

Springerbaai Game Management Plan (June 2020)

1.0 Vision and Objectives:

To sustain a secure and protected estate for peaceful, healthy, tranquil and safe co-existence of human, animal and nature by living in a harmonious environment where the needs of each are balanced. The vision supports the unique Ethos of Springerbaai by conserving indigenous fauna and flora, maintaining the aesthetic architecture, using friendly energy sources and limiting disturbance to natural environment whilst allowing for enjoyment of the property by the owners and for appreciation of their investment.

The original objective for the introduction of game to Springerbaai (SB) was motivated primarily for 'aesthetic' reasons to encourage buyers. The Developers introduced Springbuck, Zebra and Bontebok despite information that these species were not ideally suitable for this size property and location.

In 2007 the then appointed Trustees decided that the 'introduced game' should be a self-sufficient operation and should not place strain on the annual budget. Any proceeds from the sale or culling of introduced game should be earmarked for future use in respect of game, for their well being and if deemed necessary, for the acquisition of other species of game.

In 2018 at the SB AGM it was agreed that "game farming" at SB was not suitable as it is neither economical nor environmentally viable and is anti-ethical to wildlife and conservation. A strategy of "wildlife active management" should rather be adopted as this objective is far more in keeping with the SB ethos and vision. Key aspects of SB game and their habitat should be monitored to understand trends in time and to allow management adjustments to be made.

The frequency & extent of culling should be minimised as far as possible and based on latest scientifically estimations of grazing & browsing carrying capacity of available habitat type for larger herbivores.

2.0 Suitable types of game:

Because Springerbaai is an important coastal conservation area, a nature conservation-orientated approach to introducing game species should be followed. The introduction of wildlife species not indigenous to the area would jeopardise the natural integrity of the area and will close the door to future co-operation with Cape Nature Conservation.

Suitability for introduction cannot simply be determined in terms of historical occurrence, but must also be considered in terms of available habitat, current habitat condition and other physical factors like size of the area, water provision and specific management requirements like the need for veld improvement.

In a Report dated October 1999 titled "Guidelines for Game introduction & Veld Improvement", Ken Coetzee recommended game species suitable for introduction at Springerbaai should be as follows:

COMMON NAME	SPECIES NAME	FEEDER TYPE
Eland (not present)	<i>Tragelaphus oryx</i>	Browsers/Grazers
Red hartebeest (not present)	<i>Alcelaphus buselaphus</i>	Gr
Bontebok (present)	<i>Damaliscus dorcas dorcas</i>	Gr
Steenbok (not present)	<i>Raphicerus campestris</i>	Br
Common duiker (present)	<i>Sylvicapra grimmia</i>	Br
Bushbuck (present)	<i>Tragelaphus scriptus</i>	Br

Grysbok (present)	<i>Raphicerus melanotis</i>	Br
Grey rhebok (present)	<i>Pelea capreolus</i>	Br/Gr

Of these species, 4 (steenbok, common duiker, bushbuck and grysbok) are highly selective browsers, 2 species are mixed feeders (eland and grey rhebok) and 2 species are grazers (red hartebeest and bontebok).

The suitability of Springerbaai for many of these species will depend on the complete restoration of previously cultivated land and pastures to more palatable natural grassveld.

Although larger herbivores will find adequate food in the area in the short term, in the past, they would have moved over a greater area than is available on Springerbaai to satisfy their nutritional needs on a sustained basis. The size of the reserve is a definite restriction, particularly in the case of larger game such as red hartebeest and eland. The possible occurrence of a bush fire could temporarily remove available grazing and browsing on the reserve, which will immediately put extreme pressure on availability of food. This would create a situation that is in direct contradiction with the objectives for the Estate. Similarly, a grazer such as the Red Hartebeest will have to compete with the Bontebok for the limited, good quality grazing.

3.0 Management:

Up until 2018 Management of game and the environment was fairly “hands-off” as Management and Trustees did not include a person trained in either Game or Veld Conservation. In 2018 the first SB staff member with a qualification in Wildlife Conservancy was appointed at SB and this remains in place to date. Now frequent game & veld inspections are carried out by a trained SB Ranger, assisted by permanent resident reports and when required by Fransmanshoek Conservancy members. The currently employed Ranger, with previous wildlife education & experience leads the active management of SB game and where required will obtain the advice or services of Game specialists and Veterinarians.

In the event of game being injured or poisoned by certain plants, the services of a local Veterinarian must immediately be called for. A post mortem by a vet is recommended from time to time when cause of death needs to be determined to prevent further deaths.

The Ranger and Trustee appointed to this portfolio must work closely together and are both responsible for Management and well being of Game at SB.

4.0 Inspections by Conservation Management specialists:

In order to ensure correct Conservation Management procedures for game & veld are maintained, it is recommended that the services of a specialist Conservation Consultant is procured on a fairly regular basis, as determined by the in-house Ranger in consultation with the relevant Trustee & Estate Manager.

The first such Report was compiled in 1999 by Ken Coetzee who subsequently updated these Reports in March 2011 and November 2014.

5.0 Carrying capacity and stocking rate

Determination of the carrying capacity (grazing and browsing) for Springerbaai is not simply a standard calculation or a matter of guesswork.

In 1999 Ken Coetzee suggested that introduced wild herbivores be managed closer to ecological carrying capacity and that adjustments to the stocking rate that needs to be made should be based on rainfall, utilization patterns and consequently the condition of the veld. The dynamic equilibrium with available food resources, determined by means of monitoring, will obviously play an all-important role in ensuring that the game keeping is fully sustainable while also realising proper vegetation/environment management objectives for SB.

It is unrealistic to expect that the carrying capacity of an area can be calculated as a standard one-off exercise. The ability of an area to maintain a population should be re-evaluated annually. This re-evaluation must be based on results of a monitoring programme, to be put in place.

Very little is known about the carrying capacity for wildlife in dune fynbos and dune thicket vegetation of the Southern Cape Coastal area. Bulk feeding is generally not the best option in fynbos or thicket vegetation. Grass is sparse and the vegetation is tough, spiny and contains unpalatable chemical compounds. Herbivores best suited to make use of this fare, must occur in small groups, be small and selected for the nutritious plant parts like growing tips, flowers, fruits and seeds. These herbivores are the typical fynbos species like duiker, grysbok, steenbok and grey rhebok and thicket/forest species like bushbuck, for which there are more than adequate food resources.

Bulk feeders of the fynbos biome such as bontebok, which occur in larger groups, must have extensive areas over which to forage to satisfy their feeding and social requirements to survive. Bulk food material in fynbos generally consists of poor quality grass with low levels of crude protein, phosphorus and a general deficiency of certain trace elements.

The situation in Springerbaai is, however, different to that of typical Coastal Fynbos because of the high incidence of Coastal Thicket species and the fact that approximately 62% (268 ha) of the area has the potential to be developed into a relatively productive natural grassland, with selected palatable grasses. In 1999 the area of natural vegetation appeared to be in a fairly good condition with signs of degradation, resulting from over-utilization by domestic stock, restricted to the upper edges of the thicket / fynbos ecotone.

An important consideration when establishing the carrying capacity estimate for Springerbaai is, that the area available is very restricted (166 ha of natural thicket/fynbos vegetation and 268 ha of artificial grassland). Of the total natural vegetation area, a fair-sized portion is lost to residential development (\pm 55 ha), which is widespread throughout this area and which will result in increased disturbance over an extended area.

6.0 Stocking rate for small antelope

In Ken Coetzee's Report dated 1999, he suggested that the stocking rate for smaller browsers be established in terms of their behavior and estimated home range size, rather than in terms of agricultural carrying capacity.

Grey rhebok, steenbok, duiker and grysbok are territorial and strictly defend a territory within a larger home range. Bushbuck are not territorial, but do use a fixed home range. Although exact home range sizes for these species vary from area to area and are not known, estimates of home range sizes for Springerbaai were made taking the type of vegetation into account, as well as the limited published information about these small antelope.

Species	Home range	Estimated home range size for Springerbaai	Estimated area of suitable habitat	Potential population size
Duiker #	2 – 4 ha	10 ha	\pm 220 ha	22
Grysbok #	1 000 m ²	4 ha	\pm 120 ha	30
Steenbok	7 – 29 ha	20 ha	\pm 268 ha	14
Bushbuck #	38 – 166 ha	100 ha	\pm 170 ha	4
Grey rhebok #	30 – 160 ha	90 ha	\pm 268 ha	14

TABLE 1: Estimated home range sizes for small browsing antelope and population size based on an estimate of suitable habitat availability. # indicates game found at SB.

The oversimplified estimate in Table 1 should be seen as a very rough initial guideline in the absence of better information, and a knowledge of the results of the proposed rehabilitation plan.

NOTE: Game species marked # in the above table 1 are already present at Springerbaai, and there is no need to introduce more of them.

7.0 Stocking rate for large antelope:

Although behaviour and typical home range size should play a significant role in estimating the carrying capacity of Springerbaai, stocking rates for larger antelope have been estimated in terms of agricultural large stock units (LSU). The area is considered to be too small for the natural population functioning of free ranging, larger herbivores and even too small for some of the species considered suitable for introduction to the area.

The total number of agricultural LSU for Springerbaai is thus estimated to be 22,2 LSU for larger antelopes. This estimate must be checked bi-annually.

Large stock units can be converted into equivalent wild herbivore (game) units. Table 2 lists the LSU allocated per species and the equivalent game units per species as well as estimated total population.

Species	Game equivalent to LSU	Stock allocated per species	Max no per species	Feeder type
Eland *	0,92	10	9	Mixed feeder
Bontebok	4,80	5	24	Grazer
Red hartebeest *	2,69	5,6	15	Grazer
Grey rhebok	10,33	1,4	14	Browser / Grazer
Steenbok			14	

- *not recommended – Springerbaai area too small*

TABLE 2: Estimated potential carrying capacity (grazing and browsing capacity) for larger antelopes based on habitat availability, habitat condition, inter-specific competition and social constraints.

Ken Coetzee's Report dated 1999, points out that these are very rough estimates of what the vegetation can carry. The proposals made, should thus be seen as an initial guide which can later be adjusted with the help of monitoring and a first hand knowledge of the success of introductions and the observable impacts that introduced wildlife will have on the vegetation, both positive and negative. NOTE: Eland and red hartebeest should only be introduced if it is possible to incorporate Springerbaai into a larger conservation reserve area.

Care has been taken while determining these estimates to be conservative in the interests of veld improvement. It must also be remembered that the the needs of the already present common duiker, bushbuck and grysbok & grey rhebok must not be jeopardised by the introduction of large game species or by over stocking.

8.0 Annual census of game, feeding and culling.

An annual census programme must be implemented to assist with decisions regarding stocking rate and population control. The following tables are based on information recorded by Management over the periods indicated:

Springerbaai Game Counts				
Date	Springbok	Zebra	Bontebok	Grey Rhebuck
2008	25			
2009 FEB	265	24		
2009 JUL	295			
2010 AUG	120	27		
2012 APR	146	27	8	1
2013	263	24	11	1
2013 AUG	43	12	11	1
2014	60	16	8	1
2016 FEB	81	24	14	1
2016 MAR	75	24	14	1
2017	51	14	25	2
2018 APR	86	13	24	2
2019 MAR	94	13	25	2
2019-11-26	44	13	30	3
2020-02-26	43	14	31	2

TABLE 3

Culling methodology: In the event of the need to reduce game numbers due to over stocking when poor weather conditions have caused loss of adequate grazing, the preferred methodology of game culling and the least stressful, especially of Springbok, is the use of silenced rifles by expert professional marksmen, preferably at night if more than 10. If selective game culls require less than 10 Springbok then this may be carried out during the day by professional marksmen with silenced rifles. It is noted that several closeby Game Reserves who require game for feeding their predators will undertake the limited culling for no cost to the Estate.

Game capture: In the event that Zebra or Bontebok need to be captured for treatment of injuries or for sales, the least stressful method must be used, such as darting from hides, with a Vet in attendance.

Supplementary Feeding			
DATE	PRODUCT	QUANTITY	LOCATION
2018-11-06	Mineral block	1	Birdhide
2018/11/12 - 2018/11/16	Game Min- Hoof and Horn	Two troughs (1L:100L)	Birdhide trough and behind construction camp
2019/01/14 - 2019/01/18	Game Min- Hoof and Horn	Two troughs (1L:100L)	Birdhide trough and behind construction camp
2019-02-23	Mineral block	1	Birdhide
2019/03/18 - 2019/03/22	Game Min - Hoof and Horn	Two troughs (1L:100L)	Birdhide trough and behind construction camp
2019/05/20 - 2019/05/24	Game Min - Hoof and Horn	Two troughs (1L:100L)	Birdhide trough and behind construction camp
2019-07-18	Mineral block	1	Birdhide
2019/08/26 - 2019/08/30	Game Min - Hoof and Horn	Two troughs (1L:100L)	Birdhide trough and behind construction camp
2019-11-01	Lucerne	1 bale	Birdhide dam and construction camp trough
2019-11-08	Lucerne	1 bale	Birdhide dam and construction camp trough
2019-11-15	lucerne	1 bale	Birdhide dam and construction camp trough
2019-11-22	Lucerne	1 bale	Birdhide dam and construction camp trough
2019-11-29	Lucerne	1 bale	Birdhide dam and construction camp trough
2019-12-06	Lucerne	1 bale	Birdhide dam and construction camp trough
2019-12-13	Lucerne	1 bale	Birdhide trough and behind construction camp
2019-12-13	Mineral block	1	Birdhide
2019-12-27	Lucerne	1 bale	Birdhide dam and construction camp trough
2020-01-03	Lucerne	1 bale	Birdhide dam and construction camp trough
2020-01-03	Game Min - Hoof and Horn	one trough (1L:100L)	Construction camp trough
2020-01-10	Lucerne	1 bale	Birdhide dam and construction camp trough
2020-01-24	Lucerne	1 bale	Birdhide dam and construction camp trough
2020-03-24	Game Min- Hoof and Horn	Two troughs (1L:100L)	Construction camp & Birdhide trough
2020-06-01	Mineral block	1	Birdhide dam
2020-06-04	Game Min- Hoof and Horn	Two troughs (1L:100L)	Melkhouhoek & 1st dam trough
2020-06-04	Game Min- Hoof and Horn	1 trough (2L dose)	Cement trough (1000l trough)

TABLE 4

Springerbaai Game Culling/Live removal									
Date	Springbok			Zebra			Bontebok		
	Male	Female	Unspecified	Male	Female	Unspecified	Male	Female	Unspecified
2007					3	12			
2006 - 2008	49			1					
2009 AUG	205								
2011 JUL	34	33		11	7				
2013								3	
Aug-15			195 (Sold)			11			
2017			60			16			
2019 Aug	40	14		2	1		5		

TABLE 5

9.0 Predators

Predators, like herbivores, are important in the healthy functioning of any ecosystem. Predators prefer natural prey and generally prey on stock when natural prey resources are depleted on intensively farmed land, as is the case on farms adjoining Springerbaai and in the vicinity.

According to Ken Coetzee's 1999 Report, a big problem with commonly practiced killing of predators is that a large number of non-target and comparatively harmless, small predators are killed as they are also attracted to the bait used. This is a significant ecological loss to the system, because these non-target species are important predators of rodents, reptiles and invertebrates.

The use of any such means to kill predators or other species must not be allowed at Springerbaai and the occasional loss any game at Springerbaai should rather be seen as a natural culling process and preferential to shooting the game.

Species seldom seen at SB that should not be killed:

Leopard, Rooikat (caracal), Black-backed Jackal, Cape fox, Aardwolf, Honey Badger, Bat-eared fox, African wild cat, Cape clawless otter, striped polecat, small spotted genet & various mongoose.

The aim at SB should thus be to follow a course of non-interference and to allow, harmless species to increase naturally, so that they compete for food with the larger predator species, thereby limiting their unchecked increase. Indiscriminate non-selective killing will simply aggravate the problem, which is what happens on most farms where rooikat and jackal problems continue to increase.

The policy on Springerbaai should be tolerant, non-interference and the establishment of a natural balance between predators and their natural prey. The irrational complaints of irate neighbours who claim that the reserve breeds “vermin” should be ignored. Predators, all kinds, should thus be viewed as valuable wildlife, and as important as any of the larger herbivores.

It must be understood that by following the suggested ecological approach to predation, some game will be taken by predators, and that this must be seen as acceptable and as small payment for a healthy ecosystem.

10.0 Proposed budgets for June 2020 to June 2021.

The following budgets based on recent costs are proposed:

10.1 Game Feed – R3500.00

10.2 Game supplements – R5000.00

10.3 Veterinarian services – R15,000.00

10.4 Game Specialist Consulting – R10,000.00

REFERENCES:

Guidelines for Game Introduction and Veld Improvement by Ken Coetzee October 1999.

Follow-up evaluation and addendum to the October 1999 MG document by Ken Coetzee dated March 2011 and November 2014

Non-chemical techniques used for the capture and relocation of wildlife in SA by L.L. Laubser, N.E. Pitts, J.P. Raath & L. C. Hoffman dated June 2015