



ACKMA

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Senate Environment, Communications, Information Technology and the Arts Committee
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Inquiry into Australia's national parks, conservation reserves and marine protected areas

Submission of the Australasian Cave and Karst Management Association

Summary

1. Conservation of geodiversity, including caves and karst, is a legitimate goal *in its own right*, irrespective of the links that exist between geodiversity and other natural and cultural values. Government programs need to promote a more equal and integrated approach to the conservation of geodiversity and biodiversity.
2. Current levels of funding constrain the extent to which protected areas, including those containing caves and karst, are effectively managed. Additional resources are urgently required.
3. Caves and karst are sensitive environments where natural geomorphic processes can be very slow, implying limited or negligible capacity to recover once damage has occurred. Caves and karst in protected areas are particularly at risk because they are targeted for recreation and tourism, or because relevant catchments are excluded from reserved areas.
4. Planning for the management of caves and karst, and all protected areas, has a key role in developing management regimes that integrate conservation objectives with other potential uses such as tourism and recreation. However, this will serve little purpose unless resources are available to implement planning prescriptions.
5. Despite the omission of some noteworthy areas, the areal extent of the conservation estate is now greater than ever. The benefits of this to the environment and the community will be diminished over time unless government makes an ongoing commitment to more adequately resource the management of protected areas.

Background

ACKMA

This submission is from the Australasian Cave and Karst Management Association. 'ACKMA' is a professional body for cave and karst managers. The 230 members are primarily Australian, although other member countries and affiliates include New Zealand, Canada, USA and the Pacific Basin. ACKMA members share an interest in cave and karst management; most are professionally engaged in managing show caves, managing karst conservation land, karst-related scientific research or involved in speleological organisations.

The aims of ACKMA are:

- To develop improved standards in the management and interpretation of cave and karst heritage in the Australasian Region.
- To enhance liaison between agencies and those interested in cave and karst management.
- To encourage and support scientific research which may further the improvement of standards in cave and karst management.
- To formulate and promote policies and initiatives in cave and karst management.
- To do any other things which are conducive or incidental to attaining the above.

Caves and karst

Karst is an environment where the presence of soluble rock types – typically limestone, dolomite or gypsum – has produced a characteristic suite of landforms, often including extensive cave systems. Caves and karst are a part of natural geodiversity. That is, the range (diversity) of geological (bedrock), geomorphological (landform) and soil features, assemblages, systems and processes. Geodiversity includes evidence for the history of the Earth (evidence of past life, ecosystems, and environments) and a range of processes (biological, hydrological and atmospheric) currently acting on rocks, landforms and soils.

Caves and karst have intrinsic value as part of the natural diversity of the Earth. Moreover, karst systems, with their associated landscapes and caves, have a number of specific values that justify their inclusion in protected areas throughout the world:

- "Caves are the Books in the Library of the History of the Earth." They provide a remarkable resource for research into geoclimatic history, and have yielded a great deal of what we know about Australia's climate, flora and fauna.
- They also provided for various functions of the Aboriginal People, and again, have preserved a great deal of their history. Many communities give special recognition to caves and karst as an important component of their spiritual and religious life.
- They are often of wondrous beauty, and hence play a very important role in nature-based tourism.
- The karst environment often has a very high biodiversity value, with numerous endemic species and quite different biological associations.
- Karst also provides a fundamentally important natural reservoir of ground-water, and maintenance of water-quality is furthered by protected areas.

Management of caves and karst entails issues not encountered in other environments. Many of these relate to the three-dimensional character of karst systems where, more so than in many other environments, management must consider the interaction of processes that occur above and below the ground. Caves are particularly sensitive environments as natural geomorphic processes can be very slow, implying limited or negligible capacity to recover once damaged.

Australian cave and karst sites have contributed to several World Heritage nominations including the Blue Mountains (Jenolan Caves), Australian Fossil Mammal sites (Naracoorte Caves, Riversleigh), Purnululu (karst weathering), Tasmanian Wilderness (numerous karst areas and some of Australia's longest, deepest and otherwise significant cave systems). Other karst areas, such as Cape Range (WA) and the extensive Nullarbor Plain karst, potentially warrant recognition as World Heritage properties.

Body of submission

1. Values and Objectives

Conservation of geodiversity, including caves and karst, is a legitimate goal in its own right, irrespective of the links that exist between geodiversity and other natural and cultural values. Government programs need to promote a more equal and integrated approach to the conservation of geodiversity and biodiversity.

Protected areas management is generally seen simply in terms of protecting biodiversity and/or facilitating tourism and recreation. Geodiversity is all too rarely given the consideration it merits. Not only are there intrinsic values in geo-features, but also a healthy base of earth characteristics is vital to biodiversity, much of which reflects underlying diversity in the rocks and soil. Few of the governmental agencies with responsibility for managing protected areas employ earth scientists.

While there is evidence of progress in recent years towards increased recognition of the need to reserve and actively manage representative examples of rocks, landforms and soils, nature conservation programs have traditionally focussed almost exclusively on biodiversity or wilderness values. For example, geodiversity was excluded from the 'Comprehensive, Adequate, Representative' criteria that informed reservation targets applied during the Commonwealth-State Regional Forest Agreement (RFA) Program.

ACKMA advocates an integrated approach to managing geodiversity and biodiversity, as recognised in the *Australian Natural Heritage Charter* (2nd edition, Australian Heritage Commission, 2002), which states:

Article 5. *Conservation is based on respect for biodiversity and geodiversity. It should involve the least possible human intervention to ecological processes, evolutionary processes and earth processes.*

While government may have no in principle objection to Article 5, in practice biodiversity initiatives dominate the conservation agenda, creating scope for loss of geodiversity through lack of management and/or failure to protect high conservation value geodiversity sites.

2. Resources

Current levels of funding constrain the extent to which protected areas, including those containing caves and karst, are effectively managed. Additional resources are urgently required.

Typically, government agencies responsible for managing reserved areas are under-resourced. This long-standing problem has been exacerbated in recent years by a failure to increase funding for management of protected areas in step with the increase in the size of those areas. ACKMA strongly supports further reservation of high conservation value sites, but considers it essential that this be accompanied by a commensurate increase in funding for management.

For example, the RFA program reserved an additional ~67,000 ha of karst in Tasmania. This 23% increase in the area of reserved karst has not been accompanied by a significant increase in the resources available for managing caves and karst. Funding for the Tasmanian Wilderness World Heritage Area (TWWHA), which contains about 40% of the State's karst, has remained relatively stable since 1993 at approximately \$8.4 million per year, from State and Commonwealth sources. The Parks & Wildlife Service states in its *State of the Tasmanian*

Wilderness World Heritage Area (2004) that ‘uncertainty regarding the level and nature of ongoing funding for management of the TWWHA raises concerns for the future of many long-term management programs for the TWWHA.’ This is true of funding for karst-related programs in the TWWHA and other reserved areas.

The Naracoorte Caves National Park received \$1.8 million from 1996-2002 through the World Heritage funding program, however changes to funding arrangements mean less funds are being provided for important research and protection work. In SA and elsewhere, government and the community perceived the protection of threatened flora and fauna as a higher priority than geodiversity conservation. A consequence of this is that geodiversity initiatives do not achieve anything approaching parity of funding via-a-vis biodiversity initiatives.

Lack of funding is a particular problem for caves and karst, because their sensitivity demands a relatively intensive management response in many cases. Staffing levels are a major concern. Many protected areas have no on-site staff presence, although their status as reserves means they are known to the public and often visited for recreational or other purposes. To address this problem we advocate increased funding to more adequately staff relevant government agencies. Conservation initiatives on private land have an important role and should be seen as complementing the reserve system, not as an alternative to it.

3. Threats

Caves and karst are sensitive environments where natural geomorphic processes can be very slow, implying limited or negligible capacity to recover once damage has occurred. Caves and karst in protected areas are particularly at risk because they are targeted for recreation and tourism, or because relevant catchments are excluded from reserved areas.

Threats to caves and karst in reserved areas arise from cave-based activities (recreational, commercial, scientific and cultural activities that occur in caves) and catchment-based activities (forestry, agriculture, landfills, quarries, etc). Impacts due to cave-based activities are most severe in relatively accessible karst areas, but can also occur in remote wilderness karsts subject to caving expeditions.

Impacts due to catchment-based activities reflect the inadequacy of the reserve system, which at some sites excludes catchment areas that are a source of impacts to caves and karst downstream and/or permits damaging activities to occur within reserves. This issue is very pertinent at the Mole Creek Karst National Park in Tasmania, a fragmented reserve comprising 11 small blocks, many of which are surrounded by private land and/or State forest. In this situation, the potential deleterious effects of land management practices higher in the catchment impedes effective management of the caves and karst. Mining interests on the Nullarbor Plain have the potential to severely impact the integrity of the karst system in that area.

Additional resources are required to more effectively manage sites at risk. Potential responses include, for example, education of cave users, condition auditing and monitoring, planning and implementing off-reserve initiatives (eg. volunteer karstcare groups, catchment strategies, incentives to covenant private land, etc.), increasing field-based staffing levels and reserving additional high conservation value land.

4. Management Responsibilities

Planning for the management of caves and karst, and all protected areas, has a key role in developing management regimes that integrate conservation objectives with other potential uses such as tourism and recreation. However, this will serve little purpose unless resources are available to implement planning prescriptions.

ACKMA is aware that management plans exist or are in preparation for many protected cave and karst areas; the organisation and its members have contributed, in various capacities, to many such plans. While we advocate systematic planning as an essential step in the management process, we would suggest that some, possibly many, important proposals are not acted upon due to a lack of resources. Again, this issue is pertinent to protected areas generally, although the implications for caves and karst can be acute because of their low capacity to recover from impacts.

We would further suggest that management guidelines and strategies are not always clear or readily accountable. This means that it is sometimes almost impossible to determine what should or should not have been carried out. This contradicts moves towards performance-based planning and increased accountability in other spheres of government activity. Monitoring of management outcomes, regular auditing of progress in implementing plan prescriptions, and transparency in reporting procedures, have an important role in this regard and should be adopted by all land managers with responsibility for protected areas.

5. The Record of Government

Despite the omission of some noteworthy areas, the areal extent of the conservation estate is now greater than ever. The benefits of this to the environment and the community will be diminished over time unless government makes an ongoing commitment to more adequately resource the management of protected areas.

In the USA, caves are subject to Federal Cave Protection Act 1988. Caves and karst in Australia are not explicitly protected under Commonwealth legislation. ACKMA recommends a review of the legislation with a view to increasing the level of statutory protection for Australia's fantastic caves and karst assets.

Thank you for the opportunity to make this submission

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