

Rangelands in transition

Russell Sinclair^{A,C} and Martin Andrew^{B,C}

^ASchool of Biological Sciences, University of Adelaide, SA 5005, Australia.

^BMartin Andrew Solutions, 132 Kensington Road, Toorak Gardens, SA 5065, Australia.

^CCorresponding authors. Email: russell.sinclair@adelaide.edu.au; mcandrew@myaccess.com.au

Received 7 July 2019, accepted 8 July 2019, published online 23 July 2019

The theme for the 19th Biennial Conference of the Australian Rangeland Society (ARS), ‘Transition to Transformation’, recognised that several external factors are driving significant change across the rangelands as advances in technology, new social dynamics and climate change impacts become apparent. The rangelands community and industries are in a state of transition.

As the result of this trend towards transformation there has been significant change in enterprise mix in the southern pastoral regions of South Australia (SA), New South Wales (NSW) and Western Australia (WA). The drivers have been the incorporation of tourism enterprises into pastoral operations, property purchase for conservation or lifestyle purposes, the use of different kinds of domestic livestock from previous times, new systems of grazing management, changes in social dynamics reducing available labour and the simultaneous developments in digital technology that compensate for this, and the recognition of Indigenous cultural values. These have led to transformation of the pastoral industry.

The Conference was held in September 2017 in Port Augusta, SA, a city at the cross-roads of land-types, transport routes and industries. Located at the head of Spencer Gulf, Port Augusta lies in the foothills of the Flinders Ranges to the east, and to the west the Gawler Ranges and the Middleback Ranges. Australia’s north–south and east–west rail and road corridors intersect in the city. To the north and west lie arid rangelands, to the south and south-east dryland farming country. Port Augusta exemplifies the conference theme. Its economic base is transitioning from old industries (coal-fired power generation, mining) to new ones (sustainable energy generation; intensive, large scale hydroponic horticulture, nature-based tourism).

The Conference’s theme built on previous ARS conference themes involving innovation. It was developed to encompass the breadth of industries and enterprises involved in the current rangelands transformation. The theme provided the opportunity to consider an increased participation of the social sciences and alternative industries relevant to rangelands management. It was hoped this would attract a wider range of participants than previous conferences, and indeed it did.

Conference sessions covered:

- Pastoral industry trends in the southern rangelands

- Northern Australia—the new frontier
- Changing face of Indigenous managed lands
- Living with climate change
- Coping with drought
- Transitioning to new industries
- Regional and community development
- Monitoring after ACRIS (Australian Collaborative Rangelands Information System).

These sessions were complemented by keynote presentations.

Three sub-themes emerged from the conference papers, posters and discussions.

First, the *Inevitability of Change*.

There was general recognition that although the world is constantly changing and every generation must deal with this, the rate of change is increasing. There are predictions of greater, more intense climatic events – hotter, longer and drier – especially in the southern Australian rangelands. These changes will affect the ability of land managers to deal with total grazing pressure (the joint pressure of domestic livestock, feral animals and native herbivores). Changes in management over the last few years include partial or full exclusion fencing, with increasing uptake by industry and support from Natural Resources Management (NRM) boards. In addition, livestock prices have generally been high; meat sheep enterprises are on the increase, and goats are now being managed, rather than simply being opportunistically harvested.

Carbon farming is a new enterprise in western NSW and south-west Queensland, where land use has refocused on vegetation regrowth rather than livestock production. This development, facilitated by Australian federal and state government policies, represents considerable opportunity for these rural communities. The opportunities and implications of participation in the carbon economy have seen a significant change in the management of the rangelands. In Western NSW for example, more than AUS\$300 million worth of contracts have been signed for the provision of carbon credits through rangelands management.

Another response to change is the use of digital technology, e.g. in remote monitoring and control of water points, remote weighing of livestock, and remote sensing of forage availability, which can significantly increase management efficiency and reduce costs, particularly fuel use.

Conference quotes relevant to this sub-theme included:

- ‘Uncertainties increase as our knowledge grows’ – Mark Howden
- ‘Science is just the start, it’s complicated from then on’ – Kate Forrest

The papers in this issue relevant to this sub-theme are those by Berry, Cockfield, Foran *et al.*, Kelly and Phelps, Munden-Dixon, Nankivell, Phelps and Kelly, Reardon-Smith, and Sinclair.

Second, the *Importance of Narrative*.

Many delegates, old and young, commented on the importance of narratives in rangeland management; that is, on how situations are framed, presented and discussed. Dr Mark Stafford Smith explored this in the keynote address which stressed the importance of sharing experiences. Examples included land degradation changes over time; land restoration or stabilisation; and current experiments with new technologies and concepts, e.g. carbon farming, or methods of managing grazing pressure. Dr Stafford Smith’s thoughts have been incorporated into the review paper in this edition (Foran *et al.* 2019).

A conference quote relevant to this sub-theme was:

- ‘What sets humans apart? Our success as a species is due to us being able to make things up, for example, money’ – John Brisbin

The papers in this issue relevant to this sub-theme are Foran *et al.*, Kelly and Phelps, Munden-Dixon, and Phelps and Kelly.

Third, *Inclusivity*.

As explained above, the conference theme attracted a diversity of participants. There were many instances throughout the conference of interactions and input from many diverse groups, including landholders, Indigenous communities, scientists, NRM people and others. The conference began with an Indigenous ‘Welcome to Country’ by Stephen Atkinson, including a performance by the ‘Dusty Feet Mob’, a dance group of young Indigenous performers. Stephen’s address emphasised that Port Augusta has been a meeting place for many tribal groups for thousands of years, a place for knowledge transfer and sharing. It turns out that Port Augusta’s place as a conference venue is well established!

This conference maintained this tradition, involving ca. 220 participants from the far reaches of Australia and places between, and from a mix of backgrounds:

- Regional Natural Resources Management organisations (20%)
- Universities and research institutes (17%)
- Government agricultural and natural resources management agencies (25%)
- Private consultants (13%)
- Private landholders (8%)
- Significant others including other Government agencies, Indigenous land management, private conservation, mining (17%).

There was only a small attendance of private landholders, however. An on-going challenge for future ARS conferences is to rectify this. We recall that the very early Australian Rangeland Conferences were characterised by strong landholder participation.

The Phelps and Kelly paper dealt with the impact of drought on businesses and communities in small towns in rangeland

areas. This is one of the few times that such interactions between town and farm have been dealt with in an ARS conference.

The Northern Rangelands of Australia received less attention at the conference than other areas – perhaps not surprising given the conference’s location in the very south of the southern rangelands. Although ~50% of Australia’s land mass, the Northern Rangelands contain only 5% of the population. In the past many schemes have been proposed for development in these large rangeland areas, but often with limited success. Many of the people who live in these areas, including both Indigenous and non-Indigenous, have lived there all their lives, and Indigenous history goes back ~65,000 years. However, those that plan the big northern rangeland initiatives based on economic outputs – such as State and Federal Government agencies, and large corporations – don’t live there or are only temporary visitors; thus, communities are largely removed from the planning process. Unfortunately, none of the papers in the section ‘Northern Rangelands’ made it into this special issue of the Journal. The above ideas come from presentations by John Brisbin (Brisbin 2018), Grey Mackay and Luke Bowen.

Three contributors stressed the need for careful planning and consultation, especially including local people in the process, before launching new initiatives. The Australian Regional NRM (Natural Resources Management) planning system was seen as a good means of involving all the relevant groups and organisations, sharing narratives and expertise from the beginning of the development of a new initiative. Several successful projects with Indigenous groups were reported, and this seems to be an encouraging development.

Conference quotes relevant to this sub-theme included:

- ‘Community development, not just community consultation or engagement’ – Grey Mackay, WA Rangelands NRM
- ‘We had a huge turnout at field days because we listened to what they wanted’ – Fiona Gavin
- ‘... at long last scientists are beginning to listen to us!’ – a landholder.

The papers in this issue relevant to this sub-theme are those by Feuerherdt, Munden-Dixon, Phelps and Kelly.

The conference was notable for some innovations.

One was the ‘Lightning’ presentations. These were short (3-min) presentations limited to use of three slides and focused on a single issue or question. Just as lightning plays a key role in the Australian rangelands – igniting the landscape, bringing revitalising, nitrogen enriched rain and triggering regeneration, so too these presentations sparked ideas and fertilised discussions. Being short, this presentation mode allowed many more ideas to be shared and contributors to gain exposure. Some of the Lightning authors were invited to develop their material into a paper for this special edition – these are the papers by Sinclair, and Stone and Dalla Pozza.

Another initiative was the Rangelands Roundtable – a form of academic discussion. Participants agree on a specific topic to discuss. Each person is given equal right to participate, as evoked by the idea of the circular nature of a ‘round table’. About 30 participants were invited to share what had inspired them thus far at the Conference. It was illuminating to hear the insights and how some speakers and topics had made a significant impact on

several participants. Phrases participants used to encapsulate aspects of the conference included:

- positive narrative and messages, inspiring
- acceptance and respect for all values
- playing catch up with Aboriginal knowledge
- manage within the paradigm – with what we have, instead of what we do not have, taking advantage of opportunity
- profitable businesses, encouraging best management
- breaking down barriers and finding common ground
- capturing the benefits of modern digital communications technology, including to maintain community and putting people in touch with each other
- carbon – complex and changing
- extension officers as sounding boards, co-innovation, interdisciplinary synergy, adoption is happening
- socio-economics of towns
- people – precious resource, mental health
- enthusiasm, open science and young people, and
- leaving a legacy,

as well as characteristics that are a hallmark of Australian Rangeland Society Biennial Conferences: congeniality, and very Australian.

Those who attended found it very worthwhile.

Yet another initiative was the Young Professionals event attended by 22 students and young professionals. Five senior Australian Rangeland Society members from a range of backgrounds shared their insights into what it takes to be successful in a rangeland-related career. This format was loosely based on the Professional Interaction sessions that the US-based Society for Range Management has held with great success during its annual meetings. The speakers shared topics such as: what aroused their interest in the rangelands, the key steps in their career and the key skills in these roles, their recommendations for pursuing a successful career in the rangelands, and what they have gained from being a member of the Australian Rangeland Society. Following this, the young professionals networked with the speakers and other senior rangeland professionals present. Feedback suggested that this session was valued by participants and it was effective in engaging and enthusing younger members about careers in the rangelands.

To the west of Port Augusta lies Middleback Station, a former pastoral lease that raised sheep principally for wool, and which is now part of the Australian Department of Defence 'Cultana' training facility. In a cooperative venture with the University of Adelaide, for more than 40 years the Station provided a living laboratory for students and researchers to study rangeland ecology and management. Many conference participants had been part of this Middleback experience. One of the highlights of the conference was the interview with Andrew Nicolson Sr., the former Middleback pastoralist, in which he shared his insights into rangeland management generally, and into working with University students and researchers for some 40 years. Andrew unfortunately died shortly after the conference, and this

interview was reported as an obituary in the Range Management Newsletter (Andrew 2018).

In 1996, Port Augusta hosted its first ARS Biennial Conference. That was conducted as a Foresighting exercise to examine possible futures for the Australian rangelands (Blesing *et al.* 1996). The unfolding of these futures was examined 10 years later at the 14th ARS Biennial Conference held in Renmark, SA (Foran 2007), and 12 years after that it has been examined again in a review paper in this issue by a team of authors many of whom were involved in the original 1996 publication (Foran *et al.*).

As can now be appreciated, the 2017 conference was rich and diverse in content and attendees, and generated lively and thoughtful discussions. We feel it succeeded in its aim of examining ways forward through the transition that Australian rangelands are experiencing. The benefits of the conference will be realised through the actions of attendees that will be informed by what they learnt there.

There is a lot of interesting reading in this issue. Enjoy!

Acknowledgements

We wish to acknowledge those who helped bring this special edition to fruition. The many reviewers of the manuscripts, whose advice was always constructive and valuable. Dr Cathy Waters and Dr Ian Watson, the conference rapporteurs, who so ably added value to conference participants by their insightful summary of the conference highlights and who generously provided us with their notes. John Gavin for the Conference Final Report from which we borrowed some material. Rodney Safstrom and Dr John Taylor who shared their notes of the Rangelands Round Table and the Young Professionals session organised by them, respectively. Dr Don Burnside, Dr Dionne Walsh and Dr John Taylor, our editorial advisory team. They had been members of the conference program planning committee and stepped up to provide valuable guidance in selecting the authors to invite to contribute to this special edition. Don also provided valuable feedback on an earlier draft of the editorial, which we largely adopted. Dr Paul Novelly, Editor in Chief of the Rangeland Journal and a long-time rangeland colleague, who also attended the Conference, for his wise counsel in preparing this special edition, including this editorial.

References

- Andrew, M. H. (2018). Vale Andrew David Nicolson. *Range Management Newsletter* 2018(2).
- Blesing, D., Andrew, M., Foran, B., Abel, N., and Bourne, J. (1996). Looking out or looking in: two ways ahead for Australia's rangelands. In: 'Sustainable Habitation in the Rangelands. Proceedings of the Fenner Conference on the Environment'. 29–30 October 1996. (Eds N. Abel and S. Ryan.) (CSIRO: Canberra, ACT.)
- Brisbin, J. (2018). Plans are useless, but planning is essential. *The Rangeland Journal* 40, 401–414. doi:10.1071/RJ18045
- Foran, B. D. (2007). Sifting the future from the past: a personal assessment of trends impacting the Australian rangelands. *The Rangeland Journal* 29, 3–11. doi:10.1071/RJ07019
- Foran, B., Stafford Smith, M., Burnside, D., Andrew, M., Blesing, D., Forrest, K., and Taylor, J. (2019). Australian rangeland futures: time now for systemic responses to interconnected challenges. *The Rangeland Journal* 41, 271–292.