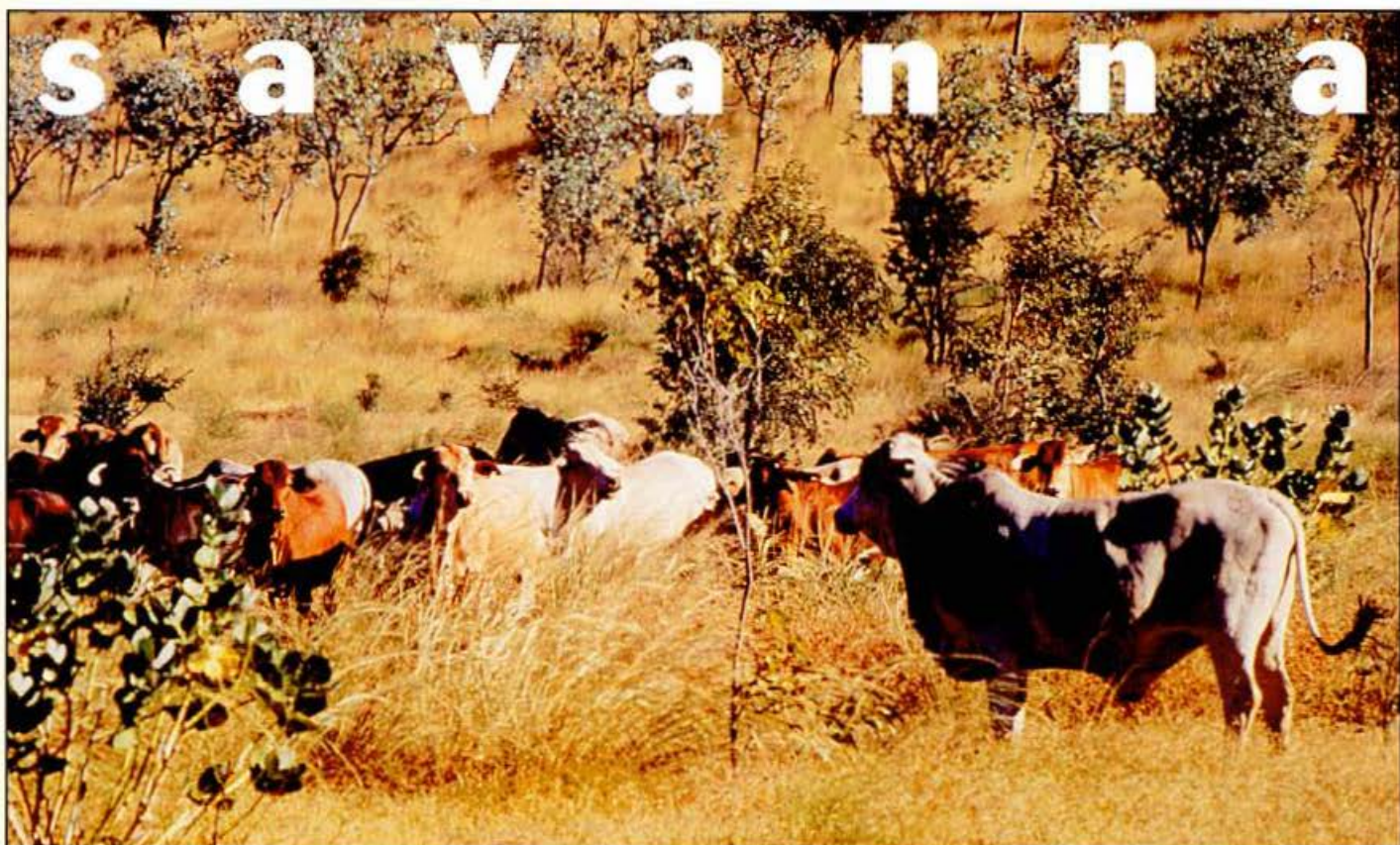


S h a r i n g o u r



Division of Wildlife and Ecology

Increasing competition for the use of Australia's tropical savanna has led to urgent calls for cooperation. **John van Tiggelen** reports.



OUT of sight to city folk and largely out of mind, graziers, miners, conservationists, tourism operators Aboriginal people, and the military are tussling for a slice of the tropical savanna.

The northern grassy plains, which cover one fifth of Australia, are in increasing demand. Last year the development pressures – coupled with inadequate knowledge of the ecosystem and pest damage – prompted the Australian Science and Technology Council to identify the savanna ecosystem as the highest priority in tropical Australia for focused research.

In response, the gamut of groups who compete for use of Australia's

northern rangelands convened at Townsville in July 1994, for a conference organised by CSIRO and James Cook University.

Outlining the role of science, Dr Bill Winter, the assistant chief of CSIRO's Division of Tropical Crops and Pastures, points out that so far the research effort relevant to the savanna has been fragmented and, in many cases, reactive. Partly, he argues, the conflict – or perceived conflict – between savanna users is to blame.

A lack of collaboration is usurping the coordinated research effort needed for ecologically sustainable development. Without long-term, large-scale, multidisciplinary research, the understanding of natural processes which shape the savanna will continue to make piecemeal progress.

Balanced views needed

Tropical savannas are surprisingly complex. Three types of vegetation – grasses, shrubs and trees – co-exist in dynamic equilibrium. People have lived in and exploited the savannas for millennia. In some cases, they may even have influenced the structure of the vegetation and its faunal composition. However, the intensity and nature of the last century of exploitation has led to a need to balance the savanna's production and conservation/recreation values.

'The broad challenge facing science is to understand the savanna from a holistic perspective so that management options, from any outlook, are based on this understanding,' Winter says. For this to occur, each user group must recognise the legitimate rights and perspectives of the others.

In the past, economic interest groups have viewed concepts like sustainability from their own perspectives. For example, the pastoral industry views 'carrying capacity' as an important indicator. But livestock numbers are poor pointers when it comes to sensing changes in soil, biodiversity, climate, downstream effects and social amenity.

As pastoralism was – and still is – the widest use of the savanna, scientific assessment was largely based on the premise that the savanna was to be exploited for man's short to medium-term benefit. 'Not surprisingly, we now find that science cannot provide adequate information when questions are asked about the impacts of non-agricultural or multiple land use,' Winter says.

Aborigines make up about half the population in the tropical savanna (43% of the Kimberley, 57% in the Gulf and 46% in Cape York). Their population is increasing faster than that of the more recent settlers, and land tenure is catching up accordingly.

Professor John Holmes, from the University of Queensland's Department of Geographical Sciences and Planning, says that a radical change in the savanna's resource values underpins the need for matching institutional change. Identifying either static or declining returns to grazing, Holmes interprets the importance of values such as indigenous land rights, biodiversity and ecotourism as indicative of a 'deprivatisation' of land ownership. Because the landholders aren't profiting from their land, it is losing market-value and changing its status.

One fifth of pastoral lands in the north have transferred to other titles or non-private ownership in recent years. However, says Holmes, needed changes – in the form of strategic regional planning and intermediate forms of land tenure to allow multiple use (such as conservation, traditional rights, grazing) – are being hampered in part by traditional optimism about agricultural opportunities.

A clash of change

Given an economic transition from producing labour, materials, energy and land to producing knowledge and information, post-industrial societies are developing an increasing emphasis on leisure and quality-of-life values. Environmental and social justice matters are getting more and more attention. Holmes suggests that therefore current conflicts in the savanna can be seen as the clash of change, of industrial versus post-industrial values.

Dr John Taylor, CSIRO's program manager for land management and agricultural systems at the Division of Tropical Crops and Pastures and Dr Dick Braithwaite, leader of the Ecology and Conservation Management of

Australia's savannas are in demand for their beauty and their wealth. The intensity and nature of the last century of exploitation has led to a need to balance the savannas' production and amenity values. But needed changes – strategic regional planning and land tenure to allow multiple use (such as conservation, traditional rights, grazing) – are being hampered in part by traditional optimism about agricultural opportunities. Cooperative research is seen as a vital step towards resolving perceived conflicts between savanna users.

Division of Wildlife and Ecology



Tropical Savannas program at the Division of Wildlife and Ecology, concur. While supporting the need for more cross-sectoral research, they stress that it is people's values that usually determine how species and their habitats are used, rather than biology or economic information *per se*.

They suggest that conflict is a symptom of change in society and that the conflict will be between 'agriculture and urban values about the use of nature; it will not be a conflict of facts'.

By examining the nature of interactions that the various land uses have on one another, Taylor notes that the negative effects outweigh the positives. (Interestingly, it emerged that military land is probably the best managed.) But personal judgments about the interactions are based on value systems. As such, solving conflicts in managing savanna resources becomes unrealistic. What is more achievable is fostering mutual understanding and respect.

Savanna users can be considered in a continuum from the most to the least exploitative. First comes mining, then pastoralism, tourism and traditional subsistence, national parks and conservation reserves. Conflict tends to be greater where separation is greatest. For example, between mining and conservation.

Figures from the Department of Industry, Science and Technology reveal that the savanna's natural resources contribute \$7.5 billion a year to the economy, or one quarter of the nation's exports. Eighty per cent of this is from mining.

Call for joint research

Virtually all speakers at the conference backed the formation of a cooperative research centre for the sustainable development of tropical savannas. The centre would be based in Darwin with nodes in Townsville and Western

Australia. Core participants would include the three state and territory governments, James Cook University and CSIRO.

One area the centre would examine is the disparity of research and development support between 'established' user groups and relative newcomers. That is, the pastoral and mining industries receive substantial science funding from government and the private sector respectively, but tourism and Aboriginal land attract comparatively little. Considering the amount of consultation involved in studies of Aboriginal areas, research funds need to be more evenly distributed and the information pooled and shared, because all sectors have a need to develop sustainable use practices. The CRC proposal is awaiting approval and funding.

While the spirit of cooperation shown at the July conference was edifying, inevitably actions speak more loudly than words. One month later the director of the Northern Land Council, Darryl Pearce, one of the keynote speakers, announced that 12 000 square kilometres of Aboriginal land would be opened to mineral exploration, increasing fourfold the traditional land area open to exploration in the Top End. The move augurs well for future cooperation regarding research and development between all users, in pursuit of the elusive goal of sustainability.

More about savannas

Managing tropical savannas: managing resources and resolving conflicts (1994) Townsville, July 17-22 (proceedings).

Young MD & Solbrig OT (1993) *The world's savannas: economic driving forces, ecological constraints and policy options for sustainable land use*. UNESCO, Paris and The Parthenon Publishing Group.