

South Africa's Serengeti? The ecology and history of Karoo springbok treks and their modern day potential*

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The romance of the Karoo is embodied by several things. Perhaps the most spectacular is the ancient phenomenon of springbok treks of hundreds of thousands of animals from one area to another, decimating grazing as they moved and absorbing, seemingly effortlessly, the indiscriminate destruction of farmers intent on protecting their land and stock. The *trekbokke* have deservedly claimed a place in South Africa's history, and the myth and legend of their mass migrations has become ingrained in local folklore.

Ecology of springbok treks in the Karoo

Far from being predictable annual migrations of standard numbers of springbok between key winter and summer areas, springbok treks were instead cyclical irruptive events that owed much to the feast and famine nature of the Karoo. Superbly adapted in a physiological and reproductive sense, springbok herds were able to thrive in the Karoo of old not because they were particularly drought resistant but because – like other arid-adapted species such as irruptive birds and the locusts with which they were often compared – they were quickly able to take advantage of times of plenty.

In fact populations could, and occasionally did, produce two groups of young within six months, this being achieved by ewes coming into post-partum oestrus after lambing during the usual peak of October and then giving birth again in March or April the following year. This rapid reproduction could also involve yearling ewes coming into oestrus for the first time during the usual lambing period.

Such an adaptation meant that local springbok populations could grow exponentially during favourable periods. Herds of hundreds became herds of thousands. So long as graze and browse were abundant and continued to support burgeoning springbok numbers so the population continued to grow – natural predation pressure from the large predators having negligible effects on overall numbers. Such fecundity cannot last forever in the Karoo however and inevitably the rains fail or are randomly scattered and isolated. In such cases the springbok were forced to move and to concentrate on the isolated patches of productive grazing – the capacity for long distance movement another key adaptation in Karoo springbok ecology. As they did so, the size of herds grew even larger as the herds converged on what pasture was left. Isolated thunderstorms – noted from the lightning at night, or the smell of rain on the breeze – set the herds moving off together in a 'trek'. Initially these treks might have consisted of ten or even fifty thousand animals and have concentrated in a reasonably limited area of the *Achterveld*, as the more remote areas of the arid Nama Karoo were known. As the remaining grazing resources were exhausted however so the different

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aggregations of springbok were forced together, forming even larger herds of hundreds of thousands of tightly packed animals, all in search of whatever grazing remained.

In such times it was inevitable that the herds would eventually move east and south east from the central districts, such as Kenhardt, Fraserburg, Carnarvon and Prieska, into the higher rainfall grassy Karoo – into districts such as Victoria West, Britstown, Richmond, Hope Town, Hanover and Colesberg. These areas of course had resident springbok and local movements or aggregations occurred, but due to their more reliable rainfall and grazing they were not the source of the mega treks. Rather they were the last resort, an overflow or reserve area for the sporadic mega herds of the more arid interior.

Movements of the *trekbokke* in the karoo need to be understood on a regional rather local level. In other words the whole Nama Karoo biome needs to be considered when trying to evaluate movements of the springbok population. The relatively well-watered parts of the eastern Karoo for example supported reasonably stable resident populations of springbok prone to smaller local movements on a seasonal as well as sporadic basis. The more arid interior, or *Achterveld*, due to the ephemeral and unpredictable nature of its rainfall and grazing did not permanently support large numbers of springbok. During times of plenty however, the resident springbok, combined no doubt with immigrants, grew exponentially in number so long as the area remained productive. Once the rains failed these springbok needed to emigrate to areas where rain had fallen and grazing remained, or to the comparatively verdant eastern Karoo.

The movements of the springbok trek of 1880 (see figure 1 below), in what was known as the ‘springbuck *droogte*’ illustrate this type of movement quite clearly. The preceding year had been one that received above average rainfall, but 1880 was dry and received below average rainfall. By the end of summer, grazing resources had withered and in June large herds of springbok emanating from the interior were first reported in the district of Carnarvon. The herds moved steadily further east, crossing the districts of Victoria West and Richmond and penetrating as far as Hanover. The following month herds moved out of the Hanover area back into the district of Richmond, towards Britstown and into the district of Prieska. August saw the main concentration moving back east into Britstown and then back west again into Prieska, spring rains causing the temporary dispersal of the congregations. October and December again saw influxes from the remote northern reaches of the Carnarvon district back into Richmond, localised showers and the onset of the summer rains again causing their dispersal back west.

As an indication of the large numbers of springbok and their increased availability on markets, between June and July, whole springbok carcasses plummeted in value from 4s to 1s 6d, and tales of massive slaughter were regaled in the local press. One farmer shot 68 springbok without taking a single step for example, while another party of 28 ‘bagged’ 750 in a single hunt.

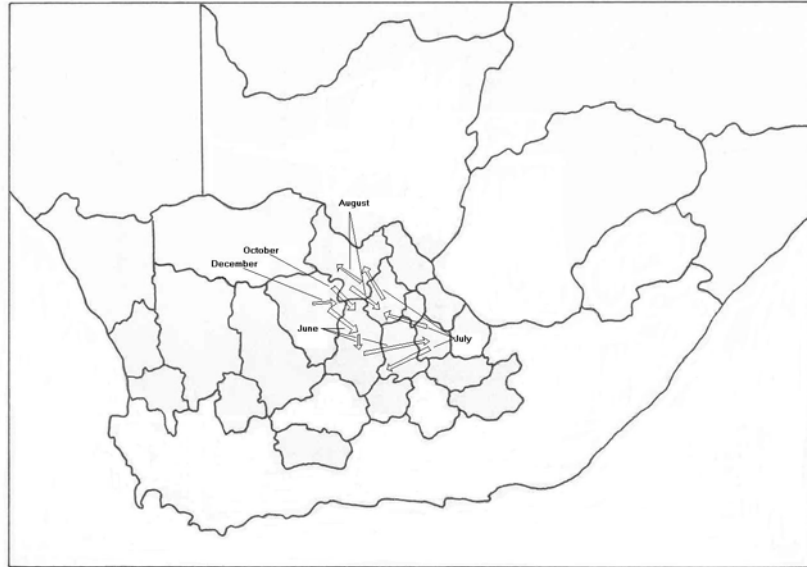


Figure 1: Movements of trekbokke, June 1880 - December 1880

The end of springbok treks

Owing to the damage done to the sheep and wool industry, the trek of 1880 saw renewed calls for the destruction of springbok as well as the suggestion that farmers use wire fencing to enclose and protect their grazing. Seventeen years later a combination of factors had achieved the effective end of springbok treks in the Karoo.

Although rinderpest is most often cited as the main cause of the end of springbok treks, this is in fact not the case. The advent of rinderpest in the Cape Colony in 1896 and 1897 certainly did coincide with the last great mega-trek but there is however nothing linking the two events other than coincidence and conjecture.

Rather, springbok treks were ended by exactly those measures that had been advocated in 1880 – hunting and fencing. Both these factors were exacerbated by the increasing permanent colonisation of the Achterveld and the concomitant increase in domesticated stock. As a result the trek of 1896-7 was the last large-scale movement of springbok that occurred in the Nama Karoo. The destruction wreaked on the herds was astounding and, although impossible to quantify, ran into the hundreds of thousands of slain springbok. The massive impact of hunters from all over South Africa essentially reduced the regional springbok population to a threshold below that from which recovery was possible and the days of the treks were at an end.

The modern-day Karoo

Although springbok themselves are ubiquitous, springbok treks of course no longer characterise the Karoo plains. The phenomenon need not be consigned to history however. There are a number of developments that would seem instead to indicate that springbok might yet be the salvation of the region.

Ecotourism

The first of these is the current worldwide boom in nature-based or ‘eco-tourism.’ South and southern Africa have correspondingly enjoyed considerable increases in tourist arrivals and the fact that of these arrivals a considerable percentage travel specifically for a wilderness or big game experience has led to significant changes in

rural land values. Spreading from the traditional game areas of the Mpumalanga and Limpopo lowveld to new epicentres such as the Waterberg, northern KwaZulu-Natal and the Eastern Cape, the increase in land prices as stock is replaced with game has reached even the Karoo with significant developments in the Seacow River valley in particular.

Although pure photographic tourism has yet to take off in a big way in the Karoo, other aspects of nature based tourism such as hunting are forming more and more important cornerstones to local economies. The utilisation of wildlife has not been purely consumptive however and an equally lucrative utilisation of the land has been to breed economically profitable species of wildlife not necessarily native to the Karoo such as roan and sable antelope, as well as disease free buffalo and other, less expensive, species such as eland, gemsbok and red hartebeest.

Declining stock numbers and Unemployment

As it becomes increasingly clear that small stock farming in the Karoo is marginal and has contributed to the degradation of the land and pasture, so stock numbers are being reduced. Some areas and some farms continue to be profitable and productive, but for the most part there is a growing realisation that this industry is unsustainable and something else must prove to be the salvation of the Karoo. Since the days of the trekboers, economic life in the Karoo has been hard. As the mainstay of sheep farming has stumbled, however, unemployment in today's eastern Karoo has increased dramatically. In districts such as De Aar where unemployment stands at around 68% the main contributing factor to unemployment is the decrease in rail traffic but in other districts, where unemployment averages almost 40%, joblessness appears to be due to the faltering of livestock farming.

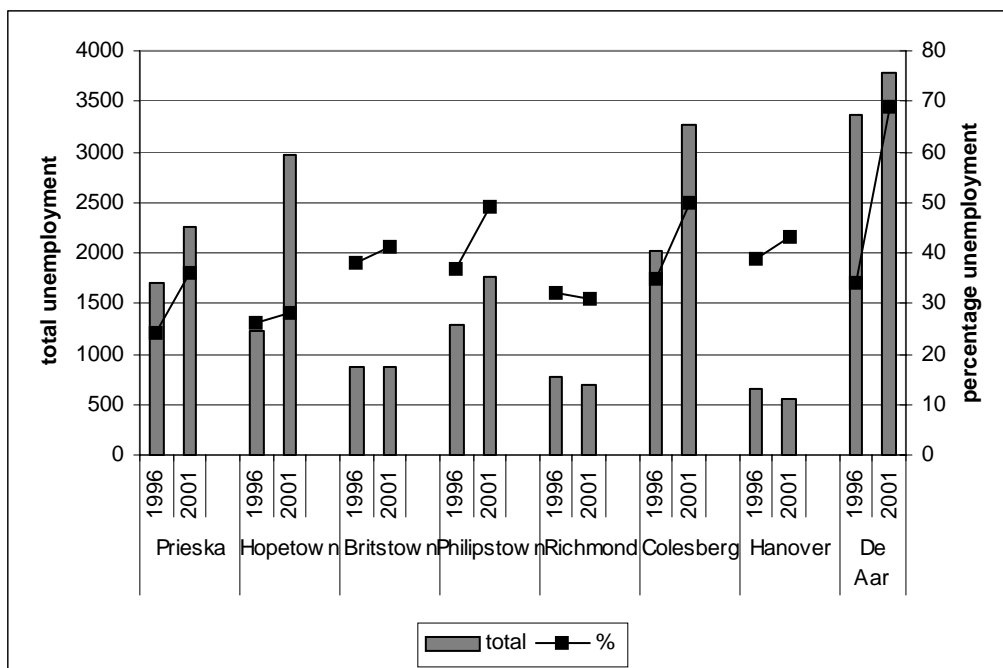


Figure 2: Unemployment in the eastern Nama Karoo, 1996-2001

The same phenomenon has played itself out of the central plains of the United States where urbanisation in the endless job search has seen numerous counties reach population levels below that when they were considered frontier areas at the turn of

the nineteenth century. This process has seen land use planners Frank and Deborah Popper propose a patchwork of counties as a kind of mega reserve with multiple land uses but all under wildlife which they have called the Buffalo Commons after the bison which they see driving the transformation (see: www.gprc.org/Buffalo_Commons.html).

In the Karoo the same concept could perhaps be more easily applied. Game numbers in most districts have been rising exponentially since the 1980s and more and more land is being turned over to game – in some cases for hunting or breeding of key trophy and commercial species, and in others simply because the landowner wants to return the veld to its pre-colonial condition and enjoys the fact that plains game such as springbok, black wildebeest, eland, red hartebeest and blesbok are roaming free again. Game numbers have more than doubled in some districts and although they are still far outnumbered by sheep the gap between the two land uses has narrowed considerably.

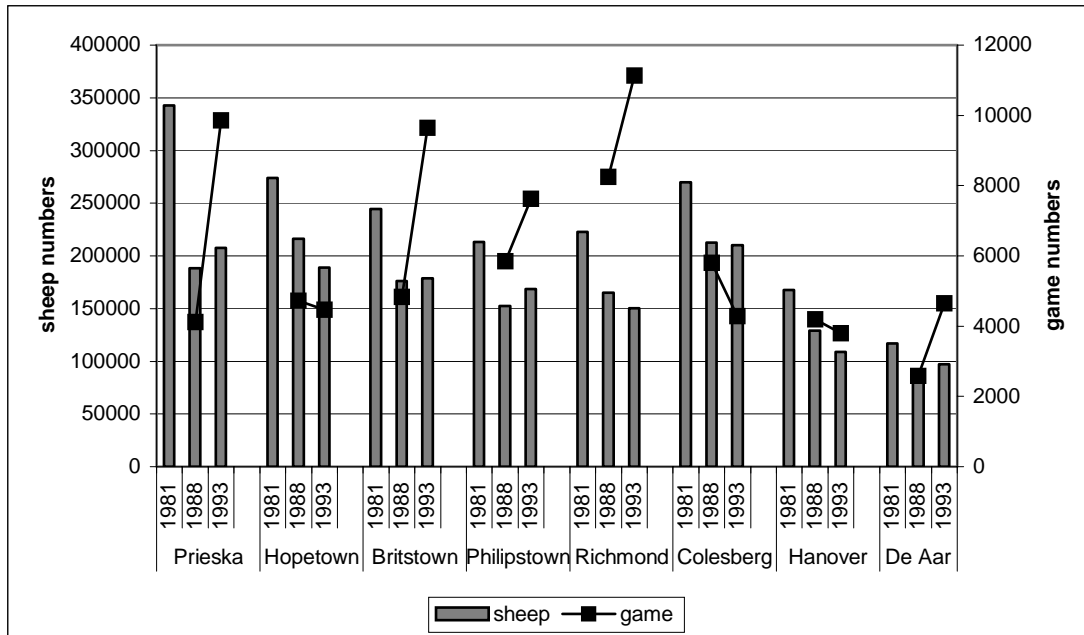


Figure 3: Sheep and game numbers in the eastern Karoo, 1981-1993

Harnessing the trend

As has already been noted, nature based tourism to date in the Karoo has for the most part relied on hunting or game sales for the bulk of revenue. Photographic tourism has yet to take off in a way that attracts both local and foreign visitors in large numbers. The primary reason for this is that the Karoo is perceived to lack an iconic and unique attraction – something that cannot be seen anywhere else and which would bring the Karoo into reckoning as a wildlife high spot. The obvious answer to this is the recreation of the springbok treks and associated predators in a process that would result in the same levels of attraction last seen in 1896 but now in far more sustainable forms. This is obviously a massive project and one that cannot be realised without the buy in and co-operation of multiple stakeholders such as local and national Government, South African National Parks, provincial Nature Conservation, land owners and communities. Smaller models can however be set up in the interim and can serve to illustrate the possibilities of such a project.

Having paid for the game and hoping to realise a return on it, most land owners fence in their farms with standard game fencing. The trick to reinstating the conditions conducive to mini springbok treks depends on a lack of fences however and the next step in the return of the Karoo to pristine, wild habitat is the formation of mega conservancies along the lines of those made famous by the Big 5 in the lowveld, only much bigger! These conservancies should logically be located adjacent to existing state or provincial reserves and must be instituted along credible ecological grounds. Giraffe didn't occur in the Karoo for example, and neither did white rhino, even if it is a member of the Big 5 and a draw card for tourists. Conservancies designed to protect riverine rabbit habitat already exist and removal of sheep and goats from farmland can only be to the benefit of the habitat of this highly endangered Karoo endemic.

The consolidation of large pieces of land without internal fences and managed along conservancy or biosphere lines with multiple sustainable uses of wildlife could set the wheels in motion for the proclamation of a mega reserve in which a kind of sporadic springbok trek would be allowed the possibility of its cyclical irruption and which could provide the spark for an economic engine to stimulate tourism, associated industries, job creation and the currently ailing local economy.