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Guest Editorial

A Climate of Change in the Rangelands

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Nothing with rangelands stays the same or "the way it was": weather varies; markets fluctuate; product requirements vary; people move on; and the environment in which we operate in rangelands – taken in its broadest sense – has gone through radical change globally in the past two decades. The same is true in nearly all aspects of life.

Eight of the last nine biennial conferences of The Australian Rangeland Society (ARS) have focused on a theme. At least four of these have been directly related to change: Cobar in 1992 – "Australian rangelands in a changing environment"; Port Augusta in 1996 – "Focus on the future – the heat is on"; Kalgoorlie in 2002 – "Shifting camp"; and the most recent at Charters Towers in 2008 – "A climate of change in the rangelands". A fifth conference (Renmark in 2006 – *The Rangeland Journal* **29**(1) 2007), with the theme "The cutting edge" was also seeking to engage in "new, the controversial and future possibilities" (Erkelenz 2007), not far divorced from the theme of "change".

As well as the natural resources of the rangelands – which include the aesthetic and visual values, the spiritual values for indigenous peoples, geology and minerals/petroleum/gas, soils, vegetation, water, biodiversity and wildlife – the rangeland environment may be taken to include the people who contribute directly and indirectly to the health and productivity of rangelands; the rules – government legislation/regulation – by which we manage and use rangelands; the values placed on rangelands by those who do not live there – and those who do; the multiple uses to which rangelands are put; the fiscal and monetary policies of government, both nationally and internationally; and the overarching climate and weather patterns to which the rangelands are subjected.

Rangelands in Australia were largely used for animal production and traditional indigenous land uses until the 1960's. Tourism was a small user and mining a significant but not critical one. The pastoral industry and its approach to production enjoyed tremendous support from city dwellers, and was seen as part of the "psych" of the Australian way of life – the "bush" or the "outback".

The contribution of grazing industries to the economy of rural areas has declined markedly in the past 30 years. For example, farm income in the rangelands of New South Wales provides less than 48% of total household income, while in outback Queensland, the value of animal products a decade ago was greater than that of direct tourism, but an order of magnitude less than that of mining (Fargher *et al.* 2003). More recent statistics show that while pastoral industries in Australia were valued at about $2 billion in 2001 (NLWRA 2005), the mining industry's overall value to rural communities is very large indeed (Cameron 2008) having an export value to Australia in 2008 of about $86 billion (IBISWorld 2009).

Together with these changes in use, views on rangelands have changed with time, none more so than over the past 30 years. For example, Morton (1993), refers to the thrust of the written works concerning the outback of Australia having shifted from being very supportive of the achievements of our bush pioneers, through being "tinged with sadness at the social costs", to being less optimistic and in many cases critical of the pastoral community for not living up to its earlier image reflecting strong characteristics of courage, endurance, and achievement, and its approach to land management and conservation.

Jerry Stuth (1996), in his 1995 Harry Stobbs Memorial Lecture to the Tropical Grasslands Society of Australia, said that "grazing lands around the world are being challenged in terms of expanding population pressures, land tenure laws-rights, appropriateness of traditional land uses and contribution to the environmental integrity of the natural resources and urban beneficiaries of resource products. . .". He also made the point – even more relevant in 2009 – that greater concern for the environment, including global climate change and biodiversity, as well as how new knowledge was being disseminated, is cutting though politics, challenging laws and cultural values and causing a social backlash with producers.

Heathcote (1994) too suggested that with "the changes that have occurred in scientific, economic, social and philosophical contexts of resource management", there has also been a history of "changing values and assessments with associated conflicts over management options and policies". Indeed, *The Rangeland Journal* published a special issue (1994, Volume **16**(2)) on the theme "Contemporary explorations: values, goals, needs and expectations of rangeland users".

These changes in attitude and perception taint the optimistic view of past management in rangelands, and may better reflect the view of a modern, well educated society which recognizes that there are costs (e.g. Morton 1993) as well as responsibilities (e.g. NRW 2008) in how our natural resources are used and managed. Further, actions relating to use of rangeland resources are now open to criticism and the involvement of many others including regional natural resource management

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organizations (Australian Government 2009), environmentalists and governments.

Greater intrusion of "the outside world" into how rangelands are managed – particularly for pastoral purposes, but true also for all users – requires not only a business focus on sustainable production, but also full recognition of these external changes which have and continue to occur. It requires that we address the four issues which Foran (2007) reported as necessary if rangelands are to avoid detrimental environmental outcomes as a result of many of the external and global changes which are occurring:

- an honest appraisal of knowledge and an effective and rigorous reporting of their meaning;
- a reduction in pressure on rangelands so that further damage can be avoided;
- an examination of the enterprises which rangelands support and a possible directional change as a result; and
- enhancing landscape processes so that social returns are maximized and regional populations benefit.

This issue of The Rangeland Journal contains some of the papers delivered at the 2008 ARS Conference with the theme "A climate of change in the rangelands". The papers do provide a focus on some of those issues raised by Foran (2007), and go some way to addressing the factors influencing his four priority issues: knowledge, reduced pressure, enterprise opportunities, and landscape processes. The papers provide examples of the extent of change – and knowledge of it – which is occurring in rangelands (Mckeon *et al.* 2009); and the changes that are necessary in our relationships between people (Nelson and Robinson 2009), in values and attitudes (Windle *et al.* 2009), and in processes, procedures and practices (Greiner *et al.* 2009; McCosker *et al*. 2009; Smyth *et al.* 2009), so that we can both capitalize on opportunities and minimize risks in our use of these extensive areas (Cobon *et al.* 2009). New techniques and procedures are required to ensure appropriate monitoring of change in rangelands (Bastin *et al.* 2009; Karfs *et al.* 2009); new methods of working with landholders and other stakeholders are needed to ensure that businesses located in the rangelands can capitalize on opportunities (Baumber *et al.* 2009); and new adaptive practices are outlined which will help deliver more sustainable resource use (Balston and English 2009; Bray and Golden 2009; Macleod *et al.* 2009).

The theme of the ARS Conference, "A climate of change in the rangelands" recognizes that not only are there changes occurring in the rangelands, but also the response to these changes needs to be sufficiently flexible to allow for the unknowns. For example, while we are not certain of the direction of climate change across all of the world's rangelands – nor indeed of Australia's rangelands – nor of the impacts of these changes, we need to have scenarios developed and risks mapped so that when we do know the most basic direction and extent of impacts, we can quickly and effectively deal with them to maximize the positive and minimize the deleterious effects. Having options is important; this issue of the Rangeland Journal attempts to be futuristic, provides options for understanding changing parameters and how to deal with them, and recognizes that there is no one way to the promised land, but rather multiple pathways which may be followed depending on the situation encountered.

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