

Rare game enclosures in the KNP

In a review of the large mammal distribution and status in the KNP, Pienaar (1963) described the roan antelope as one of the few species that had not reacted favourably to conservation actions. The population of roan antelope (*Hippotragus equinus*) had oscillated between 150 and 300 over about 60 years since the proclamation of the KNP. Sable antelope (*Hippotragus niger*) were found to be very susceptible to drought conditions and tsessebe populations (*Damaliscus lunatus*) were only growing favourably in the area north of the Letaba river at the time of this review. These species have received special attention from management since 1963. The conclusion of a workshop on reasons and responses to the rare antelope decline and their conservation in May 2000 stated:

"The general consensus was that the current free ranging roan are the most valuable animals and these herds should be strengthened as soon as possible. Both the roan and tsessebe populations have reached a threshold where recovery of the population without boosting is highly unlikely. At this stage resources will be concentrated on the use and expansion of existing enclosures allowing the roan and tsessebe in the enclosures to increase sufficiently to supply a large group to be released simultaneously. Before animals are released the habitat and available forage will be evaluated to determine whether the environment into which these rare antelope will be released is ideal. To improve the success of this type of augmentation of the population, suggestions of the IUCN re-introduction specialist group will be taken into account, and a re-introduction strategy formulated" (Grant & van der Walt 2000).

In response to the workshop in the KNP, it was decided to build a third roan enclosure near Mopnai restcamp in addition to the two existing enclosures. There are thus currently three enclosures for the breeding of rare antelope two in the north, focussed on the breeding of roan antelope (N'washitsumbe and Capricorn) and one in the south now focussed mainly on the breeding of tsessebe.

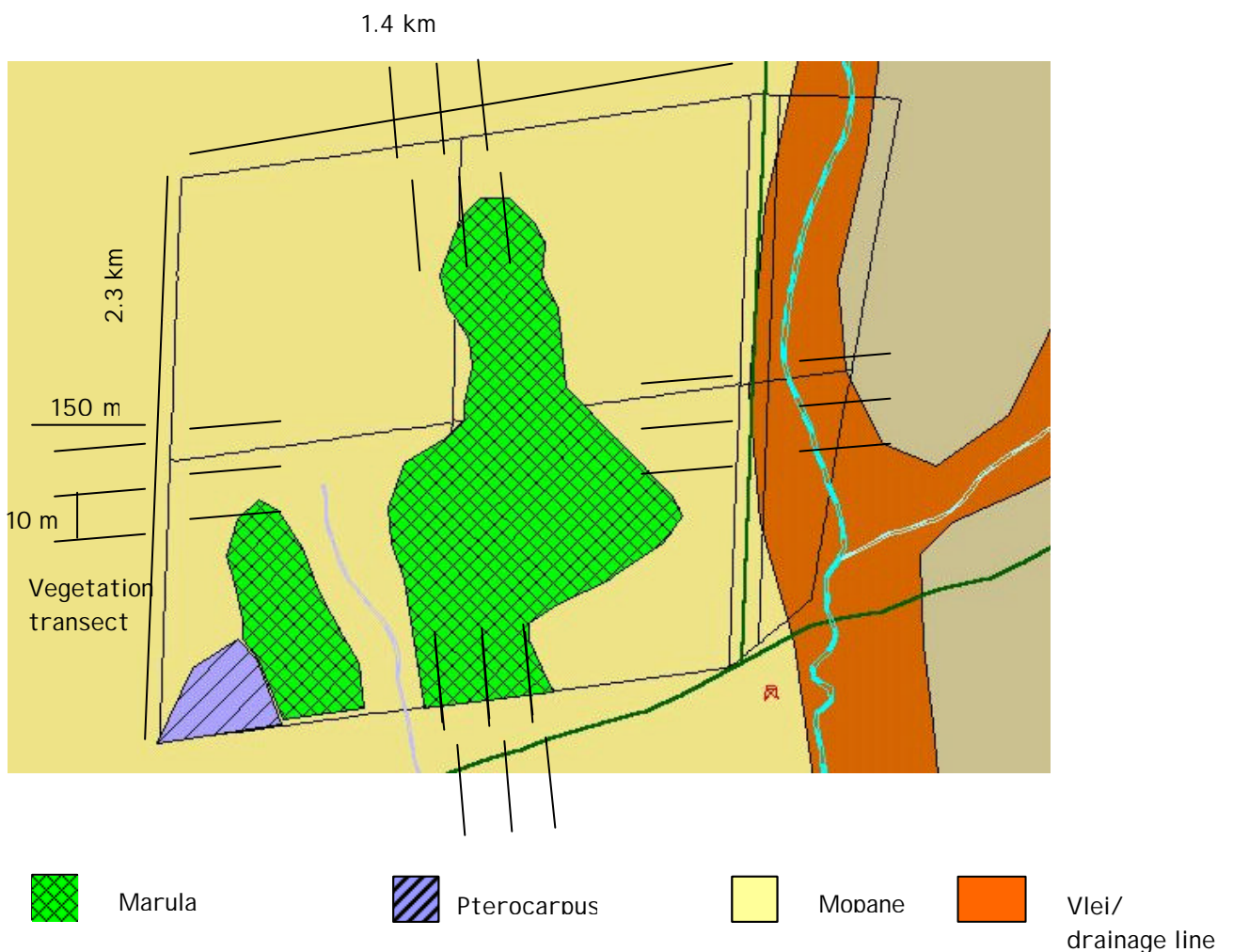
The stated objective of the enclosures was to breed enough animals to be able to release a herd of about 50 animals at once to overcome the predator threat.

N'washitshumbe enclosure

This 254 ha enclosure (which excludes large predators and all other herbivores) was erected roughly in the centre of the roan antelope (*Hippotragus equinus*) study area in 1967 (Joubert, 1970).

Another 48 ha was added in 1984 to include a part of the adjacent watercourse and the associated ecotone vegetation.

Fig. 1. Layout of the N'washitshumbe roan enclosure. The Marula tree section is now very obviously different from the area outside the enclosure, where most of the large Marula trees have disappeared. The roan antelope tend to use the ecotone between the drainage line and the upland very intensively as can be seen by the amount of faeces deposited there.



Survey sites

Three parallel transects, perpendicular to the fence, each of 150 m in length and 10 m apart along each of the four boundary fence lines. Replicate sets of transects were examined on the outside of the firebreak of each fence on the outside of the roan enclosure.

Table 1. Animal history of the N'washitshumbe enclosure

Date	species	Total	Ad m	Ad f	Imm m	Imm f	Calf m	Calf f	Comments	
July 1967	roan	10	2	4		3	1		Animals caught on plains north of Shingwedzi	
1968	roan	16	2	7	1		1	4	2 m calves died	
1969	roan	25	3	7	2	4		9		
Aug 1969	sable	13								
1970	roan	27 (-13)			2	2		8	13 died from anthrax	
1971	roan	19	3	5		8		3	4 animals added from near enclosure	
1972	roan	24	2	5 (+6?)		3		8	3 ad bulls released	
1974	roan	29	2	13		8		6	4 calves died	
March 1974	sable	48							2 young animals died	
1976	All roan in roan camp (17) released due to Papillomatosis infection									
1977	Camp burnt and left for 1 year to recover									
1978	roan	9	1 (from Percy Fyfe)	8					1 cow died	
1981	roan	9						No calves born	Percy Fyfe bull removed	
1984	roan	18	All animals released to make room for Lichtenstein's hartebeest							6 animals died en route
1988	Lichtenstein's hartebeest	38	5	12	7	2		12		

Date	species	Total	Ad m	Ad f	Imm m	Imm f	Calf m	Calf f	Comments
1990	Lichtenstein's hartebeest	47	5	12	10	6			16 animals removed
Oct 1991	Lichtenstein's hartebeest	48	5	11	6	9		16	1 calf died
March 1992	Lichtenstein's hartebeest	50	7	11	8	9		15	
1993	Lichtenstein's hartebeest								Most animals released to make space for roan
2002	Lichtenstein's hartebeest	9							

Table 2 Data available on growth of the roan antelope population inside the N'washitshumbe enclosure since 1994.

YEAR	Total	Ad cow	Ad bull	Subadult	Yearling	Calf	
1994	7	2	1	3	1	1	
1995	11	4	2	1	1	3	
1996	15	4	3	1	3	4	
1997	19						
1998	26						
1999	29	4	10		14	2	
2000	33	7	10	2	8	6	
2001	44	7	9(+7)	8	4	11	7 bulls removed
2002	47	9	3	10(fem)	11	10	
2003	28	4	3		13	4	19 animals to Capricorn
2004	39	14	3	6	5	11	

Capricorn enclosure

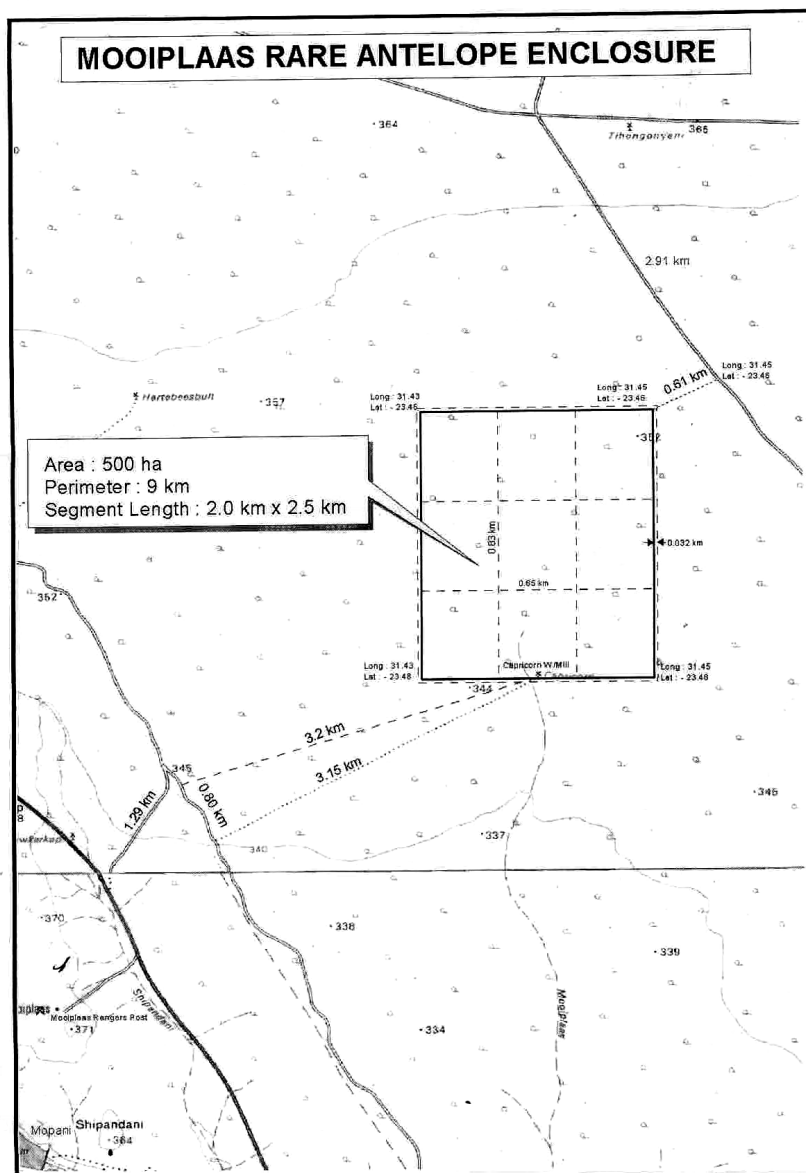
This camp is located next to the prime Mooiplaas habitat. This location was selected to ensure that released animals could establish themselves in the prime Shawu vlei habitat rather than staying around the fenced camp where they are more predator prone.

The building of this enclosure was initiated in February 2001 and it was completed in 2002. There were 14 Tsessebe present in the area that were eventually enclosed in the camp. Nineteen roan antelope from N'washitshumbe camp were moved to this enclosure in March 2003.

Table 3. Animals in the Capricorn enclosure

Date	Species	Total	Ad m	Ad f	Imm m	Imm f	Calf m	Calf f
March 2002	Tsessebe	8	1	6		1		
September 2002	Tsessebe	14	1	6		1		6
March 2003	Roan	19		5	4	4	2	4
September 2003	Tsessebe	21	1	7		6		7
September 2004	Roan	25		5	6	8		6

Figure 2. The Capricorn enclosure.



Hlangwine enclosure

This enclosure of about 220 ha was erected in 1972 and is located in the southern granites near Pretoriuskop.

Figure 3. The Hlangwine enclosure

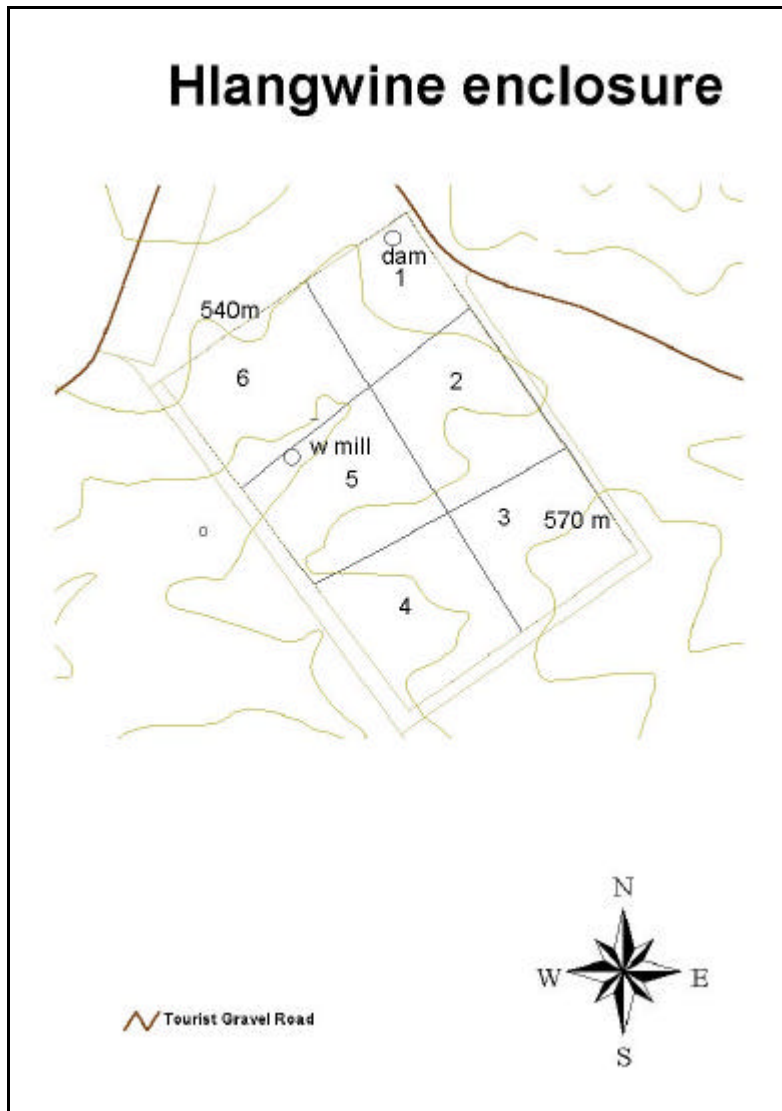


Table 5. Roan antelope in the Hlangwine enclosure

Date	species	Total	Ad m	Ad f	Imm m	Imm f	Calf m	Calf f	Comments
									from N'washitsumbe
1971	Roan	1	1						
1972	Roan	13	2	10					from Zimbabwe Seuhu Tribal Trust Lands (south of Wankie National Park)
1974	Roan	9	2	7		10			From N'washitsumbe
1975	Roan	13	2	7				4	Herd bull replaced with bull caught near Hlamalala. Two calves died.
1976	Roan	15	3	7				5	4 calves of previous year died
1977	Roan	14	1	7	2	1		3	
1978	Roan	18	3	8		3		4	4 calves died
1979	Roan	16							2 calves died
1980	Roan	14	4	7			2		2 cows died
1981	Roan	14	4	7		2		1	3 calves died
1984	Roan	10						4	
1985	Roan								Herd bull died
1986	Roan								7 animals released in vicinity of enclosure
1989	Roan								3 of released animals seen south-west of enclosure
1991	Roan								4 roan reported in same area
1992	Roan								
1993	Roan								

Table 6. Lichtenstein's hartebeest in Hlangwine enclosure

Date	Total	Ad m	Ad f	Imm m	Imm f	Calf m	Calf f	Comments
1986	6	1	5					
1987	5	1	4					
1988	9							4 bulls and 1 calf brought from Nwashitshumbe
1989	13	1	7	1	3		4	
1990	20	2	7	2	2		7	
1991	30	4	9	3	4		9	1 bull removed and 2 cows added
1992	43	8	13	5	4		13	
1993	47	13	17	5	5		10	
1994	50	17	20	5	5		3	
1995	26	7	16				3	31 animals released in four separate groups on 9 Feb 1995 (9 am, 12 af, 9 calves) 2am & 1af died 1 am caught by lion.
1996	14	2	7				3	2 animals died (9 animals outside)
1997	17	1	9		4		3	7 of released animals seen again
1998	17	3	10				4	
2000	23	3	13				6	
2001	26						6	
2002	34							
2003	32							
2004	32							Several carcasses found in camp