



GUIDED TOURISM AT UNDARA CAVES. NORTH QUEENSLAND

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Abstract

Numerous outstanding lava caves occur within the Undara Volcanic National Park in Queensland and are visited by numerous tourists. This commercial tourism is managed through a Commercial Activity Permit to "Undara Experience", supervised by the Queensland National Parks and Wildlife Service. The company provides accommodation facilities at Undara Lodge on a special lease area outside the National Park, and guided tours to selected caves operate from the Lodge. This scheme has been operating for 10 years, and the environment is being well sustained even with many tens of thousands of visitors each year.

Introduction

Lavas were erupted from Undara Volcano in north Queensland 190, 000 years ago. They contain extensive lava tubes and caves most of which are included in the Undara Volcanic National Park. This National Park was gazetted by the Queensland Government over several years, from 1989 to 1993.

This paper describes how public access to some of the caves in the National Park is managed. A commercial tourism enterprise, Undara Experience, provides accommodation at Undara Lodge for visitors on a special lease area adjacent to the National Park. Under the terms of a Deed of Agreement and a Commercial Activity Permit supervised by the Queensland National Parks and Wildlife Service, Undara Experience conducts guided tours to visit some of the nearby caves inside the National Park. This interesting and successful operation has been conducted over the last ten years, and has ensured controlled, ecologically sustainable use of the caves by visitors.

The Undara Caves

The volcanism at Undara volcano was active close to 189 thousand years ago, as indicated by potassium-argon age determinations of its lavas (Griffin and McDougall, 1975). There are three principal lava tube systems associated with lava flows from this crater, and more than 50 lava caves are known in the Undara Volcanic National Park. The north-west tube extended a considerable distance, perhaps for over 100 km. Intermittent lava caves occur along it, but the last known cave is 30 km from the crater. Further along, the tube may not have drained to develop caves.

The caves vary in length, up to more than a kilometre. They are noteworthy for their very good preservation, easy access and generally spacious character. They are up to 20 m wide and have ceilings 10 to 20 m above the floor. The floors are typically smooth and most are covered by cave sediment except where rock falls from the roof have occurred. They are classic lava caves, with well-preserved lava structures of various kinds, nicely described and illustrated in the book by Atkinson and Atkinson (1995). Aspects of the very long lava Undara flows and the lava tube systems are discussed by Stephenson et al. (1998) and Stephenson (this volume).

Location and access

The Undara Volcanic National Park is 160 km from the coast, adjacent to the Main Divide between east coast drainage and drainage to the Gulf of Carpentaria in the north-west. This is a

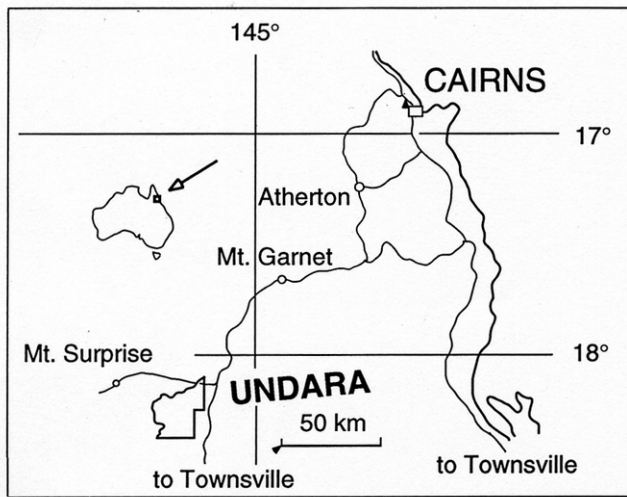


Fig. 1 – The location of Undara Volcanic National Park and highway access from Cairns and Townsville.

broad divide, and there are numerous small volcanoes in the Undara district. Open eucalypt woodlands are a feature of the district but some local vine thickets occur in areas which are naturally protected from fire. In the local region there are no major streams, but perennial springs associated with the basalt lava flows are present along some small watercourses.

Undara Lodge is the best access point for the lava caves. It can be easily reached along the sealed highways (Fig. 1) from Cairns (275 km) and Townsville (430 km). The closest townships are Mount Surprise (55 km) and Mt. Garnet (100 km).

History and development

This region was first settled for grazing in the mid-nineteenth century and is currently involved mainly in raising beef cattle, with some mining. The cattle grazing industry is managed from widely-spaced homesteads in the region.

Lava caves in the region were first referred to in geological reports late last century, and their existence was certainly known to the graziers involved in the district. The original road to Mt. Surprise from the coast actually passed one of the caves and its presence was well recognised as a rest-point because of its cool shade and a spring inside the entrance.

A number of the caves were known to the Collins family which held grazing leases over parts of the Undara country. A regional geological survey in 1960 demarcated the locations of many of the volcanoes in the local region, and recorded the conspicuous darker vine-scrub patterns which are associated with the lines of lava tube collapses and caves, and are prominent on aerial photographs.

Interest in the Undara lavas and its caves was stimulated by pioneer exploration work searching for more lava caves by Anne Atkinson and her family in the seventies and the cave system was first described by Atkinson et al. (1975) who emphasised that with a flow length of 160 km Undara contained some of the longest young lava flows in the world (Stephenson and Griffin, 1976).

From 1967, proposals were made that an area including Undara and its caves be declared a National Park, and most of the present Undara Volcanic National Park was declared between 1989 and 1993. The main Queensland legislation involved is the Nature Conservation Act 1992.

The Tourism Enterprise

The manager of a cattle grazing property in the Undara region, Gerry Collins, promoted ideas for a commercial tourism project for the Undara Caves. Collins had grown up in the district and recognised that its unique features could be appropriate for promoting tourist visits to include guided tours of some of the caves. His company was granted a Commercial Activity Permit (CAP) to operate in the Undara Volcanic National Park, and was granted a special Business Lease of a small area nearby, but external to the Park. The Undara Lodge was constructed in this area, to provide accommodation for visitors and to house facilities for conducting guided tours and providing tourist information.



The Undara Lodge has accommodation for up to 200 visitors. Several levels of accommodation are available including: fully serviced residential accommodation; camping areas; and a youth hostel association "swags tent village" comprising permanent A-type structures. Caravan visitors are also provided for. There are full facilities for all levels, and a restaurant provides meals.

The Lodge has operated since June 1990. The numbers of annual tourist visitors has increased from 20, 000 in 1993 to 32, 500 during the year ended mid-1999. Undara has generated strong international and national interest. Approximately 20, 000 questionnaires are completed each year by visitors and of 2000 collated and analysed from the second half of 1996 and the first half of 1997, 35% were from overseas, with similar numbers from Queensland and from other Australian states.

Guided tours and activities

The Queensland Environment Protection Agency is responsible for managing the National Park through its Queensland Park and Wildlife Service (QPWS). There is a Ranger station located 12 km from the Lodge. The responsibilities of the Ranger and his staff are the upkeep of the whole National Park, involving maintenance of fences, management of fire (an important consideration without grazing), the improvement of certain access details and the provision of cave infrastructure.

Subject to the commercial agreement with the Queensland Government, guided tours inside the National Park are organised by Undara Enterprise, and administered by the staff of the Savannah Guides Organisation who operate from the Lodge.

Different Guided Cave Tours

A range of tours is available, which vary in duration and distance from the Lodge. There are four outstanding cave systems which are visited by tours, ranging from shorter visits of around two hours to full-day tours. The tours move visitors in buses, distances of from 3 to 10 km from the Lodge. At this stage, no self-guiding tours are allowed for safety and environmental protection reasons. There are local granite tors outside the Park which are adjacent to Undara Lodge and these have paths to lookouts which visitors are free to enjoy at any time, as has Kalkani (a nearby volcanic cone). These viewpoints provide excellent vistas across the lava country in the National Park where the caves occur.

The tours involve walking on paths and walkways into the caves. QPWS has constructed special timber walkways for easy, safe access. The longest walking distances are less than 1 km.

The size of each tour group is restricted to a maximum of 22 people, with 2 guides. Each group is given a verbal introduction to aspects of the district's history, fauna and flora. In addition, geological aspects of the region are explained including the formation of the caves, using maps and displays on the site.

Park Management and environmental questions

All the commercial tourism activities which involve use of the National Park are sanctioned under the Commercial Activity Permit controlled by QPWS. An advisory Planning Committee was established in 1992 to assist in the development of a draft management plan for the Undara Volcanic National park. The Planning Committee consists of QPWS officers and their consultant geologist, and wide representation from other Queensland Government departments and bodies (Primary Industries, Tourist and Travel Corporation, Fire Services), the adjacent local Shire Council, James Cook University, the Chillagoe Caving Club, a spokesperson for landholders adjoining the National Park, and the Queensland Conservation Council (an independent



organisation) - in addition to the representative for the Undara Lava Lodge. This planning committee met over the course of several years to advise QPWS on management planning.

Historically, the Undara region has been very well preserved environmentally. It has had no problems induced by urbanisation because there has been no such development. The original Australian bush landscape has remained virtually unchanged by grazing, and the draft management plan has set out to maintain this situation in what is now a National Park.

There is potential risk of wear of certain caves and the access to them, through visits by numerous tourists. However, the commercially guided tour system minimises possible damage with defined tracks which are maintained. There are timber stairs and walkways which protect the access. A network of vehicle access tracks to the cave has been established, with designated parking areas strategically located with respect to the entrances.

Many of the smaller caves are used by bats, mainly for roosting or possibly assembly. There are six species of cave-dwelling bat, and one cave is a major nursery site for some of these, the total colony consisting of about 40, 000 bats during the maternity period. Guided visits are restricted to outside this period. The caves contain arthropods and troglobite cave-adapted animals. Several caves known to be biologically diverse are not available for visits by guided parties. The areas surrounding the caves host nine species of macropod fauna (such as wallabies and kangaroos). The area supports a natural diversity of vegetation habitats and species, with about 400 native plant species.

The climate is seasonal, with around 70% of the annual rainfall falling in the wet season (November - April). A heavy wet season modifies the sediment floors of some of the caves (in certain years actual flooding affected some caves), and heavy foot traffic might have modified them. This possibility of damage has been minimised by construction of wooden walkways. Possible damage by repeated visits has also been minimised inside the caves by marked ways on the cave floors. The supervised, guided tour system also strictly minimises possible vandalism because other visitors cannot gain access to the caves. Most of the vehicle access tracks pass Undara Lodge and private vehicles do not have access inside the park.

The Guides

The tour parties are supervised by guides who are either fully-accredited Savannah Guides or are training to achieve this recognition. Savannah Guides receive advanced accreditation under the National Government Eco Tourism Accreditation Program. Savannah Guides is a non-profit company managed by a six-member board of management. It organises similar guiding work at a number of other districts of tourist interest in north Queensland. The guides train at Guide schools conducted several times each year, and work as assistants at Undara before achieving their accreditation. To become accredited requires the demonstration of good guiding and group-leading ability, a good understanding of the natural history and geological features at Undara, and the ability to explain features to visitors.

The period over which different guides undertake their professional work at Undara varies. Their previous background before they apply for training at Undara (or elsewhere) covers a very broad spectrum. But those who successfully become accredited guides all have a natural affection and respect for the Australian bush. They typically work at Undara for several years, and in some cases for much longer. After their service, many move to other guiding locations to widen their knowledge and experience.

Good guiding calls for a range of abilities and skills, in addition to a proper understanding of the cave environment. Good, fluent presentation is required and an easy communication style - but the ways in which different guides achieve this successfully vary considerably. Guides find themselves called on to repeat several tours a day, and to maintain effective presentation and enthusiasm can be especially demanding. A relaxed ability to respond to questions, and make the best of the special opportunities they provide, is vital.



The nature of the Undara lava caves is highly suited for guide explanation. Tourists are generally astonished by the lava cave spectacle. The experience is accentuated at Undara, because of the absence of cave indications in the gently undulating surroundings, remote from the volcano. The surface of the 190,000 year old lavas has become subdued by time, with no original lava surfaces remaining and only well-grassed and open forest country apparent. The sudden entry into depressions and the abrupt caves can be very surprising.

Reaching the caves, visitors are interested to learn as much as they can about how the caves formed geologically, and how the natural environment (fauna and flora) has responded. An essential guide presentation of what is known about the natural environment, including all these aspects, mainly relies on accumulated knowledge including the results of scientific observation and research. It can be argued that the vitality of continuing research contributes to both guide interest and that of their visitors. Research work has focused not only on the caves themselves, but also on the district flora and fauna (including the remarkable cave microfauna). Scientific interest is active, and many questions remain to be satisfactorily accounted for. Explanations in an illustrated written form which is easily accessible to the public can provide an important parallel to guide presentation. The book by the Atkinsons (1995) serves well in this regard, but further booklets accounting for the natural phenomena should be encouraged.

Tourism assessment

Promotion and advertisement of tourism facilities and services are vital for the economic health of any such enterprise. Another essential aspect involves a good response from the participating tourists, in relation to their visit. Undara monitors this response by inviting visitors to respond to written questionnaires, summarising their assessments.

An analysis of 2000 tourists reports has been recently undertaken for a 12 month period in 1986-87. This independent investigation was undertaken by a Dr. N. Black of the Tourism Department at James Cook University in Townsville.

The results provide evidence of very positive tourist assessment. Questions sought the visitor grading of various aspects of the Undara Lodge operation, including its accommodation, meals and facilities. The survey by Black also assessed visitor opinions in relation to the guided cave tours. The tours and their guides achieved very high ratings. For the tours, over 95% of the responses were "good" to "excellent" in a 5-level scale and all the ten guides assessed were recognised for exceptional service.

Conclusions

In the ten years of commercial operation visible damage to the caves and their access has been negligible. The style of management of guided tourism at Undara Caves can be judged to be highly successful and Undara Experience itself has won a number of Tourism awards.

The commercial tour operation has been effective in stimulating wide appreciation and information among the public visiting this remote part of North Queensland. It has provided safe visits and has been effective in helping to preserve the special cave environment.

Although this management plan was developed for a region distant from urban centres, perhaps related structures could be designed for more easily accessible cave systems which are endangered environmentally.



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