

RANGELAND HEALTH: NEW METHODS TO CLASSIFY, INVENTORY AND MONITOR RANGELANDS

Committee on Rangeland Classification, Board on Agriculture, National Research Council, 1994, 180 pages

Publisher: National Academy Press, 2101 Constitution Ave., Washington, D. C. 20418

Times are changing in the American rangelands! This well written and illustrated National Research Council report calls for a comprehensive shift in the way US Federal Agencies [e.g. Bureau of Land Management (BLM) and the Soil Conservation Service (SCS)] monitor and assess publicly owned rangelands. The committee's recommendations are quite relevant to Australian rangelands management; much of it is based on Australian research!

The committee proposes an abandonment of current Agency concepts of range condition (SCS) and ecological status (BLM) in favour of the term 'rangeland health' "to indicate the degree of integrity of the soil and ecological processes that are most important in sustaining the capacity of rangelands to satisfy values and produce commodities". Implicit in this term is a focus on indicators of ecological processes relevant to multiple use of rangelands. Rangelands have inherent values as well as the capacity to produce commodities. The committee acknowledged that health is a continuum, but recommends three general categories, healthy, at risk and unhealthy. The main impetus for a new monitoring and assessment system was to develop a national standard. The current lack of agreed-to standards "has and continues to confuse the public, the US Congress, ranchers and range scientists themselves."

The committee's conceptual framework draws heavily on Australian concepts of range ecology and management including Westoby *et al.* 1989, Friedel 1991 (referenced 6 times), Friedel *et al.* 1990, and Wilson 1989. The committee developed a non-linear state and transition model for rangeland health where each state (healthy, at risk and unhealthy) represents a complex of related plant communities rather than a single stable community. Plant communities change within a state with minor changes in the capacity to produce commodities and satisfy values. Conceptually, there is an early warning line between healthy and at risk states and a threshold between at risk and unhealthy states. The committee calls for integrated research and development of indicators of changes in state. In the interim, the committee recommends that all current inventory and monitoring systems should incorporate uniform indicators of soil surface condition as a matter of priority.

This report is well laid-out, attractively illustrated and edited in a uniform and concise style. Three case studies of long-term rangeland dynamics are dispersed within the text. The executive summary is comprehensive but short enough to photocopy for future referencing. The report includes a concise summary of historical and current Federal legislation affecting rangeland management. The review of past and current monitoring systems within various Federal agencies reinforces the need for a uniform national approach. This focus on Federal activities is also a weakness; 57 % of U.S. rangelands are non-Federal lands, much of it privately owned. The committee does not address the need for monitoring systems co-owned by and tailored to pastoralists (ranchers).

None the less, the report addresses critical rangeland issues in a balanced fashion reflecting the composition of the committee comprising a number of experienced rangeland scientists as well as private ranchers, environmental lawyers, rangeland consultants, a wildlife biologist and a couple of extension specialists. The book should be essential reading for all those immediately involved in monitoring and assessment as well as of interest to researchers, administrators and practitioners.

References

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THE WORLD'S SAVANNAS

Edited by M.D. Young and O.T. Solbrig

Publisher: UNESCO, Paris and Parthenon Publishing Group, 1993, ISBN 1-85070-417-1.
Recommended retail price US\$68 or £38 stg.

'The World's Savannas' is a most impressive book. It is not another textbook about ecosystem function, or a discussion about plant and animal ecology, or a treatise on land management. Rather, its aim - as indicated by the book's subtitle, 'Economic driving forces, ecological constraints and policy options for sustainable land use' - is to provide recommendations for use and management of savannas that take into equal account ecology, economics and social factors. The book focuses on the interface between the natural and social sciences in an attempt to distil the best approaches for human use of savanna environments. The result, for this reader, is a fascinating compilation of ideas.

First, though, what is meant by a "savanna"? The term designates a tropical grassland with scattered trees, and is applied to large areas of Africa, South America, southern Asia and northern Australia. Because savannas are characterised by oscillating and variable rainfall, and by low soil nutrients, agricultural developments frequently experience difficulty and pastoral activities predominate. Australian rangeland managers and scientists would recognise the tropical section of the rangelands as savannas.

The book begins with a set of introductory chapters providing an overview of the economic, ecological and social conditions pertaining to use of savannas around the world. There is considerable emphasis here on the systems of land tenure that have developed in different continents to allow humans to utilise the savannas. Subsequently, nine case studies of different savanna regions are presented, almost all of which are co-authored by an ecologist and a social scientist. Finally, the editors provide a summary designed to draw out the policy insights of their contributors.

Only one chapter, by John Holmes and John Mott, is concerned solely with Australia, and so the unwise Australian reader might be tempted to conclude that there is little of relevance in the book. Such a conclusion would be badly flawed, however. The Australian chapter happens to be placed last in the series of case studies, and as I scanned through the preceding studies of southern Africa, of India, and of South America, I was constantly surprised by sparks of recognition during descriptions of problems and suggested solutions. It's almost as if the book builds towards the contribution by Holmes and Mott. Their chapter - "Towards the diversified use of Australia's savannas" - should be required reading for all those concerned with land use policy in northern Australia and, indeed, in the Australian rangelands as a whole.

Holmes and Mott briefly review the history of European occupation of the Australian savannas, note the mostly unsuccessful governmental attempts to stimulate development, describe quickly the degradation and pasture instability arising from unwise grazing practice, point out the increasing value of tourism and therefore of conservation, and highlight the significance of a rapidly growing and new

form of land tenure in Aboriginal communal ownership. They proceed from this point to a consideration of policy issues that will need to be taken into account in achieving national goals of economic efficiency, ecological integrity and social equity. They conclude that in the northern savannas we can expect to see in future:

- i) localised rather than widespread nodes of development;
- ii) Aboriginal homelands;
- iii) manageable but low-yielding pastoral lands; and
- iv) extensive tracts of undeveloped and economically submarginal lands that will pose ongoing challenges in land tenure and management.

Holmes and Mott stress that delineation of manageable pastoral lands and the development of policies for management of Aboriginal land are critical priorities.

So far, I have not mentioned several key issues for Australian savannas noted by Holmes and Mott, but which appear common to many of the world's savannas and which are summarised by the editors in their concluding chapter. They may be summarised as follows:

- i) land use policy must begin with a careful assessment of ecological capacity - to ignore this leads to land degradation;
- ii) subsidies for production must be avoided - to do otherwise leads to social inequity and land degradation;
- iii) responsibility for management should be devolved to local communities, within guidelines consistent with national goals; and
- iv) local communities should be provided with appropriate resource rights and social equity.

The book demonstrates to me that, although Australian policy and land management have some distance yet to travel before sustainable use is guaranteed, our democratic and egalitarian philosophy places us in a much stronger position than most other savanna countries. Can we achieve this goal, both in our tropical and arid rangelands? It would help us do so if we could convince our policy-makers to look carefully at this book - but, in the interim, read it yourself.

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