

1. Introduction

1.1. Workshop objectives

There is an increasing need to improve the monitoring, and interpretation of information, of lands used for grazing and other uses, such as conservation, mining and recreation. Greater pressures are being imposed on these resources, and there is increased, but not always well informed, public awareness of the potential for misuse and degradation.

The workshop aims to set objectives and select the best methods for providing an understanding of the condition of the resources as well as monitoring their sustainability over time. We need sound methods to best measure and monitor vegetation changes; these methods must be able to be used and understood by everyone for their own purposes. Thus, the information will be better accepted by all sections of the pastoral, scientific and conservation communities, and this will facilitate better communication and interaction.

Experienced pasture ecologists and rangeland scientists believe that sufficient published information is available on the descriptions and mechanics of techniques for their purposes. They say that the main problems to be addressed are what techniques to use, when to use them and how to interpret the results. An annotated bibliography of the key publications and references on measuring and monitoring vegetation is provided.

However, these monitoring methods are not usually appropriate or sufficiently robust to meet the needs of producers and resource managers. One of the main aims of the workshop is to clarify what methods and indicators are required, and set in motion processes to develop these and provide the necessary skills.

The objectives of this part of the Meat Research Corporation North Australia Program are to improve the knowledge and skills of producers, land and resource managers, extensions workers, and scientists for measuring, interpreting and managing vegetation changes in northern Australia, and for policy makers to be able to comprehend the issues more clearly by convening the workshop and compiling published proceedings. The objectives of the workshop were to:

1. develop a program for enhancing skills of producers, land and resource managers to measure and monitor vegetation change on properties and conservation areas, and to interpret these indicators for making management decisions.
2. to develop more effective linkages between research and development and government policy makers.
3. to compile an annotated bibliography of main techniques
4. to compile a list of plant identification guides for northern Australia.

1.2. Participants

Participation to the workshop was by invitation. Every effort was made to identify participants from across northern Australia to cover the regional variation and to capture the variety of experience available.

There were 55 participants, of whom 17 were producers or from pastoral houses. Most were from Queensland, with 5 from the Northern Territory, 2 from Western Australia, 2 from new South Wales and 1 each from ACT and South Australia. Delegates names and contacts are listed in Appendix III.

The government agencies and funding bodies represented at the workshop were:

Bauhinia Downs Northern Land Council
 CRC for Soil and Land Management, SA
 CSIRO Division of Ecology and Wildlife
 CSIRO Tropical Agriculture
 Emerald Pastoral College
 Frank Wise Institute, Agriculture WA
 Longreach Pastoral College
 Meat Research Corporation
 NT Department of Lands, Planning and Environment
 NT Department of Primary Industry and Fisheries
 Queensland Department of Natural Resources
 Queensland Department of Primary Industries
 Queensland Department of the Environment

1.3. Target region

The workshop specifically targeted northern Australia covering Queensland, the Northern Territory, and the northern portion of Western Australia as identified under the MRC Northern Australia Program and by Tothill and Gillies (1992).

Tothill, J.C. and Gillies, C. 1992. *The Pasture Lands of Northern Australia: Their condition, productivity and Sustainability*. Tropical Grassland Society of Australia, Occasional Publication No. 5.

1.4. Workshop sessions

The workshop consisted of four main types of session: plenary presentations, working group discussions, working group reporting and plenary discussions.

Introduction

Farming for a thousand years — Simon Campbell, 'Norwood', Blackall

Plenary presentations

1. **Why monitor grazing lands?** — Joe C. Scanlan, Department of Natural Resources Queensland
2. **What to monitor** — John Carter, Ken Brook, Ken A. Day and Greg McKeon (Department of Natural Resources Queensland) and Mark Howden (CSIRO Division of Wildlife and Ecology, Canberra)

3. **How to monitor vegetation and soils** — Mark Ritchie (The North Australia Pastoral Company Pty. Ltd., Brisbane) and Eric Anderson (Department of Primary Industries Queensland)

4. **Monitoring for resource management** — Joel R. Brown (CSIRO Tropical Agriculture, Townsville), Mark Stafford Smith and Gary Bastin (CSIRO Division of Wildlife and Ecology, Alice Springs)

Summary — Ann Hamblin (CRC for Soil and Land Management, SA)

Working group discussions

Working groups discussed each of the topics after each plenary presentation, followed by reporting from each group leader and general discussion by the plenary group.

In two sessions, groups had delegates with mixed backgrounds, in the other two, delegates were allocated to groups on the basis of their skills and backgrounds. Each group had a discussion leader.

The working groups were formed to represent:

1. **Resources management** at property/conservation area and paddock/reserve levels
2. **Researchers** at industry, state, regional, property levels.
3. **Government** at national, industry, state, regional, and property/conservation area levels.



Little of the grazing land in northern Australia was ever as good as this (the Victoria River District in the Northern Territory). However, monitoring will allow managers to assess how their own land is responding to the influence of livestock.