Trends in the market price value of South African game animals over the last 31 years

Karlin L. Muller[1,2*] (§), Matthew F. Child[1] (), Alta De Vos[3] (), Hayley S. Clements[3,4,5] (), Brian K. Reilly[2] () & S.A. Jeanetta Selier[1,6] ()

[1]*South African National Biodiversity Institute, Brummeria, Pretoria, South Africa*

[2]*University of the Free State, Park West, Bloemfontein, South Africa*

[3]*Centre for Sustainability Transitions (CST), Stellenbosch University, Mostertsdrift, Stellenbosch, South Africa*

[4]*African Wildlife Economy Institute (AWEI), JS Marais Building, Stellenbosch University, Stellenbosch, South Africa*

[5]*Helsinki Lab of Interdisciplinary Conservation Science, Department of Geosciences and Geography, University of Helsinki, Helsinki, Finland*

[6]*Extraordinary Research Fellow, Faculty of Law, North-West University, Potchefstroom, South Africa*

Received 29 January 2025, To authors for revision 25 March 2025, Accepted 2 May 2025

Abstract

There is a growing recognition within national policy that South Africa's wildlife economy holds the potential to contribute to both socio-economic development and biodiversity conservation. Recent policy initiatives outline a broad strategy aimed at guiding the country's biodiversity economy, emphasizing the importance of enhancing the sustainable use of wildlife to promote socio-economic growth and transformation. However, the efficacy of these proposed strategies and policies in achieving the dual goals of biodiversity conservation and economic development largely hinges on the behaviour of markets. Game price data present a unique opportunity to investigate the dynamics of one crucial market within this economy: the trade of game animals. Here we use game auction and international trophy hunting data to assess variations in market price trends of game animals between 1991 and 2022. Additionally, we analyse the number of game animals sold and hunted, as well as the frequency of exports, to understand the potential drivers of these trends. Our findings reveal that auction prices for plains and high-value game animals exhibited a gradual increase from 1991 until 2012. However, between 2015 and 2017, these prices experienced a sharp rise, followed by a considerable decline from 2018 onwards. The number of international trophy hunts showed a gradual upward trend with notable declines in 2020. Variations in market price trends highlight the necessity to investigate potential drivers of such fluctuations. Our work carries significant implications for policy development and decision-making processes, and for the effective management of wildlife to achieve conservation objectives.

Keywords: wildlife economy, game prices, socio-economic development.

Introduction

South Africa's wildlife economy makes important contributions to the country's biodiversity conservation, tourism industry, and rural development (Taylor, Lindsey, Nicholson, Relton & Davies-Mostert, 2020; Taylor *et al*. 2021; Denner, Clements, Child & de Vos 2024). With private game ranches covering 17–20% of the country's land surface area (Taylor *et al*. 2020), South Africa has realized the potential of its wildlife economy through national policies that aim at fostering socio-economic development and biodiversity conservation (DFFE 2024). Trophy hunting and live trade in game are pillars of the wildlife economy (Taylor *et al*. 2020). Game prices are influenced by interconnected political, economic and ecological factors (Van der Merwe, Saayman & Krugell 2004; Dalerum, Miranda, Muñiz & Rodríguez 2018). However, the impact of market dynamics, such as game price fluctuations, on the wildlife economy's ability to achieve these socio-economic and conservation goals remains poorly understood. Analysing game price data is crucial to understand the risks of relying on volatile markets for these outcomes.

Methods

We compiled data on the price and number of

*To whom correspondence should be addressed.
E-mail: karlin7muller@gmail.com

African Journal of Wildlife Research 55: 435–438 (2025)
(Extended SAWMA 2024 Conference Abstract)
ISSN 2410-8200 [Online only] — DOI: https://doi.org/10.3957/056.055.0435

species per year of ten plains game species sold live on auction and three high-value game species trophy hunted (Taylor, Lindsey & Davies-Mostert 2016). Mean prices per species per year were calculated. We used auction data from various sources: Dalerum *et al*. (2018) (1991–2012), R. Nowers[1] (Western Cape Department of Agriculture) (2013–2015), and online auction house Wildswinkel (https://wildswinkel.co.za/) (2016–2022). Prices were adjusted for inflation using the consumer price index (SSA 2024) and presented in South African Rand (ZAR). Mean international trophy hunting prices of high-value game between 2010 and 2022 were obtained from annual Department of Forestry, Fisheries and the Environment (DFFE)[2] Professional Hunting Registers and presented in United States Dollars (USD). The total number of trophy-hunted animals served as a proxy for exports, as none of the species analysed are listed under the Convention on International Trade in Endangered Species (CITES).

Results

Trends in mean auction prices for plains and high-value game gradually increase from 1991 until 2012 (Fig. 1). Between 2015 and 2017, plains game experienced notable market price increases. Kudu (*Tragelaphus strepsiceros*) prices surged by over 1000% from 2012 and 2015. From 2018 onwards, game prices declined, with eland (*Tragelaphus oryx*) prices dropping 766% from 2016 to 2022. An exception was black wildebeest (*Connochaetes gnu*) prices, which saw a 1422% increase in their mean price over this period. No considerable trends in the number of animals sold on auction was observed.

High-value trophy species experienced a market spike in 2011, followed by a decline in 2019 (Fig. 2). The trophy hunting price of the Cape buffalo (*Syncerus caffer*) increased by 89% in 2011 but dropped by 64% in 2012. Prices then stabilized, with another decline by 41% in 2019, followed by steady trends until 2022. Roan (*Hippotragus equinus*) and sable antelope (*H. niger*) exhibited similar patterns. The number of trophy-hunted sable antelope gradually increased from 2010 until 2019, dropped by 94% in 2020, and surged by 1650% in 2022.

Discussion

The analysis reveals the volatile nature in South Africa's game market prices over the past three decades, highlighting the complex dynamics of the wildlife economy. The Game Theft Act of 1991 (South Africa 1991) played a key role in expanding wildlife ranching by granting ownership rights to farmers with adequate fencing, contributing to the sector's growth. A shift from livestock to game farming in the early 1990s, driven by this policy and reduced agricultural subsidies post-1994, likely contributed to rising game prices (Carruthers 2008). In 2004, the South African government introduced ring-fencing provisions to curb tax avoidance by requiring game farms to prove commercial viability (National Treasury 2003). This policy shift likely prompted farmers and investors to focus on high-value species and intensify operations, driving up demand and, consequently, game prices. As a result, live game sales turnover

[1]Muldersvlei Road, Elsenburg, Stellenbosch, South Africa (Private Bag X1, Elsenburg, 7607)

[2]473, Steve Biko Road & Soutpansberg Road, Arcadia, Pretoria, South Africa (Private Bag X447, Pretoria, 0001)

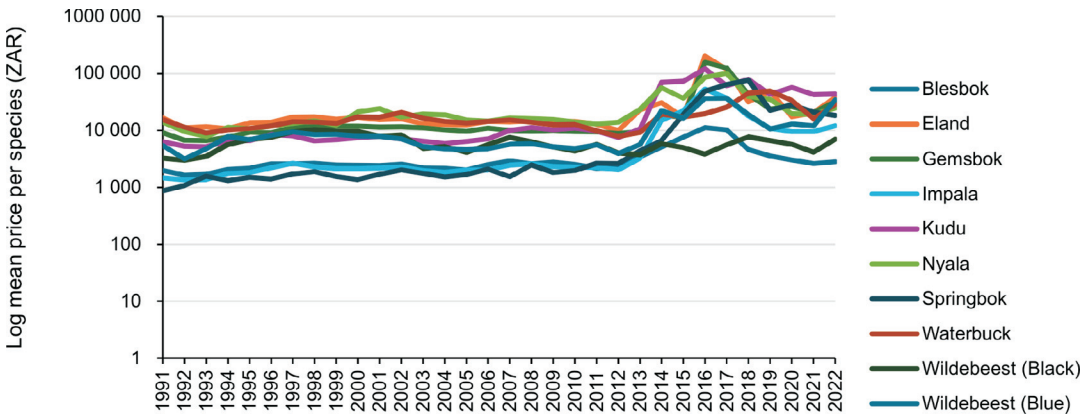

Fig. 1. Log mean auction prices of plains game species in South Africa between 1991 and 2022.

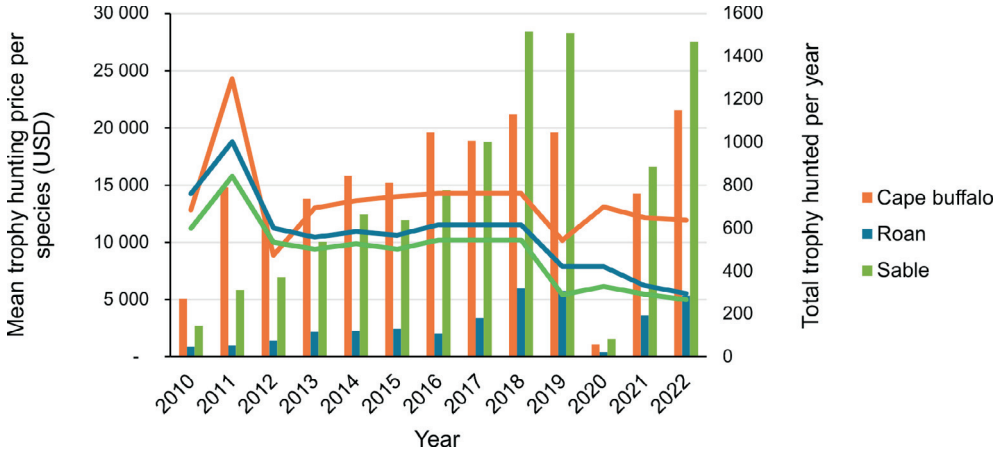

Fig. 2. Mean international trophy hunting price and total number hunted per year for high-value game species in South Africa between 2010 and 2022.

surged nearly 2000% between 2005 and 2014 (Cloete 2015), with over 9000 farms covering more than 10 million hectares (Taylor *et al*. 2016). The growth of game farms may have led to a rise in game numbers and trophy hunts, as observed with sable antelope (Fig. 2). However, a speculative price bubble from 2015 to 2017 led to sharp inflation followed by a market correction (Coetzee 2019), as indicated in observed trends (Fig. 1). Price fluctuations may also stem from outliers and exchange rate influences, coupled with recent impacts of the COVID-19 pandemic. Despite the economic focus of South Africa's game industry, socio-political factors can drive market trends that may undermine its conservation potential. Implementing stabilization measures, such as incentive-driven certification schemes, could support long-term socio-economic and conservation objectives in South Africa's game ranching industry.

[§]ORCID iDs

K.L. Muller: orcid.org/0000-0002-0028-9823
M.F. Child: orcid.org/0000-0003-1718-4638
A. De Vos: orcid.org/0000-0002-9085-4012
H.S. Clements: orcid.org/0000-0002-7015-6532
B.K. Reilly: orcid.org/0000-0003-1444-1547
S.A.J. Selier: orcid.org/0000-0003-1598-464X

References

Carruthers, J. (2008). "Wilding the farm or farming the wild"? The evolution of scientific game ranching in South Africa from the 1960s to the present. *Transactions of the Royal Society of South Africa*, 63(2), 160–181.

Cloete, F. (2015). *Growth expectations for the South African game ranching industry*. Pretoria, South Africa: Grain SA. https://www.grainsa.co.za/growth-expectations-for-the-south-african-game-ranching-industry#:~:text=During%20this%20period%2C%20the%20industry,over%20the%20past%20nine%20years (accessed 13 January 2025).

Coetzee, K. (2019). SA's wildlife industry: The bubble that burst. *Farmer's Weekly*, 2019(19004), 25.

Dalerum, F., Miranda, M., Muñiz, C. & Rodríguez, P. (2018). Effects of scarcity, aesthetics and ecology on wildlife auction prices of large African mammals. *Ambio*, 47(1), 78–85.

Denner, C., Clements, H.S., Child, M.F. & de Vos, A. (2024). The diverse socioeconomic contributions of wildlife ranching. *Conservation Science and Practice*, 7(6), e13166.

Department of Forestry, Fisheries and the Environment (DFFE). (2024). *Draft national biodiversity economy strategy*. https://www.dffe.gov.za/sites/default/files/legislations/nemba_draftbiodiversityeconomystrategy_g50279gon4492.pdf (accessed 27 January 2025).

National Treasury. (2003). *The draft legislation on the ring-fencing of assessed losses*. https://www.treasury.gov.za/divisions/tfsie/tax/legislation/proposed/2003/Ring-fencing%20of%20assessed%20losses%20public%20comment.pdf (accessed 27January 2025).

South Africa. (1991). *Game Theft Act 105 of 1991*. https://www.gov.za/sites/default/files/gcis_document/201409/a1051991.pdf (accessed 27 January 2025).

Statistics South Africa (SSA). (2024). *CPI headline index numbers*. https://www.statssa.gov.za/publications/P0141/CPIHistory.pdf (accessed 27 January 2025).

Taylor, W.A., Child, M.F., Lindsey, P.A., Nicholson, S.K., Relton, C. & Davies-Mostert, H.T. (2021). South Africa's private wildlife ranches protect globally significant populations of wild ungulates. *Biodiversity and Conservation*, 30(13), 4111–4135.

Taylor, W.A., Lindsey, P. & Davies-Mostert, H. (2016). *An assessment of the economic, social and conservation value of the wildlife ranching industry and its potential to support the green economy in South Africa*. Johannesburg, South Africa: The Endangered Wildlife Trust.

Taylor, W.A., Lindsey, P.A., Nicholson, S.K., Relton, C. & Davies-Mostert, H.T. (2020). Jobs, game meat and profits: The benefits of wildlife ranching on marginal lands in South Africa. *Biological Conservation*, 245, 108561.

Van der Merwe, P., Saayman, M. & Krugell, W. (2004). Factors that determine the price of game. *Koedoe*, 47(2), 105–113.

Responsible Editor: L. Behrendorff