



‘CARE’ OF COUNTRY: GRAZING MANAGEMENT AND SENSE OF PLACE

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Abstract

In the semi-arid rangelands of southern Australia livestock producers must balance livestock production with landscape function to achieve business resilience. Under highly variable climatic conditions, their approach to grazing management is a key element in achieving production and landscape targets. At the same time, the socio-economic environment is difficult as they typically live on very large, isolated properties subject to a highly variable climate and financial volatility. We conducted semi-structured interviews with six producers, three operating in a ‘well-functioning’ landscape and three in a ‘recovering’ landscape, to provide a detailed description of their approach to grazing management and explore the perceived production, biophysical and personal benefits derived from their grazing practices. Producers in a well-functioning landscape focussed on animal and plant performance, prioritising the management of productive/palatable forage species, implementing extended rest periods for regeneration while managing stock numbers conservatively. In a recovering landscape, producers primarily focussed on improving landscape function with enterprise type and animal production adjusted to support regeneration. These producers place emphasis on the seedling growth of valued species, encourage the growth and expansion of perennial species and adjusting livestock number to match carrying capacity as the country improves. A key personal benefit is a sense of accomplishment from ‘care’ of country demonstrated by producer ‘attentiveness, responsiveness, and adaptation’ in their grazing management practices. In addition, producers often expressed an emotional connection with country: “*my mental health is very attuned to the health of the land*” and “*I really want to heal the land*”. Our work reveals a positive feedback loop between environmental stewardship and personal well-being.

Introduction

Livestock producers in the semi-arid rangelands of southern Australia need to be particularly attuned to the natural environment to balance livestock production while maintaining or improving landscape function to support profitable and sustainable enterprises. Operating under highly variable climatic conditions including frequent periods of drought, producer approaches to grazing management are critical to achieving landscape and production targets. Key elements of management in these grazing enterprises include, for example, managing the carrying capacity (i.e. matching livestock numbers to available feed), implementing strategic rest from grazing to preserve/increase desirable, productive forage species and to maintain/enhance ground cover (Hacker and McDonald 2021).

The socio-economic environment in which producers operate is also complex and dynamic. They typically live on very large (>10,000 ha), isolated family run properties subject to high inter-annual financial volatility reflecting fluctuating seasonal conditions and commodity prices (Sinclair et al. 2019). Nevertheless, these properties are more than places of economic dependence, they enable a distinctive way of life in which the natural environment is often valued for its ‘vastness and openness imbued with significant meanings’ (Holmes and Day 1995, Masterson et al 2017). These meanings frequently lead individuals to acquire an affective attachment to the land they manage (Mullendore et al. 2011).

In this paper we describe the different approaches to grazing management used in the semi-arid rangelands of southern Australia. We provide insights into these producers' perceptions of the production, biophysical, and social co-benefits derived from their grazing practices. The paper will contribute to an improved understanding from a producer's perspective of how the different grazing systems affect productivity, resource condition and profitability in semi-arid rangeland livestock production systems.

Methods

Semi-structured interviews were conducted with six producers purposively selected based on the status of their country and were drawn from a list provided by an informant with extensive experience working across the Western Division of New South Wales (NSW), Australia. Three producers (known as Producers 1, 3 and 5) operated more in a 'well-functioning' landscape whereas the other three producers (known as Producers 2, 4 and 6) operated in a 'recovering' landscape progressing to a better state. A 'well-functioning' landscape is viewed as one in which the biophysical system is functionally sound (with soil, water and nutrients retained on-site). A 'recovering' landscape is viewed as one that has been mismanaged in the past but now the function of the biophysical system is improving over time with management (with soil, water and nutrients increasingly retained on-site) (Tongway and Hindley 2005).

An interview schedule was designed around broad questions but with prompts to ensure the relevant data was collected. Firstly, background information was collected including a description of the enterprise (e.g. livestock type, herd/flock size, markets targeted) and the property (e.g. size, soil type, vegetation). This was followed by a broad discussion around the grazing management system (e.g. stocking rate, grazing practice, stock movement, mob numbers); management objectives (e.g. production and resource targets); and factors influencing the approach taken (e.g. physical, market). Finally, a discussion centred on the benefits from the grazing management system including both biophysical (e.g. landscape changes) and personal (e.g. wealth creation, lifestyle, well-being).

The interviews were conducted by telephone between July 2022 and February 2023 and with the permission of the interviewees the interviews were recorded digitally. The interviews were transcribed 'intelligent' verbatim by a private transcription service and are the principal source of data used in this paper. The median time taken for an interview was approximately 90 minutes with a typical word count around 12,000 words. The transcription data were examined and categorised around responding to the interview topics.

Key findings

All producer interviewees practiced rotational grazing in paddocks that had been previously subdivided apart from Producer 5 who set stocked large paddocks with extended rest periods. Livestock were run as single or multiple mobs according to producer preference. Merino or Dorper ewes were the core enterprise with most properties harvesting managed or unmanaged goats. The overarching management objective for producers: *"We just want to keep our grazing numbers at an appropriate level that can balance production and the natural environment"* (Producer 3). There were, however, differences in management focus reflecting the status of the country they manage as explained below.

Well-functioning landscape producers

The primary focus of well-functioning landscape producers was to maintain and opportunistically improve healthy and diverse country allowing them to concentrate on achieving the highest quality feed practicable and to set high animal production targets. Producer 5 summed up the approach to their business:

"... trying to regenerate some land and maintain the better country as it is which, in turn, means we can have all year-round production and be able to turn off a large number of finished lambs from a small number of breeders."

The approach is underpinned by three core grazing management principles: maintain a consistent, conservative livestock number, foster productive, palatable plant species and implement flexible rest periods as this group of producers explained:

"The nature of the seasons out here is that when it's good, it's so good. ... it's important to have the breeding stock at the right numbers so you can capitalise on that from an economic perspective, but also having the number set so if the season does dry off, you're still not rushing to sell a heap of stock off."

“We watch certain species like ... bladder saltbush. Once the animals start to graze them the alarm bells start to ring. ... It’s a fairly unforgiving species ... because if you graze too hard you’ve got to start from scratch again.”

“So, any country that needs a spell to regenerate bush we can give the country ... six months or one or two years off or whatever we think it needs.”

The grazing strategy employed ensures ground cover is at least maintained, if not improved, enabling the country to withstand frequent and severe droughts minimising any soil loss from erosion.

Recovering landscape producers

The focus of recovering landscape producers was primarily on progressively improving landscape function and the role of livestock was to support achieving landscape goals. Initially when these producers acquired the property, they made substantial production trade-offs but overtime as their management gradually improved the landscape, they made less production trade-offs and had more enterprise options available, for example, moving from agisting cattle to a self-replacing Merino flock. The typical business approach for these producers:

“What drives our business here is ... call it a goal what we want our landscape to look like ... which determines most of our actions. As in our stock [numbers] ... have got to be in balance with the land” (Producer 2).

The approach is underpinned by three core management principles: foster the seedling growth of valued species, encourage the growth and expansion of perennial species and adjust stock numbers to match carrying capacity. As these producers explained:

“Where we have potential [for] a lot of new seedlings of desired species coming on ... our grazing [duration] would certainly be much shorter ... particularly the seedlings that are coming away [i.e. recently emerged].”

“We’ve got to monitor and know how much distance there is between our perennial plants. So, we do monitor ... at least annually. After a year’s grazing [we know] we are actually improving the volume of perennial plants.”

“The recovery of the most severely grazed perennial plant is the key to when you move them [livestock] and how long before you can come back.”

The grazing strategy enables renewal of country with a change to more desirable species, a re-establishing of existing plants, an improvement in soil health and a “better” ground cover. But as Producer 2 cautioned: *“These rangelands out here are very fragile. One good year of work can be undone and can set you back 10 years of progress by getting one year wrong”.*

Personal benefits

Producers identified a mix of economic, environmental and social benefits attached to their grazing management and property. Producers expressed a sense of accomplishment from their ‘care’ of country as demonstrated by their ‘attentiveness, responsiveness and adaptation’ (Dreyfus and Dreyfus 1986 cited in Krzywoszynska 2015) in their grazing management practice: *“how we run our business ... it’s in our best interest to take care of our landscape. That’s very important to us.”* and from building a viable, resilient business in a “very reliably unreliable location”. It provides a satisfying way of life: *“a beautiful place to live. And you get to see a huge variety of seasons. And you watch the weather every day. It is a great and exciting place to live and work.”*

Producers described the connection between the status of country and personal well-being. *“I didn’t realise it, but my mental health is very attuned to the health of the land. ... So, when the country’s doing well, I’m doing well.”* Another important factor ... is actually having land, which is in the condition it’s in, because that makes life a lot easier. *We’re so fortunate to have a ... pretty healthy environment*. Country is viewed as something producers can nurture and restore back to health: *“I really want to heal the land ... I do admire the way we’re doing it”.*

Discussion and conclusion

A key limitation of this study is that only six rangeland producers from across the Western Division of NSW were interviewed and there is no suggestion that these findings are reflective of the industry. Rather it provides

some insights into how producers manage their livestock operation under differing landscape conditions and the co-benefits they believe they receive.

The producers interviewed considered land condition, the quality of the forage base and animal requirements in developing their grazing management strategy. Irrespective of whether producers operated in a well-functioning or recovering landscape, they practised a system of rotational grazing and prioritised the management of native pasture species reflective of the ‘tactical’ approach recommended by Campbell and Hacker (2000) as ‘best practice’. However, there were differences between producers in their management objectives, and this depended on the productive capacity of the land in setting production and landscape targets.

Despite the property size, these producers possessed an intimate knowledge and understanding of the natural environment, its complexities and frailties. This study provides insights into how they use their grazing to maintain or build ecological resilience, in so doing demonstrating their environmental stewardship (Rajala et al.).

Producers revealed a strong connection to their land as evidenced by the positive emotions they expressed about it. To an extent this connectiveness bestows these producers with a personal resilience compensating for the difficulties they may face working and living in a challenging environment on which they depend for their livelihood.

This study provides policymakers with an understanding of how some rangeland producers are balancing production and landscape function for long-term viability. Irrespective of whether they operate in a well-functioning or a recovering landscape, producers interviewed were not prepared to compromise resource condition over production.

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