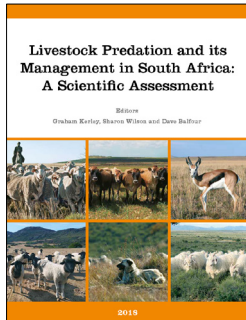


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Livestock predation and its management in South Africa: A scientific assessment

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## Assessing the jackals among the sheep

It is now well established that modern humans evolved in Africa and that this process was in large part a co-evolution with other species. It was entirely inevitable that livestock domestication brought pastoralists into direct conflict with other predators and this, combined with increasing human populations, has created what is termed 'human-wildlife' conflict and raised issues about how best to mitigate it.

This book on livestock husbandry and predation by wild animals incorporates the work of nearly 40 authors in a transdisciplinary magnum opus that provides perspectives from agricultural, biological, ecological, ethical, historical, legal, economic and philosophical fields. The co-authors together represent a staggering array of knowledge and expertise on the subject and represent government, NGOs, academics and producers from across the spectrum. This compendium is ably edited by Graham Kerley, Sharon Wilson and Dave Balfour, respected scientists in their own right, and this publication should help us take a step in the direction of what have been defined as 'living landscapes' by Brown<sup>1</sup>, among others, because livestock predation is likely to remain a problem into the foreseeable future.

The work was strongly underwritten by both the Department of Environment Affairs and the Department of Agriculture, Forestry and Fisheries with the foreword penned by both ministers. Start-up funding was provided by a well-known and respected retail chain and the production of the book was supported throughout by a number of livestock producer organisations.

Chapter 1 covers the basics of the history of predator management, the essence of a scientific assessment<sup>2</sup>, as well as the economic realities of predator impact. Included is a summary of the current legal framework and management, using the black-backed jackal and the caracal as central case studies. Chapter 2 discusses the history of predator livestock conflict in South Africa by reviewing different periods in our history, and clearly establishes the complexity of the problem. There is a useful timeline giving key dates of interest – be it legal, political, economic or wildlife management key developments. Chapter 3 analyses the socio-economic impacts of livestock predation and, in a particularly data-rich chapter, the financial impacts are clearly spelled out with a number of comparisons with other livestock-producing regions of the world.

Chapter 4 deals with ethical issues – essential in the modern approach to complex problems. With so many interested and affected parties involved, it is inevitable that opinions and therefore approaches will differ. Here, the ethical issues are articulately unbundled and examined in terms of moral grounding. The rise of 'animal rights' is also included as well as an examination of control methods and the moral obligations to both animals (predator and livestock) and sectors of society and our human social contract. Chapter 5 presents a comprehensive current legal framework in South Africa, tracking legislation cascading downwards from the Constitution to provincial regulations and responsibilities. The authors conclude that metapopulation management plans for damage-causing animals and norms and standards for their control are required in order to lessen the burden on authorities and allow for role players to adhere to more universal standards.

Chapter 6 reviews past and current management of predation on livestock, including a comprehensive review of accepted methodologies from around the world. This chapter will force any livestock or wildlife manager comprehensively to review the spectrum of available options to their particular problem. Indeed, it is surprising how many non-lethal methods of control exist. However, while many methods have been trialled in South Africa, the authors conclude that there are little data on their success.

Chapter 7 departs from the template above, summarising our knowledge about the biology and ecology of the black-backed jackal and caracal. These two species have dominated discussion on damage-causing animals for decades, and they are universally blamed and persecuted in every possible way when it comes to small livestock predation. The authors agree that most studies have been biased towards the species' biology rather than focusing on their ecology, particularly as it pertains to how they operate in the areas where they overlap with stock farming. In terms of identifying knowledge gaps (the point of a scientific assessment), it is evident that this problem has not been researched and that, once again, the theoretical research trumps the applied – the latter being more difficult to conduct and much more difficult to publish.

Chapter 8 discusses the ecological role of meso-predators in ecosystems and the potential effect of managing their populations. Once again, as in Chapter 7, there are knowledge gaps on a large number of ecological parameters. The Chapter summarises the who's who of research on black-backed jackals and caracal, again suggesting that what we know is of little use to stock farmers. Chapter 9 draws attention to the many other species responsible for livestock predation, including baboons and raptors. Major aspects of the ecology and behaviour of these species provide useful reading. What is surprising is the impact of baboons on small stock and one wonders if this has anything to do with the relaxation of natural controls on baboons and their increasing populations and how this may develop into the future.

The work in general presents a high-quality narrative, as is to be expected from esteemed academics and scientists, but its major value lies in the comprehensive literature cited. At the end of each chapter, knowledge gaps are identified and suggestions raised as to where optimal scientific and financial investments in the future should lie. In general, however, the book will be useful in many areas of research and could also help change attitudes to land and wildlife management, reinforcing many underlying principles but also acting as an engine for shifting attitudes to wildlife, its management and our human ethical dilemma. I would certainly wish to have this publication on my shelf for personal and academic use. This is a wonderful example of newer transdisciplinary approaches to problems facing humanity and its interactions with the environment and wildlife.

## References

1. Brown VF. The extinction market: Wildlife trafficking and how to counter it. New York: Oxford University Press; 2017.
2. Scholes RJ, Schreiner G, Snyman-van der Walt L. Scientific assessments: Matching the process to the problem. *Bothalia.* 2017;47(2), Art. #2144, 9 pages. <https://doi.org/10.4102/abc.v47i2.2144>