



Attaining sustainable use on private game ranching lands in South Africa



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ABSTRACT

Although the financial returns of game ranching in South Africa have been well documented, it is often implicitly assumed that the increased transition of lands to game ranching equates to net conservation gains in terms of habitat management and biodiversity conservation. As a first step towards testing this assumption, we conducted qualitative interviews with 28 game ranchers and 10 other key stakeholders in South Africa to investigate how ranchers manage habitat on their lands, and the degree to which they incorporate ecological advice into their land management activities. The purpose of this analysis was to elicit the range of views on how game ranching contributes to biodiversity conservation, rather than to measure the distribution of ranchers who engage in specific stewardship practices. We found that interviewed game ranchers engage in several stewardship practices that are consistent with sustainable use, namely: control of bush encroachment; removal of invasive, exotic plants; erosion control; the use of fire; and active management of game to maintain habitat quality. However, these land stewardship practices were not uniformly adopted by interviewed ranchers, and were not always based on ecological advice. Although our results cannot be expanded to the larger game ranching community in South Africa, they do suggest that game ranchers would benefit from active extension services that provide guidance on biologically sustainable land management practices, which would reinforce the long-term financial and ecological viability of game ranches.

1. Introduction

Wildlife policy in South Africa, which is in direct contrast to the North American Public Trust Doctrine, is founded on the concept of stewardship through individual ownership and sustainable use. In North America the government manages wildlife in trust (Smith, 2011) – wildlife is centrally owned and controlled. In South Africa, private landowners are given user rights to wildlife on their land by the provincial nature conservation authorities (Taylor et al., 2015; Bond and Cumming, 2006). Private landowners may then manage and earn income from the wildlife on their lands, which is intended to incentivize sustainable management of wildlife outside protected areas without implementing prescriptive, conservationist policies. Specifically, landowners with either exemption permits or certificates of adequate enclosure, whose lands are appropriately fenced, may hunt wildlife throughout the year, engage in game capture, and trade wildlife. Landowners without exemption permits or certificates of adequate enclosure (open farms) may also utilize wildlife on their land for commercial purposes. However, they must obtain individual hunting or

capture permits each time they engage in commercial use of wildlife, and they may not hunt throughout the year (Taylor et al., 2015).

South Africa's model of user rights to wildlife has its origins in the 1960s, when Raymond Dasmann and Archie Mossman argued that multiple species game ranching could "be operated safely in ecologically fragile habitats", thereby bringing "marginal land into increased production" (Mossman, 1975: 993). It was recognized that game ranching provided a viable alternative use for private agricultural lands because native game species (which could be harvested for meat) are better adapted to the arid environment and habitats of South Africa (Bigalke, 1966; Castley et al., 2001; Carruthers, 2008; Lindsey et al., 2013). "At the time these ideas were introduced, they were radical, encompassing three major conceptual strands: (1) that the state should devolve proprietorship, including the responsibility for and benefits from managing wild resources, to the landholders ... that live with them; (2) that natural resources should be exploited sustainably and as profitably as possible to achieve both conservation and development goals; and (3) that the neo-liberal concepts of markets, property, and exchange should play a greater role in shaping incentives for conserva-

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tion and allocating resources to their highest valued uses” (Child et al., 2013: 5).

Although the predictions that wildlife would replace livestock in terms of meat production were not realized (Carruthers, 2008; Lindsey et al., 2013), wildlife management still provided a comparative advantage over livestock production in terms of diversified income. Landowners were able to unlock multiple use values from wildlife management, including international trophy hunting, domestic meat hunting, game breeding, live animal sales, production of game by-products, and photographic tourism (van der Merwe and Saayman, 2003; van der Merwe et al., 2014; Lindsey et al., 2007a, 2013; Child et al., 2013; Bond and Cumming, 2006; van der Merwe et al., 2004). For those landowners who transitioned from livestock production to game ranching these income streams were apparently sufficient to offset the high levels of capital investment required to engage in game ranching (see also Cloete et al., 2007; Lindsey et al., 2007a,b).

The success of this system in generating a financial incentive to privately own and manage wildlife is evidenced by the dramatic increase in the amount of private land in game ranching (Reilly et al., 2003). Recent estimates suggest that there are between 9000 and 10,000 private commercial game ranches in South Africa that encompass 170,419 km² (over 17 million hectares) of land (Taylor et al., 2015), i.e. approximately 14% of South Africa’s total land area.¹

South Africa’s property rights system has generated a clear financial incentive to invest in valuable game species. In this regard the system has been an economic success. However, little evidence exists on whether game ranching in South Africa aligns with ‘sustainable use’, as defined by the Convention on Biological Diversity (CBD), to which South Africa is a signatory (Castley et al., 2001). The White Paper on the Conservation and Sustainable Use of South Africa’s Biological Diversity, the main policy document pertaining to the use and conservation of biodiversity in South Africa, is modeled on the CBD (Cousins et al., 2010). According to CBD Article 2, sustainable use encompasses ‘the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations’. This definition of sustainable use centers on the management and use of wild species and ecosystems within *biologically sustainable limits* (Hutton and Leader-Williams, 2003, emphasis added by the authors). As such, sustainable use presents two challenges: 1) “to ensure that use increasingly becomes biologically sustainable”; and 2) “that wherever possible it serves as a conservation strategy to conserve specific resources and prevent the conversion of land to uses that are incompatible with biodiversity conservation” (Hutton and Leader-Williams, 2003: 223).

In determining whether game ranching is biologically sustainable, researchers have primarily focused on the number of game animals being managed on private lands, whether game species are being over utilized, translocation of wildlife outside their natural range, management of threatened and endangered species, predator management, anti-poaching enforcement, and the impacts of fencing on species movement (Cousins et al., 2008; Lindsey et al., 2007a,b, 2013, 2014; Castley et al., 2001) – i.e. the research has focused primarily on wildlife management. While this is an important component of sustainable use, the management of ecosystems within biologically sustainable limits is equally important. This latter issue has been largely overlooked in the peer-reviewed literature, even though estimates suggest that almost one third of South Africa’s potential grazing land has been converted to game ranching (Bothma, 2005). There is some evidence in the grey literature that game ranches have contributed to conservation of

vegetation and increased landscape connectivity (Langholz and Kerley, 2006; Lindberg et al., 2003; Goodman et al., 2002). However, oftentimes it is simply asserted that game ranching has generated strong incentives for landowners to invest in the conservation of habitat and ecosystem services on their lands (Bond and Cumming, 2006; Krug, 2001), without supporting data. Research on the ecological impacts of game ranching in terms of land management practices is largely missing. This is an important research gap.

The research presented in this paper builds on previous work by Cousins et al. (2008, 2010) and McGranahan (2008), which used in-depth stakeholder interviews to investigate the conservation role of game ranching. These are the few peer-reviewed studies that we are aware of that explicitly focused on land management by game ranchers in southern Africa (see also Smit, 2004). According to Cousins et al. (2008, 2010), game ranchers may not incorporate conservation ecology or ecological monitoring into their land management practices, owing to lack of knowledge of these concepts, the perception that these practices do not improve income, and/or beliefs that additional ecological management should be financed by the government through tax rebates. We expand upon this research by further investigating the degree to which game ranchers engage in *biologically sustainable* management of their lands. Specifically, we conducted in-depth semi-structured interviews to elicit information on:

- Which land and habitat management practices have been adopted by game ranchers; and
- The degree to which game ranchers incorporate ecological advice into their land management practices.

2. Methods

2.1. Semi-structured interviews

Given the exploratory nature of this research, we used semi-structured interviews to collect data (Creswell, 2003), which allowed us the flexibility to address new material that we did not anticipate, and to obtain more detailed information than would be possible through the use of quantitative research methods. During each interview, we asked a series of predetermined questions in a systematic order, namely:

- How do you manage habitat on your land?
- Approximately what percentage of your operational budget do you reinvest in habitat management?
- What are the key environmental issues that you deal with on your land?
- Do you measure ecosystem health on your property?
- Do you have a written management plan for your land? Who do you get land management advice from?

We also gave participants the freedom to digress and introduce new topics, allowing us to explore concepts beyond our prepared, standardized questions (see Whyte, 1984; Berg, 2001; Berg, 2001).

2.2. Sampling

In total, we interviewed 28 game ranchers (73.7% of interviews) and 10 other key stakeholders during July and August of 2015. Initially, we selected game ranchers to be interviewed from the membership list for Wildlife Ranching South Africa (WRSA),² a national wildlife ranching organization comprising game ranchers, professional hunters,

¹ This estimate was largely based on data provided by provincial governments for properties that have exemption permits. Data for open farms are limited. As such, Taylor et al. (2015) provided a minimum estimate of the amount of land that is allocated to game operations in South Africa.

² WRSA does not represent all game ranchers in South Africa. As such, we recruited study participants from a subset of the game ranching community. Nonetheless, WRSA is one of the major organizations that represent the game ranching community, and their membership list provided us with access to ranchers who utilized game for multiple different purposes (hunting, breeding, photographic tourism, and game meat production).

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