

AUSTRALIAN SPELEOLOGICAL FEDERATION  
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VISITOR ACCESS AND FACILITIES

CARLSBAD CAVERNS (U.S.A.) AND CHILLAGOE CAVES (QLD.)

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ABSTRACT

Carlsbad Caverns in the United States contain some excellent features in the work done to provide visitor access and facilities and especially in the standard of illumination provided. Some aspects of this work are discussed. Mention is also made of work being done at the Chillagoe Caves in Queensland.

CARLSBAD CAVERNS

The Carlsbad Caverns National Park, over 70 square miles in area, is located in south-eastern New Mexico in the United States. Some 13 miles of caverns have been explored of which about 3 miles are open to the public. The largest chamber is 2,000 feet long and up to 200 feet high.

I inspected the Caverns in 1972, firstly going through just as a member of the public to gain a general impression and then returning later with the Park's Electrician who explained and showed me the work which had been done. Two features of this work impressed me greatly -

- .. The full length of the pathway is illuminated and visitors are permitted to walk through at leisure, thus being free from the sense of regimentation which is inevitable with supervised guided groups.
- .. In the total length of over 3 miles of pathway, at no point was any of the wiring or the actual lights themselves directly visible.

Protection of Cave Formations

It was pleasing to note a complete absence of any obvious signs of damage to the natural formations of the cave. Park visitation for 1968 was 668,401 and no doubt has been increasing. To achieve such a high standard of protection without obvious constraints on visitor freedom is a major achievement. Constructed paths with smooth surfaces are provided with minimum illuminations sufficient for a person whose eyes have become dark-adjusted to walk in comfort and safety. The cave floor away from the path is kept dark and this in itself is sufficient to discourage people from leaving the pathway. All visitors are briefed at the entrance so that they know what to expect, where to go, what to do - and what not to do. Rangers are on continuous patrol throughout the cavern.

Visitor Safety

This is achieved through such obvious measures as avoiding danger spots in the initial location of the path, and provision of safety rails, hand rails, steps etc., but also through the initial briefing and the presence of the Rangers on patrol, and adequate emergency lighting.

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## CHILLAGOE - H.S. Curtis

Park Interpretation

Apart from the initial explanation at the entrance, the patrolling Rangers provide an excellent interpretative service. One never has long to wait, or far to walk, to find a Ranger to answer questions and explain what the visitor is seeing. Where at particular points certain descriptive information is considered appropriate this is provided by means of back-illuminated signs, produced after considerable research, to be easy to read but to not affect the visitor's dark-adjusted vision as would a normal sign illuminated from the front.

Cave Illumination

This has been done superlatively well and reflects great credit on the park service, and especially the Chief Electrician, Horace T. Morelli and his staff.

For the most part the whole cave is illuminated by a soft diffuse light giving a most beautiful effect. Special lights are then used for cave formations of particular beauty or interest. A variety of lights - fluorescent tubes, flood-lights, blue "daylight" bulbs etc., are used and are chosen and placed with great care to give the best and most natural effect.

And again I wish to emphasise that nowhere is any of this work directly visible from the pathway. It was only when Mr. Morelli took me on a tour of inspection and we moved from the path that I could see under his direction where wiring had been concealed and the actual fixtures that were providing the light. Every effort was made to place wiring in naturally concealed positions but where this was not possible, loose material from the cave floor was cemented into place with such care, - artistic care is perhaps the right description, - that only when it was pointed out to me did it become noticeable.

Emergency Lighting

An obvious problem under the system of unescorted visitation is that of a failure in the power supply. This is covered in three ways -

- .. firstly throughout the cave there is a system of battery operated emergency lights. The batteries are kept charged by the normal power supply and the emergency lights come on automatically if there is any failure of the main lights.
- .. secondly the park maintains a complete emergency generating plant with sufficient capacity to run not only all the cave illuminations but also all the ancilliary park service facilities, staff residences and a neighbouring village.
- .. finally all Rangers in the cavern carry flashlights.

## CHILLAGOE CAVES

A number of cave systems in the Chillagoe/Mungana area have been afforded National Park status and consolidation and expansion of the present parks is under active consideration, though it is unlikely that anything approaching the Carlsbad Caverns National Park area of 46,000 acres could be achieved (at Carlsbad not only the area encompassing the caverns, but a viable sample of the desert landscape with its plants and wildlife are included).

Although the Chillagoe Caves have long been known, there has been a major expansion of interest in them in recent years. In no small measure this has been due to the interest and initiative of Mr. V. Kinnear who, initially in a purely honorary capacity, guided people through some of the caves, tidied up the worst of the litter and generally helped to protect the area. Later he was

## CHILLAGOE - H.S. Curtis

employed in a care-taker capacity by the Department of Forestry and then as active work to provide visitor facilities got under way he was permanently employed to take charge of the operations.

The work done to enable visitors to inspect the caves had consisted mainly of the construction of pathways and steps, largely of concrete, and the provision of ship-type ladders, handrails and safety rails. In a few cases narrow passages between caverns have been enlarged to facilitate access. Some details of the work done may be of interest.

Royal Arch Caves located some 6 kilometres from Chillagoe has a system of caverns extending for about 3,500 metres. The section open to visitors takes in 21 caverns, and a full tour involves a distance of approximately 1,000 metres. To provide this walk in comfort some 600 metres of concrete path has been constructed, 15 ladders, 9 bridge walks with hand rails and some 120 metres of hand and safety rails installed. Caverns are up to 50 metres long, 20 metres wide and 25 metres high.

Donna Cave about 2 kilometres from Chillagoe, is a smaller cave system with a total tour distance of about 600 metres. A steep descent from the entrance to the bottom level of the cave has been provided by means of 86 concrete steps. Seven ladders and six bridge walks have been established. There is also a concrete path and handrail of about 45 metres from car park to cave entrance.

Ryan Imperial Cave is some 18 kilometres from Chillagoe not far from the old town of Mungana. The toured distance in the cave is relatively short but again includes a bridge walk, ladders and concrete steps. Outside the cave, about 700 metres of walking track takes the visitor to the balancing rock.

#### Tourist Industry

For reasons of public safety and to prevent vandalism the entrances of the developed caves are closed off, and guided parties are taken in by National Parks staff. At present no charge is made for these guided tours but it is likely that eventually this will have to be done.

Interest in the caves is growing rapidly - approximately 13,000 visitors came to the Chillagoe area during 1972/73 financial year and 10,808 visitors were taken on guided tours of the caves.

During the last 5 years major business expansion has occurred in Chillagoe. The Imperial Hotel has been rebuilt and has had motel accommodation added. The Chillagoe Caves Lodge has been established providing a shop, cafe, cabin and motel type units as well as caravan and tent accommodation. The old Post Office Hotel continues to operate. A caravan park has been established as well as a new store, a new butcher shop and a Community Hall. Reticulated electric power has been connected to the town and the main street has been sealed. Major improvements in the road access to Chillagoe are being undertaken with complete new road construction in the Almaden/Chillagoe section since the 1974 floods. Road improvements are expected to make Chillagoe more accessible to tourist buses.

The Department of Forestry has constructed two residences in Chillagoe for its staff. Additional residences and administration headquarters, including visitor information facilities, are likely future developments.

The Department has had reticulated electric power extended to Donna Cave and an electrician is permanently employed to install and maintain cave illumination. In this work valuable advice and guidance have been given by the Electricity Board.

It is pleasing to note that private enterprise, the Mareeba Shire Council, the Cairns Regional Electricity Board, the Department of Main Roads and the Department of Forestry are all combining to cater for the ever-growing stream of visitors to this interesting region.