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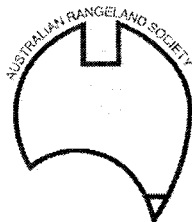
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PROGRESS WITH THE ESTABLISHMENT OF A CAR RESERVE SYSTEM IN THE WESTERN AUSTRALIAN RANGELANDS

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ABSTRACT

The rangelands of Western Australia cover about 85% of the state. Many ecosystems are contained within pastoral leases, where after about 150 years of settlement, extensive changes to vegetation and soils have occurred. The recognition of the need to conserve the full array of indigenous ecosystems and species has occurred at all community and political levels in various international, national, state and territory, and local settings. One of the keys to conservation of the State's biodiversity is the establishment of a Comprehensive, Adequate and Representative reserve system. In WA a pastoral land acquisition program aimed at increasing the conservation reserve system has resulted in about four million hectares within the Gascoyne-Murchison region being acquired. Planning and management activities on this land have begun, with the primary aim being to ensure that land and biological assets return to their pre European state. Ongoing management of the conservation reserve system seeks to resolve conflicts resulting from differences in land use objectives.

INTRODUCTION

The establishment of the pastoral industry in the mid to late 1800s in Western Australia heralded the beginning of a period of excessive grazing pressure on native vegetation, resulting in degradation of much of the rangelands (see for example Wilcox 1964; Curry et al. 1994). The reduction in vegetative cover, changes in species composition, loss of soil through increased levels of erosion, and the introduction of exotic plants and pest animals has given rise to considerable concern about the loss of biodiversity by the broader community and governments.

About 87% (84 million ha) of the pastoral rangelands have been assessed as part of a resource inventory and condition survey conducted by the Departments of Agriculture and Land Administration in WA since the late 1960s. The results of these surveys indicate that the majority of land has undergone change to a greater or lesser degree (Van Vreeswyk *et al.* 2004).

The overall values for the survey area indicate that about 24% (20m ha) is now in poor or very poor condition, and 30% (25m ha) in fair condition. About 800,000 hectares are considered severely degraded and eroded, suggesting that within these areas a very long period of time will elapse before soil conditions support vegetation establishment, growth, survival and reproduction.

In recognition of the extensive alteration of many rangeland ecosystems, resulting in the rapid decline in distribution and abundance of many species of plants and animals, and the need to safeguard life support systems, the Commonwealth Government has embarked on a program aimed at protecting biological diversity and maintaining ecological processes through the National Reserve System program.

CONSERVATION RESERVES

The National Reserve System represents the cooperative efforts of the State, Territory and Commonwealth governments and other non-government organizations to develop a conservation reserve system as a key contribution to the conservation of biodiversity in Australia (NRM Ministerial Council 2005). It aims to establish a reserve system containing examples of all regional ecosystems, resulting in the conservation of Australia's biodiversity within the broader matrix of existing land uses. One of the key objectives of the National Strategy for the Conservation of Australia's Biological Diversity (DEST 1996), is the establishment and management of a Comprehensive, Adequate, and Representative (CAR) system of protected areas. This objective is reflected in a range of national and state policy settings, and provides the basis for the expansion of the conservation reserve system in WA. There is, however, considerable resistance from some industry sectors.

Planning and design

It is difficult to establish the status of biodiversity in WA, given the immense area and remoteness of the state, and limitations of knowledge about many species yet to be discovered. Therefore, systematic planning of the reserve system relies on the use of surrogates as indicators of biodiversity (James and Saunders 2001). A range of surrogates is used to predict the distribution of biodiversity including environmental domains, vegetation associations, and centres of biodiversity, which form the basis for planning the development of the reserve system in WA. This information is used in conjunction with a range of other information including the national classification of ecosystems as set out in the Interim Biogeographic Regionalisation of Australia (IBRA) (Thackway and Cresswell 1995).

Gascoyne-Murchison Strategy

A recent development in regional broad scale planning for reserve system establishment resulted from the Gascoyne-Murchison Strategy (GMS), which addressed a range of industry, economic, social, and environmental issues within a 60 million hectare region of WA. Using vegetation association mapping along with a range of other attributes, gaps in representation of ecosystems were identified on pastoral leases advertised on the market, or which were known to contain important conservation values. This information provided the basis for the strategic acquisition of almost 4 million hectares of pastoral leasehold land funded by State and Commonwealth governments.

Achievements

At the beginning of the strategy in 1998, there were just 19 vegetation types (of 259) having more than 10% of their area protected in the conservation reserve system; although 74 were within reserves (the reserve system at that time contained 1.4m ha). This meant that almost 93% of the vegetation types were either not represented at all or were under-represented. The focus of the acquisition program was on those vegetation types that were un-represented, or poorly represented. As each lease was acquired, an Excel data-base was updated, so that future acquisitions did not duplicate those already reserved. This ensured different vegetation types were added, or had their level of representation improved.

By the end of June 2003 there were an additional 72 vegetation types included within the reserve system, bringing the total to 146, or 56.4%, of all vegetation types in the region. Of these 82 (31%) have more than 10% of their area represented in reserves.

The remaining 113 (43.6%) vegetation types are not represented at all in the reserve system. Vegetation types still not reserved include 83 considered rare or very rare, as they occur over an area less than 100,000 hectares and are within just one or two IBRA regions. At the regional level, the reserve system is still not comprehensive with a significant number of ecosystems not represented at all. These include areas containing high biodiversity, riverine or lacustrine ecosystems, unique ecosystems, rangeland in very good condition remote from water, or ecosystems having high production value as well as high conservation value.

Towards the end of the acquisition program there has been an insistence from government that the program be conducted in strict accordance with purchasing policy (economic) guidelines. Although these guidelines provide for Ministerial discretion, proposals falling outside the guidelines have not been supported. Decisions to not support certain acquisitions are not based on the evaluation of conservation values, but have been made along fiscal guidelines. Without the recognition of the importance of conserving the State's biodiversity, the extraordinary time frames over which evolutionary processes occur, and the high level of threat to some ecosystems, the process of establishing a CAR reserve system will be frustrated.

RESERVE SYSTEM MANAGEMENT

Defining boundaries of national parks, or putting up signs, does not provide any surety that biodiversity will persist, nor that evolutionary processes will continue. One of the primary aims for the management of conservation land formerly managed for pastoral production is to allow land to recover and return to its natural state; a state not possible to achieve if the area remained outside the reserve system.

Initial activities focus on the removal of all stock, feral animals, progressive closure of artificial water points, identification of degraded areas (woody weeds, erosion, declared plants) requiring special treatment, and identification of public risk issues.

Managing conflict

Conflicts between conservation agencies and neighbouring pastoral enterprises are inevitable, due to differing land use objectives (Wilson *et al.* 1984). While land managers all have statutory obligations over boundary fences, feral animals, weeds, and fire, it is usually a matter of time before one or more of these enter onto neighbouring land.

The Department of Conservation and Land Management (CALM) has undertaken a range of operational activities aimed at minimizing conflict, including ongoing consultation with neighbours and other relevant stakeholders.

CALM has recently released a draft Good Neighbour policy, aimed at establishing and maintaining good relations with neighbours fundamental to responsible, collaborative, and cooperative management of the reserve system. This draft policy contains a clear statement of what will be done in relation to a number of management issues including boundary fences, fire management, weed control, pest animal control, and straying stock. While there is a strong commitment by CALM to establishing good neighbour relations, there are a number of neighbours who do not wish to reciprocate this commitment, refusing to maintain boundary fences, or control straying stock.

Planning for management

CALM has management responsibility for ex pastoral land acquired under the GMS and therefore has statutory responsibility for preparing initial plans and more formal area management plans, once newly acquired land is gazetted as being part of the formal reserve system.

Issues addressed in interim plans include fire management, native animal (kangaroo, emu etc.) management where necessary, feral animals and weeds, closure of artificial water points, removal of straying stock, boundary fences, recreation and tourism, wilderness area management, monitoring recovery or change of native vegetation and animals post de-stocking, research, cultural and heritage matters, and public risk assessment.

There is obviously considerable demand for ongoing management activities and presence by CALM staff on the expanded reserve system. The provision of additional resources in support of the increased workload has been minimal, restricting management activities to areas assessed as having high priority for management presence. This is disappointing.

The need for continued liaison, communication and education with neighbours, industry, local government, and the broader community remains perhaps the most important issue for CALM. Changing values, attitudes, and the behaviour of many of those who see the emergence of a new and different land use as a threat at the local or regional level takes time, patience, and considerable resources.

CONCLUSION

The establishment of a CAR reserve system in WA as part of the National Reserve System program will make a major contribution to the conservation of indigenous biodiversity. A key objective is to create a reserve system containing examples of all regional ecosystems. It is recognized that a reserve system alone will not guarantee biodiversity conservation, and the ecologically sustainable management of the broader landscape will be necessary. Ongoing management of the reserve system requires adequate resourcing and commitment from governments and the community.

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