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THE EFFECTS OF ANTI TSETSE SHOOTING OPERATIONS
ON THE GAME POPULATIONS AS OBSERVED IN THE
SEBUNGWE DISTRICT, SOUTHERN RHODESIA

by

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Game destruction has been used successfully in Southern Rhodesia to reclaim 10,000 square miles of country from the tsetse *Glossina morsitans* Westw. and also to protect marginal country against advances by this species. It is pleasing however to record that this distasteful method has now been almost completely abandoned in favour of discriminative spraying with residual insecticides applied from the ground and some bush clearing. A small game destruction operation still continues in the Mtoko district on the north eastern border of the country and some very limited shooting is carried out along the game fences which are being maintained as barriers to prevent excessive game movement towards the reclaimed areas.

Arising out of the various game destruction operations which have been carried out in S. Rhodesia there are certain observations on game populations which are of considerable interest. The details on which these observations are based are in actual fact drawn from an operation recently carried out in the Sebungwe district since the author was involved in this but do also apply equally well to other operations which have been carried out elsewhere in the country.

The Sebungwe operation was in progress for the period June 1958 to October 1960.

The object of the operation was to create a game free—cattle free barrier between the dense tsetse areas of the Nagupande and Busi headwaters and the Lutope and Sengwa rivers in the north and the settled areas of the Kana and Shangani to the south. The operation was carried out between two east-west fences, namely a game fence to the north which limited immigration of game from the game areas of the river systems mentioned above as lying to the north, and a cattle fence to the south erected to prevent African owned cattle entering the area. The distance between these fences varied from 10 to almost 20 miles. The total area between the fences was about 1200 square miles—this was used as the shooting area.

All species of animals occurring in the area, other than lion, leopard and cheetah, the small nocturnal animals and the vervet monkey were shot; these were namely elephant, buffalo, eland, roan, sable, kudu, waterbuck, tsessebe, zebra, impala, reedbuck, duiker, steenbok, Sharpe's grysbok, warthog, bushpig, baboon, hyaena and wilddog.

To begin with the hunting (other than the hunting of elephant which was done by special control officers) was carried out by Africans armed with .303 rifles at a density of about 1 hunter per 10 square miles. After about five months hunters armed with shotguns and who hunted by night with bright lights were introduced to the area. The object of the shotgun hunters was to intensify the attack on the population of small game such as reedbuck, duiker, steenbok and Sharpe's grysbok. For the first seven months 5 shotgun hunters operated at random throughout the area, then for the next nine months the number was increased to 12, and these also hunted randomly. Finally, during the last eight months, there were 50 shotgun hunters operating throughout the area. It must be emphasised that control over the hunters was strict.

Half the meat from the animals killed was used as rations for the large government labour gangs employed in the area and the balance was utilized by the hunters and their families. Skins were sold for revenue.

The effect of the hunting on the general game population within the operations is described as follows (more than half the species listed above are not considered, either because of insignificant numbers or because of the obscurity of the effect of the hunting on the particular species):

1. Resident elephant were rapidly eliminated from the area and migratory elephant from the north soon learnt the significance of the game fence. Elephant proved no problem during the last twelve months of the operation.

2. The larger antelope, namely waterbuck, sable, roan, eland and kudu are grouped together since these are animals which seem to move fairly long distances in the area under consideration. A comparison of the totals shot in June, July and August 1958 with those of the same months in 1960 indicate that hunters were still shooting just under half the number of these animals at the end of the operation as they were at the beginning. A possible explanation for this is that the animals which were being shot at the end represented the overflow from the untouched population north of the game fence since observation within the area led us to believe that there were very few, if any, resident animals remaining.

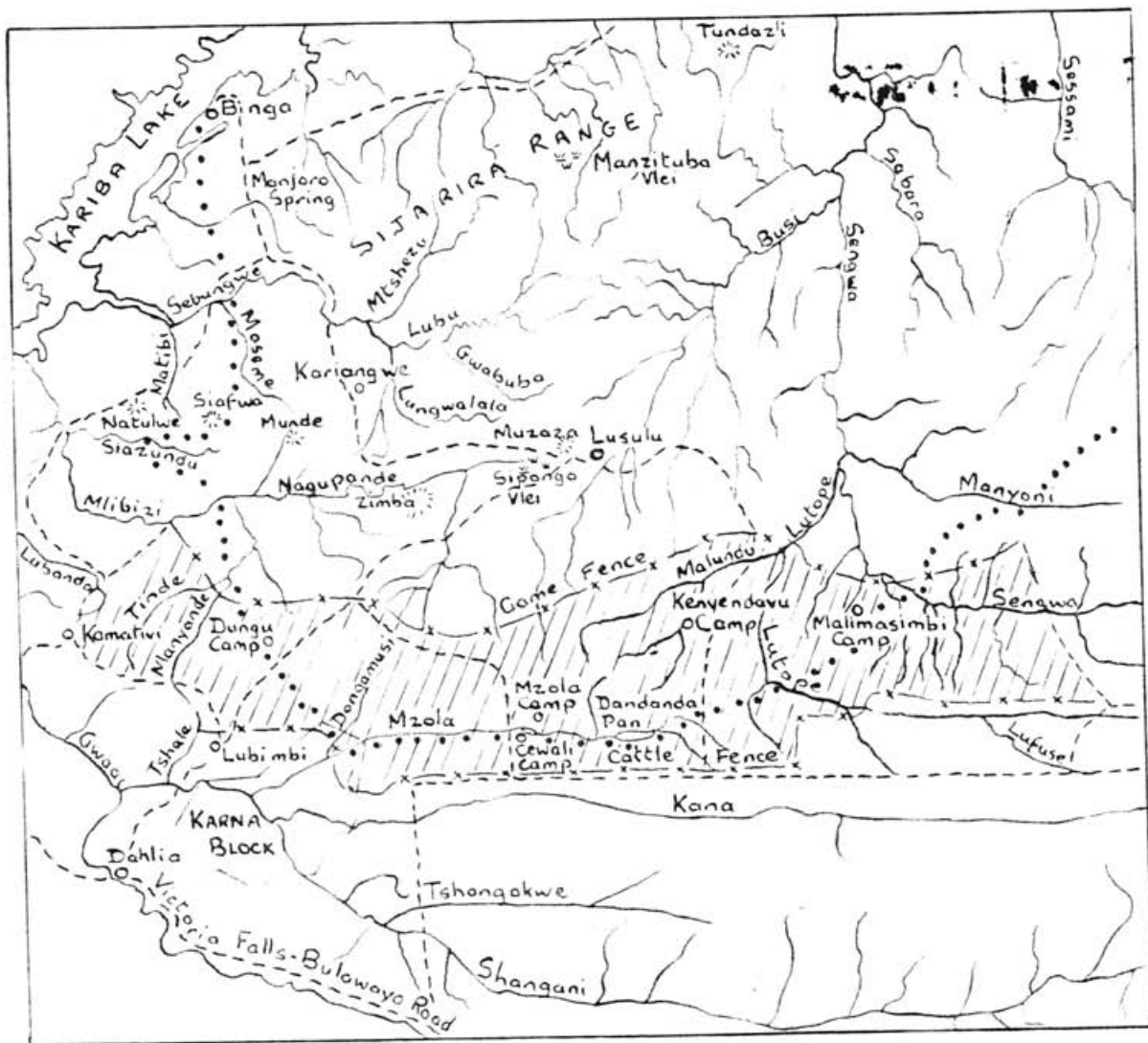
3. Warthog kills decreased markedly after the first year of hunting. The reduction was eventually in the order of 50 per cent of the total for the first year. In the last months of hunting, however, that is after the wet season of 1959/1960 the kills began to increase and it would seem that some form of balance had been achieved between the population and the hunting. The numbers are not likely to have been supplemented by immigration since these animals tend to be local in habit. A similar effect was noted with bushpig.

4. A total of 10,836 duiker were shot within the area during the twenty nine months of hunting and it is of particular interest to note that the record kills were achieved during the last two months of hunting. It would seem that even with the shotguns the crop taken off by the hunting effort had not begun to surpass the natural increase from the breeding population. Further evidence for this statement is that the rifle hunters were still shooting as many duiker at the end of the operation as they were at the beginning. Month to month results for the rifle hunters are more uniform than those for the shotgun

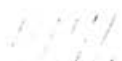


hunters. Duiker are local in habit and therefore, as for warthog, immigration would play little or no part in maintaining their numbers.

It would seem reasonable from the foregoing to conclude that where a zone of country, adjacent to an extensive source of game is demarcated by fences and used as a killing ground, intensive cropping of the game can be carried out without noticeably depleting the general game population from beyond the killing zone. The larger antelope cease to be resident but maintain a steady immigration. The smaller game, notably duiker and warthog remain, and perhaps relieved of the competition from the other animals as a result of the shooting, appear to flourish.

These observations are presented here in the hope that they will be of interest to the exponents of game management as a means of land utilisation for the wastelands of Africa.



THE SEBUNGUWE SHOOTING OPERATIONS AREA.

-  Shooting Area.
-  Presumed Tsetse Limit 1961.
-  Roads and Tracks.

Scale 1:1,000,000