

**Space and habitat use by elephants (*Loxodonta africana*) in the
Maputo Elephant Reserve, Mozambique**

Dedicated to my daughter Sherry and my son Kevin

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Space and habitat use by elephants (*Loxodonta africana*)
in the Maputo Elephant Reserve, Mozambique

By

Dedicated to my daughter Dinema and my son Kevin

Submitted in partial fulfilment of the requirements for the degree of

MSc (Zoology)

In the

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University of Pretoria

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Abstract

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Abstract

Information collected during a helicopter survey (non-overlapping transects) and the satellite tracking of five elephants (VHF radio's and UHF satellite PTT's) have been used to assess space and vegetation use in the Maputo Elephant Reserve. The CALHOME program with *Adaptive Kernel and MCP (Minimum Convex Polygon)* techniques was used to determine home ranges. An Arcview vegetation map of the Maputo Elephant Reserve was used to interpret vegetation use by elephants.

The home range areas of radio-collared cows ranged from 169 to 267 km², whilst that of the bull was 453 km². The core areas cover less than 6 % of the area of the Reserve. Season did not influence home range sizes.

Elephants did not use the available vegetation types at random and the forest and Futi floodplain vegetation types were selected, whilst grasslands and woodlands were avoided. Preference for a vegetation type was not a function of the time of day. The sex of individuals also did not affect preferences though the male did make use of woodlands outside the Reserve that the females did not use. The mean distance between successive locations was negatively correlated with biomass and plant cover of the vegetation type.

Various explanations for home range size differences and vegetation preference were considered. These results have general implications for the development of the Futi Corridor as a conservation area for elephants.

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