

# Monitoring grazing lands in northern Australia

*Edited by John Tothill and Ian Partridge*

Proceedings of a workshop  
held at  
Gatton, Queensland  
Australia

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# Foreword

There is an increasing need for the measurement and monitoring of vegetation and the interpretation of this information to assess any changes that are occurring. This information can be used in management of native pastures and for other facets of land resources, such as conservation, biodiversity, aboriginal lands, tourism/recreation, mining and harvesting of alternative species. Not only are heavier pressures being brought to bear on these resources, but there is also an increased—but not always well informed—public awareness of the potential for degradation and misuse.

It is, therefore, very important to discuss both appropriate methods for providing an understanding of the condition of the resources at all levels—from landscape to land management unit—and for monitoring their sustainability over time.

At present, most resource managers do not recognise the need to monitor; and they do not have an adequate understanding or suitable methodology without some assistance. Managers need to understand how monitoring can benefit their decision-making in both the short-term of product output and in the long-term of resource sustainability. To do this, we should examine the “why, what and how” of resource monitoring, and determine the kind of support that may be needed, from researchers and from government, to achieve this.

Our priority is to have available techniques, indicators and methods for interpretation so that producers, land managers and others concerned with managing vegetation change can improve their management of the vegetation resource. The methods will probably differ from those used by scientists, and scientists will need to interact more closely with land resource managers to help develop new techniques or to modify existing ones. Monitoring systems must incorporate the sort of parameters and guidelines with which producers and other users can

feel comfortable and have had some role in identifying. Relevant and manageable techniques can be derived only from this type of interaction. Government also must play a part by recognising the policies and administrative incentives needed to encourage monitoring at—literally—the grass-roots level.

To address these needs and concerns, the Meat Research Corporation sponsored and helped to organise a workshop on “*Measuring and monitoring vegetation on pasture lands in northern Australia for sustainable use*”. This interactive workshop, which included producers, land managers, conservationists, extension workers, researchers, industry and government representatives, was held at Gatton College, University of Queensland from 15 to 17 October 1996. The assistance and many contributions of Dr John Tothill, and the workshop organising committee of Dr Joel Brown, Dr Peter Johnston, Dr Mick Quirk, Dr Joe Scanlan and Ian Partridge, as well as others too numerous to mention, in helping to organise this workshop and assist with the publication are gratefully acknowledged.

This publication is a record of the papers presented, the discussions that took place and the conclusions reached at the workshop. It should prove valuable to all those with an interest in monitoring and managing our vegetation and land resources, particularly in the area of management-oriented monitoring, which has so far received little attention.

As an outcome of the workshop, a producer-managed project has now been implemented within the MRC’s North Australia Program. Its objective is to enhance the skills of producers and other resource managers, to measure and monitor vegetation change on properties and interpret these indicators for making management decisions.

**Barry Walker**  
**Program Coordinator**  
**MRC North Australia Program**

# Executive summary

## Findings

The workshop focused on the need for monitoring the pastoral lands of northern Australia by those who manage them—primary producers, conservators, etc.

- Primary producers tend to focus on the condition and numbers of animals rather than on the condition of land. They do not practise monitoring widely—largely due to cultural, perceptual and awareness factors.
- Research and government agencies may have their own resource monitoring agendas, but must also help land managers by supplying appropriate tools and creating a supportive environment.
- Increasing calls for accountability in the sustainable use of natural resources indicates the need for more informed management.

## Recommendations

1. The Meat Research Corporation should lead a process for the use of monitoring procedures to assist in improving the management of grazing properties in Northern Australia.
2. This process should involve a Coordinating Group, with producer leaders in pilot groups working as focal points in selected action regions.
3. Research and agency service providers should assist in developing monitoring and management protocols that create positive opportunities and incentives to raise the management practices and resource status on grazing properties.

## Monitoring –

- should be an essential part of good management and sustainable use of the grasslands resource.
- is only a tool, not an end in itself.
- provides base-lines from which to assess change—deliberate or inadvertent, beneficial or deleterious—over time. Such change must be described in descriptive (formal), rather than emotive (informal), terms.
- can measure attributes, such as the condition of vegetation, soil and vertebrate grazing animals (domestic, native and feral), and the prevalence of pests and weeds.
- must result in products that are oriented to the land manager's values (life style, economic and ecological issues) and that can improve stability, sustainability and be profitable.
- can become a valuable learning process for developing understanding of the ecological system.

There is a large gap in 'professionalism' between the small number of 'top' performers, which includes the corporate sector, and most family properties.

*An entry point must be found for the middle family enterprises that have not been self-motivated to use monitoring as an aid to property management*

Monitoring techniques used at a regional and national scale may not be readily applicable at the individual property scale.

Techniques for primary producers must be simple and robust ('the barest minimum, best-quality, simplest recording that will provide data for the primary project goal').

The objective in monitoring must be clear. Monitoring range condition requires long-term recording and local knowledge of vegetation types or species, whereas short-term monitoring estimating quantity is needed to determine forage supply.

Estimates of biomass and feed-quality need to be linked to management decisions.

Educational packages for basic botanical and landform identification and for financial management have a high priority; these may be aided by community group education and by agricultural colleges.

*continued overleaf*

## Summary continued...

### Constraints to monitoring include:

- inconsistent government policies that send different signals to producers on the value of sustainable land management
- few obvious, incentive-linked benefits to monitoring (such as premium prices, tax incentives or profitability).
- debate as to who is responsible to care for the 'public-good' aspects of rangelands
- poor understanding of the meaning of monitoring, its potential benefits for good management
- the difficulty in getting started
- difficulties in comparing results across varying methods of monitoring.

### Unresolved issues at the workshop included:

- an assumption that pastoral properties would nearly always be producing the same products—predominantly beef—and that monitoring was to this end. Some parts of monitoring may need to include heritage or wilderness values in some districts.
- little appreciation of the need for land-use suitability to be the basis to monitoring, and little consideration of developing indicators or measurements for multiple land-use.

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