



# Research Briefing Note

## Biodiversity monitoring in the rangelands – A way forward

**Author** (2003) Anita Smyth, Craig James and Grant Whiteman.  
Final report of an expert technical workshop on biodiversity monitoring in Australia's rangelands sponsored by the Department of Environment and Heritage, 29 October to 1 November 2002, Commonwealth of Australia, Canberra.

### BACKGROUND

Biodiversity monitoring within the rangelands may encompass many aspects and is clearly a very complex task made difficult by the scale of the landscapes and the variability in rainfall from one place to another. Aspects of biodiversity monitoring were considered in a recent review for the National Land & Water Resources Audit (NLWRA) by researchers at the Tropical Savannas CRC (TSCRC 2001). This report identified the key threatening processes or pressures affecting the conservation status of biodiversity in the rangelands nationally and bioregionally, and evaluated the value of existing State and Northern Territory pastoral monitoring programs together with other biodiversity programs nationally and internationally. The authors identified a minimum set of 11 indicators and presented an analytical framework to underpin biodiversity monitoring in the rangelands. However, the report also highlighted that there was a poor understanding of the applicability of the report's proposed indicators, the techniques for monitoring them and other new tools. Another impediment to our understanding was much expert knowledge in the field had yet to be documented or was not readily available.

In recognition of this, the National Rangeland Monitoring Coordinating Committee, which was developing the operational framework for the Australian Collaborative Rangelands Information System, agreed to hold a technical workshop to bring together experts with knowledge, experience and skills that could help resolve key planning issues concerning the implementation of a monitoring program for Australia's rangeland biodiversity. The workshop was held in Alice Springs, Northern Territory, Australia from 29 October to 1 November 2002 sponsored by the Australian Government Department of the Environment and Heritage with assistance from the Centre for Arid Zone Research of CSIRO Sustainable Ecosystems.

### AIM

1. A brief review of recent (often unpublished) research relevant to biodiversity monitoring in Australian rangelands to establish what we know, the gaps and ways to move forward

2. A review of those techniques and tools that do and don't work so that we can assess the capacity to value-add using existing approaches and build on lessons learnt from the past
3. A "manual" for operation of well-tested, existing approaches as a set of technical guidelines to support planning of biodiversity monitoring systems
4. Outline of a framework for monitoring change using expert knowledge to support adaptive management and indicate environmental performance
5. Produce a toolbox that also has the capacity or can fully support 'measurable and meaningful' benchmarking by showing how well NRM programs are working and whether funds are targeted effectively nationally under the "NRM Matters for Targets" initiative for the Department of Environment and Heritage.

## **OUTCOMES**

- Experts were brought together from all rangeland States and Territory
- Recent and most importantly often unpublished research relevant to biodiversity monitoring in the rangelands was reviewed
- A common 'state-of-the-art' view and an understanding of the complexity of biodiversity monitoring in the rangelands was achieved
- A shared view was reached on the most appropriate 'sufficient and necessary' set of attributes and techniques for use now by different clients to monitor changes in biodiversity
- The limitations of particular sets of attributes and techniques were highlighted
- Interim guiding principles for rangeland biodiversity monitoring were identified
- Knowledge gaps and research needs were identified

## **IMPLICATIONS**

This research is the first national assessment of its kind and brings together in a single document the many attributes and monitoring techniques available for monitoring biodiversity in Australia's rangelands. Of most interest is the list of the different indicators appropriate for monitoring plants, animals and ecosystems at local and regional reporting scales by government agencies, enterprises or private landholders. It also highlights what new research needs to be done to best keep track of our rangeland biodiversity. Other subsequent research includes developing a 'how to' manual on the guiding principles and delivery of a national framework for biodiversity monitoring in the rangelands and identifying the key areas within bioregions to locate monitoring sites.

## **FUNDING SOURCE**

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