

Ostrich sector takes giant strides to PRESERVE THE LITTLE KAROO



Researchers and conservationists have teamed up with the commercial ostrich sector to restore and protect the rich botanical heritage of the Little Karoo. Lani van Vuuren reports.

Despite its arid climate, the Little Karoo boasts some of the richest plant biodiversity in the world. The botanical diversity found here is unrivalled by any other arid region on earth. The area is especially rich in succulent species. For example, in the central Little Karoo, which lies in the valley between the Langeberg

and Swartberg mountains, there are more than 1 300 species, including 182 species that are endemic. Unfortunately much of the biodiversity of this area has been affected by human activities, including agriculture and livestock grazing.

Known as the ostrich capital of the world, Oudtshoorn has been the centre of the South African ostrich industry for over 150 years. Due to their physiology ostriches are kept on the lowlands. Ostriches are known for their restless behaviour, continual foraging, dustbathing and nesting activities. These characteristics together with overstocking are extremely damaging to the veld.

“Flock breeding – where a flock of ostriches are put on natural veld to breed – is a traditional ostrich farming style that has been used for many decades,” explains Susan Botha, head of the South African Ostrich Business Chamber’s biodiversity management project. Traditionally, a three-camp system is used. Three areas of natural veld (about 300 ha in size) are fenced off. Ostriches are placed in one camp for eight months and then totally removed from the veld for four months. In the second season the ostriches are moved to the second camp while the first camp is rested and so on. Each camp is rested for



says Prof Sue Milton of Renu-Karoo. “As a result the topsoil is exposed to erosion by wind and rain. The bare soil surface becomes compacted so that rain does not soak into the soil and dongas form along the paths. Seeds germinate with difficulty under these conditions. Where vegetation does return, it is often the unpalatable species that dominate the veld.”

OVER TO ACTION

There has been a realisation among ostrich farmers of the importance of finding a balance between utilisation and conservation of natural veld; especially in ecological hotspots such as the Little Karoo, notes Botha. The sector needs to be sustainable if it is to continue

sources, this project aims to quantify the conditions of the natural resources where commercial ostrich production occurs and assists farmers with alternative plans where necessary.

One of the first steps in the project has been the launch of a pilot project on four farms to test various restoration methods on old ostrich camps. Led by ASSET Research, the project also forms part of a larger project funded by the Water Research Commission to investigate whether biodiversity restoration yields the desired results and improves the socio-economic value and agriculture potential of restored land. The Little Karoo project is also supported by the Succulent Karoo Ecosystem Programme (SKEP).

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supporting its thousands of employees and keep its top spot in the global market.

This has resulted in the establishment of the South African Ostrich Business Chamber’s biodiversity management project. With funding from several local and international

“It is hoped that through this research we will be able to convey the best restoration methods to farmers,” says Botha. However, it is understood that active restoration is a big financial commitment to make. It is thus expected that the cost/benefit model that will be produced

about two years, whereafter it should be suitable for stocking again.

“Unfortunately, because of the dry climate and little rain, vegetation is often not restored within the two years rest period,” reports Botha. This situation is exacerbated by overstocking of the camps. While the recommended stocking rate is one ostrich per 23 ha, actual stocking rates can be 30 times as dense to ensure profitability.

This overstocking leads to trampling of the veld as well as overgrazing (ostriches peck at vegetation whether or not they receive supplementary food), which together destroy the vegetation,

Above: A series of hand-dug holes dug a metre apart to capture seed and water.

Right: One of the succulent plants which has established itself in the veld restoration hollows.





Wood-chip mulch was scattered over the planted areas to improve the capacity of the soil to hold water.

as part of this research will assist ostrich farmers in making informed management decisions regarding the improvement of their veld's condition.

RESTORATION METHODS

Vegetation cover and plant diversity regulates the flow of water, ensuring good rain infiltration. It also facilitates aquifer recharge and increases water quality while reducing wind and water erosion and providing improved grazing.

Ecology Masters student at the University of Cape Town, Petra de Abreu, tested methods for re-establishing indigenous vegetation

on the degraded ostrich farmland, while, Stellenbosch University economics Masters student Worship Mugido undertook a financial and cost benefit analysis of the veld restoration.

Two methods were employed in the restoration, which started in February last year. The first method consisted of hand-dug holes (0,25 m deep and 1 m across) a metre apart. The soil was loosened and sculpted in such a way that each would retain rainfall runoff.

For the second method the soil surface was broken using a track-drawn ripper. Breaking the hard-caked soil surface allows both rainwater to infiltrate into the soil and plant roots to penetrate so that the plants can establish. Naturally occurring Karoo shrub and grass seedlings – bushman grass and anchor Karoo shrub were then planted by hand into the loosened soil. Wood-chip mulch was scattered over the planted areas to improve the capacity of the soil to hold water.

Monitoring the success of the restoration methods were

THE SOUTH AFRICAN OSTRICH INDUSTRY

Ostrich farming started in the 1860s in the Oudsthoorn area, first with wild birds and later with domesticated ostriches following the invention of the ostrich egg incubator. The sector was concentrated around the production of feathers only and reached a peak in 1913. At that time, ostrich feathers became South Africa's fourth-largest export earner after gold, diamonds and wool. Following the outbreak of World War I the global feather market crashed and only recovered later when the sector was expanded to include the production of meat and leather.

South Africa remains the world leader in the ostrich industry and there are currently about 560 export-registered farms producing around 300 000 slaughter birds a year. There are ten export-approved abattoirs and 15 tanneries. The ostrich industry contributes about R1,2-billion a year to the South African economy, and employs around 20 000 people (including production and processing.) More than 90% of products are exported. The industry is concentrated in the Western and South Western Cape, with about 25% of farms found in the Eastern Cape. Other ostrich farms can be found in the Free State, Gauteng, Limpopo, Mpumalanga, North West and Northern Cape. Ostrich leather is responsible for 65% of the sector's income, meat 30% and feathers only 5%.

Source: South African Ostrich Business Chamber



quite challenging – while there are no longer ostriches kept on these stretches of veld such as springbuck, helped themselves frequently to the palatable vegetation that managed to grow. However, the first method proved more effective than the second and the hollows trapped water and windblown seed. It also reduced the ratio of unpalatable plants to palatable plants, allowing more edible plants to establish.

EXPENSIVE PROCESS

Unfortunately, despite this success the high cost of active restoration in this area can be an inhibitor to its widespread implementation. This is despite the fact that cost savings can be achieved if farmers do the work themselves. “The ostrich sector is currently in a recessive state (income dropped on average 30% over the past 12 months due to the strong Rand), and as a result restoration is very low on the agenda of most ostrich farmers,” notes Botha.

Right: Trampled, overgrazed land can quickly form dongas.

Bottom: A typical ostrich feeding station (see ellips). Note the sparseness of vegetation in the vicinity of the feeding station.

Veld rests seems to be a preferred option at this stage. With the knowledge gained from this project future projects might be tackled looking at active restoration in areas that are considered of extreme importance from a species richness point of view. Meanwhile the ostrich farming sector is also looking at implementing alternative farming methods that are less damaging to the veld.

Despite the challenges the project has proved beneficial to the ostrich sector. “The industry is extremely grateful for the opportunity to be part of this research, as it provides a valuable scientific model that can be communicated to the farming community,” says Botha. “This project illustrates our commitment as a world leader in the conservation of natural resources, and it is hoped that other ostrich producing countries will follow suit.” □



All photographs Lani van Vuuren