# CHAPTER 5

# CONCLUSIONS

African savannas are dynamic and food resources change continuously due to changes in the environment. The impala is one of the single most important species available for game farming in the Lowveld (Fairall, 1982), and therefore the environmental parameters in which the impala occur need to be quantified in order to manage an ecological balance.

A number of important parameters that could affect the size and growth of the animals were studied in this project. All linear measurements were taken from impala sampled at each of the farms. These measurements showed no significant differences between the areas, which is an indication that there are no genetic differences between the populations on the three game farms sampled. According to Skinner (1990) the measurements are average compared to other impala sampled. Initial genetic analyses also suggests that genetic variation among impala is small.

The live mass of the impala differed significantly $p=0.03$ indicating a nutritional deficiency at Selati. The vegetation however only differed significantly in relation the P concentrations (Lukhele & Van Ryssen, 2000), but the CP concentrations were sufficient to sustain the growth of impala. Liver samples taken from Selati showed a severe infestation with Bankrupt worm, which may impair the growth of the animals. This internal parasite manifests itself in the intestine and the liver of the impala, rendering available nutrients unavailable

This would decrease the live mass of the impala. The quality of the grazing at Mara may be of a better quality due to the fact that the grazing is sweetveld. The grazing quality and the severe infestation of internal parasites may be the vectors resulting in a deficiency in the nutritional status of the animals at Selati.

The low P concentrations may affect the growth of the impala. The concentrations in the browse sampled in the Northern Province were below the accepted level of 0.1 %. In certain browse the ratio exceeds the highest acceptable ratio of 7:1, with *Combretum molle* showing a ratio of 12:1. The provision of phosphates in the form of a wildlife lick, would provide P to the impala and possibly alleviate the P deficiency

In order to alleviate the severe infestation of bankrupt worm, one would have to remove the livestock interaction at BVB Ranch on the Selati Game Reserve, as this is the method of transfer between the livestock and the impala.