

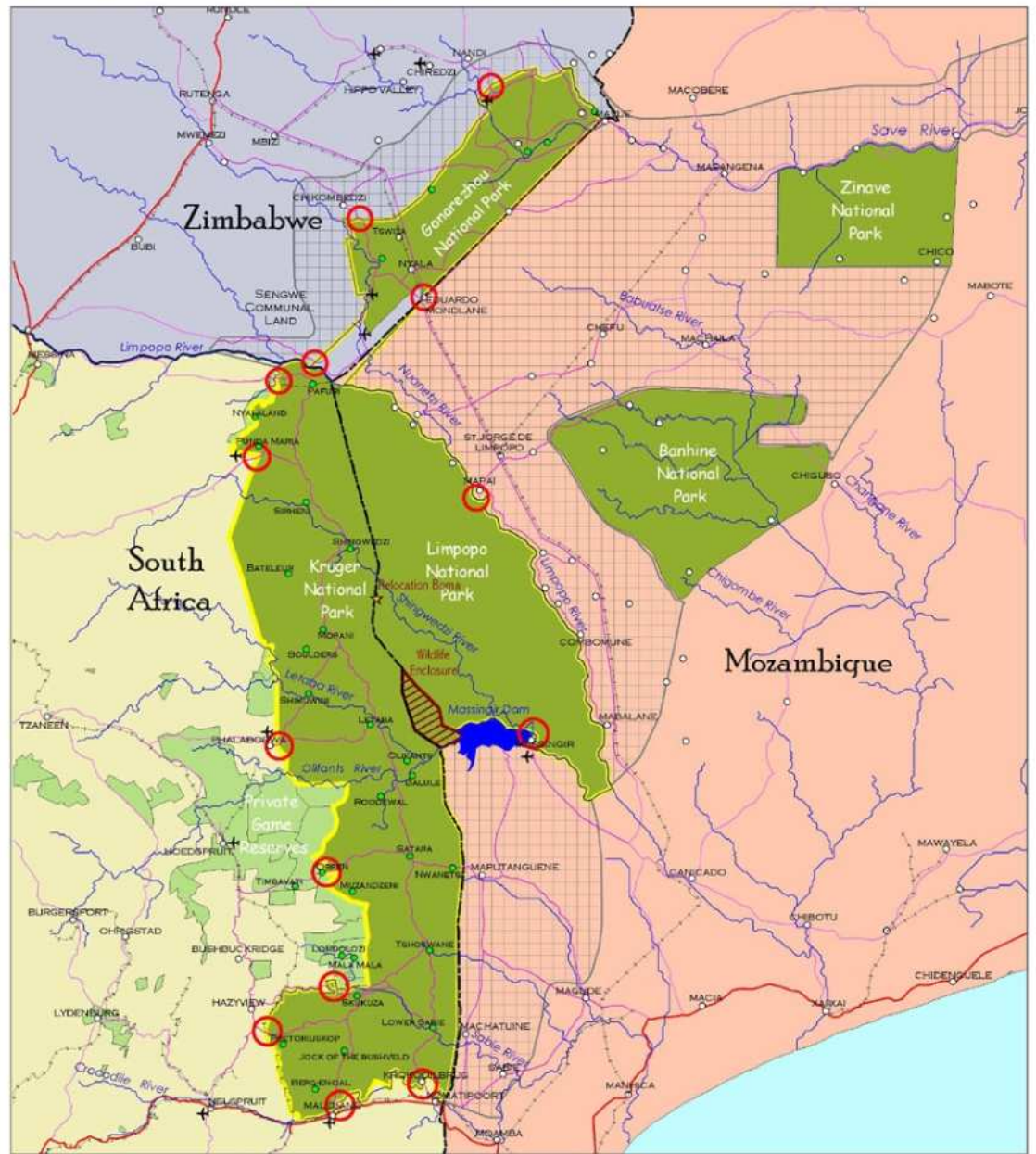
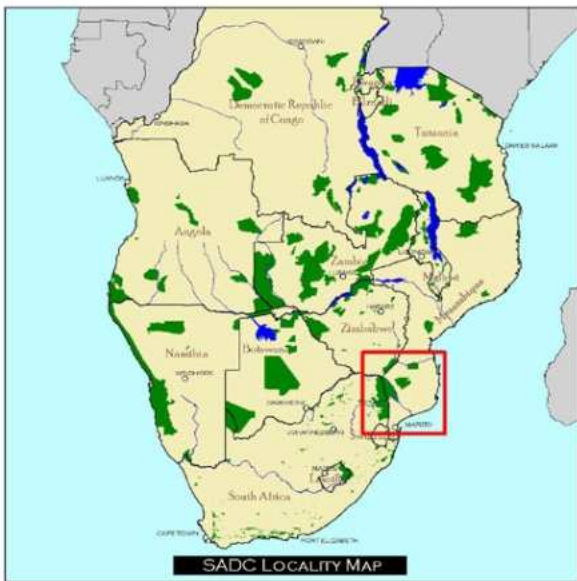
Elephants in the Gonarezhou National Park, Zimbabwe – moving towards an integrated management plan for the Greater Limpopo Transfrontier Conservation Area (GLTFCA)

Van der Westhuizen, E¹., Gandiwa², E. & Zisadza P.³

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Legend:

- ★ Wildlife Relocation Points
- ▭ Wildlife Relocation Encampment
- Park Access Points
- International Boundaries
- Places
- Camps
- Rivers
- Road Network
- Primary Roads
- Secondary Roads
- GEG/FICA
- Extensions
- Conservation Areas
- National Parks
- Private Game Reserves
- International Boundaries
- Mozambique
- South Africa
- Zimbabwe



Mozambique



South Africa



Zimbabwe



Scale 1: 2 200 000

Data layers from African Data Sample and Export (DAT)

Projection System: Lambert Azimuthal Equal-Area
 Units: Meters
 Central Meridian: 20
 Reference Latitude: 1



Department of Environmental & Forestry Affairs

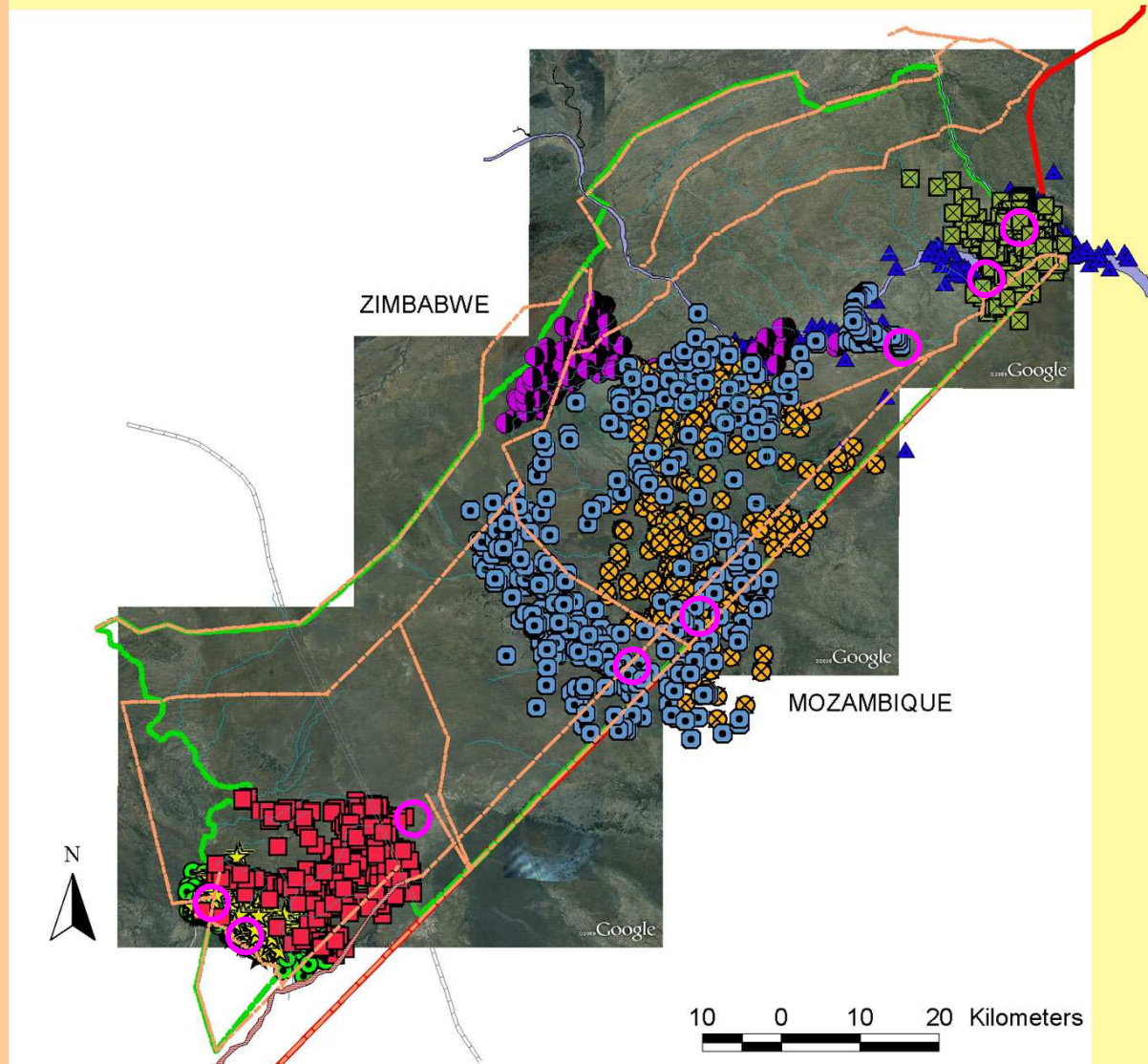
Great Limpopo TRANSFRONTIER PARK

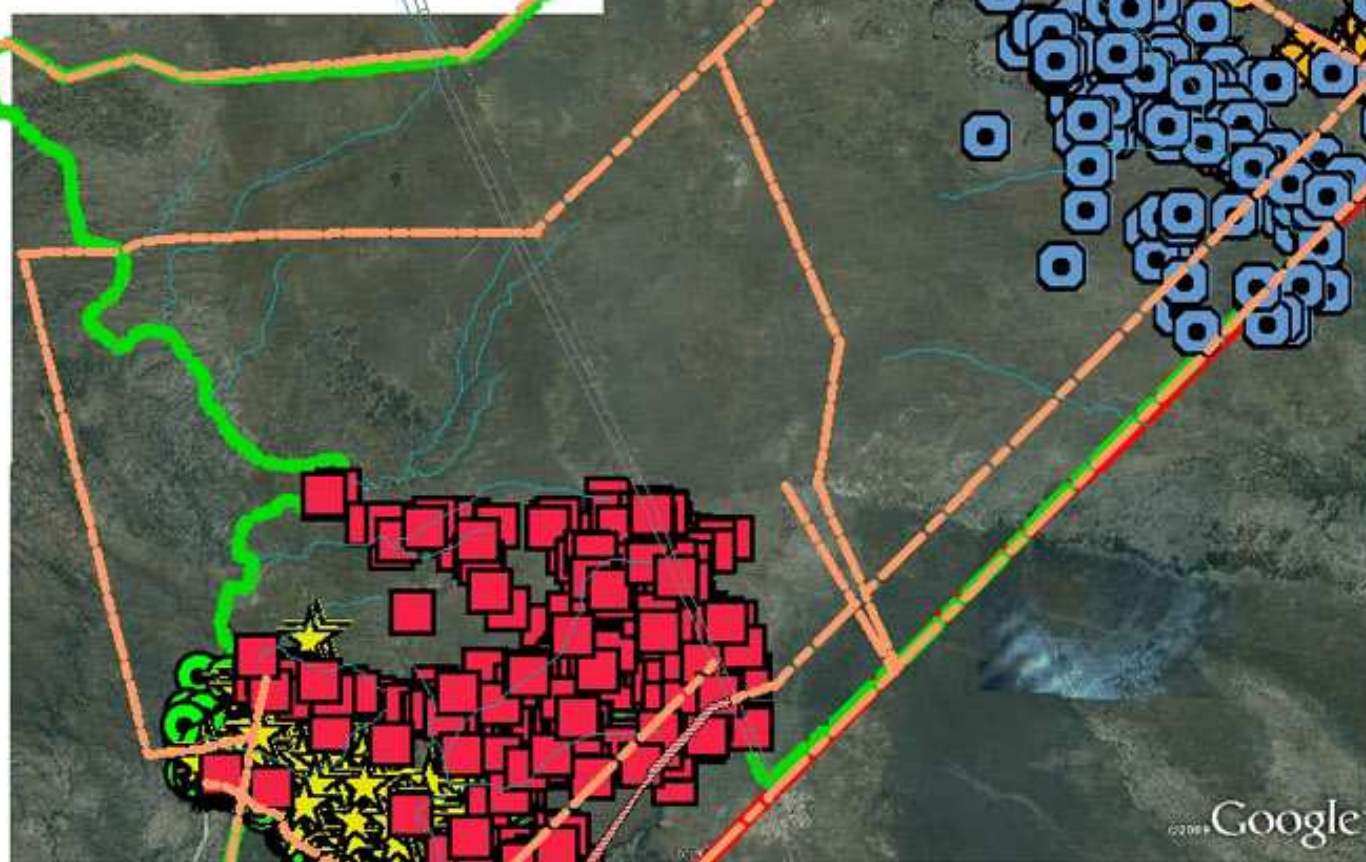


Maps Compiled by: Limpopo Parks Foundation GIS: Craig Booth and Willem van Rens
 Tel: +27 10 44 88 888
 info@lpf.org.za
 will@lpf.org.za

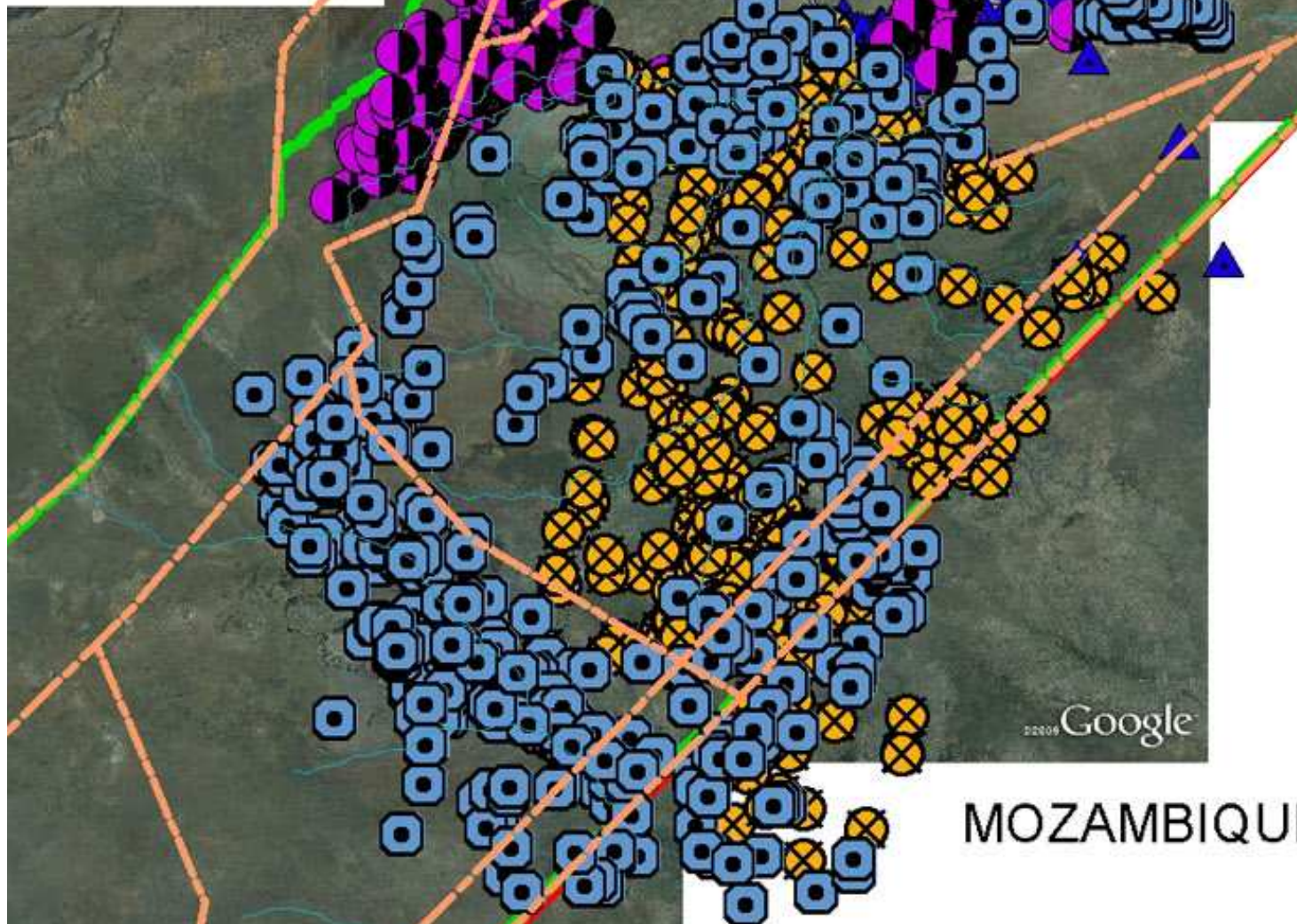


MOVEMENT OF COLLARED ELEPHANT- ALL POSITIONS GONAREZHOU NATIONAL PARK (June 2009 - February 2010)





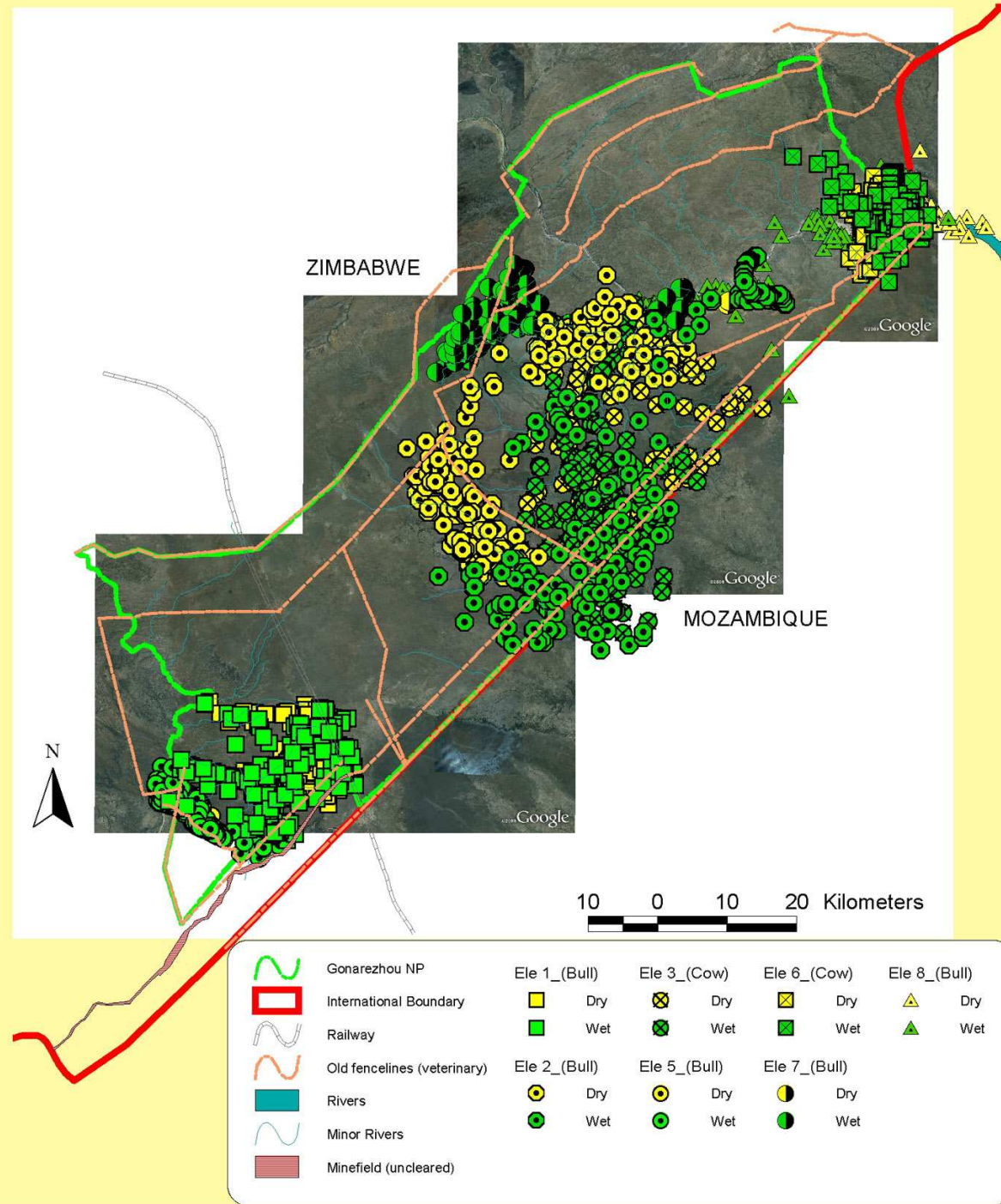
ZIMBABWE



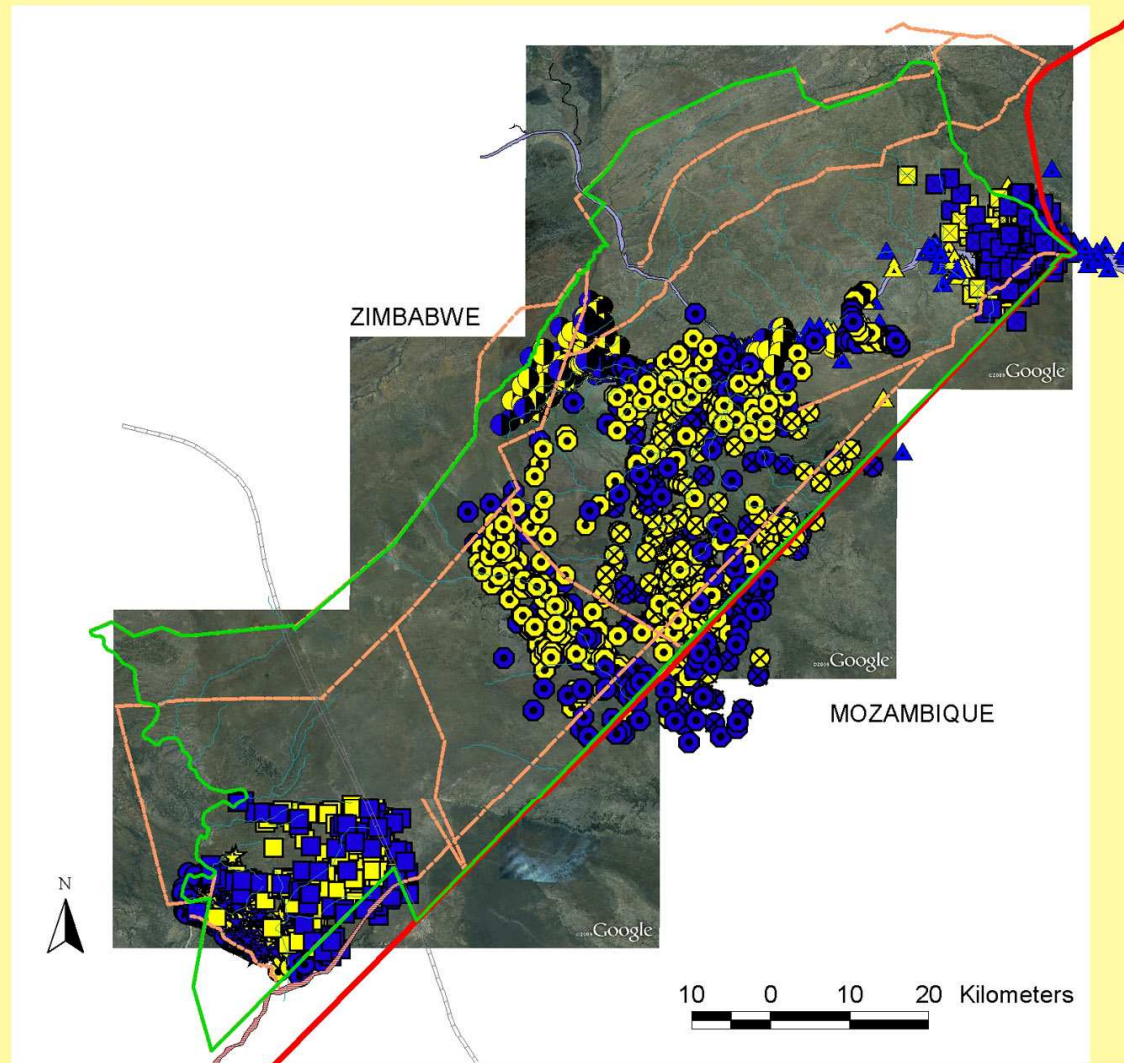
MOZAMBIQU



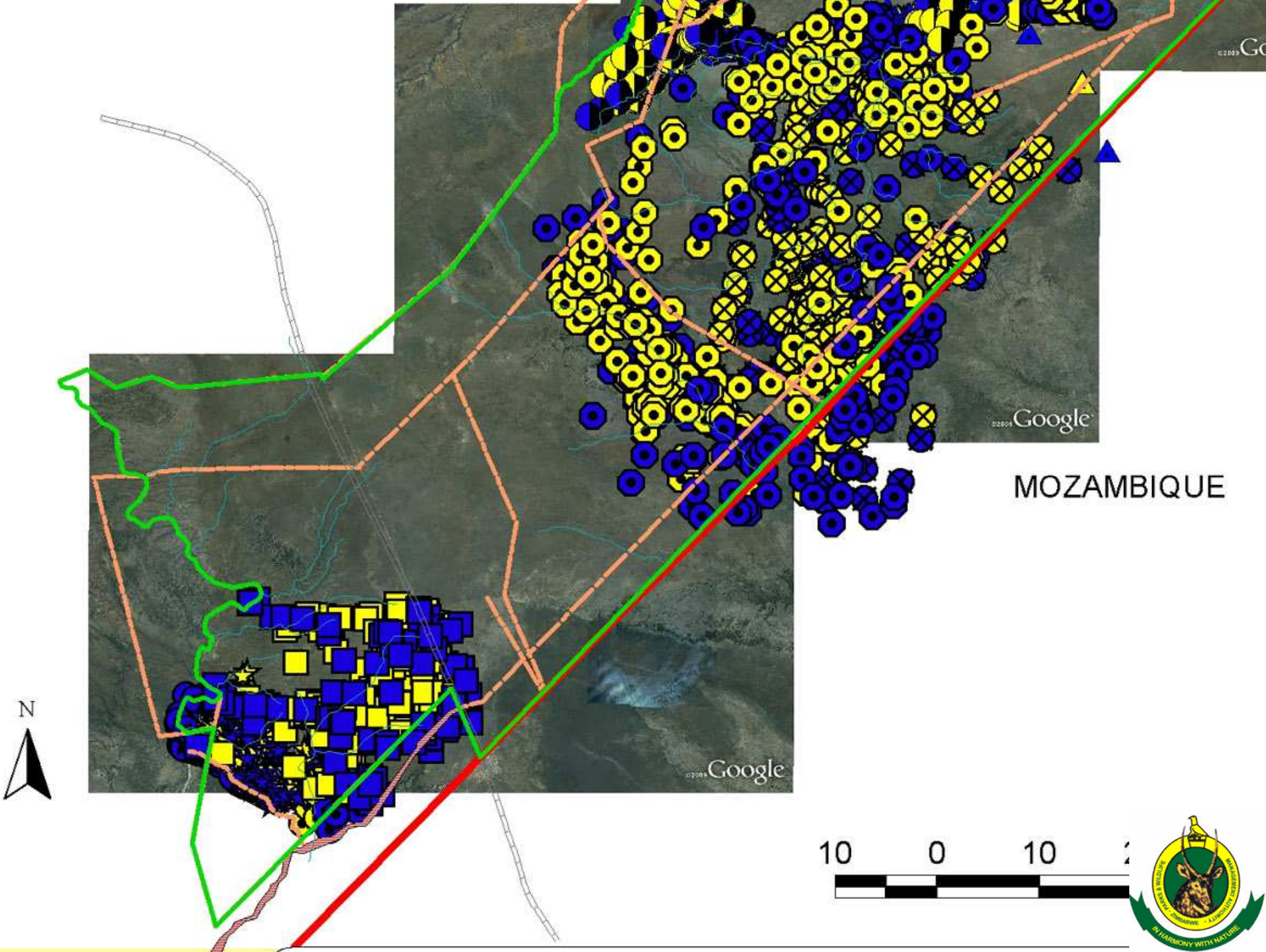
SEASONAL MOVEMENT OF COLLARED ELEPHANT- GONAREZHOU NATIONAL PARK (June 2009 - February 2010)



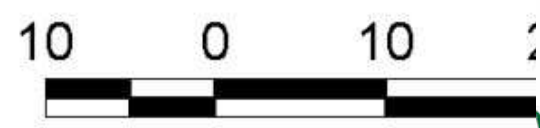
DAY vs. NIGHT MOVEMENTS OF COLLARED ELEPHANT - GONAREZHOU NATIONAL PARK (June 2009 - February 2010)



Gonarezhou NP	Ele 1 (Bull)	Ele 3 (Cow)	Ele 5 (Bull)	Ele 7 (Bull)
International Boundary	Day	Day	Day	Day
Railway	Night	Night	Night	Night
Old fencelines (veterinary)	Ele 2 (Bull)	Ele 4 (Cow) Collar failure	Ele 6 (Cow)	Ele 8 (Bull)
Rivers	Day	Day	Day	Day
Minor rivers	Night	Night	Night	Night
Minefield (uncleared)				

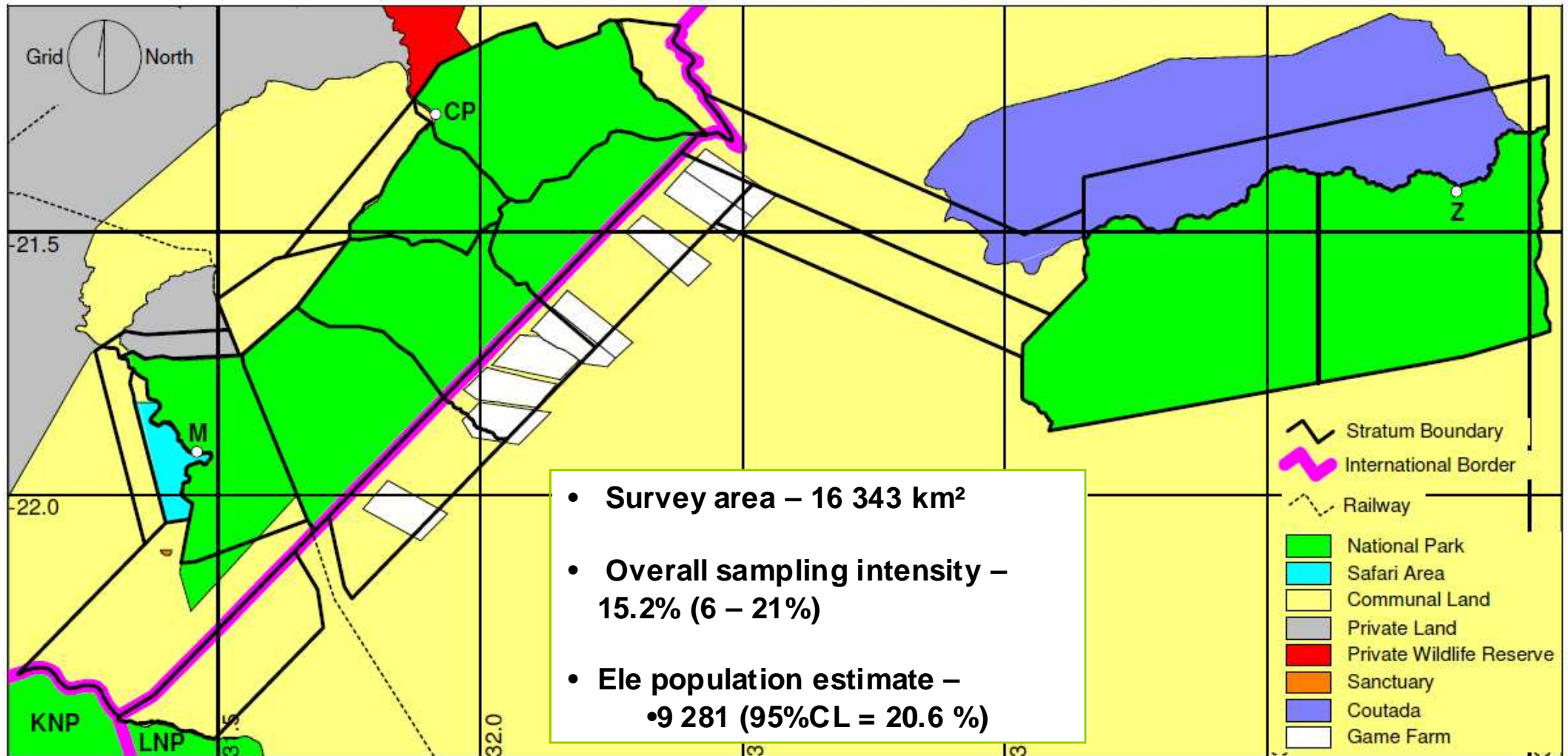


MOZAMBIQUE



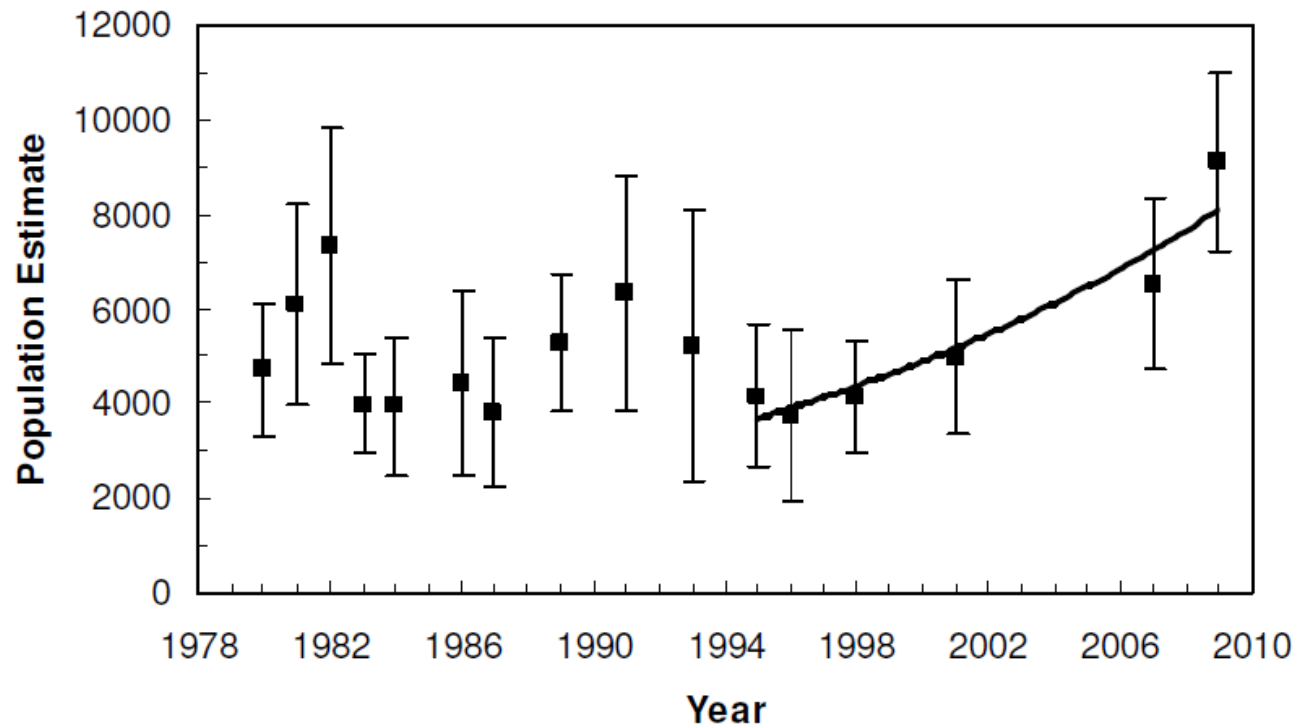
Aerial survey – September 2009

Gonarezhou and Zinave NP and surrounds*



* Dunham, K.M., van der Westhuizen, E., Van der Westhuizen, H.F., Gandiwa, E. 2010: *Aerial Survey of Elephants and other large herbivores in Gonarezhou National Park (Zimbabwe), Zinave National Park (Mozambique), and surrounds: 2009*. Frankfurt Zoological Society, Chiredzi, Zimbabwe.

Aerial survey – September 2009 Gonarezhou and Zinave NP and surrounds*

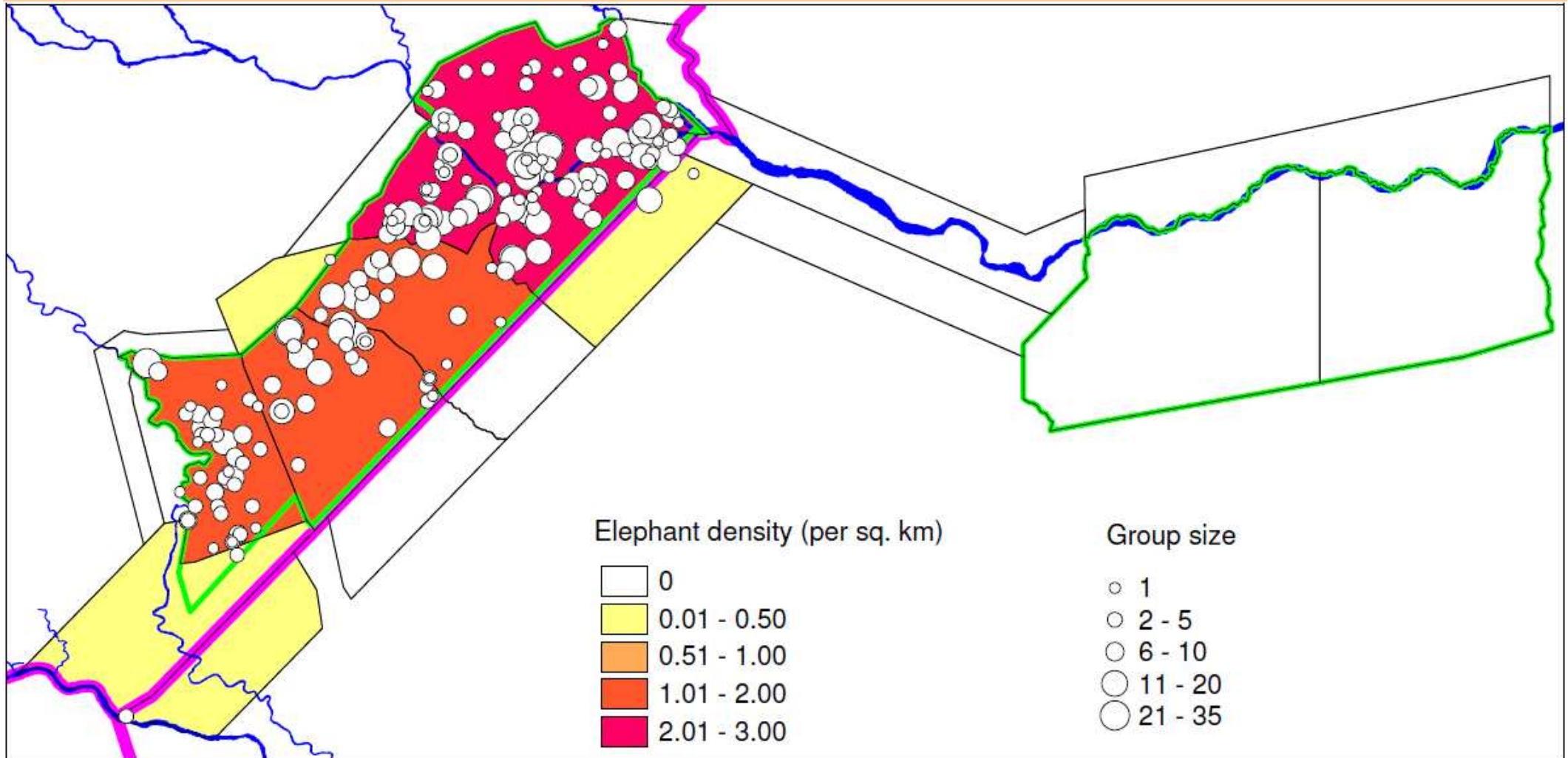


- 2009 survey - 7th survey of wildlife in GNP since the severe drought of 1991/92 – highest ever elephant estimate for GNP
➤ (9 123 – 1.82/km²)
- Significant increase in elephant population during this time – mean % increase of 6.2%/annum
- Elephants were culled (killed or captured) in GNP in 1983, 1986, 1992 and 1993—specifically high offtake of >2 000 in 1983.

Figure 8: Trend in the number of elephant in Gonarezhou National Park since 1980.

Aerial survey – September 2009

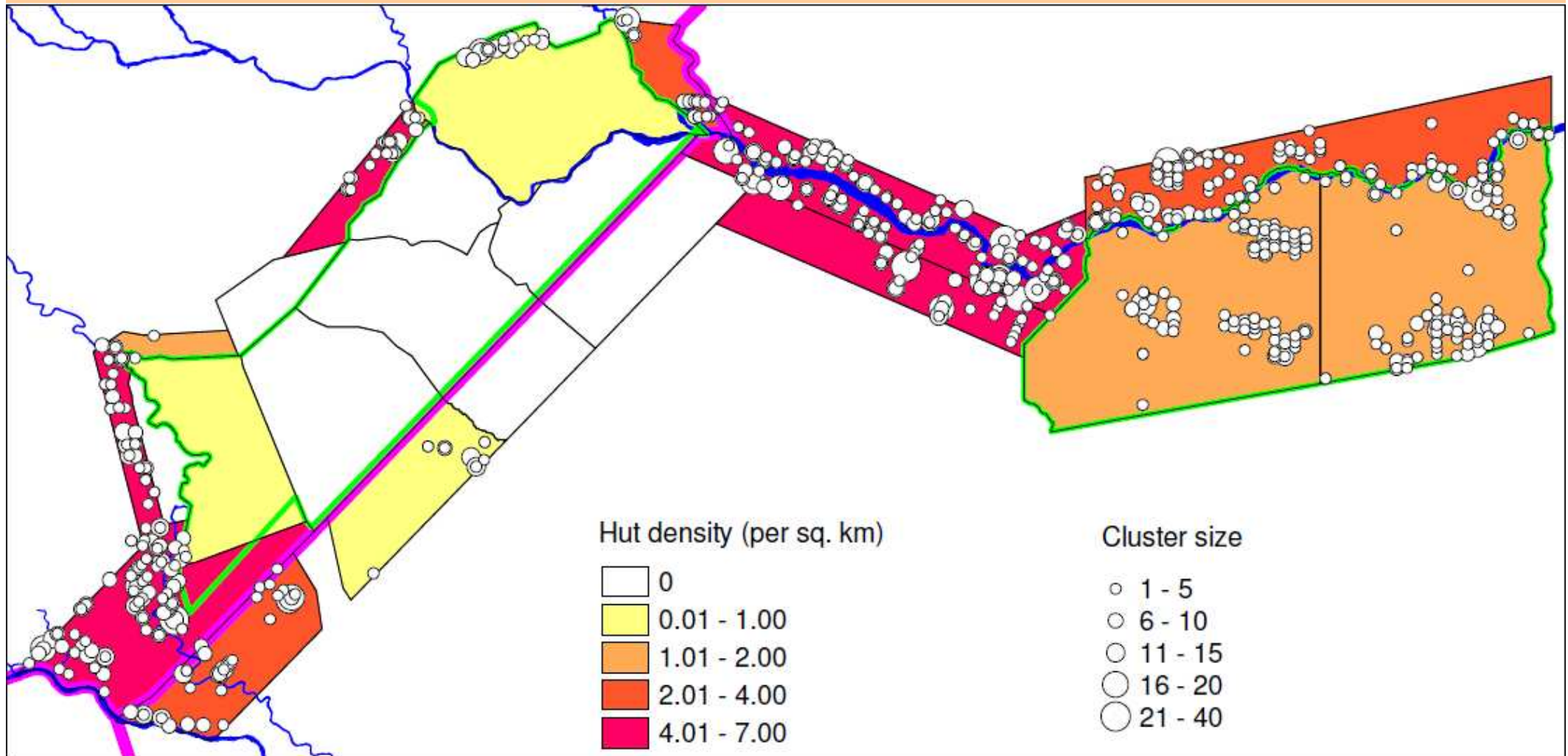
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Aerial survey – September 2009

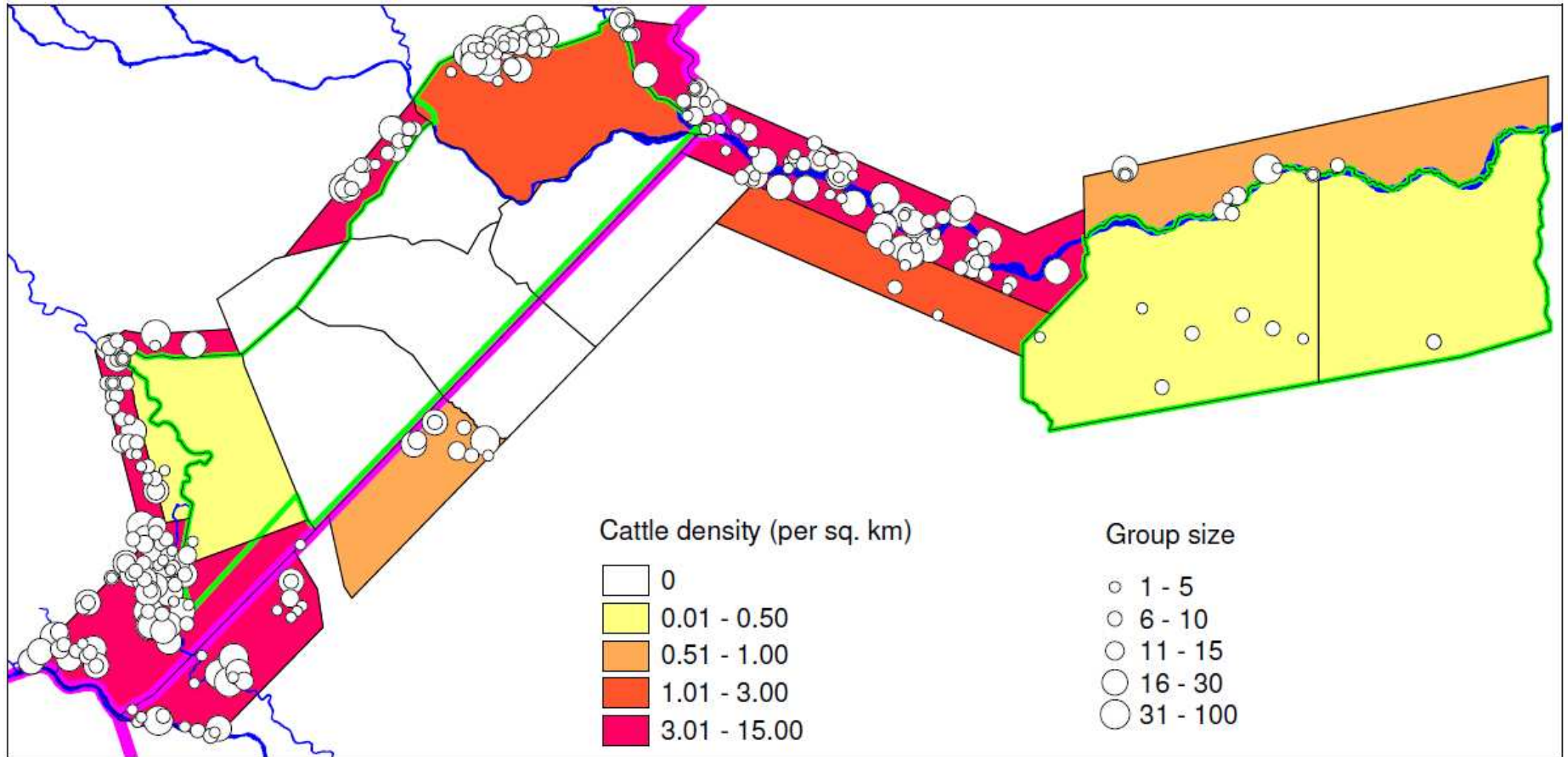
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Aerial survey – September 2009

Gonarezhou and Zinave NP and surrounds*



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- Activities related to both the 2009 aerial survey and the elephant movement study took place under the auspices of the Gonarezhou Conservation Project — a collaboration between the **Zimbabwe Parks and Wildlife Management Authority** and the **Frankfurt Zoological Society**.
- The **United States Fish and Wildlife Service** contributed significant funding towards the Zimbabwean portion of the aerial survey and the elephant telemetry study, as well as providing valuable input into the survey report.
- The TFCA unit of the **Mozambique Ministry of Tourism** contributed the funding for the Mozambican portion of the 2009 aerial survey, as well as providing input into the survey design and report.
- The **Sindisa Foundation** contributed funds towards one of the satellite telemetry collars, as well as associated data download fees.

