

**PROCEEDINGS OF THE AUSTRALIAN RANGELAND SOCIETY
BIENNIAL CONFERENCE**

Official publication of The Australian Rangeland Society

Copyright and Photocopying

© The Australian Rangeland Society 2012. All rights reserved.

For non-personal use, no part of this item may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission of the Australian Rangeland Society and of the author (or the organisation they work or have worked for). Permission of the Australian Rangeland Society for photocopying of articles for non-personal use may be obtained from the Secretary who can be contacted at the email address, rangelands.exec@gmail.com

For personal use, temporary copies necessary to browse this site on screen may be made and a single copy of an article may be downloaded or printed for research or personal use, but no changes are to be made to any of the material. This copyright notice is not to be removed from the front of the article.

All efforts have been made by the Australian Rangeland Society to contact the authors. If you believe your copyright has been breached please notify us immediately and we will remove the offending material from our website.

Form of Reference

The reference for this article should be in this general form;
Author family name, initials (year). Title. *In*: Proceedings of the nth Australian Rangeland Society Biennial Conference. Pages. (Australian Rangeland Society: Australia).

For example:

Anderson, L., van Klinken, R. D., and Shepherd, D. (2008). Aerially surveying Mesquite (*Prosopis* spp.) in the Pilbara. *In*: 'A Climate of Change in the Rangelands. Proceedings of the 15th Australian Rangeland Society Biennial Conference'. (Ed. D. Orr) 4 pages. (Australian Rangeland Society: Australia).

Disclaimer

The Australian Rangeland Society and Editors cannot be held responsible for errors or any consequences arising from the use of information obtained in this article or in the Proceedings of the Australian Rangeland Society Biennial Conferences. The views and opinions expressed do not necessarily reflect those of the Australian Rangeland Society and Editors, neither does the publication of advertisements constitute any endorsement by the Australian Rangeland Society and Editors of the products advertised.



The Australian Rangeland Society

EVALUATING THE NATURAL AND CULTURAL INTEGRITY OF CURRAWINYA NATIONAL PARK, SOUTHWEST QUEENSLAND

C. Mitchell^{1,5}, F. Leverington², C. Grant³ and D. McKellar⁴

¹QPWS, PO Box 64 Bellbowrie, QLD, 4070

²University of Queensland NRSN Gatton QLD 4343

³QPWS, PO Box 149 Charleville, QLD 4470

⁴QPWS, PMB 25 Cunnamulla, QLD 4490

⁵Chris.Mitchell@epa.qld.gov.au

ABSTRACT

To report about the extent to which a protected area is actually doing the job for which it exists we must be able to define natural and cultural integrity of the area; undertake some type of measurement on the extent to which integrity is conserved, analyse the results; and adjust management to maintain or improve our performance. An evaluation of Currawinya National Park indicates that the natural integrity of the park is being maintained despite long-term drought. Cultural integrity values are gradually being further protected through on-ground management actions. We examine the combination of scientific monitoring, expert opinion and 'local' knowledge in regards to formulating evaluation tools that may be applicable to a number of land uses.

INTRODUCTION

In the early 1990s, the extent of protected areas in the rangelands of western Queensland was expanded significantly to include representation of Channel country and Mulga lands complexes. This expansion was initially regarded with suspicion by neighbouring landholders and the wider community. However, many local government organisations and residents now recognise that the parks provide economic and social benefits for the community, including recreation, rural employment, tourism and ecosystem services such as catchment protection (World Conservation Union (IUCN), United Nations Environment Program (UNEP) *et al.* 1991), (Queensland National Parks and Wildlife Service 2001). However, these benefits can be delivered in the long-term only if the integrity of the protected areas is maintained. Local communities are keenly watching to see how effectively the government agencies manage these lands.

In recent years, much work has been done to develop systems to monitor ecological health and integrity and to evaluate land management across the rangelands, with a focus on developing indicators and methodologies which can report on progress across broad areas (Smyth, Foulkes *et al.* 2004). It is important that any park-based systems tie in with this scientific work wherever possible. However, there is also an urgent need to provide relatively simple and integrated reports on status and progress of protected areas, which can draw on both scientific information and other sources of data including expert opinion, traditional owner and local knowledge and the observations of rangers and other field staff.

On protected area systems throughout the world, systems to evaluate management effectiveness are also being trialled (Leverington and Hockings 2004). The commonly used framework developed through the IUCN World Commission on Protected Areas (WCPA) advocates evaluation over the cycle of management, through assessing context, processes, inputs, outputs and outcomes.

This paper outlines the approaches currently being trialled by southern region Queensland Parks and Wildlife Service (QPWS) to evaluate the effectiveness of managing natural integrity and cultural integrity on protected areas.

METHODOLOGY

Two linked evaluation systems are being used, both of which fit within the WCPA framework for evaluating management effectiveness. The 'rapid assessment program' (RAP) measures a range of processes and systems, including those concerned with natural resource management. This is achieved through a questionnaire with a number of check boxes. Questions asked include "are management plans in place?" and "are fire management plans in place?". A project to measure management processes and systems in a RAP survey was trialled in 2000 and implemented across the Queensland protected area and forest system in 2003 and again in 2006. The use of RAP as an evaluation tool is based on the assumption that better management systems and processes will lead to better biodiversity outcomes.

However, it is essential that we also evaluate the *outcomes* of management. It is recognised that 'outcome' evaluation is the most useful in generating real information on whether protected areas are fulfilling the roles for which they were declared. It is also critical for providing information to improve future management. This role is undertaken through 'natural integrity statements' (NIS), which record context (including values and threats) and outcomes relating to natural integrity.

The natural integrity statement uses a values-based approach (Hockings, Stolton *et al.* 2001). Natural values relating to both biodiversity and ecosystem processes are recorded, along with the natural values relevant to community education and research. The desired outcomes for managing these values and the current status of each are recorded. Where monitoring or other scientific information is available, this is sourced and used as the basis for the entry. In many cases local knowledge is the best available information. Cultural integrity statements are developed concurrently to ensure the links are well recognised.

The NIS identifies focal values of the reserve, the key attributes of these values and some of the indicators critical for monitoring and sets thresholds for concern following methodologies and applied in nature conservancy sites across the world (Parrish, Braun *et al.* 2003).

The results of these reporting mechanisms in relation to Currawinya National Park are presented in this paper.

Currawinya National Park (NP23) is located between Hungerford and Thargomindah in the semi-arid interior of south-western Queensland and abuts the New South Wales-Queensland border west of Hungerford. The park consists of a mosaic of landforms including low dunefields, sandplains, lakes, claypans, saltpans, deeply weathered residual ranges and the alluvial plains associated with the Paroo River and its tributaries. Currawinya is listed as a Wetland of International Importance under the Convention on Wetlands.

The RAP was undertaken for Currawinya in 2003 and 2006. The 2006 assessment has not been finalized but preliminary results are available. The 2003 survey indicated that a formal management plan was approved, a fire management plan was in place and a visitor management plan was being developed. The 2006 RAP indicates that components of the management plan have been implemented; the visitor management plan has been approved and was in place but that most of the fire management plan has not been implemented. There is no formal document in regards to cultural heritage values of the area.

In order to develop an understanding of the on-ground outcomes of the plans identified in RAP, an initial NIS was developed for Currawinya in 2002. This recognized the importance of the wetland areas but was also guided by the management plan in identifying mound spring systems and sand plains of the park as significant features. At the time of the initial audit, all areas of the park were identified as being under stress from a period of drought. In addition, past grazing history and continued grazing by feral animals and wandering stock were identified as having significant impacts on the ecosystems. The latest review completed in May 2006 has identified that the drought has continued almost unabated since 2002. Almost all wetland areas are now dry except for some waterholes in the Paroo River itself. A recent survey has identified these waterholes as refugia for turtles.

The continued drought and consequent drying of the major lake systems has resulted in the total absence of large numbers of wetland and migratory bird species. The long-term impact of the drought on these species is unknown. Other terrestrial species such as the Major Mitchell cockatoo are still often observed in flocks of 40 or more.

Ongoing feral animal control and stock removal has not resulted in noticeable large-scale benefits at this time due to the drought but there appears to be some incremental increase in cryptograms. In areas where stock-proof exclusion fencing has been erected, some recovery of the system is occurring despite the drought. This recovery has been so significant that bilbies were released into the enclosure in November/December 2005. Recovery is also evident in areas of springs where goat exclusion fencing has been erected. Numbers of eastern grey kangaroos and wallaroos have declined during the drought. No burning regime has been able to be introduced other than some experimental areas that were undertaken in 2002-2003 due to the ongoing drought.

Currawinya has significant indigenous and European cultural heritage values. In the 2002 NIS, it was noted that a number of indigenous sites had been mapped and that a number of European oral history stories were known but had not been documented. Relationships with local indigenous groups were thought to be effective. By 2006, improvements included vehicle barriers, formalized tracks and car parks in several areas to further protect some of the spiritual sites of the park. None of the oral histories had been documented but some of the cultural buildings such as the woolshed had been stabilized to allow continued use for public education purposes.

The main impact of the bilby re-introduction program to date has been education of the wider public in regards to conservation as actual re-introductions have only occurred since late 2005.

DISCUSSION

Natural integrity has components of scale in both space and time ((King 1993)), with events that seem catastrophic on a small scale, such as fire or flood, creating a mosaic of habitats, which actually contribute to ecosystem integrity on a larger scale. While scrutinising any particular component of semi-arid ecosystems can lead to false or inaccurate information, the compilation of a number objective and subjective observations at any one time will give a more accurate indication as to the true status of the system. The NIS achieves this. The current NIS for Currawinya demonstrates that there has been some recovery in the systems despite the prolonged drought occurring in the area.

Both the RAP and NIS programs provide valuable information in their own right in regards to how a protected area is being managed. However, the combination of the two allows the completion of the action learning cycle that allows planning, actions, review and adjustment of management. Too often in the past, the cycle has been short circuited by other short-term priorities. When the two systems are combined, they provide a very useful tool for other planning mechanisms. When a number of statements are combined, they can provide a "State of the Parks" report at bioregional or state levels. At the individual level they provide excellent information for the business planning and work plan cycles. It also allows reflection and an acknowledgement of these on-ground staff who sometimes feel overwhelmed by competing priorities.

To be fully effective, an "expert" panel format should be adopted for developing the NIS, which can integrate scientific and local knowledge. These panels allow data shortcomings to be identified and a "best guess" estimation to be developed. The NIS should be reviewed every three to five years. This allows the current status of systems to be reviewed; management actions to be modified or refocused if necessary; the status of the protected area to be reported; and past experience to be passed onto new staff.

It is suggested that sections of the NIS and RAP tools are applicable to land managers other than protected area managers. These sections would assist in the business management cycle and allow some analysis of environmental outcomes.

REFERENCES

- Hockings M, Stolton S, Dudley N, Parrish J (2001) 'The Enhancing our Heritage Toolkit: book 1.' (United Nations Foundation)
- King A (1993) Considerations of scale and hierarchy. *In*, 'Ecological integrity and the management of ecosystems'. (Eds S Woodley, J Kay and G Francis) pp. 19-45. (St Lucie Press: Ottawa)
- Leverington F, Hockings M (2004) Managing in the face of global change: the role of evaluating management effectiveness. *In*, 'Securing protected areas and ecosystem services in the face of global change'. (Eds TWC Union, WCoP Areas and WR Institute)
- Parrish J, Braun DP, Unnasch RS (2003) Are we conserving what we say we are: measuring ecological integrity within protected areas. *Bioscience* **53**, 851-860.
- Queensland National Parks and Wildlife Service (2001) 'Master Plan for Queensland Parks.' Queensland National Parks and Wildlife Service, Brisbane.
- Smyth A, Foulkes J, Watt A (2004) Biodiversity monitoring in Australia's rangelands: Introduction. *In*, 'Austral Ecology'. pp. 1-2.
- World Conservation Union (IUCN), United Nations Environment Program (UNEP), World Wide Fund for Nature (WWF) (1991) 'Caring for the earth: a strategy for sustainable living.' (IUCN: Gland)