MANAGEMENT OF NON-TOURIST CAVES BY QUEENSLAND NATIONAL PARKS AND WILDLIFE SERVICE AT CHILLAGOE, NORTH QUEENSLAND.

David R. Flett.

ABSTRACT

Hundreds of cave entrances occur in the Chillagoe - Mungana-Rookwood Cave complex. Only "major"or "significant" entrances are tagged, and about 1/3 occur inside Queensland National Parks and Wildlife Service Reserves. The caves outside National Park occur in grazing, mining and forestry areas. Access to all non-tourist caves is possible through the Chillagoe Caving Club, although the Queensland National Parks and Wildlife Service has the right of determining entry into any of its caves. Applicants wishing to enter any National Park cave must apply beforehand at the Chillagoe Queensland National Parks and Wildlife Service office and lodge a trip sheet immediately after their visit.

INTRODUCTION

Remnants of Silurian - Devonian coral reefs have formed a broken belt of metamorphosed limestone sediments about 35 km long and 2-5 km wide (Chillagoe Karst 1982). The belt runs north west to south east with Chillagoe town positioned in the lower one third of the belt. The limestone is very weathered and is described as a "Tower Karst in Decay" (Ford, 1978). Within most limestone outcrops there are caves.

CAVES

At the time of writing the Chillagoe Caving Club advises that four hundred cave entrances have been tagged. Significant entrances are tagged so in some cases a cave will have several marked and several unmarked entrances. As a different number is allocated to each entrance, so too are names. For example the Queenslander Cave on National Park, which technically is one cave as all entrances and passages join up, has entrances including CH 51 (Queenslander Cave), CH 55 (Little Italy), CH 15 (Cathedral Cave) and CH 84 (Epi Phrenetic) etc.

Of the four hundred or so tagged entrances so far approximately 140 are on 9 National Park Reserves (see appendix). The areas of National Park in Chillagoe - Mungana include the Royal Arch National Park (1514 ha), Donna National Park (178 ha), Spring National Park (125 ha), Piano-Jubilee (125 ha), Cathedral National Park also called Queenslander (35 ha) and various other Reserves ranging from 0.65 ha to 20 ha.

CAVE FEATURES

The caves are generally shallow and extend upward from the plains level outside, to the top of the outcropping limestone. Some caves do however go below plains level, but all would probably be confined to about 20 metres above and below ground level.

As the limestone is greatly weathered many caves have collapsed roofs. The entry of light and circulating air into the caves allows moss, fern, stinging trees small herbs and fig trees to grow on the walls and floors of these chambers, and a dying out and dulling of the formations. The predominant formations in the cave include massive amounts of all types of cave coral. Stalactites and stalagmites occur less frequently and are irregular in shape due to irregular growth. Flowstone is very common as are rimstones and rimstone pools. However visible calcite crystal is patchy, occurring in isolated areas. Floors of both silt and mud and calcite deposit also occur. Virtually every cave has massive amounts of iron oxide staining, fig tree roots and intact or remnant false floors.

CAVE MANAGEMENT

The first permanent (documented) European settlement in Chillagoe began when William Atherton applied for grazing leases on 20 April 1888. Mining began in 1988, and Tea Tree Cave, next to one of the earliest copper mines has graffiti back to 1888 (Flett 1987). Discovery of caves and visitation of them involved mostly locals until 1964, when local resident Vince Kinnear, present Chillagoe post master, was appointed honorary guide of the Queensland Department of Forestry. Vince's position became permanent with Forestry in 1966 and led to the development of the two main tourist caves, the Donna and Royal Arch. Prior to 1964, locals acted as volunteer guides although in the 1920's and 1930's the Mungana Caves Trust was set up by the Council of the day (Woothakata, now Mareeba Shire). Train loads of visitors from Cairns would be shown around several Mungana caves including Piano, Spring and Cathedral Caves.

From 1964 to 1975 the Department of Forestry were cave managers. The Queensland National Parks and Wildlife Service was a small branch within the Department. Since 1975, Queensland National Parks and Wildlife Service has been the autonomous manager.

From 1976 - 1977, Queensland National Parks and Wildlife Service employee, Mr Paul Wilson, documented and explored all known caves in the area. He devised a classification system under which all caves both on and off National Parks should be managed (Wilson , 1977).

Caves were classified on accessibility, fragility, potential usage and scientific value. Recommendations have followed seeking extension of existing National Park areas gazetted in 1940. For example diprotodon bones have been discovered in one cave, and fragile formations and swiftlet colonies discovered in others outside the park reserves.

VISITATION TO "NON-TOURIST" CAVES

Only two caves at Chillagoe are currently being used by the Queensland National Parks and Wildlife Service for guided tours. A third, the Trezkinn Cave has progressively been developed since work began on a walkway about 1979. It has been used on an intermittent basis, especially during peak periods of visitation and with large community groups (for example schools). Fees for guided tours have been levied since 1 November 1988, although no visitors have been taken into the Trezkinn since then. Several self guided caves on National Parks are advertised for visitation and include the Bauhinia and Pompey caves on the Donna National Park, and the Fairy No 1 and No 2 Caves on the Royal Arch National Park. The Royal Archway Cave at Mungana, partly on National Park, has also been developed for inexperienced visitors. The self guided caves show a different dimension on cave size, length and appearance to the guided tours. They reflect the different stages of cave evaluation (for example build up and breakdown cycle). The Donna Cave is "old" in that it is only seasonally wet and speleothem growth is almost finished, yet its intact roof means it is "young" for a Chillagoe cave. It is a dark cave contrasting with the guided Royal Arch which shows a progression to a middle age cave, with roofs beginning to collapse. The collapsed roof of the Royal Archway indicates an older cave again.

No commercial operators are permitted to visit non-tourist "wild" caves on National Parks, although "Caving Capers" is a group which visits undeveloped caves off National Parks at Mungana on a weekly basis.

Caves off National Parks are either under the management and/or ownership/lease of the surrounding Chillagoe and Rookwood Cattle Stations, Lands Departments, and Departments of Forestry and Mines.

SPELEOLOGISTS AND CAVES

There are two types of cavers anywhere. The first are those sensitive cavers who "go caving" to appreciate cave formations, its structure and biology. These cavers are sensitive to what they walk over, and will spend time removing footwear to avoid crushing bones or fragile formations etc. The other is the caver who is interested in "adventure", and becomes less sensitive to the needs of the cave, and more interested in being able to negotiate difficult areas etc. This type of caver is one who is more likely to cause damage in the enthusiasm to "explore", and needs to be held in check.

For all caving trips on National Parks, a trip sheet must be lodged immediately following the visit. This helps monitor cave use, identifies potential user problems, acts as a data collection system concerning, bats, swiftlets, fossil, damage, litter etc. The system to date for visiting non-tourist Queensland National Parks and Wildlife Service caves has been very casual, but due to increasing visitation and a tightening up to prevent damage, permits will probably soon be needed beforehand to visit certain sensitive caves. Guidelines for these caves are currently under review.

PROBLEMS MANAGING NON-TOURIST CAVES

Probably the most difficult problem in managing non-tourist caves is the prevention of damage to speleothems by insensitive cavers. However in many Chillagoe caves even the most careful caver can cause visible destruction, inadvertently touching or walking over brittle cave coral. Because there is so much cave coral in caves, cavers often become complacent and damage to cave coral is not considered "too important". However broken cave coral visually down grades a cave very quickly.

Most cavers are sensitive enough to realise that touching formations causes discoloration, however from my experience at Chillagoe not all cavers are sensitive to the damage caused from footprints. As many caves have mud floors, muddy footwear can, and has been, responsible for discoloration of rimstones, flowstone and crystal caves.

Biological management of all caves over the last few years has received a much greater priority than previously. Cavers visiting bat and swiftlet colonies must be extremely sensitive not to disturb the animals. Finding these animals in the past and observing them streaming off ceilings, flying in chambers, observing nests and eggs and photographing them has been done with various degrees of sensitivity, based more on individual personalities than a set approach. Management of swiftlet and bat colonies is one of avoidance as much as possible and totally during breeding, unless the Queensland National Parks and Wildlife Service has issued permits to do so. This applies to caves both on and off National Parks. From a Queensland National Parks and Wildlife Service point of view, managing its non-tourist caves on National Parks has been difficult due to its commitment to daily guided tours. With the pressure of increased usage and accessibility of caves, through opening up of areas by marble and gold mining, greater monitoring of caves and cave visits is necessary. For Queensland National Parks and Wildlife Service to be a responsible manager it has to tighten up control of visitation to non-tourist caves. This initially may result in inconvenience to past, long-term cave users, but surely as all cave managers and users are working towards the same goal (that is, preservation of caves in as near undamaged state for as long as possible) then this inconvenience should be accepted. By cavers having to "apply" to visit sensitive

caves on National Park, previously visited without any restrictions, then surely this must be of benefit to the cave.

CONCLUSION

Problems of managing "non-tourist" caves are essentially one of people. To prevent caves on National Parks from being unnecessarily damaged, visitation to some sensitive caves will have to be monitored through prior approval from Queensland National Parks and Wildlife Service. Visitation to all caves will also necessitate completing a trip sheet. Queensland National Parks and Wildlife Service management of caves is first and foremost one of protecting biology (bats and swiftlets) and cave formations, and secondly one of managing visitors.

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Note -
As many National Park boundaries cross through towers, it is often difficult to determine whether all or part of a cave is in a National Park. These lists are good approximations only. For example, no attempt was made to work out which caves in Queenslander Tower are outside National Park. Much of the tower is on National Park but the western and south-eastern portions are not.

D. R. Flett,
Knowe Street,
Chillagoe Q., 4871.

APPENDIX

CHILLAGOE - MUNGANA - ROOKWOOD CAVERNOUS TOWERS

Wholly on National Park	**Off National Park**
Donna	Already
Piano	Bedding Plane
Royal Arch	Cathedral Rock
Tower of London	Con Tower
	Conference
	Corkscrew
	Critic
Partly on National Park	Currajong
	Dumpy
Carpentaria	Ellis Rowan
Eclipse	Haunted
Spring	Heffernan
Queenslander	Hippies
Ryan Imperial	Horseshoe
Markham	Jack
	Katie Breen
	Moffat
	Needle Eye
	One Mile
	Pinnacle Ridge
	Pollard
	Pteropus
	Racecourse
	Ramparts
	Redcap
	Ryans Creek
	Shaggy Dog
	Suicide
	Tall Tree
	Trehenan
	Twin
	Wallaroo
	Weetbix

Chillagoe - Mungana - Rookwood Caves.
Location of Tagged Entrances up to 400

Wholly on National Park
CH 2, 5, 6, 9, 10, 12-17, 21-23, 28-29, 30, 39, 44-49, 50-53, 55-59, 60, 79, 80-91, 95-97, 100, 102-107, 110, 111-113, 116, 118, 124-129, 130-133, 136-137, 145, 148, 157, 162, 164, 168, 171-172, 176-182, 187, 203, 207, 227, 230, 232-233, 251-259, 264-266, 279, 280, 284, 288-289, 291-292, 293-298, 301, 304-306, 308-309, 343-344, 359-360, 379, 380--382, 397 (Total - 138).

Partly on National Park
CH 203, 204 (Total - 2)

Off National Park
(Total - 259)

Indeterminate/Unknown
CH 396 (Total - 1)