Aspects of the ecology and conservation status of selected wildlife in and around Tembe Elephant Park, KwaZulu-Natal, South Africa

by

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Submitted in partial fulfilment of the requirements for the degree

MAGISTER SCIENTIAE (WILDLIFE MANAGEMENT)

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November 2005

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ABSTRACT

The present study compared Sand Forest bird assemblages found in a communal land area with that of the Tembe Elephant Park, and determined the habitat preference and status of selected herbivore species within the park. The study forms part of the Maputaland Conservation-based and Integrated Rural Development Programme of the Centre for Wildlife Management from the University of Pretoria and is linked to the activities of the Lubombo Transfrontier Conservation Area (LTFCA). The main purpose of the study was to compare Sand Forest bird assemblages found in the Tshanini Community Conservation Area, which is characterised by low levels of human utilisation, with that of the Tembe Elephant Park, which is characterised by wildlife utilisation. This approach was used to determine the biological importance of this communal land area in contributing towards the conservation of the rare Sand Forest habitat. Visual and auditory bird surveys revealed that the communal land area contains unique Sand Forest bird assemblages, which demonstrated the biological importance of the communal land for Sand Forest conservation, especially from an avian perspective. The second purpose of the study was to identify possible competition between selected herbivore species within the Tembe Elephant Park and/or a decrease in numbers of rare species. Herbivores that might be adversely affected by the destruction of the Sand Forest, or who may themselves have a destructive effect on the Sand Forest were also identified. Target herbivores included

the nyala *Tragelaphus angasii*, impala *Aepyceros melampus*, Burchell's zebra *Equus burchellii*, greater kudu *Tragelaphus strepsiceros*, red duiker *Cephalophus natalensis* and suni *Neotragus moschatus*. Road transects were used to record the spatial distribution of the target herbivores, and the vegetation types that were used more or less often than expected were subsequently determined. None of the target herbivores showed a preference for the Sand Forest or appeared to have a destructive effect on the Sand Forest. The suni, however, reached its highest density within the Sand Forest and the destruction of this habitat will therefore negatively affect the suni population. In several parks and reserves that aim to conserve a variety of species, it has been necessary to control the populations of highly competitive species. Both the nyala and the impala are highly competitive and occur in relatively high numbers within the Tembe Elephant Park, and consequently their population numbers should be kept sufficiently low in order not to have a negative influence on the vegetation or the survival of less competitive ungulates. Total aerial counts and transect distance sampling counts indicated an increase in the numbers of all the target herbivores. It is important to protect a viable portion of the preferred habitat of every target species within a reserve, and to keep competition with rare species to a minimum for the long-term survival of the regional biodiversity. Key aspects of wildlife and their habitat should be monitored so that trends are noted in time, and management adjustments can be made accordingly.

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ACKNOWLEDGEMENTS

I dedicate this thesis to my dad, who passed away before the completion of this work, for his love, inspiration and encouragement.

Although many people contributed to this thesis in different ways, the following people deserve special thanks:

My wife Lizl, thank you for your unconditional support and understanding during the lonely times at home while I was doing fieldwork and during the long hours in front of the computer while I was writing up. All my friends and family, you also deserve thanks for putting up with me throughout my study period.

My supervisor, Prof. J. du P. Bothma, thank you for your commitment, support and guidance and for critically examining my work. Enjoy the retirement!

Dr. H. Els and his wife Ronel, thank you for your friendship, support and dedication as well as for all the logistical support during my fieldwork. Roelie, Alison, Martie, Jason and Johan, thanks for the critical comments, advice, support, friendship and companionship around the fire in Tembe.

Liset Swanepoel, thank you for your invaluable assistance in general and for always listening and giving advise. Ben, LD, Haemish, Jerome, Jason and all the students at the Centre for Wildlife Management, thanks for your support and friendship.

Ezemvelo KwaZulu-Natal Wildlife, Wayne Matthews and the rest of the staff members in Tembe Elephant Park, and the people of Manqakulane, thank you for the logistical and other support during my fieldwork in and around Tembe and Tshanini.

This material is based upon work supported by the National Research Foundation under Grant Number 2047386.


WELCOME TO
TEMBE
ELEPHANT PARK