

# The Role of Research in Conservation Planning in Swaziland

Ara Monadjem

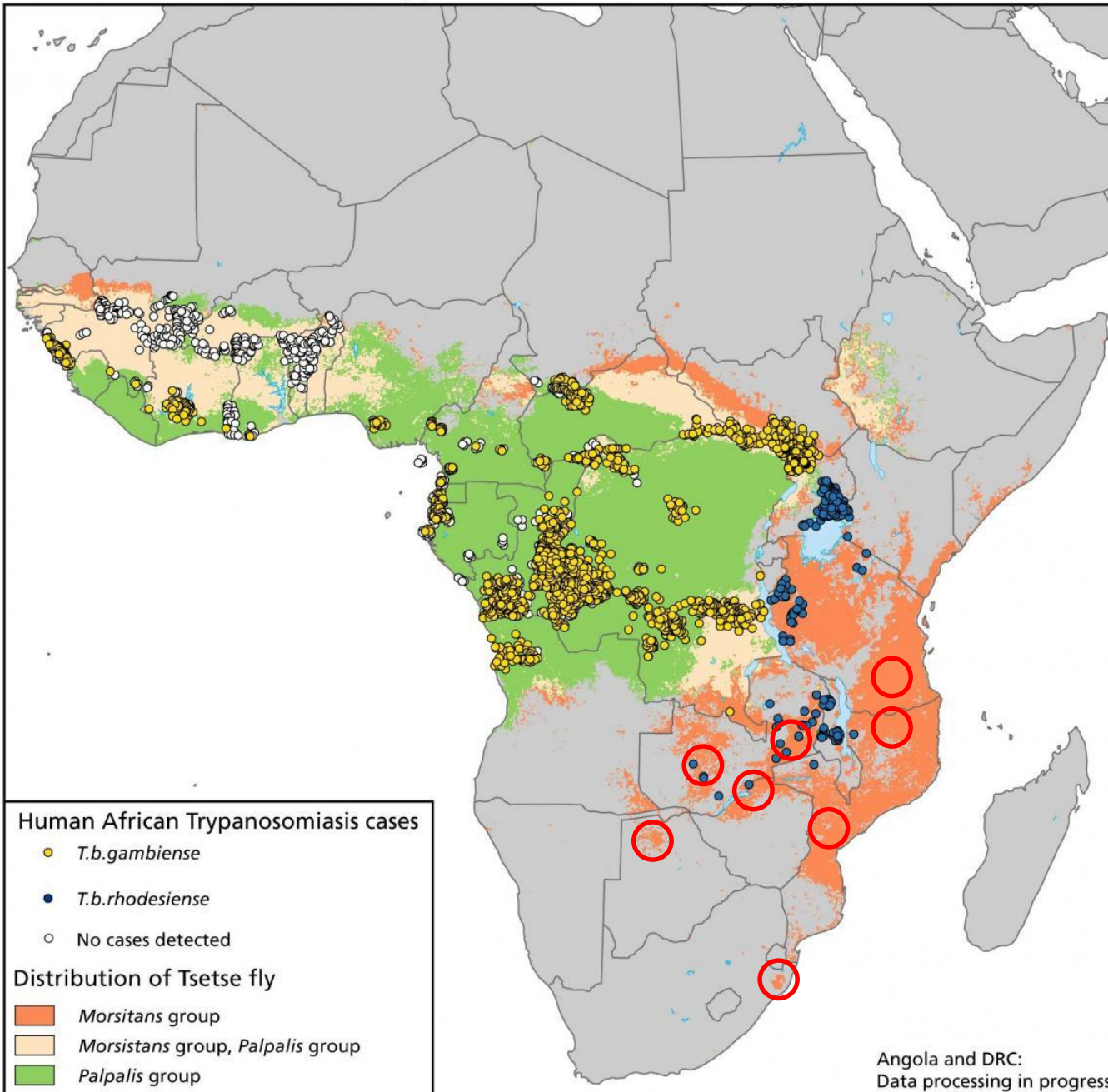
University of Swaziland



# Protected areas: historical perspective

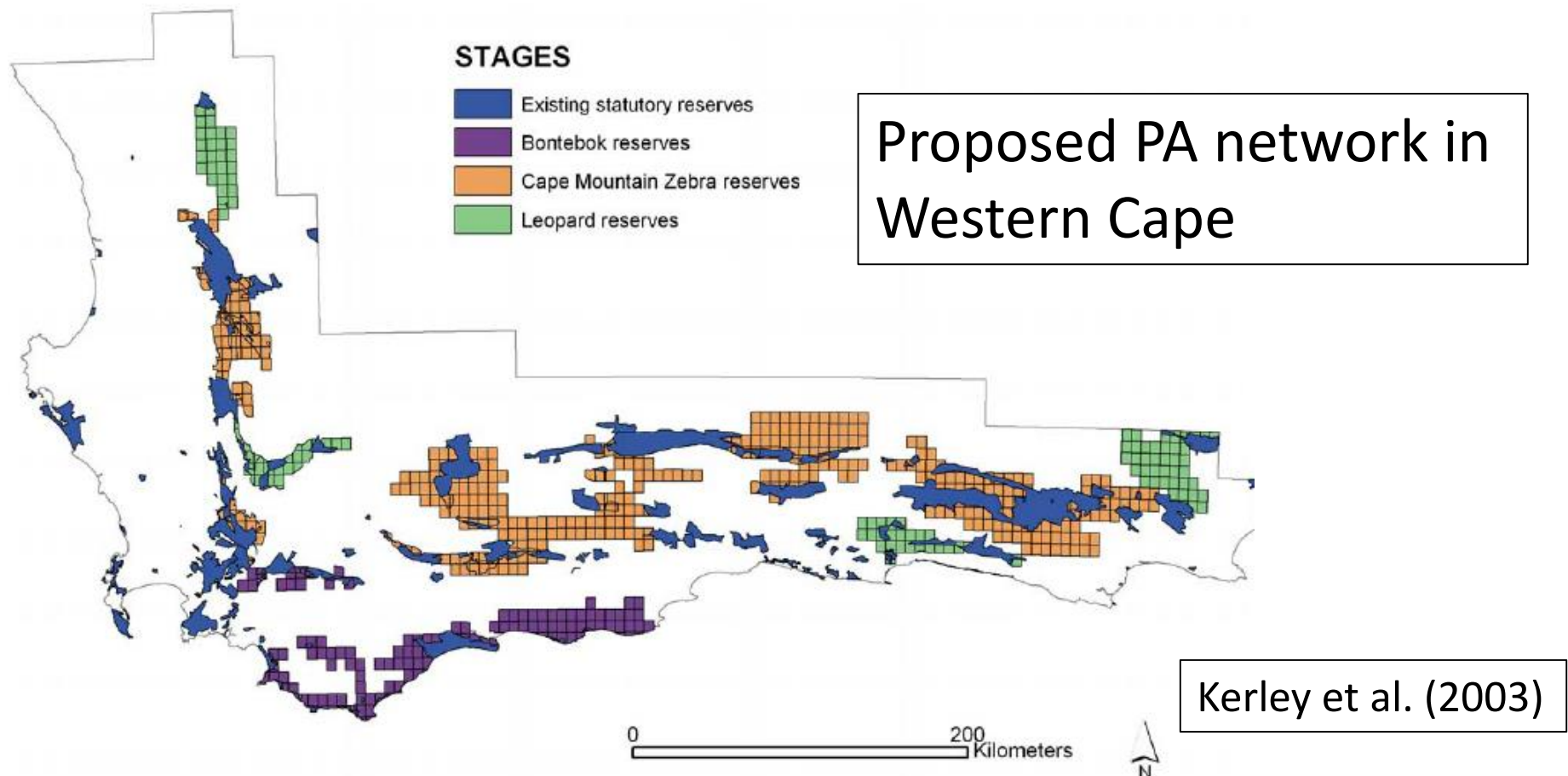
- Most African PAs established in semi-arid, malarial, tsetse-infested areas with low agricultural potential
- Almost all the well-known parks fit this category
- Hluhluwe-iMfolozi, Hwange, Gorongosa, Selous, Kafue, Okavango, Luangwa, Lower Zambezi

# Trypanosomiasis, African



# Conservation Planning

- Poorly applied outside of RSA







Barberton

Maputo

Maputo Bay

Mbabane

Manzini

Swaziland

Piet Retief

Paulpietersburg

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Image Landsat / Copernicus  
US Dept of State Geographer

Google Earth

66 km

Malolotja

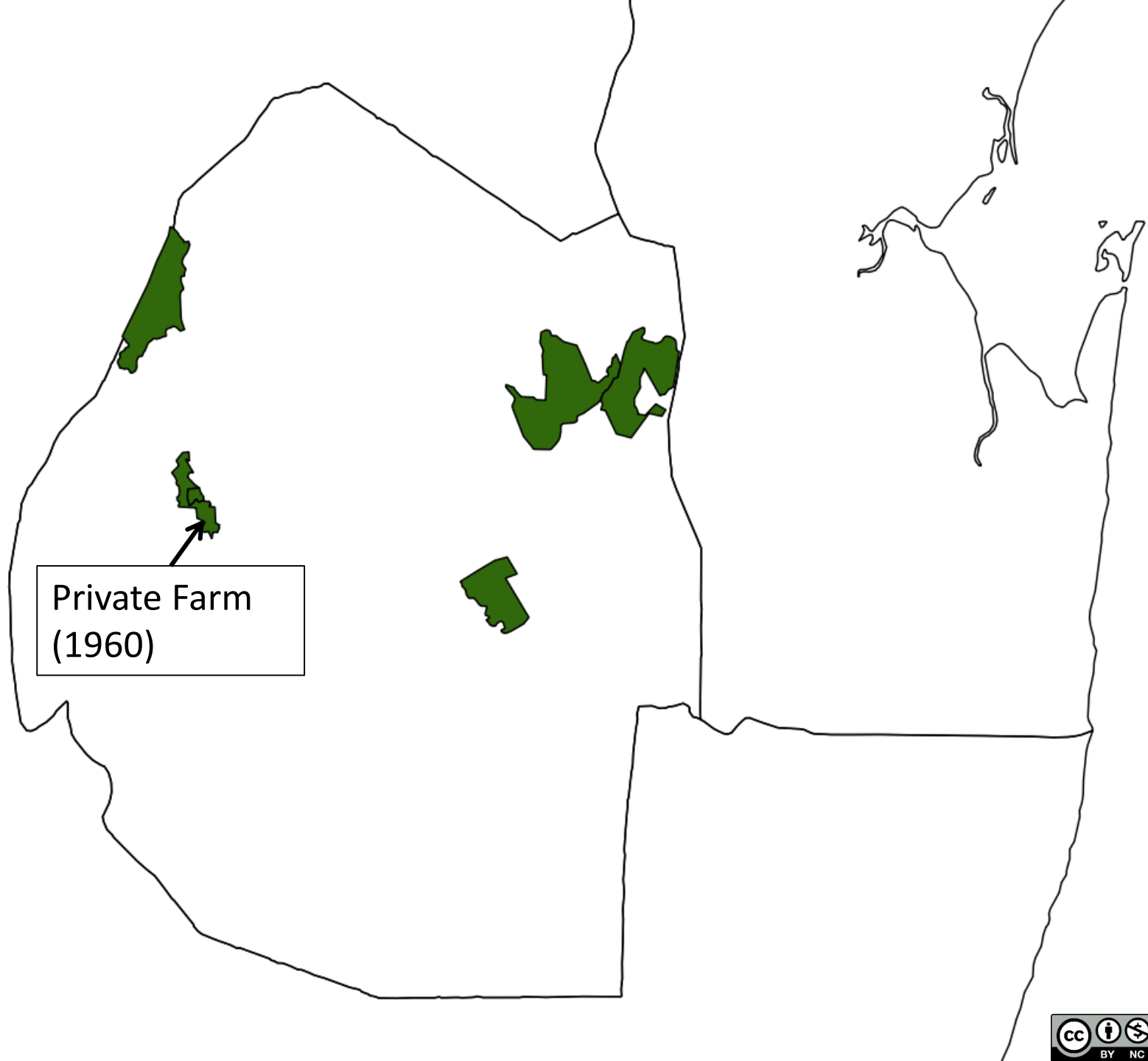
Hlane

Mlawula

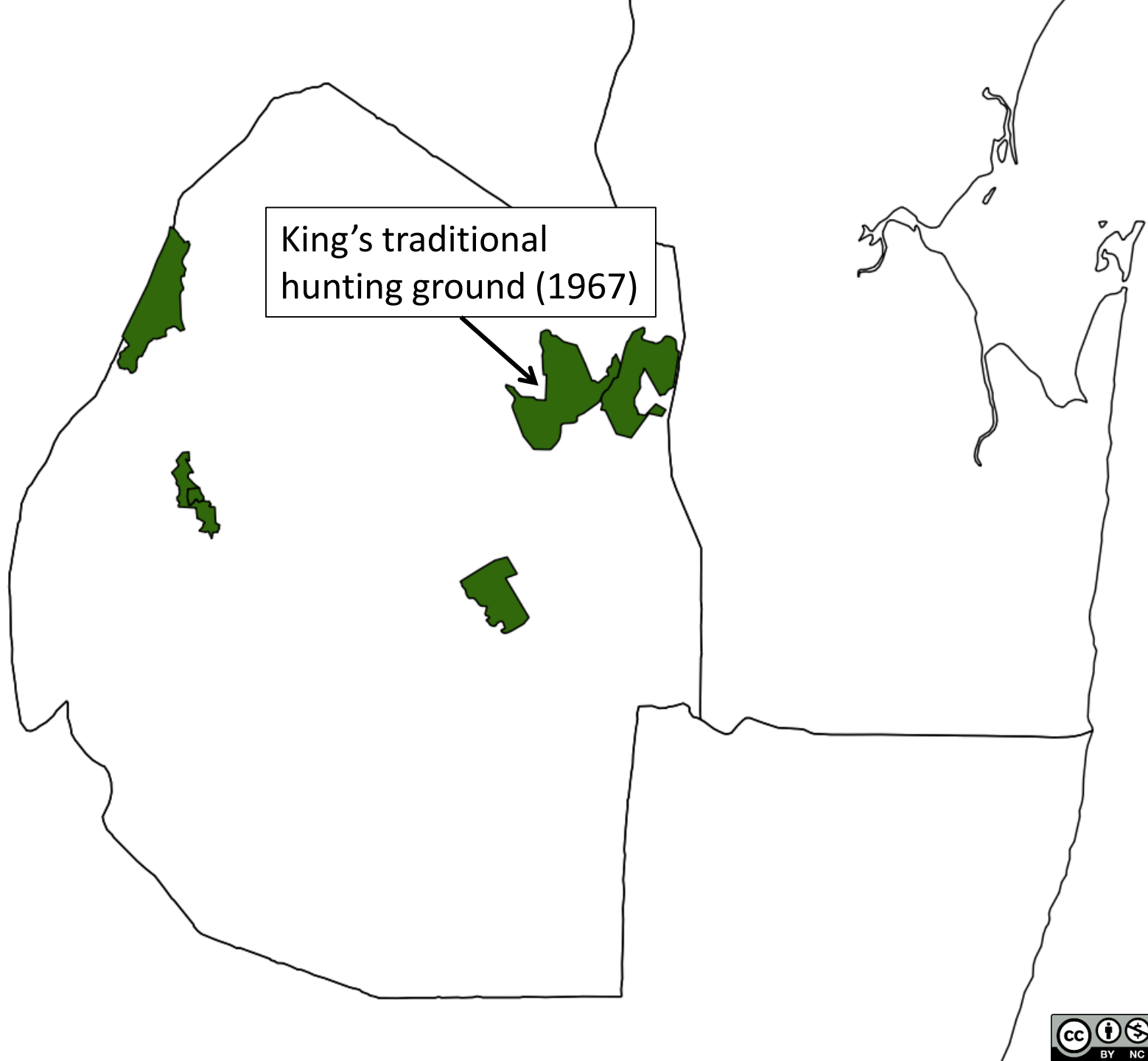
Mlilwane-  
Mantenga

Mkhaya

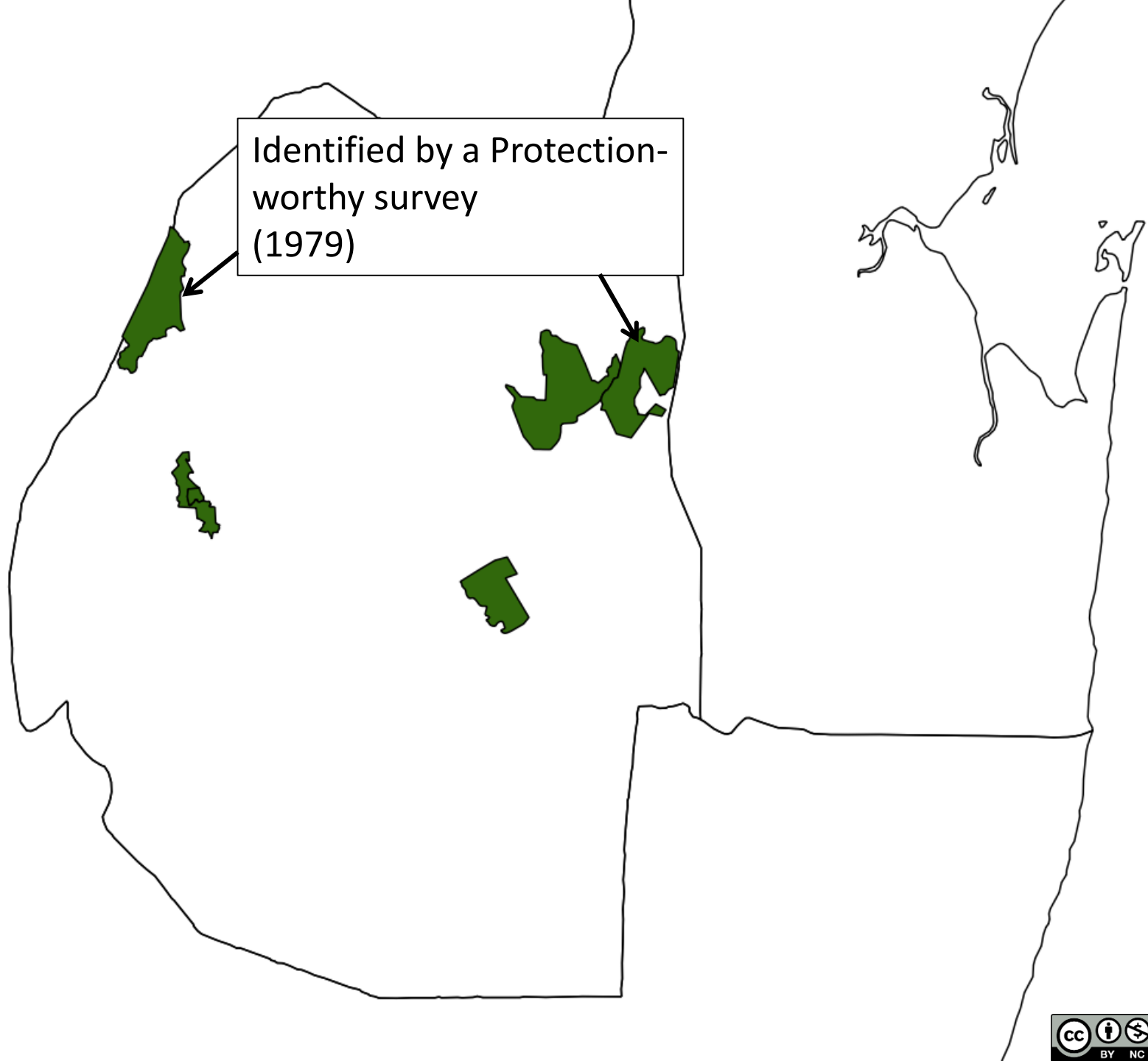


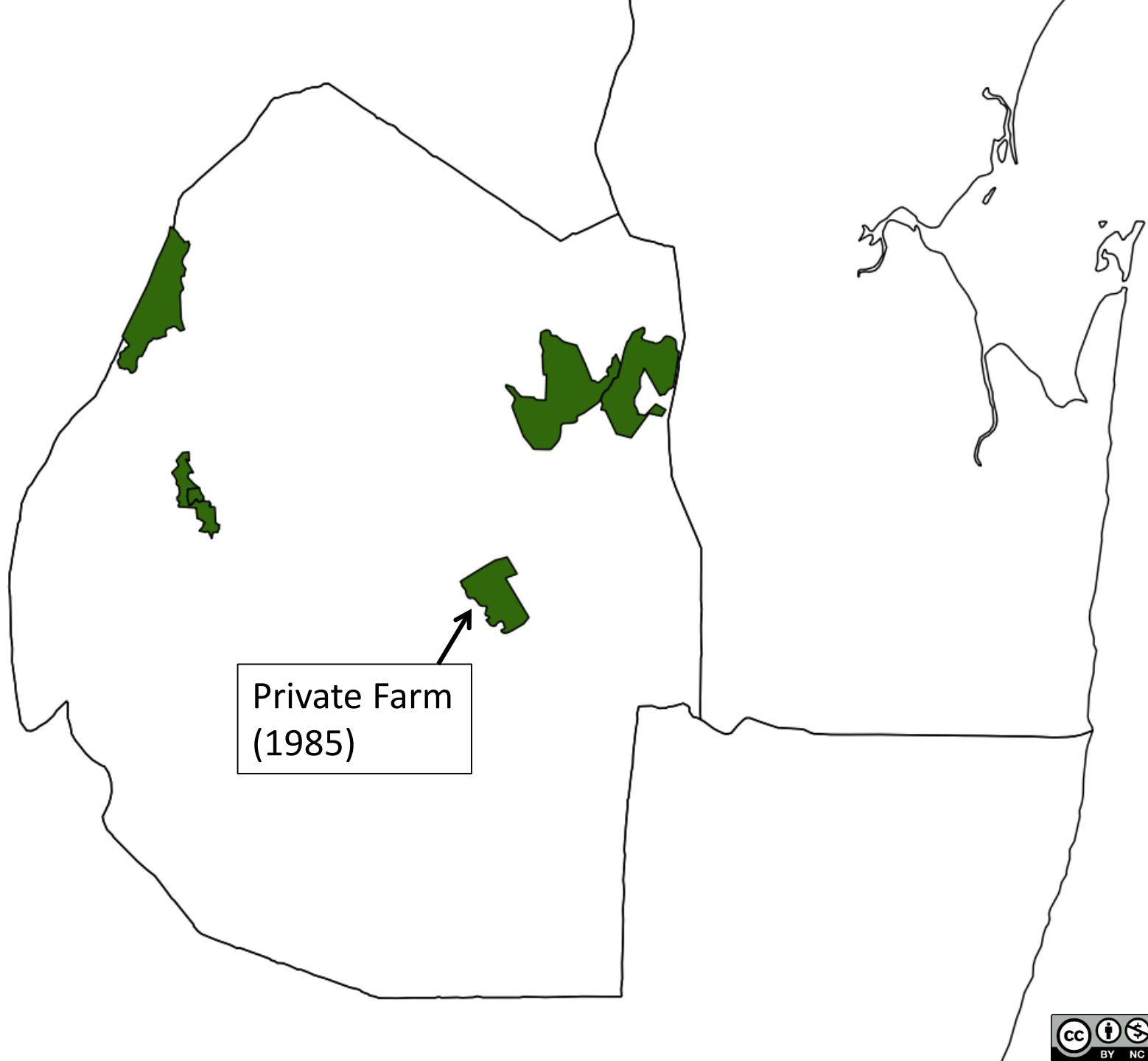


Private Farm  
(1960)

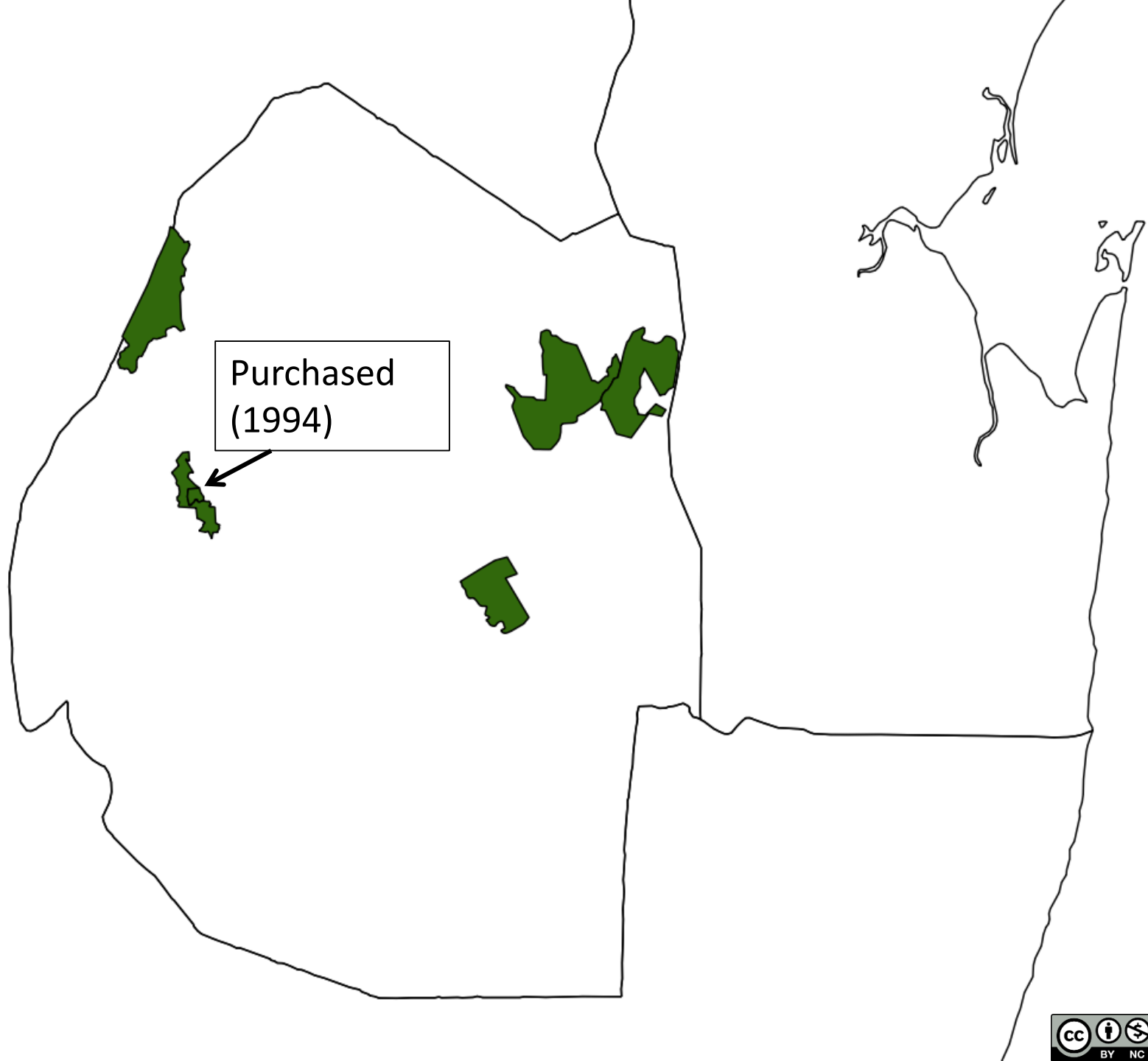








Private Farm  
(1985)



Purchased  
(1994)

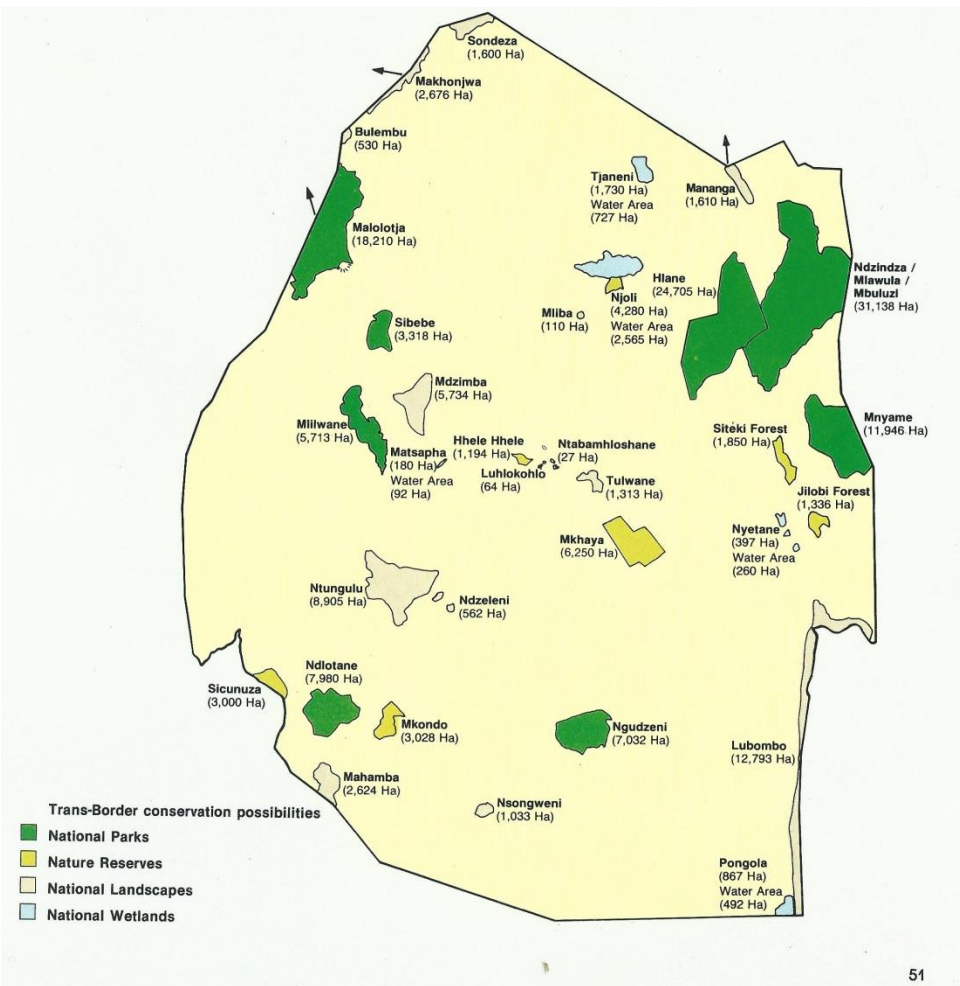
# How effective is this PA network?

- None of Swaziland's PAs were selected using Conservation Planning tools
- The efficacy of the Swazi PA network has not been tested



# Protection-worthy surveys

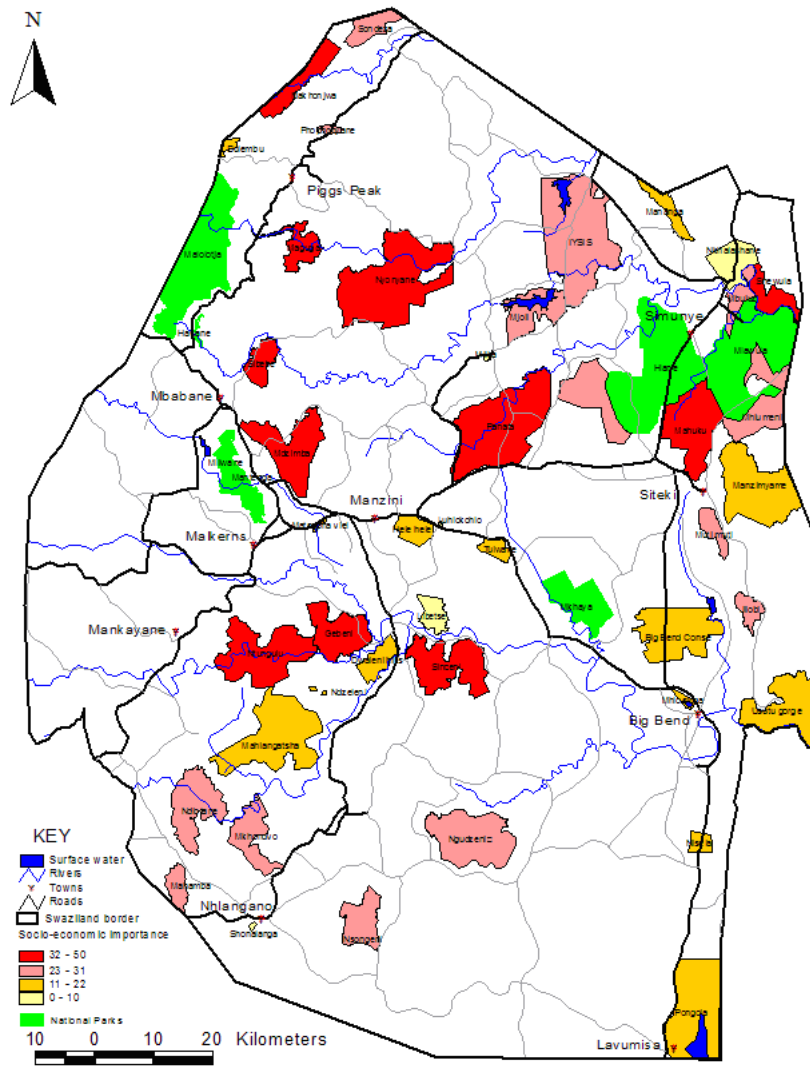
- Ted Reilly (1979)



- 
- KEY**
- Surface water
  - Rivers
  - Towns
  - Roads
  - Swaziland border
  - Socio-economic importance
- 32 - 50  
23 - 31  
11 - 22  
0 - 10
- National Parks
- 10 0 10 20 Kilometers
- Lavumisa

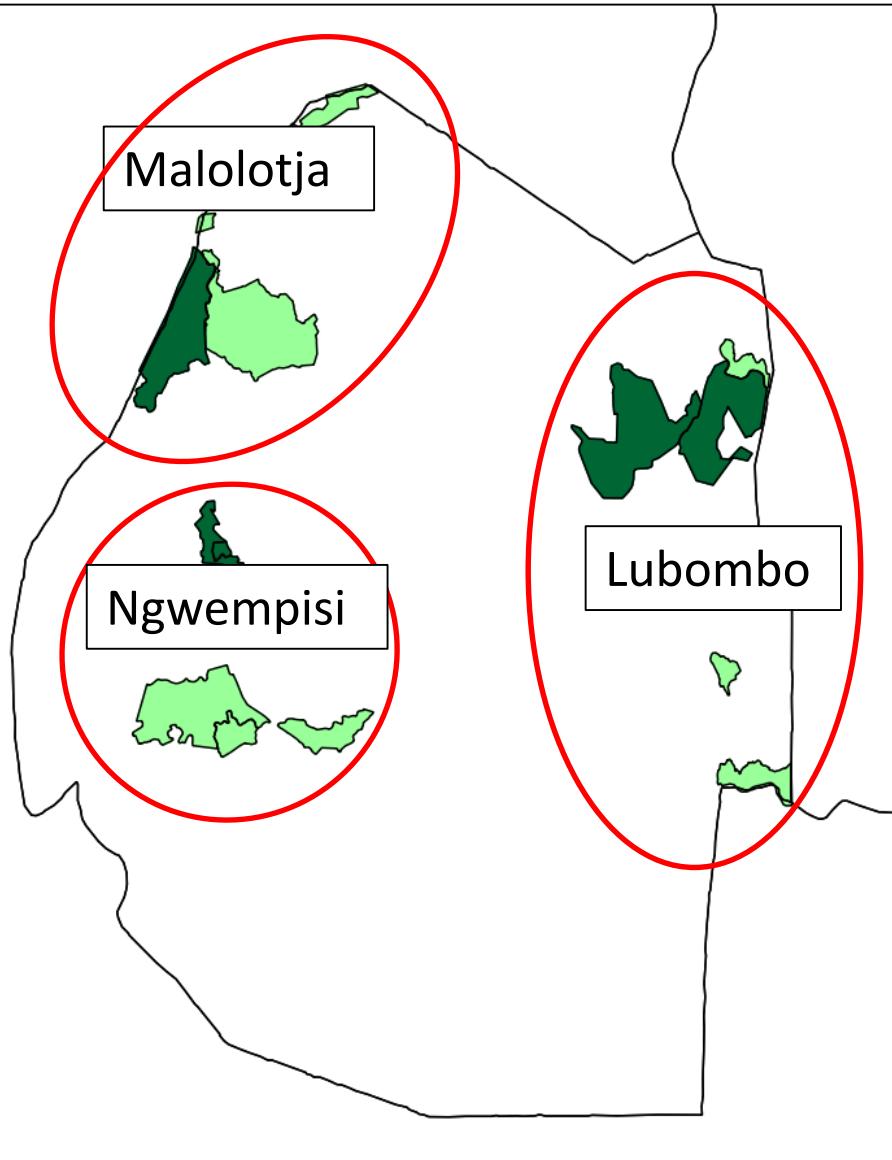


# SNPAS project



- Strengthening National Protected Areas of Swaziland (2015-2020)
- Tasked with surveying 9 pre-identified sites to assess relative importance

# The 9 sites



Dark green = existing PAs

Light green = 9 potential sites

**Main aim**: to identify the most important site (for biodiversity) from each cluster



# The biodiversity team



Cebisile Magagula  
(entomologist)



Themb'a Mahlaba  
(leader)



Richard Boycott  
(herpetologist)

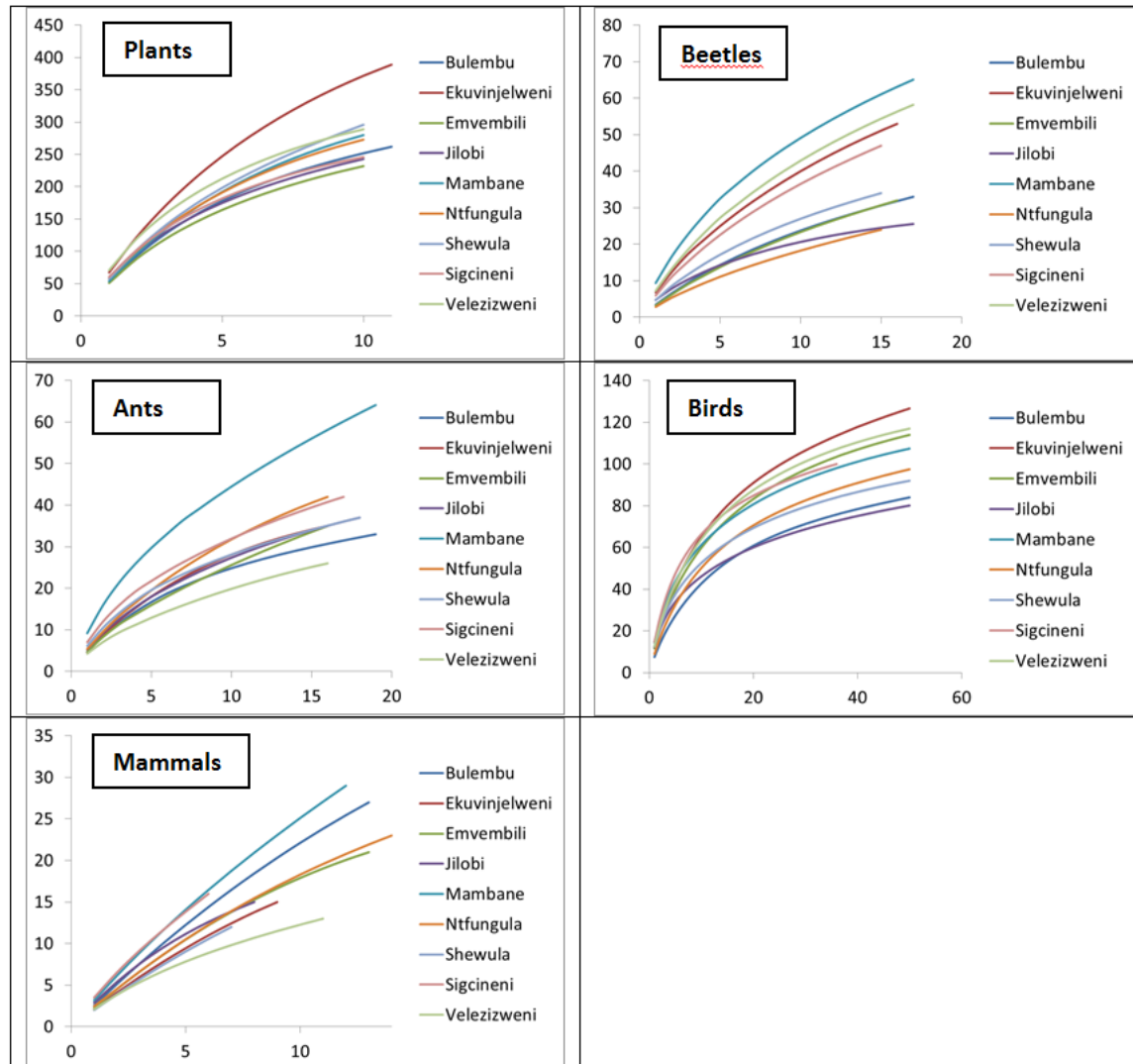


Ara Monadjem  
(birds/mammals)



Linda Loffler  
(botanist)

# Intensive surveys of each site





Kate Braun  
(database manager)

# Database

- Responsible for collation of distribution records and compilation of checklists
- Small mammal and insect specimens deposited in the Zoological Museum (University of Swaziland)
- This “Museum” is the only collections museum in Swaziland, yet has no funding and no official status (yet)

# National Zoological Museum





# Complementarity analysis

- Species richness vs irreplaceability

	Site A	Site B
Species richness	120	60

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- Species richness vs irreplaceability

	Site A	Site B
Species richness	120	60
Threatened spp.	6	4

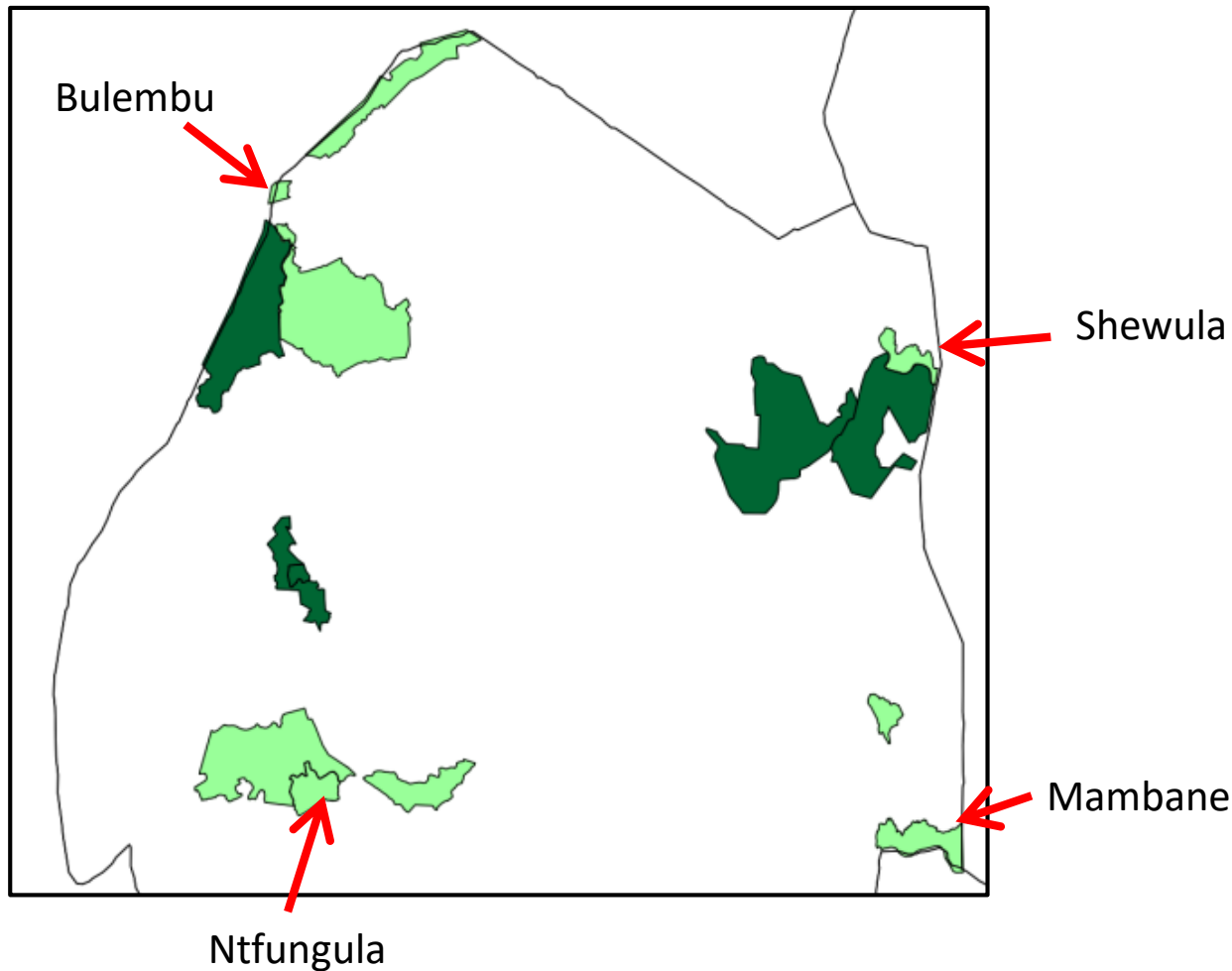
# Complementarity analysis

- Species richness vs irreplaceability

	Site A	Site B
Species richness	120	60
Threatened spp.	6	4
Unique species	0	4

# Final selection

- PA network expanded by 12,332 ha
- Increased from 3.6% to 4.9%





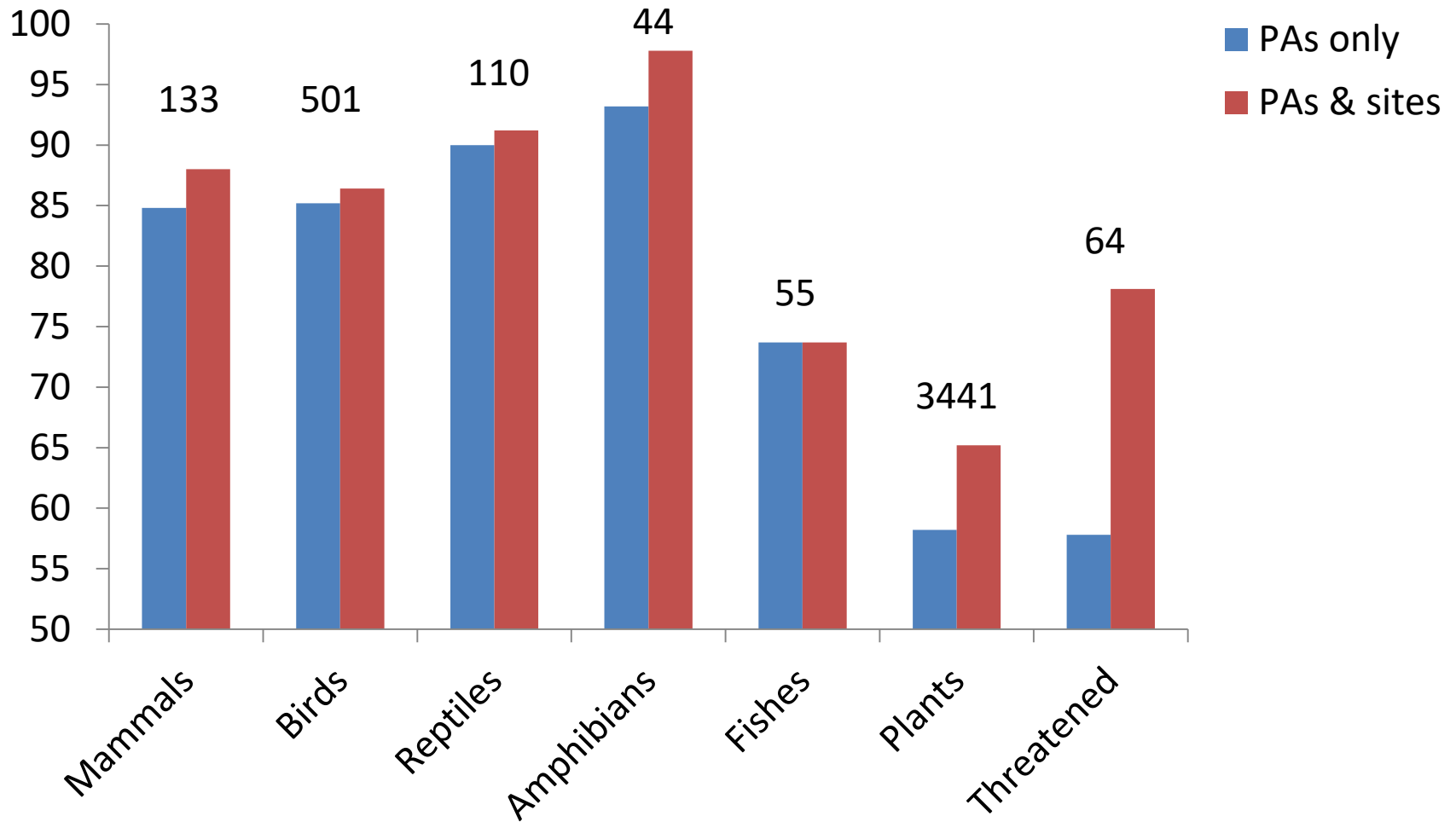
Landscapes to  
be protected

# Rio Convention on Biological Diversity

- Conservation of biodiversity
- How effect will the new PA network be?



# Efficacy of new PA system



# Thanks to all those involved

- The core team
- The field assistants
- Community guides
- SNTC
- Thulani Methula – SNPAS coordinator
- UNISWA