

VISITOR MONITORING NEEDS WITHIN THE AUSTRALIAN FOSSIL MAMMAL SITES (RIVERSLEIGH/NARACOORTE) WORLD HERITAGE AREA

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Abstract

The Australian Fossil Mammal Sites World Heritage Area consists of two distinct fossil sites, Riversleigh and Naracoorte, over 2,000 km apart and located within two different Australian States, Queensland and South Australia. Each site is managed by their respective State government agencies. Monitoring is an essential part of protected area management and has traditionally concentrated on the biological and physical components of sites. The systematic collection of visitor data has been an area generally overlooked by protected area managers who have instead relied on more ad hoc approaches. This paper reviews the available visitor data at Riversleigh and Naracoorte and identifies issues and gaps in visitor data collection at each site. The paper concludes a visitor data collection system should be implemented across the two sites for planning and management purposes and encourages the development of systematic visitor monitoring across all of Australia's World Heritage Areas.

Keywords: World Heritage (Area), Australian Fossil Mammal Sites (Riversleigh/Naracoorte), visitor monitoring, tourism planning and management, Queensland

Introduction

World Heritage listed properties are places of such outstanding universal values that they must be conserved and passed on intact to future generations (UNESCOa, 2009). Most World Heritage Areas are important tourism draw cards, creating local and regional income and employment opportunities, and are a source of national pride (Australian Government Department of Environment & Heritage [DEH], 2006). Some of the most iconic and well known World Heritage Areas are found in Australia. Uluru, Kakadu and the

Great Barrier Reef instantly convey a series of compelling images to both Australian and international tourists. In fact, nearly 13 million domestic and 2.3 million international tourists visited World Heritage Areas, National parks and State parks in 2007 (Tourism Research Australia, 2008)

It is essential that World Heritage Areas are sustainably managed so they may be appreciated by future generations. A key element in any sustainable management planning is visitor monitoring (Wardell & Moore, 2004). Visitor monitoring is the systematic gathering and analysis of visitor data over time (Newsome, Moore & Dowling, 2002). This paper reports on the status of visitor monitoring within the Australian Fossil Mammal Sites (Riversleigh/Naracoorte) and identifies issues and gaps in visitor data collection at each site. The paper calls for the systematic monitoring of visitors at both sites. The paper concludes by encouraging regular visitor monitoring across all of Australia's World Heritage Areas using the same core questions in order to compare visitor findings throughout Australia.

Visitor Monitoring in Protected Areas

Monitoring is an essential element of protected area management (Pitts & Smith, 1993; Eagles, McCool & Haynes, 2002; Newsome *et al*, 2002; Wardell & Moore, 2004) and consists of the systematic and periodic gathering, analysis of information of both the natural environment and visitors over time (Eagles *et al*, 2002; Newsome *et al*, 2002). Historically monitoring has concentrated on biophysical aspects of the environment (Pitts & Smith, 1993), while the systematic collection of visitor data by protected area managers, if collected at all, have utilized more ad hoc methods (Muhar, Amberger & Brandenburg, 2002).

Four specific types of visitor monitoring data have been compiled by Newsome *et al* (2002, pp. 259-260) for planning and management purposes and are listed below:

- “Park use: total visitor numbers, point of entry and mode of transport to the park;
- Site use: sites visited, group size and use, seasonal use, frequency of visits, types of visit (day use vs. overnight) and activities undertaken while in the park;
- Visitor characteristics (profiling): demographic and socioeconomic information, motivations, expectations, perceptions, knowledge and information needs; and,
- Visitor outcomes: satisfactions, complaints, recommendations, comments.”

Reasons for Visitor Data Collection.

Visitor monitoring provides information useful for management and planning, resource allocation and leverage, agency performance reporting, interpretative communications, marketing, and public accountability (Newsome *et al*, 2002). “Without effective monitoring and review it is difficult to see how managers can make informed decisions” (Reynolds & Elson, 1996). However, monitoring is only effective if it is done regularly, otherwise its usefulness is severely limited (Eagles *et al*, 2002; Pederson, 2002). Wardell and Moore (2004) note recognition of the lack of adequate visitor data for World Heritage management in Australia dates back to the early 1980’s Sheppard (1982, cited in Wardell & Moore, 2004) summarizes four categories of issues that occur when park managers do not have current and relevant information about their visitors:

- Actions by management tend to be based on personal intuition that can be easily influenced by external pressures such as department finances and staffing constraints.
- There is no systematic basis for the allocation of resources between parks or sites within a park.

- Without baseline information, there is nothing to mark the effectiveness of management actions or revisions of planning documents.
- Without visitor feedback, there is no information on recreation preferences, values or behaviour to use as a basis for identifying the consequences of alternative management actions.

Visitor monitoring does require resource commitment in the form of sufficient funding, trained personnel to carry it out, access to data bases over time and sufficient time to design and implement the programme (Eagles *et al*, 2002).

Case Study: The Australian Fossil Mammal Sites

The Australian Fossil Mammal Sites World Heritage Area consists of two distinct fossil sites, Riversleigh and Naracoorte, over 2,000km apart and contained within two different Australian States, Queensland and South Australia. A serial nomination, the Riversleigh portion of Boodjamulla (Lawn Hill) National Park and Naracoorte Caves National Park were jointly inscribed in 1994 after meeting rigorous World Heritage Convention criteria, based on their mutual outstanding universal natural heritage values, as outstanding examples representing major stages of the earth’s evolutionary history; and, significant ongoing ecological and biological evolution (IUCN/WCMC, 1994). Together the two sites are among the world’s ten greatest fossil sites (UNESCOb, 2009).

Riversleigh

The 10,000ha Riversleigh fossil fields are located 250km northwest of Mt Isa and 200km south of the Gulf of Carpentaria in the northwestern part of Queensland within the southern most segment of the much larger 282,000ha Boodjamulla/Lawn Hill National Park (Queensland Parks & Wildlife Service, 2002). The park is owned and managed by Queensland Parks and Wildlife (Queensland Government Environmental Protection Agency, 2004). The rich variety and astonishing quality of the Riversleigh fossils has dramatically changed the understanding of Australian mammal assemblages during the time of greatest biological diversity in Australia’s evolutionary history as well as

significantly increased understanding of the environmental conditions in which these animals lived (Luly & Valentine, 1998). Most of the Riversleigh World Heritage Area is closed to the general public; however, a small area known as D Site, is open to tourism. This area has a gravel parking lot, an orientation board, a small artificial 'cave' interpretive room and a few small interpretive signs posted along a 15 minute circuit track around the area. The survey site was located inside the interpretive artificial 'cave' at D Site.

Naracoorte

The 600ha Naracoorte Caves National Park World Heritage Area is located 11 km south-east of the Naracoorte township within the southeastern part of South Australia. The park is owned and managed by the Department for Environment and Heritage. The 26 caves within the park contain the fossil remains of tens of thousands of vertebrate animals making it one of the richest deposits of Pleistocene vertebrate fossils in the world (Reed & Bourne, 2000). Over 118 species (DEH, 2006) of amphibians, reptiles, birds and mammals have been discovered. The caves "illustrate faunal changes spanning several ice ages, highlighting the impacts of both climate change and humankind on Australia's mammals from at least 500,000 years ago" (DEH, 2006, p. 10). However, the site is most famous for the giant Megafauna fossils, including a giant Tasmanian devil, giant kangaroos, a marsupial lion, a giant echidna and a giant python (South Australian Department of Environment and Heritage, 2001).

Status of Monitoring Activities

Riversleigh: Visitor monitoring activities are not conducted by Queensland Parks and Wildlife within the Riversleigh section of the Australian Fossil Mammal Sites. Nor are there ongoing visitor monitoring efforts by others at this time.

Naracoorte: Total visitor numbers to Naracoorte have been kept since 1970. Accurate numbers of visitors prior to 2005 are difficult to ascertain as only cave visits were recorded; thus, a visitor participating in multiple tours would count as more than one visitor. Visitation has been around 40,000 for the past four years (Steven Bourne, pers.comm.). In 2002 (Steven Bourne, pers.

Comm) and 2006 (Market Equity, 2006), comprehensive visitor surveys were conducted (however, the sample size was quite small for a year long study and many questions lacked needed depth).

Discussion

Data on visitor preferences and demand for any World Heritage Area is essential for establishing and benchmarking management objectives (Pederson, 2002) Information on the number of visitors and their likes, dislikes, motivations and expectations help the World Heritage planners divide visitors into subgroups of people with similar characteristics, wants and needs. This information is useful in setting objectives for infrastructure, personnel needs and education and interpretation programmes. Combined with data on tourism markets, the information can be used to develop objectives for attracting preferred types of tourists to a site (Pederson, 2002).

Queensland Parks and Wildlife (QPW) and the South Australian Department for Environment and Heritage are charged with the preservation, conservation and management of the Australian Fossil Mammal Sites. The absence of accurate total visitor numbers for the Riversleigh section has resulted in highly inflated visitor numbers. For example, a Wet Tropics Management Authority booklet (n.d., but probably published in 2003-2004) states the number of visitors to Riversleigh is estimated to be 22,000. A 2008 World Heritage Economic Activity Report conducted via desktop research places the number at 35,000 visitors. King and Prideaux (2009), in an independent study, monitored visitors on-site at Riversleigh over a four month period between 1 April - 30 July which included periods of high and low visitation, as well as contacting commercial tour companies for the number of clients they took to the World Heritage Area and found that between 3,000 - 5,000 tourists visited the site in 2008. Park management personnel who have spent time at Riversleigh will know that the visitor numbers offered by King and Prideaux (2009) are more in the realm of reality. However, without regular visitor monitoring all total visitor numbers can potentially be, and should be, questioned.

The implications for the absence of such basic visitor statistics are actually quite profound. As Eagles *et al* (2002, p. 2) notes “public use data of protected areas are important to all stakeholders.” Case in point, the 2008 Economic Activity Report for Australia’s World Heritage Areas contains erroneous total visitor numbers for the Australian Fossil Mammal Sites (Riversleigh) which could potentially exclude the Riversleigh region from economic stimulus grants and other types of opportunities. Other government agencies may use the erroneous figure in their evaluations, in a ‘ripple effect’ with unknown economic and socio-cultural results. Thus, it is the duty of QPW to collect visitor information accurately so other agencies and institutions, as well as themselves, may have it available for a variety of purposes.

For Naracoorte, the use of cave visits rather than numbers of park visitors has led to over-inflated visitation often quoted for the park. This exaggerated number has implications for investors establishing new businesses relying on park visitation. Number of visitors and their place of origin are now routinely collated providing park management with basic information. Motivation for visiting, source of information, demographics, how visitors use the park and visitor satisfaction levels are all critical factors only partially investigated with two surveys with a small sample size.

Visitor monitoring requires a standardized approach. This is the only way can there be assurance of comparable data between protected areas over time (Eagles *et al*, 2002). However, as Reynolds and Elson (1996, p. 573) observe:

...procedures for monitoring visitor use and characteristics are weak and unstructured on many sites. Monitoring is of most use where it can detect changes from baseline. Such processes... are vital for decisions

about the sustainable use of sites... and the limits of acceptable change.

The Australian Fossil Mammal Sites are just one example of the weak and unstructured nature of visitor monitoring within Australia’s World Heritage Areas. While World Heritage sites such as the Great Barrier Reef and the Wet Tropics of Queensland have strong visitor monitoring programs, other World Heritage Areas, such as the Australian Fossil Mammal Sites, the Gondwana Rainforests of Australia, and the Willandra Lakes Region lack such processes. Australia should implement a comparable, systematic and periodic visitor monitoring program across all of its World Heritage Areas. Both the visitor and park management would benefit from such a program.

Conclusion

The Australian Fossil Mammal Sites World Heritage Area consists of two distinct fossil sites, Riversleigh and Naracoorte, over 2,000km apart and contained within two different Australian States, Queensland and South Australia. Each site is managed by their respective State government agencies. Monitoring is an essential part of protected area management and has traditionally concentrated on the biological and physical components of sites. The systematic collection of visitor data has been an area generally overlooked by protected area managers who have instead relied on more ad hoc approaches. This paper reviewed the available visitor data at Riversleigh and Naracoorte and provided examples of issues and gaps in visitor data collection at each site. Partnering with various commercial enterprises, academic institutions or interested organisations is one way to potentially address the visitor monitoring issue.

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