliberated action to save Lake Pedder, and perhaps reverse the trend of years of materialistic exploitation of Tasmania's south-west, the Commission is planning a further series of projects in the region

Subsequent to the Pedder (Middle Gordon) scheme, which produces two connected lakes, each around 260km² (100sq. miles) in extent, comes the Pieman River power scheme in the northern west coast country. After Pieman comes the Lower Gordon, which in addition to destroying a magnificent wilderness area would inundate much of the unexplored largest limestone area in Tasmania, and a number of smaller outcrops.

Aided by a myopic government, an apathetic public and a tame local news media, the HEC, which recently campaigned against conservation candidates in a state election with misleading press advertisements inserted at the taxpayers expense, blunders its way to self-perpetuation despite an enormous power surplus and few new markets in sight.

Against Pedder, other battles are second rate. It is the crown jewel of the South-west. Yet Pedder is also part of a broader issue, with the proposal of the HEC for other rivers and mining threat to Precipitous Bluff, that being the integrity of the South-west wilderness. Among others, battlefields the \$200million Lower Gordon project looks like erupting into another major dispute needing federal intervention.

THE AREA

South-west Tasmania may be loosely defined as that area lying to the west of the Derwent River and D'Entrecasteaux Channel and south of the Lyell Highway.

To the east, in the fault structure province, dolerite capped peaks such as Precipitous Bluff, Mt Anne, Mt Field and the peaks of the Lake St Clair area predominate, while to the west, fold province consists of Paleozoic schists and quartzites, as a series of essentially north-south aligned ridges, separated by button grass or forested plains. Limestone occurs at various localities in the South-west, particularly near the Gordon River, lying generally low in valleys unless protected by more resistant overlying material.

A heavy rainfall of up to 350cm (140inches) has promoted rain forest vegetation over much of the area, and high flow volumes for the major rivers, of which the largest is the Gordon. A series of northward and southward flowing tributaries such as the Olga and Franklin Rivers contribute water to the Gordon, which drains generally westward. Where these rivers cut through the mountain ridges, deep and spectacular gorges have been produced, some of the best known being the Gordon Splits where the river passes through a corridor only 3-5m (10-15ft) wide and 60-90m (200-300ft) deep (1) and Hells Gates, on the Davey River near Port Davey.

Macquarie Harbour, a 28km (18miles), deep inlet on the west coast, was discovered on 28th December 1815 by Capt. James Kelly and four companions who circumnavigated Tasmania in a five oared open whaleboat. They discovered the Gordon River, which enters at the eastern end, two days later. In 1821 a penal station was established on two harbour islands, not far from the Gordon (2). The settlement was a grim place. Of 182 prisoners in 1822, 169 received 7000 lashes, averaging 40 each. Escape was difficult. Backhouse (4) records that out of 85 deaths in 11 years, only 35 were from natural causes. Of 112 who escaped, 62 perished in the bush and 9 were eaten by their companions. Few traces now remain of this settlement.

Despite the intrusion of forestry, mining and hydro-electric interests in recent years, some tracts of the area remain as part of Australia's largest remaining temperate wilderness, and consequently is coming under increasing recreational pressure both from the urban areas of South eastern Australia and Tasmania itself.

KARST

Limestone has long been known in the Gordon basin. Lempriere (5) notes in 1842 that "after a time some excellent limestone was discovered in Gordon's River, and a gang of men, guarded by a military detachment, was constantly employed in quarrying the limestone and burning the lime". In Australia at that time lime was derived chiefly from shelly fragments in coastal areas. This quarrying may well represent the earliest limestone mining in Australia. The old quarries presumably lay somewhere along the stretch of the river now known as Limekiln Reach, though no trace apparently remains.

The first systematic work on the limestones of the Gordon valley was that of Blake in 1938 (6) who mapped three large outcrops of limestone en route to a copper prospect at Nichols Range, some 65km (40miles) upstream. Carey and Banks (7) included a geological map of the confluence area of the Gordon and Franklin in a paper on paleozoic unconformities in 1954. Hughes in 1954 summarised

previous work (8). In 1961 Rowe examined the Limekiln Reach area and the suitability of the limestone for the steel industry (9). All this work related to Ordovician limestone (Gordon Limestone), for which this area is the type locality (though it was initially ascribed to Silurian). In a paper on the Devonian sequence exposed between Eagle Ck and the river mouth, Gee and others mapped part of the limestone outcrop near Eagle Creek and a very small outcrop of Devonian limestone further downstream, noting some karst features in the latter (10). However, it is the Gordon Limestone which is of the most interest speleologically, the principle outcrops in upstream order being:

LOWER GORDON : This belt extends from Eagle Ck to Abel Ck (just downstream of Butlers Island) and then southwards from the river for an unknown distance. It represents the western limb of anticline, the limestone attaining a relief of a few hundred metres on the western bank where it is overlain by Devonian sediments. At one locality a limestone wall known as Marble Cliffs rises sheer out of the river for 60m, at that point nearly 45m deep. (11) Only one area of the cliffs along the river has been examined by speleologists. The outcrops is at least 1.5km (1 mile) wide with considerable potential. Limestone also lies in a tributary valley immediately upstream of Butlers Island, and the HEC workers have reported caves.

GORDON - FRANKLIN : This synclinal belt of limestone, which may represent the largest belt of limestone in Tasmania, outcrops from just north of the junction of the Jane and Franklin Rivers (7,12) down the Franklin to the Gordon and up the Gordon into the Olga Valley. Andrews (13) notes presence of holes near the Olga HEC camp, while Hughes (8) notes limestone has been reported as extending down the Hardwood River almost to its junction with the Davey. The linear distance from Jane to Davey is around 65km (40miles). The Franklin has been visited only very briefly on three occasions, with numerous unexplored caves known (12, 14). The width of the belt is unknown.

NICHOLS RANGE : Blake (6) indicates limestone extending from near the Smith River 8km (5 miles) upstream to the Orange R. junction, just downstream of the Gordon Splits. An internal HEC document (15) records a cave system just north of the Denison junction. This consists of an 'interesting' cave several hundred metres in length draining into the Gordon with an entrance in bank of that river (16). Extensions of this area have been suggested, with the limestone linking up with the Hardwood belt out of the Olga. The area has not been visited by any speleologists.

In addition to these limestone areas of considerable potential the damming of the King River threatens small limestone areas south of Queenstown, unexplored though of little interest. Other more significant areas lie in the basins of the King and Andrew Rivers. These include :

JUKES - DARWIN : The northern portion of this limestone area is generally of fairly low relief with a few residual hillocks, one of which is reported to contain a cave. Relief to the south is greater, with some small caves and others reported. The northern locality is unexplored though not very promising.

NELSON RIVER : Correspondence with the HEC concerning the likely fate of this small meander core of (possibly Devonian) limestone, with well developed karren surfaces and a multitude of rather small caves, has elucidated little. The HEC have claimed it to be very close to the storage perimeter and that it will not be possible to confirm its future until detailed surveying of the proposed lake level has been completed.

HYDRO - ELECTRIC DEVELOPMENT PROPOSALS

The plans to develop the Lower Gordon River is coupled with a further plan to harness the waters of the King and Franklin Rivers.

For the Gordon itself, there are three mutually exclusive plans of development :

1. A dam and power station at Butlers Island, approx. 35km (22m) upstream of the river mouth, producing a reservoir of 260km² (100 sq.m.), flooding most of the limestone of the Gordon - Franklin belt and Nichols Range.
2. A dam and power station in the gorge near Sunshine Falls, just upstream of the junction of the Olga River, with the Gordon, forming a lake of 140km² (54 sq. m.)
3. A dam at the Gordon Splits, immediately upstream of the First Split, with the Gordon diverted to a reservoir formed by a dam (and power station) in the Denison Gorge near its junction with the Gordon (18).

Of these, the Butlers Island alternative seems most favoured by the HEC.

The King-Franklin proposal involves damming the Franklin River near Mt McCall just downstream of the Andrew River junction. This dam, 152m in height, combined with a dam between Mts Huxley & Jukes, in the gorge of the King River, which flows into Macquarie Harbour 24km (15 miles) west of the mouth of the Gordon, would form a common storage of the two rivers of some 120km² (46 sq. m.) containing about ten times the volume of Sydney Harbour.

The mechanics of the King - Franklin development would depend upon the chosen damsite for the Lower Gordon. If Butlers Island was selected the King-Franklin water could be used to generate at Mt McCall and then re-used at Butlers Island if diverted into the Gordon via the Franklin carrying some mine waste pollutants from the Crotty area into the Gordon system. However should the Gordon be dammed upstream of the Franklin junction the Franklin would be diverted instead back to a generating station near the King dam and released to flow several kilometers further down King valley to a second reservoir upstream from the mouth of Sailor Jack Ck just south of Queenstown (20).

Some kilometres south of the Gordon lies the Davey River, which carries the combined flows of the Frankland and Hardwood Rivers into Port Davey. A letter to the writer from the HEC (20) assured that "the Commission is not at present considering any power development that would affect the Davey and Hardwood Rivers". Less than a week later information was received from

a crewman of a commercial fishing boat that fresh survey markers had been placed in the area and signs of an investigation camp were apparent (21). Any dam here would be located in the gorge known as Hells Gates, and probably of the order of 75m (250ft) in height, producing a lake of around 130km² (50sq. m.) More alarming still are recent rumours that this may be combined with the Gordon lake by raising the height of both dams forming one single enormous storage.

DEVELOPMENTS TO DATE

Each summer helicopters are used for access to exploration camps which now exist at the Gordon Splits, Denison River, Olga River, Butlers Island, Mt McCall and elsewhere.

In addition to local tracks around camps a major route has been cut from Crotty across the floor of the proposed King - Franklin storage to the Franklin River at the north - western boundary of Frenchmans Cap National Park. More serious still is the construction of a road from the Jukes - Darwin area across the ranges south of Frenchmans Cap to Mt McCall. This road has been gated to the public since construction commenced. The attempt of the HEC to play down its significance is reflected in the report it made to Parliament in 1970 which noted it was possible for "four wheel drive vehicles to gain access" (22). The writer travelled the road in early 1971 in a small sedan without difficulty. The Commission persists in calling the road a "track".

Exploration generally means forest clearing, fire, tunnels, drilling and surveying tracks, then roads. Once the concatenation of scars which as a hydro road is hacked the wilderness is gone. All this can be done without the approval or knowledge of Parliament. Recent parliamentary disclosure that \$1.8 million had already been spent investigating the Lower Gordon ignored expenditure on constructing the Franklin road, a camp for 80 men, and an underground haulage was conservatively estimated to cost \$4 million (23).

Generally the Commission argues that its investigations are not sufficiently advanced to answer questions, then Tasmania is suddenly presented with a fait accompli, a defiled wilderness and complaints that past expenditure makes abandonment nonsense. This time, the Commissioner is complaining that conservationists have jumped the gun, that there is "no Gordon scheme to oppose" No Parliament has ever turned down an HEC plan.

Dr Peter Tyler, a limnologist who expressed concern that salination of the estuary may kill a riverbank rainforest if the Gordon is dammed, was as a consequence subjected to prolonged and bitter attacks by the HEC upon his integrity and professional competence two years ago. Mr Reg Morrison, who carries around 10,000 visitors per year up the river to Butlers Island aboard his luxury vessel Denison Star, is particularly concerned.

The HEC regards its schemes as engineering projects claiming only that it has the expertise to consider them. It is thus effectively its own judge. The unanimous report of the Lake Pedder enquiry, which sought to balance the engineering case with other values, disagreed strongly with the HEC's attitude. The Professor of Natural Resources and the highly qualified and experienced consultant engineer who examined engineering and economic aspects were publicly abused and their report described as a "load of rubbish" by a senior HEC official.

Just as the majority of biological investigations at Pedder were finally conducted at the workers' own time and expense, so too are the staff of the University now rallying to fulfil this function at Lower Gordon.

Besides salination, consideration will have to be given to whether the loss of scouring of the sandbar at the mouth of Macquarie Harbour by winter floods will detrimentally affect the port, what will become of the area's tourist industry, and whether the lack of flow down the Gordon during the years the lake is filling will permit mine effluent from the heavily polluted King River to drift along the Harbour and up the Gordon. The King, once navigable for 13km (8 m.) has been completely choked by effluent from Queenstown's copper mines, and the once scenic reserve buried beneath huge banks of silt and mine tailings. In floods, a yellowish discolouration affects half the Harbour and even out to sea.

While Reg Morrison and hometown Strahan Council are against developing Lower Gordon, at least downstream of the Franklin, Queenstown may not be, despite the careful words of its council. The west coast of Tasmania is generally based on extractive industries, and Queenstown, the centre of it all, has had a sole economic base of mining. Fumes from smelting meaning total removal of all vegetation for miles around. Queenstown lies on the main west coast highway and thus draws tourist traffic. With no soil left and no green the tourists become fascinated and the adopted home of Premier Reece looks with possessive pride to the denuded hills, convinced that pollution per se might actually be economically useful. Strong elements in the community can already smell the blood of a hydro construction town coursing through its commercial arteries.

While opportunist politicians claimed Pedder spelt the end of reserve revocation, it is on again at Lower Gordon. State Reserves and Conservation Areas constitute the main reserve types under the National Parks and Wildlife Act, lumping all cave reserves, scenic reserves, national parks, roadside reserves etc. under the same status. Thus two areas of national park or equivalent status are threatened:

FRENCHMANS CAP NATIONAL PARK : Gazetted on 29 August 1951, this popular walking and climbing area of 10,262ha (25,240 acres) is centered around Frenchmans Cap, a quartzite peak of 1335 m (4739ft) with a vertical south face over 300m high. It is bounded to the west and north by the Franklin River gorge and consequently will suffer some inundation by damming of this river at Mt McCall.

LOWER GORDON RIVER SCENIC RESERVE : From an initial declaration in 1908, this reserve has had a fascinating history. Originally 100m wide along the river bank to Butlers Island, it was

widened to 804 metres on the south side of the river in 1939, but not on the north side due to forestry objections. In 1955 a move to extend the reserve to the Franklin was blocked by the HEC and Forestry objections, who threatened to withdraw "firefighting assistance" if the Scenery Preservation Board persisted (24). In 1961 the section between Eagle Ck and Butlers Island was revoked "accidentally" (25) strangely enough coinciding with HEC drilling in the area. A subsequent move for extension was defeated by the Mines Department who annexed 2490 acres. In explanation, the Director of Mines advised the writer that the effect was to make the area unavailable for mining purposes, but went on to say "the purpose of the exemption was to reserve known limestone deposits of particular interest as a possible source of material for a steel industry" (26). In effect, a reserve to protect the area from mining until somebody wants to mine it! By 1974, no-one knew where the park was.

In the midst of all this, NP & WS Director Peter Murrell could only say "It's not an easy one to solve, it's still being pursued, it's a very involved situation and I wouldn't be prepared to say where the reserve will finish until we see where it stands" (23). Meanwhile, the HEC advised that "close liaison is maintained with the Lands Department to ensure the Commission is fully aware of the boundaries of reserves in areas of interest for power development purposes ... none of the investigation activities being carried out by the HEC at the present time impinge upon the State Reserve" (27). The Lands Department advised however, "The delineation of the reserves on a chart is a major work. The history for which you ask would involve a great deal of research and at this time I do not have the staff available to prepare the data" (28). Shortly afterwards the Minister for the HEC, Forestry and Industrial Development, Roy Fagan announced on a television programme that such a report had actually been completed. Earlier, a newspaper reporting seeking elucidation of the confusion had been advised by the NP & WS that the matter had been submitted to the Lands Department for opinion, but was subsequently told by the Director of Lands, "I'm not a bit interested in what Mr Murrell told you" (30).

Finally, in early March 1974, State Cabinet announced that it had decided to reinstate the Gordon Reserve, and widen it to 40 chains, though neglected to mention advice that a large part of the Mines Reserve to be illegal anyway. It also reinstated only to within 600m downstream of Butlers Island, for although it was the expressed intention of the government of 1908 that the reserve go to Butlers Island, placement of the boundaries by which the reserve was originally defined on today's more accurate maps leaves the final 600m unprotected due to a bend in the river. Thus the HEC is left free to operate at Butlers Island (30).

However, it is easy to be distracted by the double dealing on the reserve, and while it is interesting to note that the HEC never saw fit to establish the extent of the reserve before commencing operations in the area and it serves to provide some idea of attitudes, it is the areas upstream of Butlers Island which are perhaps of most interest. For apart from a few pinner's huts and HEC camps, the Gordon valley, with its gorges, forests, limestone and the Splits, remains a wilderness.

The Franklin too, but for the road to Mt McCall and the traverse of its headwaters by the Lyell Highway, remains in remote magnificence, offering one last chance to keep a major river wild in Tasmania.

In late 1973 the Legislative Council, Tasmania's Upper House, passed a motion that the investigation be stopped until environmental and tourist potential studies had been conducted. Yet work at Butlers Island continued without comment from the HEC, while political roundsmen noted that it may be the case that this resolution by one House on a specific matter, is over-ridden by the resolution of both houses permitting investigation of new projects, namely the HEC Act of 1944. Mr Brian Miller, Leader of the Government in the Upper House, claims that the work did not cease as the motion was passed "because of confusion" such that "members had not voted in the way they desired", and that consequently "the Government would not feel bound by it". A motion for rescission is on the notice paper and may well be passed.

The State Government announced finally that the project would be subject to an environmental impact assessment but many in Tasmania are dubious as to the value of this political exercise.

CONCLUSION

To the present, conservationists campaigns for the South West have been scenes of obstruction, vote catching ploys, insincerity, blatant opposition and a striking lack of success. This failure and the level to which politicians have successfully fallen, has left Tasmanian conservationists shattered and demoralised, but for vested interests such as those employed in the massive web of the HEC and conservatives of the cake and tea set who look upon HEC as just too big an adversary.

Years of lawful and democratic opposition have meant only frustration, social ostracism, threatened employment and vilification for conservationists, and their denial of access to courts of law to air their grievances, as in the case of the Pedder writ, when the Attorney General temporarily resigned from the Government leaving his duties with Eric Reece long enough for an appropriate act to be forced through Parliament. Both Labor and Liberal have made it obvious there is no place for reason or logic when dealing with public attacks if their findings run counter to the HEC. Tasmanians must look elsewhere, to politics, trade unions and other means of applying direct pressure.

The parochial and myopic attitude of the major political parties in Tasmania offers no hope, not does the conservatism of the local union movement. It will take great pressure from mainland interests, often regarded with considerable antipathy to ensure that most of Tasmania's loan funds do not continue to be poured into the HEC and that Australian Government finance will not be forthcoming unless a more balanced attitude to land use and decision making prevails in the wilds of the ecocide isle.

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ANOTHER DELAY IN BLUFF CASE

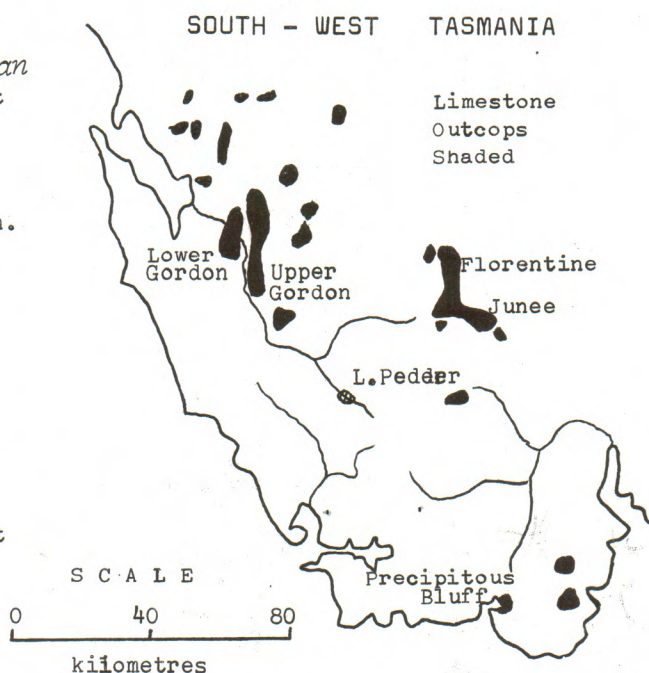
by Kevin Kiernan

An appeal by the Tasmanian Conservation Trust to the full bench of the Supreme Court against Mr Justice Nettlefold's recission of the Mining Warden's finding against Mineral Holdings (Aust) Pty Ltd in 1972 has been delayed until November due to unavailability of counsel for the company. The case was to have been heard in March.

The delay is of considerable concern to Tasmanian conservationists. Until the case is concluded the State Government claims release of its plans for extension and management of the South-West National Park would be sub-judice.

While the delay continues, forestry roads are being built at breakneck speed up the Picton valley and another south of the D'Entrecasteaux River, the latter of the two being planned to cut the famous South Coast track in three places.

It appears neither road is planned to extend within several kilometres of Precipitous Bluff but the threat to the overall integrity of the wilderness is very real indeed. The present absence of roads also mitigates against the likely economic viability of a mining venture in this area, thus this construction could severely weaken not only the coastal wilderness to the east of the Bluff but the case for the region overall.



SOLUTION STUDIES Y46 CATCHMENT

by Joe Jennings

Circumstances beyond control prevented water tracing experiments to determine the catchment of Y46 planned for the spring of 1973. Nevertheless it was decided not to delay further the beginning of water studies here. The overriding factor in the choice of a spring for solution studies is the proportion of karst to non-karst rocks and despite the complications involved in the loss of water from the Yarrangobilly R. above Yarrangobilly village down the strike of the limestone belt, Y46 remains the best choice in this respect compared with the other large springs, Y12 and Y44. The fact that the Eagles Nest system has now been shown to be the deepest system on the mainland of Australia enhances the interest in study of the catchment which includes it.

The channel of Y46 both just inside the entrance and in the short reach to the Yarrangobilly R. is unsuitable for determining discharge by flowmeter. Therefore despite the practical difficulties, it was decided, after obtaining permission from the Park Service, to instal a rectangular thin-plate weir just inside the entrance as a means of rating a Sumner-Rimco automatic water level recorder. A more accurate V-notch weir was rejected in favour of a rectangular weir which would allow more ready access to the system, especially for the divers who will be attracted by the hope of making Eagles Nest even deeper still. A weir has the advantage over flow metering that any passing speleologist can read the staff level and this along with time of day and date will provide additional values for the rating of the recorder.

The weir and the recorder were installed during the weekends of 9-11 March and 23-24 March. Altogether 14 people helped with brawn or brains or both. Four bags of cement were sledged down and a little over three of them used. Over 50 sandbags of various sizes were filled for making coffer dams. Sand for them and for the concrete making was rafted up from the neighbourhood of the Natural Bridge with the help of an inflated inner tube. A petrol generator was taken down to power a nibbler for cutting the steel sheet to shape and a drill for making holes in the rock. It proved impossible to deflect all the outflow from the working area and concreting was done not only in water but in water with significant movement. But with the help of quick setting and waterproofing agents the job was done. The recorder was started up at 1513hrs on 24 March and has run uninterruptedly since (last visited 20 April)

The first exercise took place on 12-14 April when it was planned to measure whether all or what proportion of Eagles Nest Creek water goes down to Y46. This was to be done by putting salt into the Creek and recording the effect on conductivity at Y46. Together with discharge records this permits the determination of what quantity of salt resurges at this point.

When we arrived on 12 April a substantial flood had just passed its peak and was on the falling stage. The level of the Yarrangobilly R. was nearly high enough to interfere with the Y46 weir action. Such interference is bound to occur in the biggest river floods and will upset the Y46 discharge record. Negligible leaks were found in the weir; they lie in the right bank abutment where the concrete had to be built upwards to the irregular roof of a low overhang on that side. These small leaks will be attended to soon. The weir may not look as professional as the notice mounted to tell passers-by and speleologists of the purpose of the installations but it is nevertheless a good job and all concerned can congratulate themselves.

A Simac automatic conductivity meter was got into action at 1155 on 12 April. However, the flow through Y46 was so much greater than anticipated that the salt injection (13.5kg) was delayed till 1020 on 13 April. Unfortunately no pulse attributable to the salt was detected before the instrument stopped through battery failure about 0300 on 15 April. There were slow conductivity changes inversely following the discharge but no pulse of the kind expected. The experiment was therefore abortive because we cannot make a certain choice between these three possibilities:

1. Y2 water did not go to Y46 at this flood stage.
2. Y2 water went to Y46 but did not reach there till after meter stopped proper recording.
3. Y2 water reached Y46 before recording stopped but was too diluted to register.

However, the sort of transit time expected was 8-10 hours and it likely that the third explanation is the correct one.

The weekend's efforts were far from wasted however. The falling stage of a fair-sized flood was admirable for the collection of a series of samples for chemical analysis and for rating the automatic level recorder. Altogether 7 discharges ranging from 8.44 cusecs (234l/sec) to 0.80 cusecs (22.6l/sec) have been recorded, thus providing quite a reasonable rating for recorder.

The temperature during the falling stage between 1055 on 12 April and 1500 on 14 April fell from 11.5°C to 10.6°, conductivity rose from 80 to 100 micro-ohms and pH rose from 7.0 to 7.2.

Eagles Nest Creek was gauged twice with a temporary V-notch weir at 0.48cusecs (13.6l/sec) on 12 April and 0.27 cusec (7.6l/sec) on 13 April. If it is assumed that all this water goes to Y46 and transit time was about 10 hours; Y2 contributed about 6-7% only of Y46 water. This amount of dilution is great but some noticeable effect on Y46 conductivity could still have been expected.

ed. note : speleologists passing the recorder are asked to note the staff reading and forward it, together with date and time, to Dr Jennings at ANU.

A SURVEY OF CAVE-DWELLING BATS

by Les Hall & J.D. Dunsmore,
CSIRO

INTRODUCTION

There has been world-wide concern over the decline of the numbers of bats, especially species which inhabit caves (Mohr 1972; Punt 1971; Racey & Stebbings 1972). Observations, aided by banded individuals, and personal communications over the last 12 years, have indicated a general decline in the numbers of cave-dwelling bats in central and south-eastern NSW. For example, the size of the maternity colony of the bent-winged bat, *Miniopterus schreibersii*, at Wee Jasper has declined from 20,000 in 1964/65 to 15,000 in 1968/69 to 12,500 in 1973/74. Hamilton-Smith (pers. comm.) also records a decline in the numbers of this species in the East Gippsland area, Victoria.

Other evidence suggesting a decline in the numbers of bats is the absence of bats from the large number of caves which contain piles of bat guano and roof staining from bat urine. It is doubtful that the bats which caused these deposits have moved to other caves, as most caves large enough to be occupied by bat colonies are known and visited. Very few new caves containing bat colonies have been found since the mid-1960s. Large congregations of transient bats can be responsible for some of the deposits in caves. Bent-winged bats are present in Pylon 58 Cave, Wee Jasper, for only 2 to 3 weeks in November, prior to moving to Church Cave (Hall & McKean 1967). For the short time that the bats are present in the cave the resulting guano deposit is quite considerable. Bats are very rarely found in the cave at other times of the year. Such colonies of transient bats could be the cause of the guano deposits in Dip Cave (WJ1) at Wee Jasper, and in Gable Cave (Cl17) at Cliefden.

It has been suggested by Jefferies (1972) that organochloride insecticides could be a major factor in the decline of bat numbers in Europe. However, in a recent study in south-eastern NSW, Dunsmore et al (1974) showed that although DDT levels in bent-winged bats were high enough to cause concern, the bat population was not endangered.

Scientific collecting and bat banding both have detrimental effects on bat colonies (Beaucornu 1962; Hopper 1964; Seebeck & Hamilton-Smith 1967). In the USA a moratorium has been called on bat banding, and only long-term projects are continuing. Cessation of the banding of the eastern horseshoe bat, *Rhinolophus megaphyllus*, at Wee Jasper, and the large-footed bat *Myotis adversus*, at Narrengullen, occurred in 1967 after it appeared that banding was causing a decline in their number. Regular counts since then revealed an initial increase in the numbers of both species, then a levelling off, and now a further decline in the eastern horseshoe bat.

Hence there is evidence of a general decline in the numbers of cave-dwelling bats, but the cause is obscure. In order to formulate any sort of policy regarding the protection of bats and their habitat, more quantitative and fundamental data on their numbers and movement are required.

A SURVEY OF CAVE DWELLING BATS

In 1961 the Australian Bat Banding Scheme, in order to seek such data, commenced a survey of cave-dwelling bats. Survey cards were printed and sent to most speleological societies in eastern Australia. Informants were required to fill in and return these cards detailing locality, data, bat species, numbers present etc. To date 750 cards have been returned, the majority coming from NSW. This number is insufficient to attempt a detailed analysis of any area or cave. There is a **need for observations to be made on a regular basis, possibly once a month.** Negative results are important and ideally all caves in an area should be done the same day.

From such observations the following information can be derived:

1. An estimate of the total population of cave-dwelling bats at a given time;
2. An indication of bat movements - both seasonal and short term - from one cave or area to another.
3. A list of caves important for bats i.e. caves used for breeding, wintering (hibernating) and by transient populations; and
4. A complete distributional picture of cave-dwelling species of bats.

The assistance of interested speleologists is urgently needed to build up the numbers of cards to make an analysis possible. Cards are being sent to all speleological societies in the eastern states who are members of the ASF. Any other interested person can obtain cards by writing to: The Secretary, Australian Bat Banding Scheme, CSIRO, Division of Wildlife Research, P.O. Box 84, LYNEHAM, A.C.T. 2602

IDENTIFICATION OF BATS AND THE COLLECTION OF DATA

Identification of cave-dwelling bats in central and south-eastern NSW is generally quite simple. By far the most common bat, found generally in clusters in large caves and mines, is the bent-winged bat. The next most frequently observed bat is the eastern horseshoe bat, which is found in smaller caves; often in small hot and humid chambers with dirt fill, and in mines. The large-footed bat is always found in caves or in hollow trees and logs overlooking water (McKean & Hall 1965). There are several other species which inhabit caves in the region but they are unlikely to be seen by the average caver.

It is hoped to have available in the near future a pamphlet showing the major characteristics for identifying all cave dwelling bats in south-eastern Australia. Fig. 1 shows some of the characteristic features of the three most common cave dwelling bats.

Figure 1 : Some distinguishing characteristics



When collecting data for the survey cards, careful note of Hamilton-Smith's (1970) recommendations on the conservation of bats should be taken. In brief there are three considerations:

1. Every effort should be made to ensure the protection of maternity sites, including the limitation of visiting such caves to a minimum during the maternity season (Nov. to Feb.)
2. Disturbance of wintering colonies in any way should be minimised (most cave-dwelling bats in south-eastern Australia become torpid between late May and early August, usually in caves with distinct temperature/humidity relationships; and
3. minimal handling of bats in late spring when adult females are pregnant.

Information on the breeding (maternity) caves of the bent-winged bat in eastern Australia is reasonably complete (Dwyer & Hamilton-Smith 1965). More information is required on the breeding caves of other species and the caves in which bats spend the winter months. Table 1 shows some of the known uses of caves by bats in central and south-eastern NSW.

Table 1 : KNOWN USES OF SOME CAVES BY BATS IN CENTRAL AND SOUTH-EASTERN N.S.W.

Area & Cave	Species	Use
COLONG, Main Cave	<i>M. schreibersii</i>	wintering
BUNGONIA, The Drum (B13)	"	maternity
BUNGONIA, Chalk Cave (B26)	"	wintering
MOUNT FAIRY, Main Cave	"	transient
WEE JASPER, Church Cave (WJ31)	"	maternity
WEE JASPER, Pylon 58 Cave	"	transient
CHEITMORE, Main Cave	"	wintering
MARBLE ARCH, Thermocline Cave	"	wintering
BENDEATHERA, Main Cave (BD1)	"	wintering
BENDEATHERA, Main Cave (BD1)	<i>R. megaphyllus</i>	wintering (maternity?)
WEE JASPER, Humidicrib (WJ34)	"	maternity
NARRENGULLEN, Main Cave, (Dam side)	<i>M. adversus</i>	maternity

It is obvious that speleologists exert pressures on bat populations by frequent visits to 'bat' caves, but the effects of these visits are unknown. When enough information from the survey cards is collected, it should be possible to design a management policy which would make speleologists and bats compatible in their use of caves. Help is needed from all responsible speleologists. It is suggested that as users of the bats' habitat, speleologists have a responsibility to be aware of the influence which they have on bats. Possibly each trip report could include the completion of several survey cards, or alternatively, a member of the group or society could be appointed to collect the survey card data.

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K A R S T G L E N C A V E S

by *Richard Ladynski*

In this area there is to be found some of the most cavernous limestone in Australia; included in this area is Mt Etna and Limestone Ridge Caves which most cavers have heard of. But there are also at least six other groups of caves, among them Subdivision 130, "Karst Glen". This property is a freehold of 43 acres 1 rood 27 perches of which about 15 acres are limestone, about half being cavernous.

This property in 90 years has had several owners and the name of the caves has changed likewise the last three were Sorence's, Fry's and Hamilton's Caves; at times all these names were in use. Now I have the property which I hope to turn into a Tropical and subtropical orchard. As I want a name to market my fruit by, which is not already overused, I have called the place Karst Glen and the caves will be known as Karst Glen Caves, not Ladynski's or Ritchie's Caves. The prefix will be KG in the survey and the number / name list, also in newsletter reports and I hope an occasional paper.

Much of the following will change with research and surveying to some extent:

KG 1 KANULU : One entrance of 12,20m drop, cave 21.3m deep and 61m long of passage, two levels. Some stalactites, stalagmites & flowstones. *Rhinolophus megaphyllus* bats have been recorded.

KG 2G DAREMBAL : One entrance, 9.1m drop, cave is 12.2m deep with 15.2 m passage. Very good flowstones, *Miniopterus australis* bats have been seen. An old guano mine.

KG 3 LADDER CAVE : Eight entrances, 3 crawl, 1 walk, 4 shafts, connected by crawl to KG 2 (most likely uncovered mining). System of chambers and passages length 609m, 30.5m deep. There are stalagmites, shawls and flowstones. *Macroderma gigas*, *miniopterus australis* & *Rhinolophus megaphyllus* bats have been noted. Also large amounts of guano. Entrance A - Old Ladys entrance; entrance C Sentenial Pitch, The Sentenial, Sentenial Chamber, Skull & Crossbones Way.

KG4 TRANQUILITY : Four entrances, 91m long, 15m deep. An old guano mine, stalactites, stalagmites & flowstones. *Miniopterus australis* & *Rhinolophus megaphyllus* bats recorded.

KG 5 TRENCH CAVE : Four entrances, 15m long, 7m deep. Flowstones, connected by squeeze to KG 4.

KG 6 SANCTUARY : One entrance, 5.5m drop, cave is 15m deep & 61m long. A system of chambers and passages. Possible further passages in the Bat Pit. Flowstones, stalactites, stalagmites, wet season flooding of the main cave and a storm creek in the Bat Pit which flushes the guano bed from the pit leaving bare limestone. A *miniopterus australis* colony, 500 - 1000 or more bats seen.

KG 7 EXPECTATIONS : One walk in entrance, the cave goes in two directions both blocked by good flowstones, 15m long & 6m deep. Flowstones, stalactites, stalagmites, *miniopterus australis* bats have been seen. Possible squeeze connections to KG 6 and KG 8 with digging.

KG 8 PIPES : One entrance crawl, 15m long, 3m deep, flowstones. Wild life shelter.

KG 9 POT : One entrance 3.6 m deep, could be dig.

KG 10 POSSIBILITY : One entrance 15m deep. Stone choked squeeze to KG 6.

KG 11 BOUNDARY : A fair possibility at the NW corner peg

KG 12 EXCLAMATION : Near E boundary, two vertical entrances, one with boulder jam about half way down, the other entrance enlarge by burning the stone. 121m long, 15m deep.

KG 13 & 14 : Good possibilities near E boundary

KG 15 : A small boulder cave in a rough collapse near N boundary

KG 16 : Dig in vertical boulder choke

KG 17 : Hole about 2.4m, drainage passage leading from bottom.

KG 18 FRUSTRATIONS : A boulder covered pot 7.6m deep & 12m long

KG 19 : A good dig under way, could connect to KG 8.

KG 20 : Small boulder cave south of KG 3

Notes: Kanulu and Darembal are the names of local aboriginal tribes. KG 6, 7, 8, 9 & 10 seem

NEW CAVE. RESERVES IN TASMANIA

The following Proclamations under the National Parks and Wildlife Act 1970 (Tasmania) were recently brought to the attention of your editor :

1972, No. 153 : Extension of Hastings Cave State Reserve (Government Gazette 14JUN72)
1972, No. 188 : Croesus Cave Reserve (Government Gazette 12JUL72)

Although I think it was KK who kindly supplied xeroxes of these proclamations, they have the initials WJC pencilled on the bottom, and the owner may claim them if wanted.

CAVES O F A U S T R A L I A

No. 9 : KUBLA KHAN, Tasmania

by Andrew Skinner

Kubla Khan is a large decorated cave situated near Mole Creek, Tasmania. It has been described by many mainland visitors as the best decorated cave in Australia. The most notable formations are the Khan, a 17 metre high stalagmite, the Begum, a 24m. high column, and the Pleasure Dome, a splendid area of rim-pools and flowstone. Names of decorations in the cave have been derived from S.T. Coleridge's poem Kubla Khan.

The entrance to Kubla Khan has been known since the early 1900s but the cave itself had never been explored because of the vertical entrance pitch. The exploration of Kubla Khan has been well documented by Goede (1966) who derived his information from the archives of the Tasmanian Caverneering Club and from personal experience.

TCC first visited the entrance to the cave in 1947 but the pitch was not descended until Christmas 1948. The 18m pitch was descended to a large chamber. A stream (later named the River Alph) was discovered but progress was halted upstream by talus and downstream by deep water. The streamway was not explored until nine years later when Albert Goede and party floated down using rubber dinghies. The group discovered one of the largest single chambers ever found in Tasmania (this was later to be named Cairn Hall):

"In a high level chamber leading off from it we found some of the finest flowstone formation ever discovered at Mole Creek. This chamber was later named the Pleasure Dome. Two of us also discovered and tried to explore creek downstream beyond Cairn Hall but the stream passage narrowed and we soon came to a siphon. Returning to the downstream end of Cairn Hall we noticed what appeared to be a high level passage leading off at the top of a 6 metre high sheer flowstone wall. However, we had no scaling pole and the possibility remained unexplored (Goede 1966).

The resurgence of the River Alph was found about 1.2km from the Kubla Khan entrance in April 1958, but it was water-filled and for the next seven years no major discoveries were made. In early 1965 a team of divers (the Tasmania Underwater Exploration Group - now defunct) made two diving attempts at the resurgence. In their second dive they covered a record distance of 502 metres but only discovered a few small, vertical walled chambers.

In October 1966, a party led by Albert Goede entered Kubla Khan to attempt to climb the flowstone wall at the end of Cairn Hall. Brian Collin, who had recently joined TCC, began inserting loxins and had put two of them in when Neil Anderson (visiting from CSS) managed to climb flowstone wall. "Something was said about 'those bloody mainlanders' before a ladder was fixed and the rest of the party climbed up the easy way.

The way on was not difficult except for some deep pools. All of the party managed to climb around the pools except for Sally Morris who immersed herself completely (the obstacle was later named Sallys Folly). After chimneying up several short drops a hole in the floor was confronted. As their lights were failing, they returned to the surface.

A return trip was made in December 1966 to further explore the high level extension. After the hole in the floor the cave widened out to a huge chamber, later to be named Xanadu. This chamber was 30 metres wide, 300m long and 30m high. It contained the large stalagmite, the Khan, and an even larger column, the Begum. A side passage was entered (the Helictite Dungeons) and was found to contain a mass of helictites. In Albert Goede's words:

"We then started to explore the large cavern in the direction from which we had come and here we really entered a treasure house. Beyond the large stalagmite was a whole row of stalagmites there must have been at least a hundred marching away in the distance (the Khan's Army). There were large areas of flowstone, crystal pools, huge columns and so many mysteries that we almost got tired looking at them. In one place we could look down into a large chamber with columns but could not get down for lack of rope. We finally reached a point where the cave seemed to close in and decided to return as we had been underground almost eight hours and it would be at least a two hour trip back to the entrance. We had just discovered the largest single cavern ever found in the Mole Creek area, more helictites than all Tasmanian caves combined and a wealth of formation even surpassing Croesus Cave in the same area".

It must have been one of those rare trips.

Xanadu Chamber and its eastern extension - later to be named the Forbidden City - were further explored and photographed a few weeks later. Apart from a few side passages and upper levels, nothing of significance was found in Kubla Khan until 1970, when Latrobe High Caving Club - a group was associated with Northern Caverneers - discovered an upper entrance. There is little potential for further exploration as many different parties have visited the cave with this object. Yet, about a kilometer of the stream is relatively unknown.

White (1971) has commented on some of the geological features of Kubla Khan. He describes the cave as being strongly joint-controlled and mentions four joint sets. "Most of the large chambers showed clear evidence of bedding control, but not in the way expected. They are apparently related in impure and hence relatively insoluble limestone beds which have extended the chambers upwards by stoping. The roofs of these chambers are flat bedding planes, the floors confused piles of talus" (White 1971).

Kubla's conservation problems began with the advent of frequent visitations to the cave following the initial discovery of Xanadu Chamber. I first visited the cave in 1967, when it was in pristine condition. Upon returning in 1972 I was staggered to find such a difference in its physical condition. Carbide, faeces and other rubbish had been deposited on formations and in rimstone pools. Many stalactites had been carelessly broken and flowstone floors had been needlessly soiled by muddy footprints.

The discovery of the upper entrance in 1970 has probably been the main contributing factor in the deterioration of the cave. Before this easier route into Xanadu, physical obstacles such as the vertical entrance pitch and the climb along the canyon-like River Alph deterred all but the most experienced parties. The Pleasure Dome is still in an excellent unmodified condition as the access route to it is more difficult and groups have removed their boots before visiting.

Some plastic markers were placed in the Forbidden City in 1969 but they are relatively inconspicuous and speleos tended to stray from the path thus defined. During 1973 the original markers were replaced with reflectors (Skinner 1973). These are more noticeable and are proving to be effective in confining visitors to a set route. One major problem remains: how do you clean the mud from the existing dirt flowstone? Nailbrushes will not remove it as it is too ingrained. Any suggestions?

In 1971 the upper entrance of Kubla Khan was blocked up, presumably by a mainland party who inscribed 'Save Colong' in the cement, together with their initials. The construction was removed but Patrobe HCC, who subsequently inserted a locking bar. Some members of TCC suggested that the blockage should have remained, but information supplied by LHCC proves that there would have been deleterious effects on the cave.

At present the Tasmanian Council of Speleology is planning to place a gate on the streamway of the River Alph. An approach is also to be made to the Tasmanian National Parks and Wildlife Service regarding possible protection by a State Reserve.

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A P P E N D I X - KUBLA KHAN (S.T. Coleridge, 1797)

In Xanadu did Kubla Khan
 A stately pleasure dome decree:
 Where Alph the sacred river ran
 Through caverns measureless to man
 Down to a sunless sea

So twice five miles of fertile ground
 With walls and towers were girdled round:
 And there were gardens bright with sinuous rills
 Where blossomed many an incense-bearing tree;
 And here where forests ancient as the hills,
 Enfolding sunny spots of greenery.

But oh! that deep romantic chasm which slanted
 Down the green hill athwart a cedarn cover!
 A savage place! as holy and enchanted
 As e'er beneath a waning moon was haunted
 By woman wailing for her demon-lover!
 And from this chasm, with ceaseless turmoil seething,
 As if this earth in fast thick pants was breathing,
 A mighty fountain momently was forced;
 Amid whose swift half-intermitted burst
 Huge fragments vaulted like rebounding hail,
 Or chaffy grain beneath the thresher's flail:
 And 'mid these dancing rocks at once and ever
 It flung up momentarily the sacred river
 Five miles meandering with a mazy motion
 Through wood and dale the sacred river ran

Then reached the caverns measureless to man,
 And sank in tumult to a lifeless ocean;
 And 'mid this tumult Kubla heard from far
 Ancestral voices prophesying war!

The shadow of the dome of pleasure
 Floated midway on the waves;
 Where was heard the mingled measure
 From the fountain and the caves.
 It was a miracle of rare device,
 A sunny pleasure dome with caves of ice!
 A damsel with a dulcimer
 In a vision once I saw:
 It was an Abyssinian maid,
 And on her dulcimer she played,
 Singing of Mount Abora..
 Could I revive within me
 Her symphony and song,
 To such a deep delight twoud win me
 That with music loud and long,
 I would build that dome in air,
 That sunny dome! those caves of ice!
 And all who heard should see them there,
 And all should cry, Beware! Beware!
 His flashing eyes, his floating hair!
 Weave a circle round him thrice,
 And close your eyes with holy dread,
 For he on honey-dew hath fed,
 And drunk the milk of Paradise

DESCENT

THE MAGAZINE FOR CAVERS

Quietly, almost unnoticed, caving as a sport has grown up over the past few years. Where once the devotees of the dark cult could be numbered in their dozens, if you could catch them, now there are many hundreds in Australia alone - tens of thousands if you look at the worldwide picture.

Which is where DESCENT comes onto the scene, an independent news magazine devoted solely to the unique demands of the sport. Club newsletters have always done a good solid job of keeping members up-to-date on local developments, but some other means of communication was needed to give a much wider coverage. We started DESCENT five years ago to plug that gap, and, judging by readers' comments (when they are sober, what's more) it does a great job.

Even if you aren't all that bothered about learning of major caving discoveries in Britain, the USA, Canada, France, Poland, Czechoslovakia, USSR, Venezuela, Spain, Nepal, Iran, Italy or Yugoslavia (all covered in recent issues - plus Australia and New Zealand, of course), as a caver you must keep updated on such key topics as cave conservation and access, and what cavers as a body can do about them. DESCENT keeps you right up-to-date on these, as well as the latest developments in equipment and techniques.

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OPEN LETTER ON HISTOPLASMOSIS

by Dr D. Frey,
Royal North Shore Hospital,
SYDNEY

A group of research workers at the Institute of Medical Research in the Royal North Shore Hospital of Sydney are studying the prevalence in Australian soils of a fungus called *Histoplasma capsulatum*. This fungus is responsible for a disease called histoplasmosis, which affects the respiratory (lung) system but which can also, in drastic cases, affect other body systems. We ask your help in obtaining soil samples to further these studies.

The disease is normally contracted when a person inhales dust containing spores of the fungus. Spores are individual microscopic cells of the fungus which resemble plant seeds in their behaviour. They can survive, without growing, in soils which lack the substances they need for growth. When suitable materials are added to the soil or when the spores settle in a suitable environment, such as the lungs of a susceptible person, they will germinate and grow. Histoplasmosis is never transmitted from person.

Histoplasmosis resembles tuberculosis in many ways, particularly in the X-rays of affected lungs. Because of this and also because we have been largely ignorant of the possible importance of this infection, it is likely that some cases of histoplasmosis have been overlooked. Fortunately, histoplasmosis usually occurs in what is called the benign form where there has been an initial infection which has been dealt with by the body defences. The symptoms, in these cases, are often mild, similar to those for a short-term bout of influenza, or may not even be noticed. Benign histoplasmosis has no special dangers attached to it but any suspicion of a benign infection should be reported for checking. We can get some indication of a possible benign infection through a special skin test called a histoplasmin reactivity test.

Our interest in the prevalence of this fungus in Australian soils started when six scouts were treated at this hospital for a respiratory infection following their exploration of caves at Yass, NSW. Histoplasmin skin tests of all six patients were positive and it is suspected that soils from the Yass caves may have been the source of infection by *Histoplasma capsulatum*. Later histoplasmin skin tests on 80 speleologists from Australia and New Zealand showed 25 positive reactions which indicates that the fungus is present in the local environment and that the general public might occasionally be exposed to a source of infection. We do not know how often a positive histoplasmin reaction occurs in the general Australian population.

The fungus has been found in soils from many parts of the world but we know virtually nothing about its occurrence in Australia. It is most commonly found in soil containing the manure of chickens, starlings or bats and the most complete demonstration of its presence in an Australian soil was in the study of a case of disseminated histoplasmosis in an outer area of Adelaide where the infection was traced to dust arising from the clearing of a disused fowl run and the presence of the fungus in this soil was proved. *Histoplasma capsulatum* grows best in soils from areas of high humidity and with air temperatures from 20 - 30°C.

For our studies we would like to obtain and examine soil samples from as many geographical regions of this country as is possible. You are in a position to help us in this respect and for this reason we are enclosing information on the types of soil samples that are of particular interest for our survey. Unfortunately, like most research workers, our working funds are rather tight but we will be very happy to provide any necessary containers, to refund mailing expenses, and to answer any questions or provide further information to anyone who is interested in the project. Any help that we can get in the collection of material is appreciated.

Generally the soil samples desired for examination will be expected to come from rural or semi-rural areas but certain types of urban sites are also of prospective interest. Soil samples can be collected from the following kinds of sites:

- Caves - especially those in which birds or bats roost; soil samples should be taken both within the cave and around the entrance.
- Abandoned houses in rural areas - these often contain bird or bats roosts in the attic or underneath the roof
- Fowl yards, including chicken houses - this can include both soil samples from runs currently in use as well as soil samples from sites which have contained fowl runs in the past; there are now many residential sites which have been developed on the lands of former poultry farms and these soils may still harbour the fungus.
- Underneath or within the hollows of trees used by birds or bats for roosts - such sites may be found in suburban parks as well as rural areas

There are some procedures which we suggest for the collecting of soil samples:

- For soils from temperate regions or sheltered spots, take the first two inches of topsoil from a six inch square of soil; this will yield about half a pound of soil and each individual sample of this type can conveniently be contained in a small plastic tie-up bag (Gladwrap type) which we will be happy to supply to anyone cooperating in the scheme. If the soil is in

a very hot dry region, remove the top 3-4 inches of soil before taking a sample; the fungus is killed by the high soil temperatures you would expect to find near the surface of many Australian soils during the summer and yet the fungus may still survive in the cooler soil below the surface.

2) The soil should be free of large stony material and, if possible, dry although dryness is not absolutely essential.

3) If there is bird or bat manure in the soil, please make sure this is included in the sample.

4) From a small site, such as under a tree in a park, a pair of samples taken close together is all that is needed. When the site is fairly large, such as a cave or a fowlyard, please take at least six pairs of adjacent samples from different parts of the site.

5) A small pocket knife is useful for digging the soil. Make sure that you clean off the blade after each sample is collected.

6) In very dusty locations always wear an handkerchief, tied at the back of the neck, to cover your face and nose.

7) So far as is possible, include the following information on a card or piece of paper which can be placed in the bag with each individual sample:

- i) Date of collection
- ii) Exact location of site - district where the site is located, and additional information for identification such as the name of street, park or caves. Please indicate where the sample was collected at the site and for this a rough sketch of the site marked to show sampled areas would be most helpful.
- iii) The approximate air temperature and general description of humidity conditions in region.
- iv) Any climatic information you may know about the region such as average annual rainfall
- v) Any indication of the current presence of bats or birds around a sampled site. If you know what types of birds use the site as a roost please indicate this and for bats a general indication of the roosting patterns - some species (solitary types) tend to roost individually while others (colonial types) tend to roost in large closely packed colonies, sometimes numbering hundreds at a time.

We would be grateful if you could forward the samples through your local scout, speleological or wildlife organization. It will be much easier for us to recompense the larger group for mailing expenses. If you can personally bring us samples at any time or if you have an opportunity to visit the laboratory, we will be very happy to explain our work in more detail and to show you our project in operation.

The address for mailing samples is:

Dr D. Frey,
Mycology Reference Laboratory,
Institute of Medical Research,
The Royal North Shore Hospital of Sydney,
ST LEONARDS, NSW 2065

A C C E S S T O E X I T C A V E

by Andrew Skinner

The Tasmanian Caverneering Club would appreciate any mainland speleos who intend visiting Exit Cave to contact them, preferably in advance for conservation and search and rescue reasons. The cave has a locked gate, the key of which can be obtained from TCC. Some (ASF) parties entered the cave in the past without first contacting TCC, thus creating conservation and safety problems.

All of the easily accessible decorated areas of Exit now have defined paths marked with reflectors. We insist that no carbide or any other rubbish be left in the cave but be carried out to the road. The rubbish left in Exit in the past has now been removed. There is also the contentious problem of faeces disposal when parties camp inside the cave. A dry bank north-west of the inner Base Camp has been used for this purpose and the results seem to disappear quite quickly. However, this situation is far from satisfactory in the long term. One solution is for "tourist" parties not to camp inside, as most areas of the cave can be reached in a day by moderately fit parties. Underground camping is justified if the party is attempting serious exploration or surveying.

When visiting the cave in uncertain weather (most of the year in Tasmania) it is advisable to rig a rope through permanently-placed bolts in order to cross the D'Entrecasteaux River on the return trip. The D'Entrecasteaux can rise swiftly if it is raining (or snow is melting) outside and this precaution can prevent an enforced underground camp. An orange synthetic rope is stationed permanently inside the gate for this purpose. TCC would appreciate trip reports from groups who do not publish newsletters or journals.

The key to the cave is available to parties from accredited ASF member societies from the Club Quartermaster, Brian Collin, 66 Wentworth Street, South Hobart.

D O W N U N D E R A L L O V E R

News from around the Societies

K S S have recently had an AGM. Perhaps the most interesting trip report emanating from that area recently is of an epic 4-day bushwalk involving much up and down and river crossing down Green Gully and then along the Apsley and Yarrowitch Rivers. The object of the trip was to check out a long standing report of in Green Gully. One possible cave was sighted but not reached and the conclusion was that the area didn't contain limestone but the other scenic attractions certainly deserve a return.

O S S have shown a recent revival led by Ray Rowney with a number of members visiting Cliefden during trips by HCG/UNSWSS/SUSS parties.

N U C C have recently joined the liberal minority by electing a feminine President - congratulations Marj Coggan! This action seems strangely confined to university societies with at least UQSS and UNSWSS also having female Presidents in recent years. Is this a reflection on changing society attitudes?

S U S S activity has picked up again as first term progresses. The Bulletin is recovering its standards and a recent issue contained an interesting article on Drager gas analysis equipment. SUSS members were present during the great rains at Jenolan earlier in the year and have just reported comprehensive flow rate data for many passages in Mammoth Cave. SUSS is also reopening B15 Shaduf Cave at Bungonia, closed (naturally) shortly after SSS dug it out in 1954.

U N S W S S have continued at an extraordinarily high activity rate and SPAR continues to publish maps and reports in profusion. The survey of Eagles Nest Cave has resulted in it being the deepest cave on the mainland at 172m (that's over half way to Khazad-Dum!!) No new discoveries were necessary to achieve this 'record', just keen systematic caving and surveying. UNSWSS in association with HCG, SUSS and OSS continues their systematic recording and surveying work at Cliefden - recent effort has been directed towards completing surveys of all major caves. UNSWSS have also started work on a 16mm colour movie at Cliefden with assistance from the University Film Group Opunka. Sea caves continue to attract and there seems to be rarely a SPAR without more reports accompanied by well drawn maps. On a less serious note exploration of the Sydney underworld of drains continues with the latest epic involving cycling up a large diameter drain for 4km! A near decapitation from a lower section of the pipe and glass cutting up tyres seem to be the hazards one faces in this variation on the theme of underground exploration. Tyres seem to be the hazards one faces in

T C C have recovered Robinson, Shaw and Goede from overseas and already the heightened exploration activity is evident. Marble Hill above Exit Cave waits with many deep shafts and the difficulty of access areas like the Cracroft have been receiving more attention. Judds Cavern has been extended by a Casteret-like swim in the sump and the whole area found to be containing many caves worthy of more effort. TCC would like mainlanders intending to visit Exit to contact them (you will need the key anyway) for S & R information and ask visitors to refrain from camping within as the whole cave can be visited on a day trip basis. TCC have discovered dolomite outcrops on the upper Huon River below Scotts Peak dam. Several trips have resulted in a couple of small caves (by Tasmanian standards) - maps and descriptions in Speleo Spiel 87 & 88. An attack on SRT by Kevin Keernan (Southern Caver Oct 73) has been refuted by Peter Shaw who comments "Once the hill over Exit is explored, and unless the Cracroft becomes more accessible, the era of grand exploration will be finished, and 'nook and cranny' caving as practised on the mainland will commence, and perhaps the ultimate idea in vertical caving, 'Roll On Antigravity Suits' !

N C Northern Caverneers have equalled the Australian underwater cave diving record in Kubla Khan and are planning more attempts to break the record and further explore the stream passage (see article on Kubla Khan in this newsletter & ed.)

Further Tasmanian News from letters from Andrew Skinner

"Niagara Pot, Splash Pot and Growing Swallet (all at Juneeflorentine) were explored by Peter Shaw & Co., prior to starting exploration at Marble Hill at Ida Bay. Brian Collin and crew explored Judds Cavern (Picton-Cracroft) mapping 1km. Prospects are bright as the sump has been negotiated to a rockfall. Laurie Moody et al. have been finalising small holes at Juneeflorentine with monotonous regularity. Albert Goede, Peter Shaw and I took some water samples during a scrub bash along the Tyenna River. This River is carrying a very high level of carbonate, suggesting outflow caves under Mt Tim Shea; . . . at Easter I located a new outflow cave at Gunns Plains. It had a huge discharge of water but sumped after 80m. I haven't heard what SCS are up to except that their subs are now \$10."

C Q S S

have recommenced publication of The Explorer after a lapse of some months, and the first new issue has a great many trips to record, mainly in the Limestone Ridge and Karst Glen areas, together with a compendium of reprints of recent newspaper articles on conservation. The Society itself continues to be very active in this

fight for Mt Etna. In a late note, President Richard Ladynski intimates that some action on Mt Etna is imminent but there is no prescience as to what it might be.

U Q S S

in the January issue of Down Under have compiled a comprehensive 35 page survey of modern safety and training techniques which is well worth perusing. Nothing much else to report. No doubt they are all flat out on preparations for the forthcoming ASF Conference in December.

V S A

In the February issue of Nargun has a reprint of a controversial article from the the British caving magazine 'Descent', analysing the proposition that under many conditions, a party of novices cavers finding their own way around is less likely to meet with accidents than are novices in an experienced group. My copy of Nargun

was missing the first few pages of this discussion, however I have seen it argued elsewhere and would strongly commend it as required reading for all club Safety Officers.

News from Western Australia - WASG

by Kerry Williamson

CAVING WORKSHOP '74 : This, the second caving workshop, was held in March with attendances in the eighties. A series of three seminars was followed by a practical weekend at Witchcliffe. Topics covered were: Geology and Geomorphology, Archaeology and Vertebrate Paleontology, Cave Mapping, Cave Biology, Cave Photography, Caving Techniques and Equipment, and last but not least, Conservation. The workshop was attended mainly by novices and it has, I think, served as a good introduction to the broad scope of speleology.

WITCHCLIFFE : This area has seen much activity in the summer months. Two previous undocumented caves, both of hydrologic interest, have been found. In one place, exploration was stopped by choice mixture of crumbly loose rockpile above deep holes, and foul air - a very interesting cave. The other contains a large collapse block 14m in height. This cave was mapped to Gr 5. W145 near Conference Cave was also mapped to Gr 5 as also were W117 and Crustacean Cave. Tagging of the 100% caves in the area was begun.

COWARAMUP : The survey to Gr 5 of Quinninup Lake Cave has been commenced. This is an unusual cave being a large outflow cave with two streams which converge outside the cave to fill a small dune lake. The cave also exhibits halite exudation causing breakdown of formations and calcarenite.

YALLINGUP : The paleontological dig in Ya1 has been worked and much positioning, surveying and documenting being carried out in the area.

YANCHEP : This area, 35km north of Perth, has seen the commencement of systematic positioning surveying and documentation of caves near Yanchep Cave. Yanchep is an area of low relief (10m above the water table) with complex underground drainage producing numerous small very interesting caves.

News from South Australia - CEGSA

by Ian Lewis & Grant Gartrell

YORKE PENINSULA & ADELAIDE : More hard work in Sellicks Hill Cave but little progress. Hired jackhammers, generator and a big hill to lug it up and down all figure in exploration in this area. A new quarry has appeared on the same belt of limestone, a mile or so to the north, and we should investigate and ingratiate ourselves with management to see if they dig up a nice cave for us. At Curramulka, surveying in Corra-Lynn Cave has now passed six kilometres and rising (doesn't that sound more impressive in SI units? - ed.) Some sections have been gated and some diprotodon photography undertaken in the larger chambers. Nearby Town Cave has inevitably come under notice as hopeful theories suggested we may yet join the two caves. Removal of the ladder has left the 37m entrance pitch of Town Cave free for South Australia's best cave abseil.

EYRE PENINSULA : visited twice this year, including one group which actually FLEW out from Adelaide, picked up a borrowed ute and drove north to Lake Hamilton to find the caves and the hospitality as good as ever. Several sinks near Pt Lincoln were also examined, including one, Deathtrap Cave, 31m deep, which threatened to entomb the party when a thunderstorm brought a flash flood down the entrance pitch. A lake was discovered and will warrant diving later.

NULLARBOR : (see report in ASF Newsletter 63 (Autumn 1974))

KANGAROO ISLAND : One trip including an aerial reconnaissance of Flinders Chase which will be the basis for more intensive exploration later this year.

LOWER SOUTH EAST : several digging and survey trips to Glenelg River area. Problems are being encountered with cave gates at Tantanoola and nearby. Most of the publicity in this region came from the multiple drowning in the Shaft (see ASF Newsletter 61, Spring 1973)

NARACORTE : is still rewarding those devoting time to it, with new extensions, breezes and surface digs to keep us happy for many years.

(edited, severely, from CEGSA Yearbook 1973-4)

ASF NEWSLETTER

Copies of many back issues are still available, but earlier issues are scarce and becoming collectors' items; some are already out of print. Later issues are larger, glossier and many have maps and photographs and are printed offset. In the last three years, typical size is 20 pages.

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	—	Nambung and The Pinnacles, W.A.

OTHER PUBLICATIONS OF THE AUSTRALIAN SPELEOLOGICAL FEDERATION:

Proceedings of 7th Biennial Conference 1968 — \$1.35 from CEGSA

Proceedings of 8th Biennial Conference 1970 — \$3.00 from TCC or SCS

Proceedings of 9th Biennial Conference 1972 — in preparation. Watch for announcement on page 2.

CONSERVATION OF AUSTRALIAN CAVES — Report of the ad hoc Committee on Conservation. Convenor Andrew Spate. Offset printed, with photographs 30c. (Sales Manager)

AUSTRALIAN SPELEOLOGY 1971 — 184 pages of the best Australian speleo writings of 1971, edited by Andrew J. Pavey, including numerous maps, photos and diagrams. By far the greatest bargain of the year. Only \$2 (barely a cent a page). (Sales Manager)

AN INDEX TO CAVE MAPS IN N.S.W. — A comprehensive list enabling you to see who's done what and where you can get a copy. One lousy dollar only. (Sales Manager)

SUBMISSION ON TEXAS CAVES — a report to the Australian Government prepared by the A.S.F. Conservation Commission. Offset printed, including maps, photograph. 45c. from U.Q.S.S.

THE CONSERVATION OF MULLAMULLANG CAVE, W.A. — Submission to the Government of Western Australia on the longest mainland cave. Offset printed. 60c. (Sales Manager)

SPELEO HANDBOOK — The first edition is OUT OF PRINT. Please watch page 2 for announcement of new edition, expected towards end of 1974.

PROCEEDINGS FIRST AUSTRALASIAN CONFERENCE ON CAVE TOURISM — Anticipated publication April 1974. Watch page 2 for announcement.

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