

## Providing Education to Enhance Wildlife Conservation in South Africa Through the First Wildlife School for Game Ranchers - a Grassroots Effort by Government Authorized Conservationists

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**ABSTRACT:** The establishment of the game ranching industry in South Africa has resulted in the conversion of 20 million hectares of marginal agricultural land to an economically viable and conservation oriented industry. The single biggest driving factor in the growth of the game ranching industry in South Africa was the promulgation of the Game Theft Act 105 of 1991 which conferred private ownership of game. Due to the Act, wildlife became economically viable and were managed according to the creation of this new market. The growth in game animals has reached its highest point since 1850 with over 20 million animals. In 1992, South Africa signed the International Convention on Biodiversity whereby the country committed itself to a goal of 12% of the country would be preserved for wildlife biodiversity by 2021. By 2016, the Department of Environmental Affairs (DEA) had determined that South Africa's terrestrial protected area fell far short of the 12% agreed upon by the country. The DEA had determined that South Africa would have to depend on the assistance and conservation of the game ranching industry in order to meet the 12% target. In 2017 it was realized that a wildlife school for game farmers was needed, to address utilizing natural resources in a manner that supports sustainability and improves economic prospects while upholding conservation ethics. To help unify the industry and address the unknowns, the first Wildskool was developed to provide direct face to face education.

**KEYWORDS:** conservation, game ranching, regulation, South Africa, wildlife management

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### INTRODUCTION

South Africa has had a tumultuous relationship with wildlife. Between predator management, disease, war, and the need for human survival, wildlife has struggled to

survive (Bergman et al 2013; Carruthers 2008a; Oberem and Oberem 2016; Wessels 2011). In the 1960s, a world-wide movement began to protect the earth and its resources. Following conservation movements and

changes in legislation, game farming grew exponentially in South Africa. Game is farmed for four main ways to generate income from game: cropping and sale of the meat, or venison as it is normally termed; hunting, by paying clients; live animal sales to other game farmers; and game viewing, where facilities are offered to visitors to view or photograph game (Luxmoore 1985). Luxmoore (1985) states that as game farming is so widespread and involves so many species, game farming is clearly a force in conservation that must be reckoned with. To meet the needs of game farming and their quest for knowledge, one must first understand how South Africa reached the position of legislating game farmers into conservationists.

### **DECIMATION OF WILDLIFE**

The recorded history of wildlife management in South Africa can be traced to the settlement of the Dutch colonists at Table Mountain in 1652, with an emphasis on predation management (Bergman et al. 2013). Following colonization, settlers believed that wildlife significantly competed with livestock (Oberem and Oberem 2016). Due to the need for survival on a new continent, hunting parties of early settlers and European royalty eradicated the majority of game in the southern Cape (Furstenburg and Heyneke 2018). The first species driven to extinction due to uncontrolled hunting was the blue buck (*Hippotragus leucophæus*). The blue buck was locally found in the southwest part of Cape Colony, and is believed to have been exterminated around 1799 (Broom 1949). The second species to go extinct was the quagga (*Equus quagga quagga*) a close relative of the plains zebra (*Equus quagga*). The last quagga individual died in the Amsterdam Zoo in 1883 (Harley et al. 2009). Loss of quaggas can be traced to a second influx of British settlers who arrived in the Eastern Cape in the 1820s, which resulted in

an extension of continued killing into the Cape Midlands for the hide and meat markets.

By 1895, wildlife in southern Africa had been seriously depleted, principally by commercial and subsistence hunters (Carruthers 2008b; Oberem and Oberem 2016). Elephant (*Loxodonta africana*), white (square-lipped) rhinoceros (*Ceratotherium simum*), black (hooked-lipped) rhinoceros (*Diceros bicornis*), bontebok (*Damaliscus pygargus dorcas*), blesbok (*Damaliscus pygargus phillipsi*), black wildebeest (*Connochaetes gnou*), the Cape mountain zebra (*Equus zebra zebra*) and other large mammals became locally extinct. Losses to habitat and wildlife were further exasperated during the Anglo-Boer War (1899-1902). Lord Roberts and General Kitchener implemented a scorched earth policy destroying anything that could help the Boer's during the war (Wessels 2011). The third factor impacting wildlife was zoonotic diseases, especially rinderpest. Rinderpest arrived in South Africa in 1896 (Sunseri 2018) and caused the loss of 95% of the continent's buffalo (*Syncerus caffer*) (Oberem and Oberem 2016).

Wildlife extermination continued into the 20th century as it was perceived to be in conflict with livestock (Carruthers 2008, Bothma et al. 2009). Between 1920 and 1965, government veterinarians in southern Africa killed 620,000 game animals for the protection of cattle, in an effort to control Nagana fever carried by the Tsetse fly (Furstenburg 2017). By mid-century, wildlife had been severely decimated outside of South Africa's national parks (Bothma et al. 2009).

### **CONSERVATION DEVELOPMENT**

A change of philosophy came about in the early 20<sup>th</sup> century with the establishment of game reserves. Game reserves were based on the goal of rebuilding

stocks of antelope, buffalo and other species that were the quarry for hides, horns, biltong (dried meat) and sport. Management strategies to achieve this goal included guarding these desirable species of wild animals against poaching, preventing public access into game reserves, removing people from the reserves and eliminating predators (Bergman et al 2013; Carruthers 1995). Although game reserves had been established by proclamation in three of South Africa's four provinces by 1910, no coherent bureaucracy was set up to manage them. South Africa's first wildlife managers were neither scientists nor people educated in natural history (Carruthers 2007). As far as the formal biological sector was concerned, South Africa's university and museum scientists were not a strong pressure group because their numbers were small, thus they had no influence on government. It was the veterinarians and agriculturalists in government service that were the country's most powerful field scientists in the first half of the 20th century. The explanation for this was their political and economic profile because of the efforts they could make in protecting and promoting the development of commercial livestock and crop farming industries that were so economically important after 1910 and which, in the 1920s, was a major contributor to gross domestic product (Carruthers 2007). Trained in believing that wild animals spread diseases to domestic livestock and that, rather than establishing "worthless" game reserves and national parks, all land should be in some kind of "productive" use, the majority of men in the Division of Veterinary Services of the Department of Agriculture were vehemently opposed to the establishment of protected areas or to any form of wildlife conservation (Carruthers 1995).

A game census was conducted in South Africa during 1971. At that time, the numbers of the five main commercial species

were 269,000 springbok (*Antidorcas marsupialis*), 4,720 eland (*Tragelaphus oryx*), 96,700 blesbok, 349,300 impala (*Aepyceros melampus*) and 17,550 kudu (*Tragelaphus strepsiceros*) (Skinner 1973). In addition, there were considerable numbers of gemsbok (*Oryx gazelle*), black wildebeest and red hartebeest (*Alcelaphus buselaphus*), especially in the drier regions of the Northern Cape, Free State and Western Transvaal (Luxmoore 1985).

Internationally, there has been an increase in private wildlife conservation (Barany et al. 2001; Langholz 1996; Miller et al. 2012). The trend is often heralded as a positive contribution to meeting conservation goals such as those set by the Convention on Biological Diversity. In addition, there is a universal belief that the new trend will result in economic development and poverty elimination in developing countries (Suich et al. 2009). The case for conservation on private land was strongly argued in nature conservation circles in Southern Africa (Bond et al. 2004), with the commercial use of wildlife on private land contributing to economic development and poverty alleviation by generating revenue and local job opportunities (Langholz and Kerley 2006).

In the 1980s, South Africa's agricultural industry underwent a process of deregulation. The process began in the mid-1980s but was expanded after the transition to democracy in 1994. Deregulation caused marketing boards to close, price controls and export monopolies were abandoned and subsidies cut (Vink 2004) as supported by policies promoted by the International Monetary Fund and the World Bank (Terreblanche 2002; van Zyl et al. 2001). South Africa's economic agricultural subsidies are among the lowest in the world (Atkinson 2007). Based on the aforementioned changes, farmers have become more vulnerable to international

shocks and deteriorating terms of trade, and their debt situation worsened. Many have gone out of business. In this context, an international and growing tourism market, following the transition to democracy, offered new and increased opportunities for landowners. An increasing number have shifted to wildlife-based production, often referred to as wildlife ranching or game ranching (Suich et al. 2009; Langholz 1996). The first movements to game farming occurred in the second half of the twentieth century (Nell 2003), but after South Africa's political changes in 1994, the conversions accelerated significantly. By 2006, wildlife was being produced on nearly 10,000 commercial farms (on about half of which, wildlife is combined with continued crop and/or livestock activities). The exact land surface involved in private wildlife production and tourism is difficult to ascertain, but estimates in 2006 varied from 13% to about 17% nationally (NAMC 2006).

Wildlife-based land use is an extensive form of land-use in which income is derived from wildlife (whether through tourism, hunting, meat production or breeding). As such, it has been recognized as the most expanding land-related activity of the last few decades (du Toit, 2007; NAMC 2006).

### **LEGISLATIVE CHANGES**

The federal government of South Africa began protecting animals including wild animal on a broad scale with the Animal Protections Act of 1962 consolidating and amending the laws relating to the prevention of cruelty to animals (Government Gazette Extraordinary No. 71 1962, 22 June 1962).

A process of moving the privately farmed game sector from the Department of Nature Conservation (presently known as the Department of Environmental Affairs, DEA), due to the lack of recognition or ability to address the operational needs and problems

of the private game rancher (Furstenburg and Heyneke 2018). Securing the move, was the Game Theft Act 105 of 1991 which combated theft and illegal hunting and capture, and gave rights of ownership of wildlife on suitable fenced land or in a vehicle (Government Gazette Vol. 313 5 July 1991 No. 13352), thus allowing for private ownership of wildlife. Adding value to the private ownership was the Marketing of Agricultural Product Act No. 47 of 1996, which recognized game as an agricultural product under the DAFF. Consequently, South Africa legislated game ranchers to be their default conservation and resource protector.

### **GROWTH OF GAME RANCHES**

Game ranching began on a small scale with four fenced game ranches specializing in game in the former North-Western Transvaal in 1965 (now part of Limpopo and North West Provinces [du Toit 2007]). At that stage it was estimated that there were between 2,000-3,000 farms using one or two game species as a secondary source of income (Mossman and Mossman, 1976). In 1980, it was estimated that approximately 400 game farms in South Africa were used entirely for wildlife, covering an area of 6,100 km<sup>2</sup>. By 1987 this had increased to 1,760 farms, covering 62,000 km<sup>2</sup> (Carruthers, 2008b). By the year 2000, there were between 7,000 and 9,000 wildlife ranches covering a total area of 160,000 km<sup>2</sup> (Ebedes, 2002; Van der Merwe et al., 2004; Bothma and Von Bach, 2010). The game farms were unevenly spread across the provinces, with more than 80% occurring in Limpopo, the Northern Cape and the Eastern Cape in the year 2000 (Van der Merwe and Saayman 2003). Growth continued, and by 2005 the total area used by wildlife ranching was estimated to be 205,000 km<sup>2</sup> including 6,330 farms (National Agricultural Marketing Council, 2006),

representing 16.8% of South Africa's total land area of ~1,221,000 km<sup>2</sup>. The number of wildlife ranches grew by an average of 7.4% per year during the time period 1987 to 2005, while the area used for wildlife ranching grew by an average of 6.9% per year (Taylor et al. 2016).

The shift to game ranching from farming and ranching, resulted in significant benefits for wildlife conservation. A large market for live wild animals developed as game ranchers purchased animals for reintroduction. In South Africa, for example, almost 200,000 wild animals were traded during 1991–2004 (Damm, 2005). Reintroductions of wildlife by game ranchers facilitated the recovery of several endangered species such as black wildebeest, bontebok, mountain zebra and white rhinoceros (Flack, 2003). Game ranching permitted conservation of large tracts of indigenous vegetation, protection for watersheds and the commencement of recovery of land degraded by overstocking of livestock (Child 1988; Bond et al., 2004). Management for large mammals serve as an 'umbrella assemblage', which has resulted in the effective conservation of a wide diversity of species from other taxa (Lindsey et al. 2009).

Today the number of private game ranches in South Africa is approximately 11,600, covering c. 21 million hectares (van Hoven 2015). This has resulted in a 40-fold increase in the number of wildlife from the early 1960s to today, with South Africa now having more wildlife than at any point in time during the past 200 years. Currently the game ranching industry contributes \$1.1 billion (3%) to the national Gross Domestic Product in South Africa (Van de Giessen and Nel 2016). Game ranching contributes more than 20 billion Rand to South Africa, more than 150,000 tons of game meat annually, and more than 140,000 jobs (van Hoven 2015). Trophy hunting alone contributes more than ZAR5 billion (US\$341 million)

and supports more than 17 000 employment opportunities (Saayman et al. 2018). Game ranching has become a US\$1 billion industry in South Africa, based on the sustainable use of wildlife as a natural resource.

## **THE GRASS ROOTS MOVEMENT**

In 1992, South Africa signed the International Convention on Biodiversity in Rio de Janeiro (Government Gazette No. 18163, 18 July 1997), whereby the State committed itself to a goal of allocating 12% of its surface area to be conserved/preserved for wildlife biodiversity by the year 2021. According to the World Bank, only 8.5% of South Africa's terrestrial land base had been protected by 2014. To meet the International Convention of Biodiversity, South Africa has had to turn to the default conservationist, the game rancher.

Mr. Francois Schutte, owner of Mbogo Wildlife Ranch, saw the need for educational resources to enable the success of South African game ranchers and ultimately the success and protection of South Africa resources through their legislated conservationists. He (Mr. Schutte) pulled together a group of individuals to develop the book "Game Ranching in Central South Africa" (Schutte 2006), with government support from the Department of Tourism, Environmental & Economic Affairs, as well as a Member of the Executive Council Mr. Meo Masithela (Schutte 2006b). The book provided readers with information on capacity for game species, common species of game, small mammals, legislation, wildlife marketing, the hunting industry and the ecology of black wildebeest. Articles were written in English and Afrikaans.

Educational opportunities continued to progress as Mr. Schutte, a member of the Free State Buffalo Breeders' Association, organized a workshop in Aldam, Free State, South Africa (Coleman 2015). Buffalo are carriers of, or are prone to, a number of

diseases that are detrimental to cattle. The workshop provided information on corridor disease, bovine catarrhal fever, bovine tuberculosis, and brucellosis. The goal of the workshop was to educate buffalo farmers with the knowledge they need to ensure disease free herds and increase their financial bottom line while protecting the wildlife resources of South Africa.

Following the buffalo workshop, Mr. Schutte, Mrs. Charmaine Alberts and The friends of the buffalo pulled together a panel of distinguished experts to create the book “The Buffalo in South Africa” (Schutte and The friends of the buffalo 2017). The authors focused on protecting buffalo through better genetics, disease management, industry standards, nutrition, and protecting the resources of South Africa.

Mr. Schutte along with Charmaine Alberts, who had experience with the Stockman School, and Dr Michael Bradfield, CEO of Breedplan (now Wagyu Cattle), created the idea for a game ranchers school based on Schutte’s previous experience on workshops on buffalo breeding, in collaboration with Nature Conservation, state veterinary officials, and Alberts’ late husband Paul (Dean 2017). The curriculum would comprise theory and practice, covering plains game, feline species, and big game species, along with information on marketing, laws and regulations and the hunting industry. Schutte proposed a list of 22 potential speakers, including international hunters and venison producers.

The school now named Aldam Game School 2018, or Wildskool (in Afrikaans), came to fruition on March 14 and 15, 2018. The Wildskool was held at Aldam Resort and Conference Center, Ventersburg, South Africa. The theme of the Wildskool was “The South African Wildlife industry: A future desired position.” The wildlife industry forms part of agriculture in the same way as normal agriculture activities should

form part of conservation throughout the world. Wildskool is about utilizing natural resources in a manner that support sustainability and improving financial or economic prospects while upholding the right ethics and ensuring conservation in southern Africa. The Wildskool was divided into a two part format. The mornings were dedicated to big picture topics for the game ranchers. Afternoons allowed for a round-robin format wherein smaller groups had more specialized time with individual speakers. Over 125 participants attended the Wildskool learning from professionals (26 speakers) in the game ranching industry, veterinarians, hunting industry, government, banking, nutrition, predation management, species ecology, conservation, equipment, marketing, translocation, and genetics. The organizers were able to arrange a number of Wildskool sponsors including Afrivet, CertiSure, Epol, Gallager, Landbou Weekblad, Mbogo Wildlife Ranch, Standard Bank, Tau, Toyota Bultfontein, and Unistel Medical Laboratories.

The Wildskool was deemed a huge success with sponsors stepping up for a second game school before the first school was even over. Following the successful Wildskool, several of the speakers toured South Africa to consult on predation management. The next school is currently in development.

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