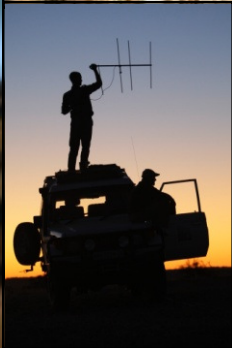


# Aspects of the ecology of leopards (*Panthera pardus*) in the Northern Tuli Game Reserve, Botswana

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# Introduction

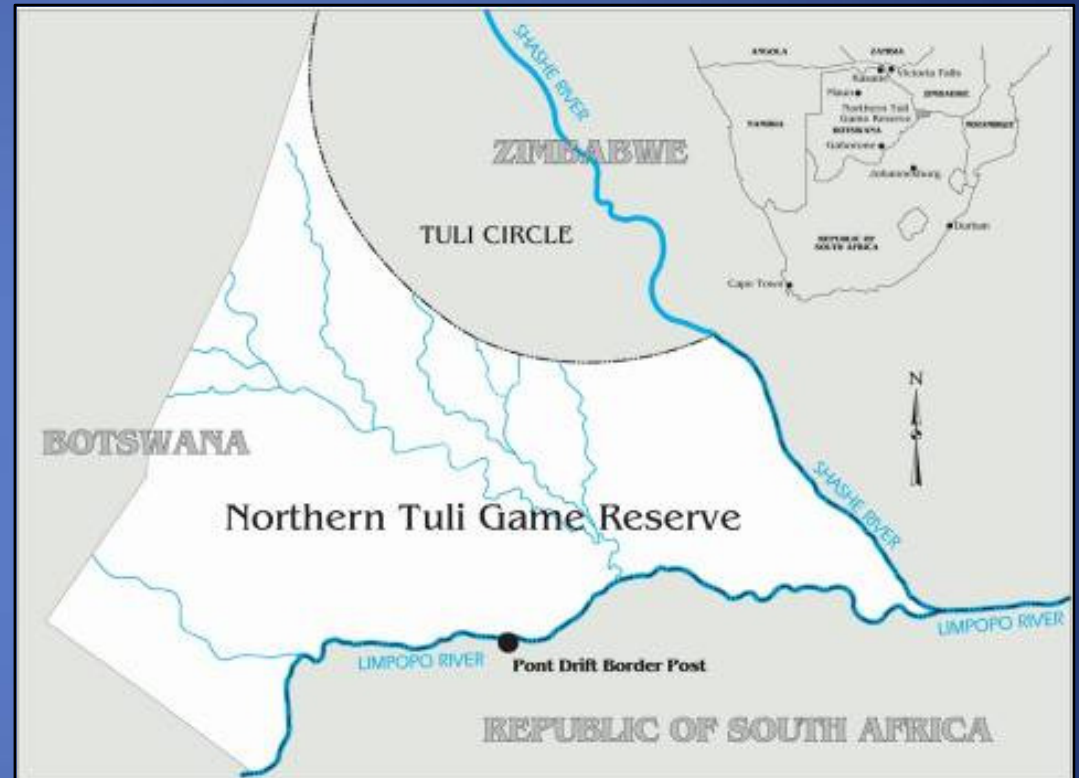
- Notoriously difficult to study due to
  - Secretive nature
  - Habitat they frequent
  - Low density
- Leopards studies range across a wide range of habitats
- Still further need for study, particularly in terms of:
  - Management
  - Human conflict



# Objectives of the study

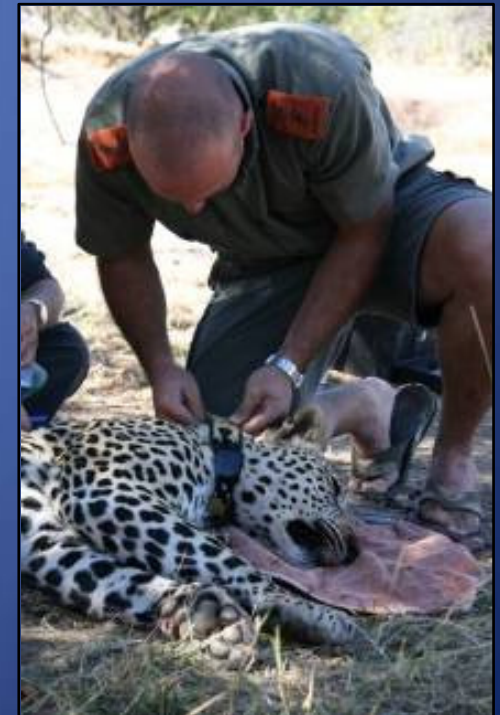
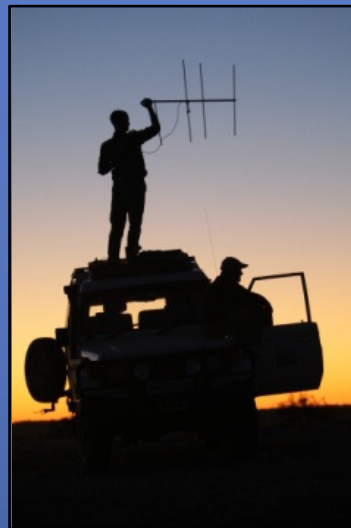
To determine / study:

- Behavioural ecology
- Population dynamics
- Movement patterns
- Population density estimation
- Human conflict



# Methods

- 2004 - present
- 18 leopards collared thus far (VHF/GPS/UHF)
- 32 successful captures made – (cage and free-darting)
- Camera traps used for population density estimation & ID-kit compilation
- Kill records collected via game viewing vehicles operating in the area



# Results & Conclusion

**90% KDE** ( $t = 5.23, d.f = 11, p < 0.001$ )

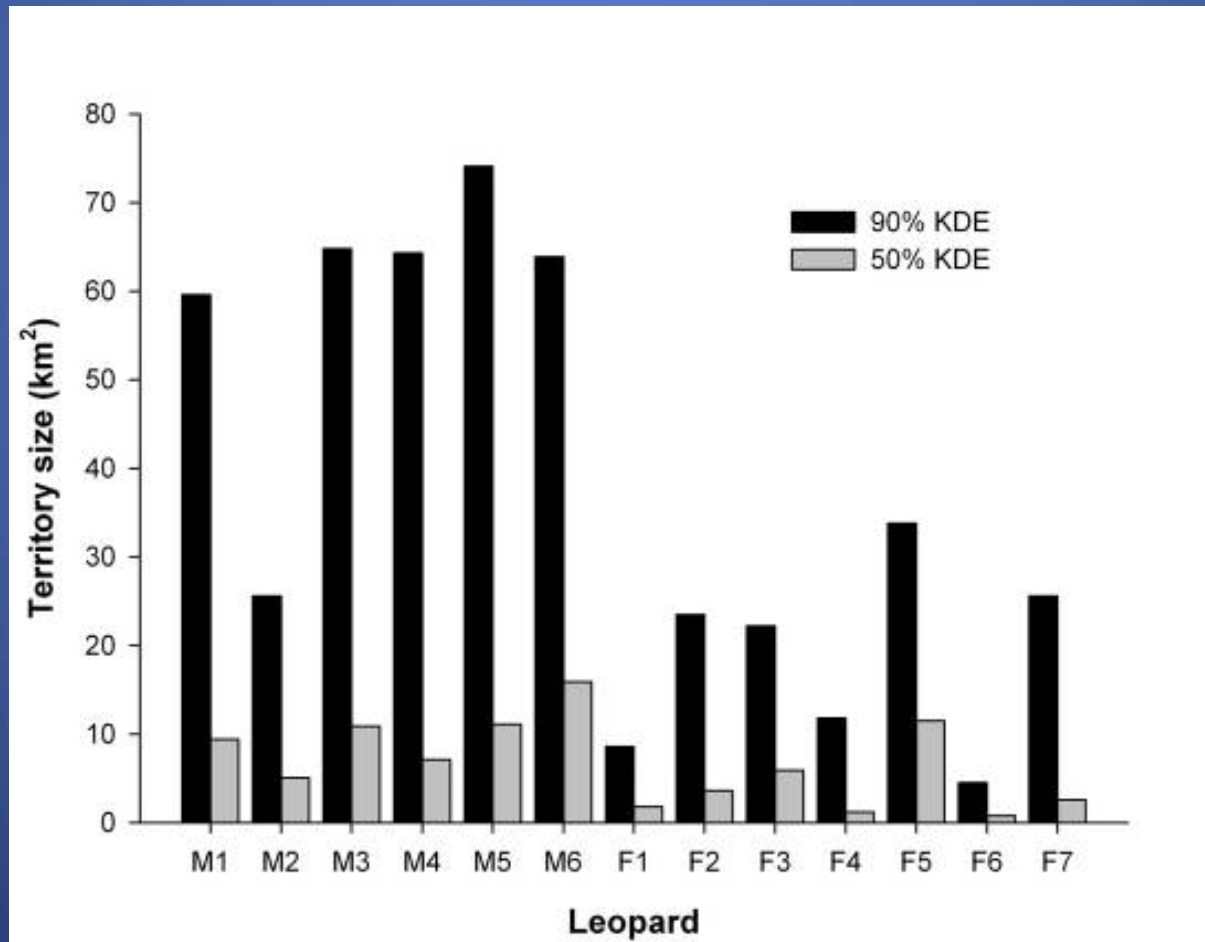
Males =  $58.7 \pm 16.9 \text{ km}^2$

Females =  $18.5 \pm 10.5 \text{ km}^2$

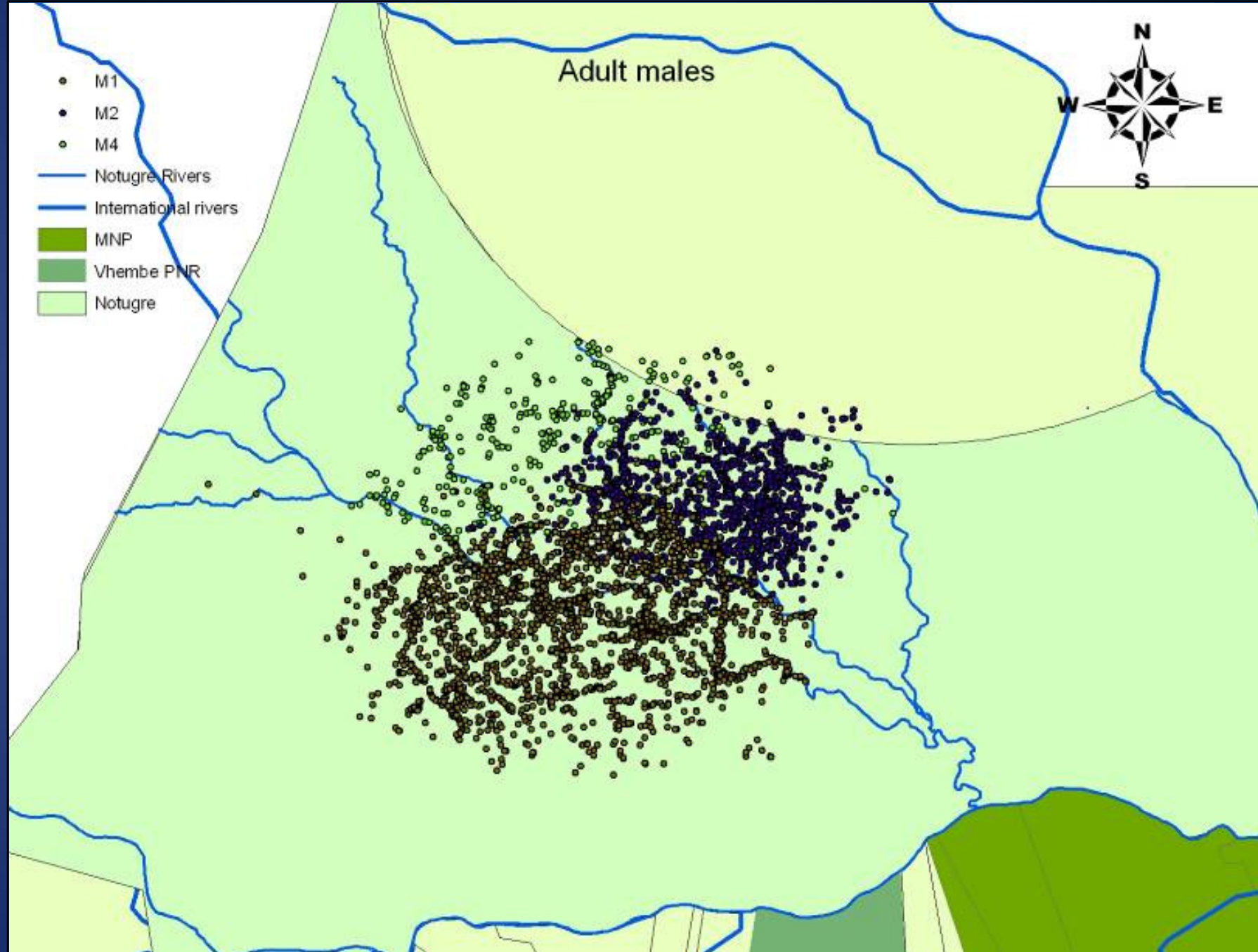
**50% KDE** ( $t = 2.88, d.f = 11, p = 0.015$ )

Males =  $9.9 \pm 3.7 \text{ km}^2$

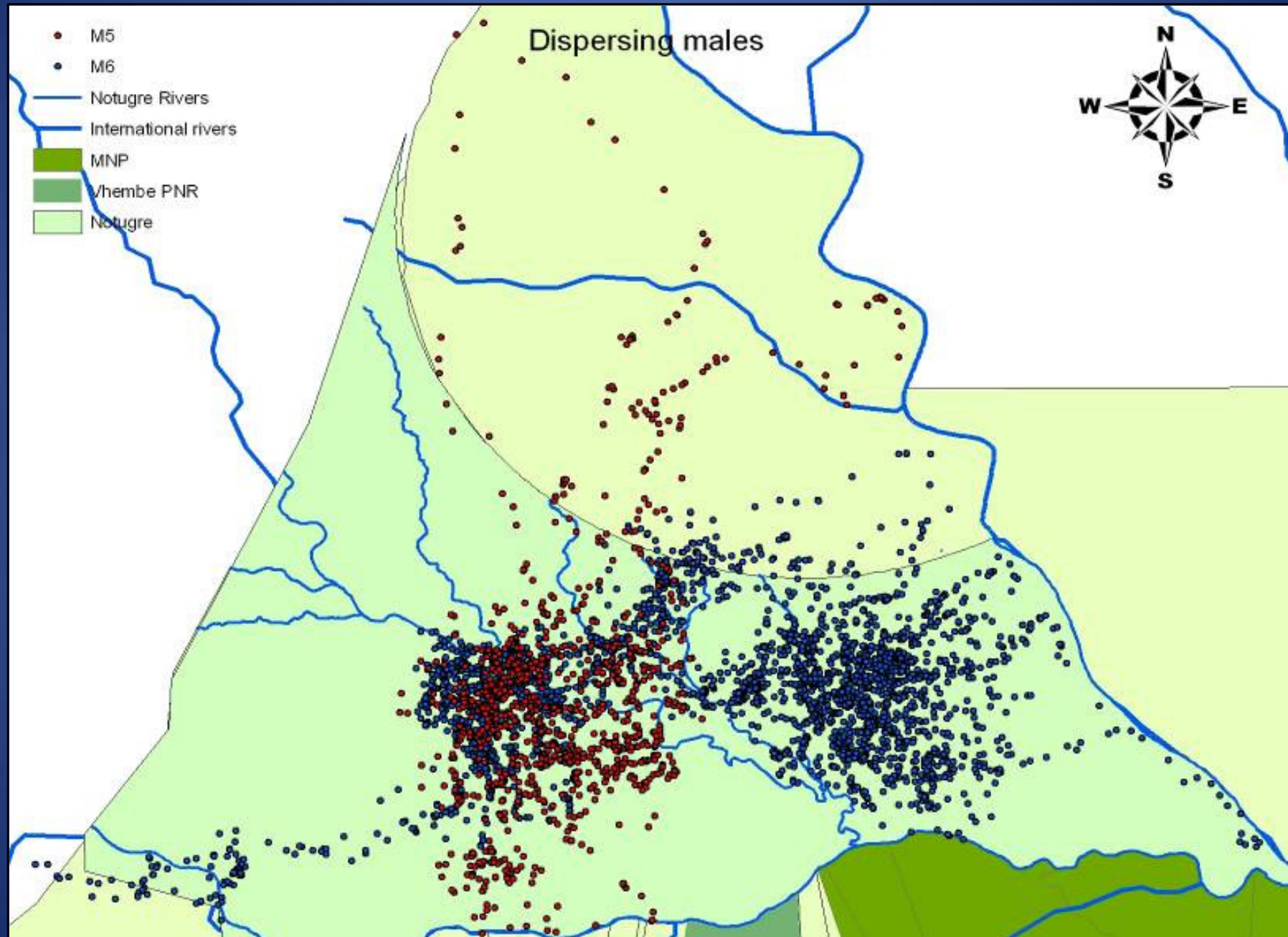
Females =  $3.9 \pm 3.7 \text{ km}^2$



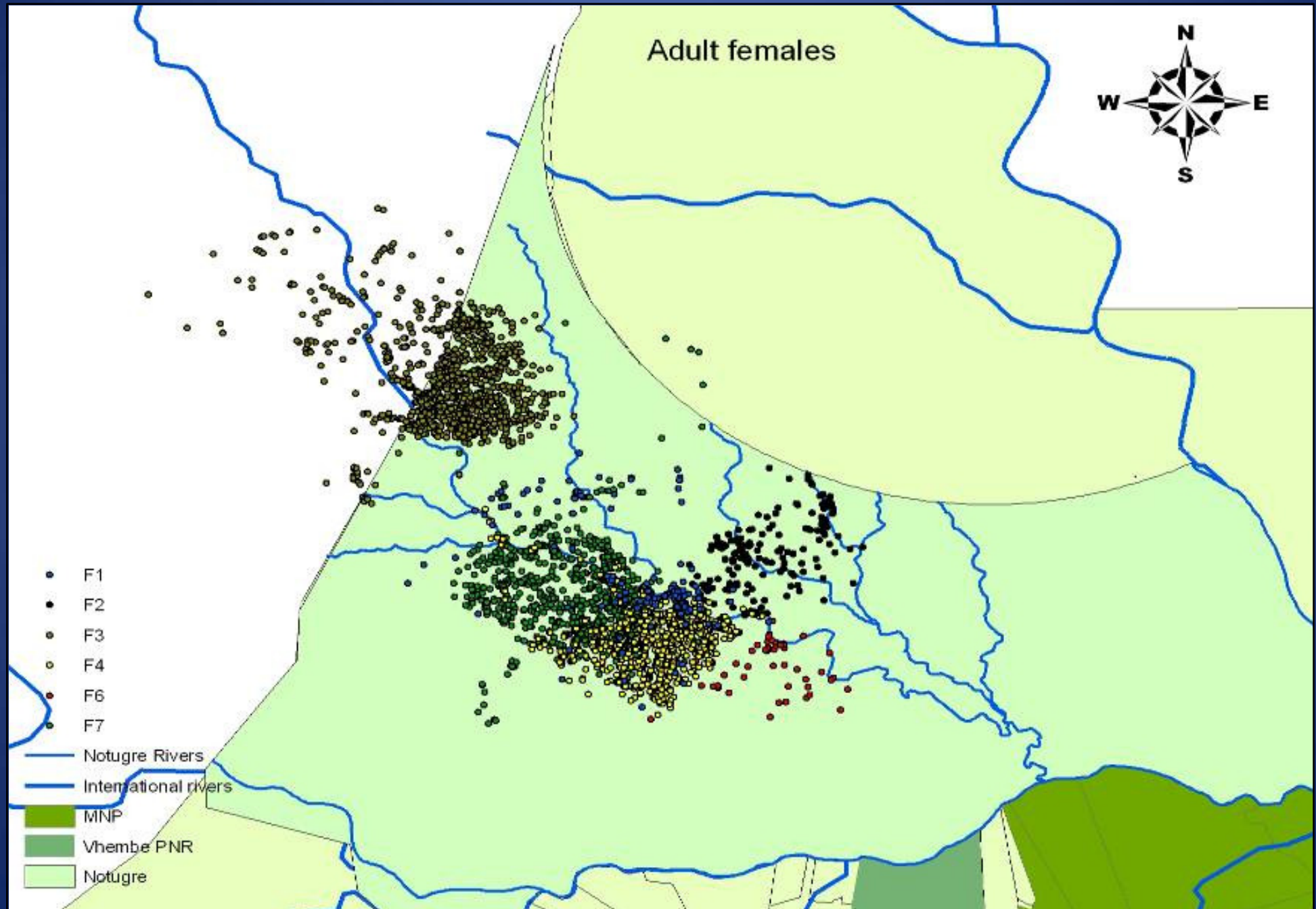
# Results – adult males



# Results – dispersing young males

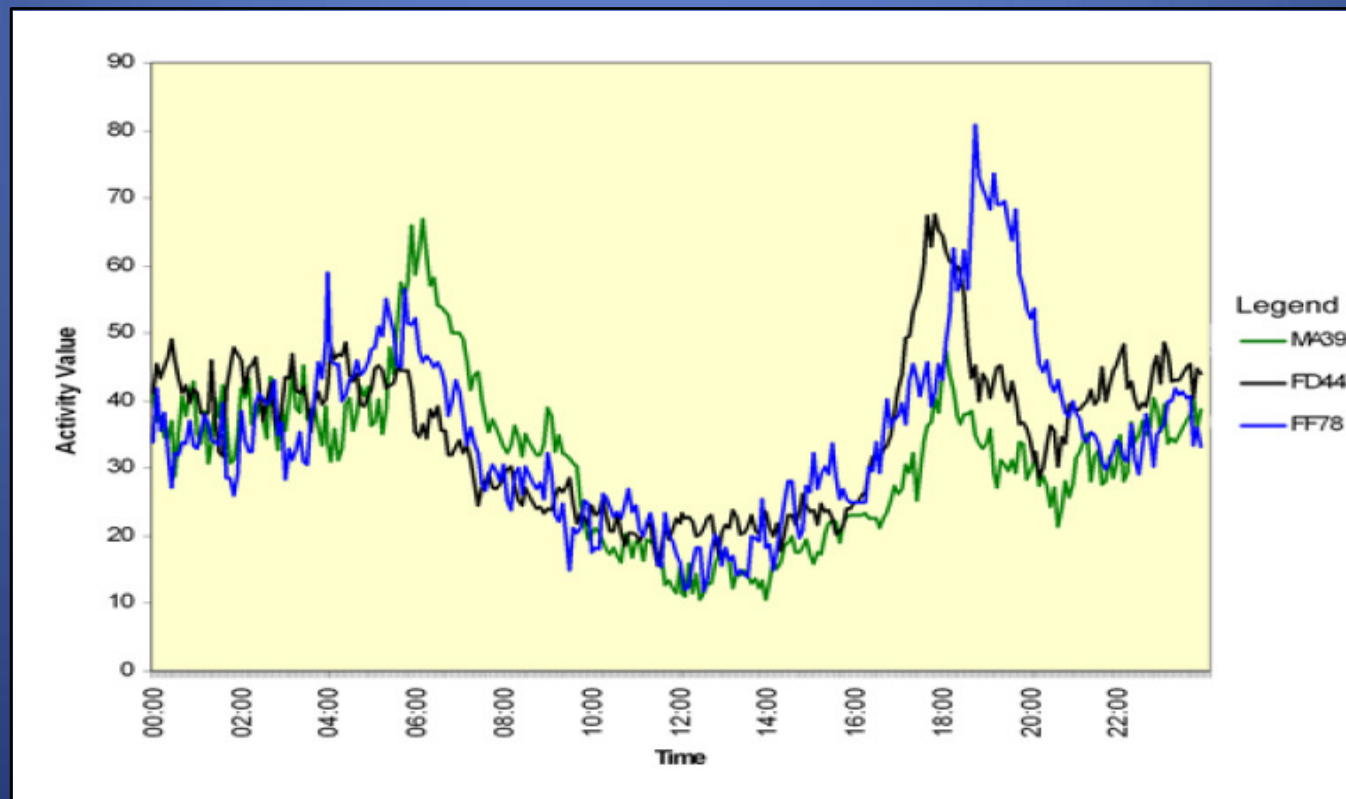


# Results – adult females



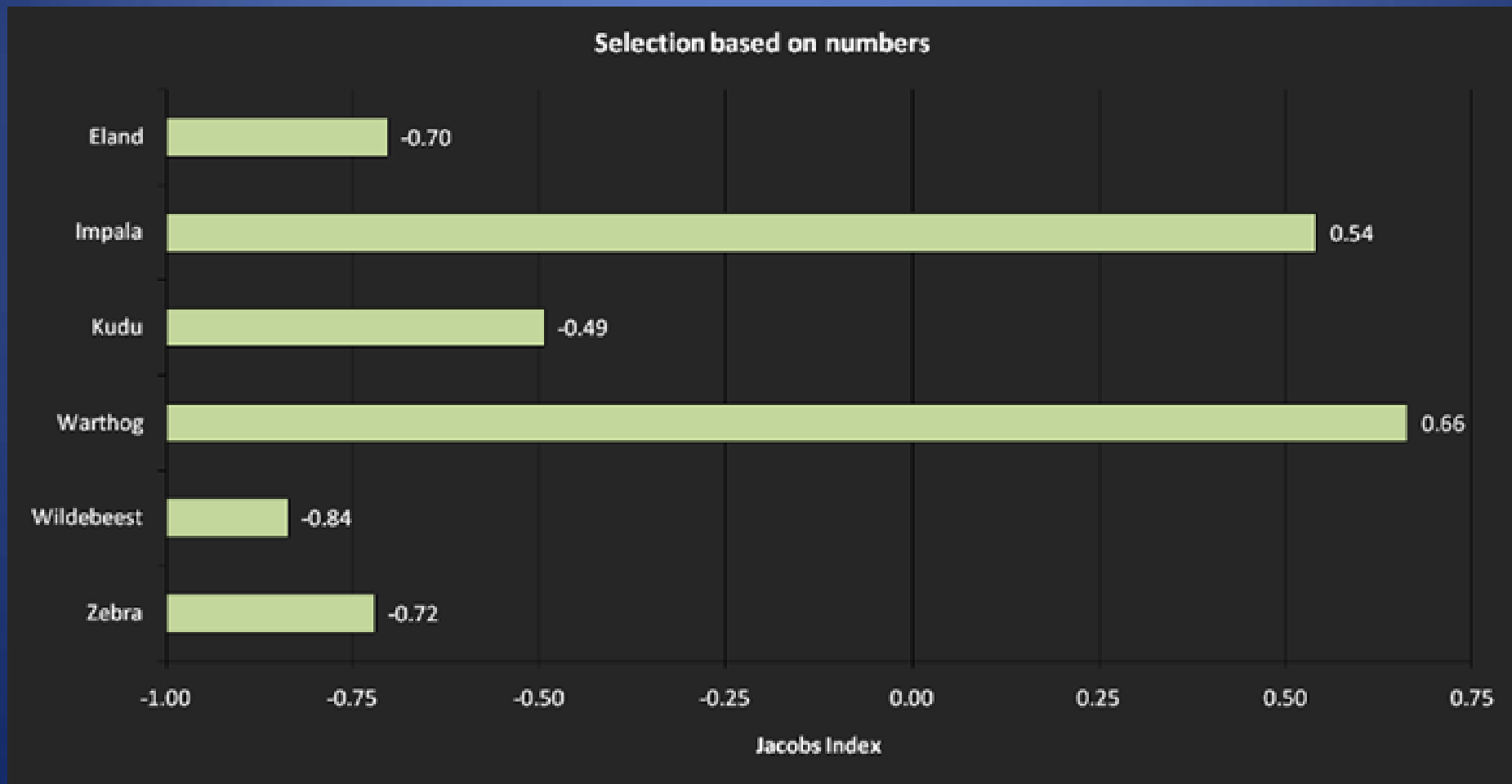
# Results & Conclusion

- Core areas were mutually exclusive amongst both sexes but female territories overlapped as much as **43.4%** and on average **26.0%**
- Population density was calculated at **7.5 leopards / 100km<sup>2</sup>** ( $\pm$  54 adult leopards)
- Leopard biomass was calculated at **3.8kg / km<sup>2</sup>**
- Average daily distances moved for males were **3.2  $\pm$  0.6 km**, whereas for females this was **2.2  $\pm$  0.5 km**
- Increases of activity occurred between 04:00 - 06:00 and 17:40 – 19:00



# Results & Conclusion

- **611** kills recorded (2000 – 2010), 18 different species killed, 4 of which were carnivores.
- Impala = **84.8%** (n=518), Warthog = **3.8%** (n=23), Baboon = **2.3%** (n=14), Steenbok = **1.5%** (n=9), Kudu = **1.5%** (n=9) and Common Duiker = **1.3%** (n=8).



# Acknowledgements

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National Parks (DWNP), Botswana**
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- **David Evans**
- **Tshwane University of Technology  
(TUT)**
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