

**LION (*PANTHERA LEO*) SOCIAL ORGANISATION IN A HUMAN AFFECTED
LANDSCAPE**

by

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DECLARATION BY CANDIDATE

I hereby declare that the dissertation submitted for the degree M Tech Game Ranch Management at Tshwane University of Technology is my own original work and has not previously been submitted to any other institution. I testify that all authors quoted are indicated and acknowledged by means of a comprehensive list of references. The financial assistance of Tshwane University of Technology to this research is hereby acknowledged. Opinions expressed, and conclusions arrived at, are those of the author and are not necessarily to be attributed to the Tshwane University of Technology.

Andrei Snyman

Pretoria, August 2010

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This study is dedicated to:

My Saviour and King, Jesus Christ

for without His love, blessings and guidance this study would not have succeeded

and

my parents for their immeasurable love and support.

With God life is simple – all is possible.

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ABSTRACT

Lion (*Panthera leo*) social organisation in the Northern Tuli Game Reserve (Notugre), Botswana, and the Venetia Limpopo Nature Reserve (Venetia), South Africa, was investigated. Situated ± 20 km apart, Notugre is predominantly unfenced with unrestricted animal movements, as opposed to Venetia which is completely fenced. Historically both lion populations have faced various but similar pressures such as safari hunting, snaring, poisoning and killing due to perceived conflict with livestock farmers. These populations were characterized by low lion density, small isolated prides, a lack of adult males, and little immigration. Edge effects had a severe impact on the Notugre lion population, with 82% of mortality found outside the borders of the reserve. Lions moved across international borders regardless of fences and land-use type. Kernel (90%) home ranges for four collared males averaged 69 ± 69 km² and 41 ± 54 km² for two females. Territories were located inside the borders of protected areas, avoiding areas of high risk and human settlements. Lions spent the majority of their time ($86\% \pm 10\%$) inside their home ranges, but once they moved outside of these, they were most likely killed. Average distance between daily resting locations was 2.9 ± 1.7 km. With increasing human populations and the destruction of natural habitat, human-wildlife conflict will continue, but the state and success of large carnivore conservation depends on the cooperation between wildlife managers and local people.

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ANNEXURE A

LIST OF ABBREVIATIONS

CDV:	Canine Distemper Virus
EVP:	Elephant Valley Pride
GPS:	Global Positioning System
GSM:	Global System for Mobile communications
KDE:	Kernel Density Estimate
KNP:	Kruger National Park
MCP:	Minimum Convex Polygon
MIP:	Majale Island Pride
MNP:	Mapungubwe National Park
Notugre:	Northern Tuli Game Reserve
PAC:	Problem Animal Control
S-LTFCA:	Shashe-Limpopo Transfrontier Conservation Area
TFCA:	Transfrontier Conservation Area
TUT:	Tshwane University of Technology
UHF:	Ultra High Frequency
Venetia:	Venetia Limpopo Nature Reserve
Vhembe	Vhembe Private Nature Reserve
VHF:	Very High Frequency