Drivers of wildlife fence permeability in KNP: Ferguson, Jori and Adam: MRI/UP
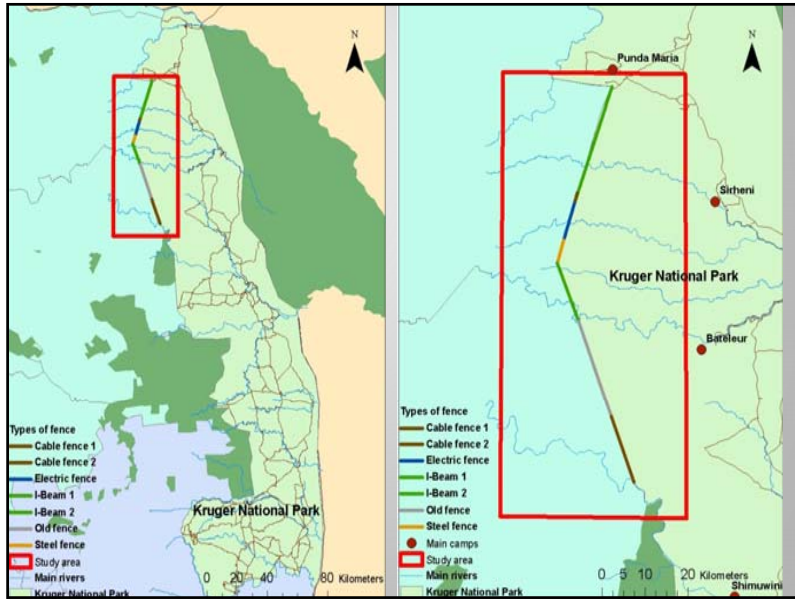

Why we need a simple cost effective fence monitoring system for KNP

Principal aim: *fence monitoring system must be sustainable and of use to management*

Our training regime involves DoA Fence workers...

Phase 1...The Barrier Tape Symbol System..BTSS

- Requires **barrier tape**, **marker pen** and an **envelope**
- A willing **fence worker**
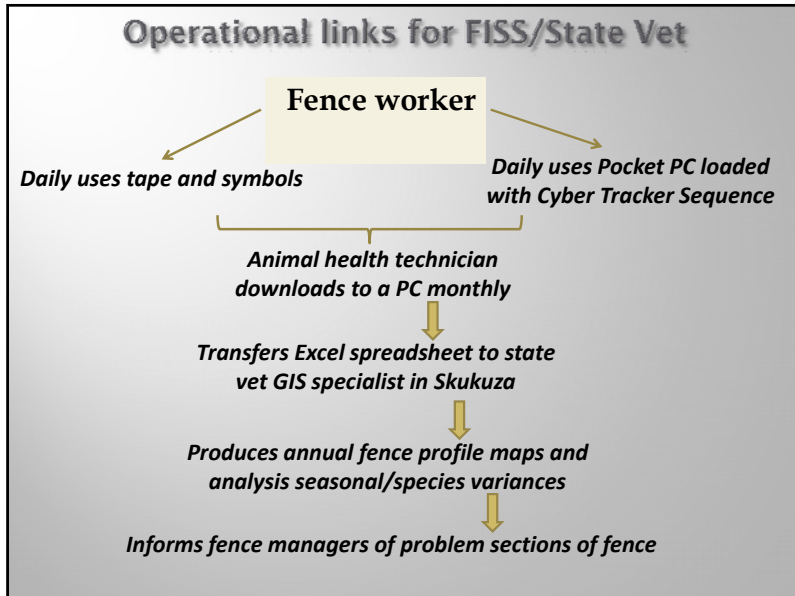- **Symbols system**

Phase 2...Cyber Tracker...FISS

Operational links for FISS/State Vet

Fence worker

Daily uses tape and symbols   *Daily uses Pocket PC loaded with Cyber Tracker Sequence*

Animal health technician downloads to a PC monthly

Transfers Excel spreadsheet to state vet GIS specialist in Skukuza

Produces annual fence profile maps and analysis seasonal/species variances

Informs fence managers of problem sections of fence

FISS delivers because it is...........

- **Cheap** – estimated cost **R10/km per annum**
- **Imparts** skills to fence workers
- **Low tech** - except for addition of cyber-trackers
- **Sustainable** *and* **Exportable**
- **Develops** long-term systematic monitoring capacity

Number of fence incidents caused by each species

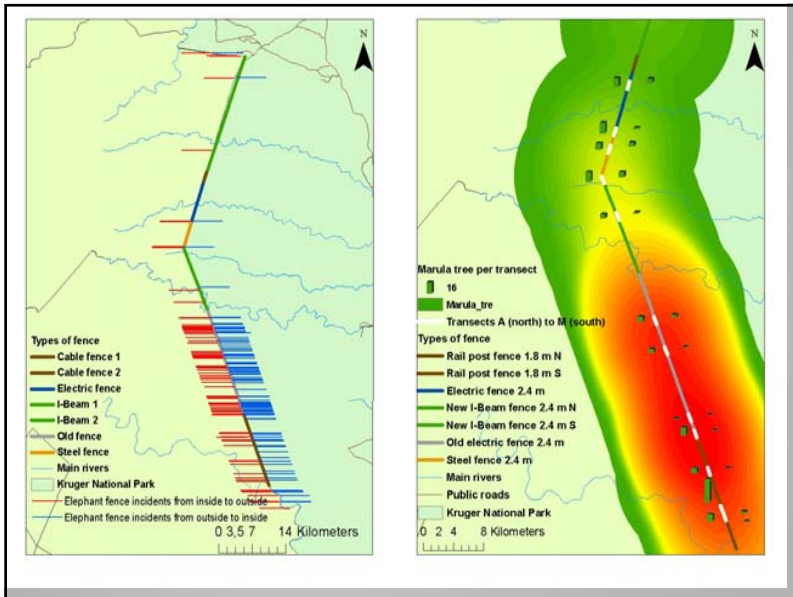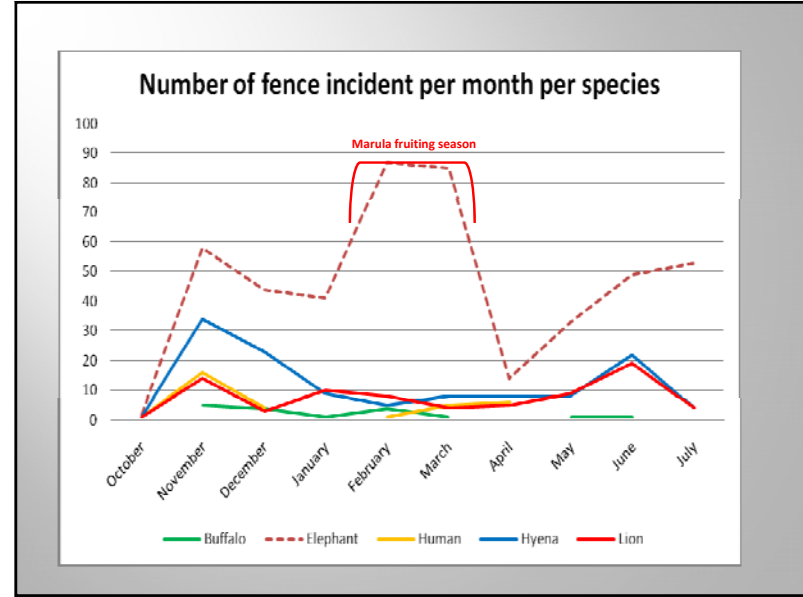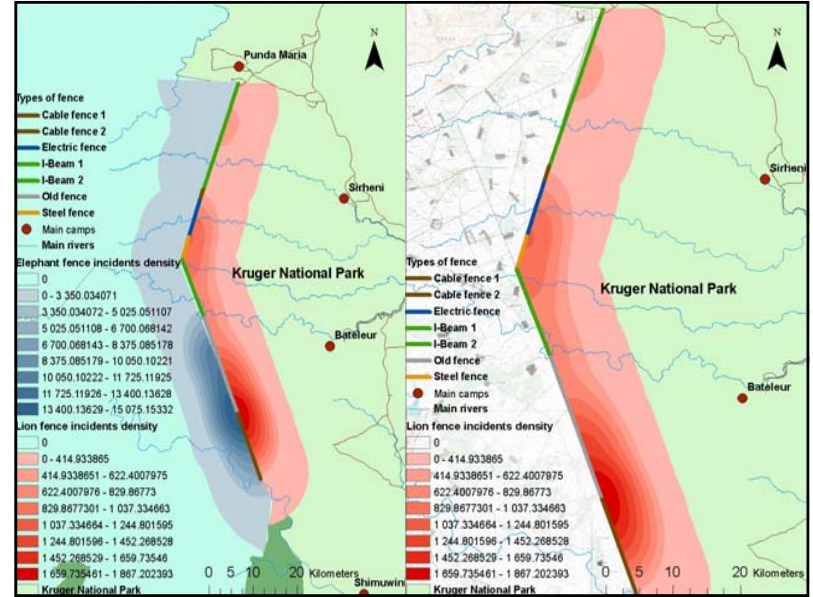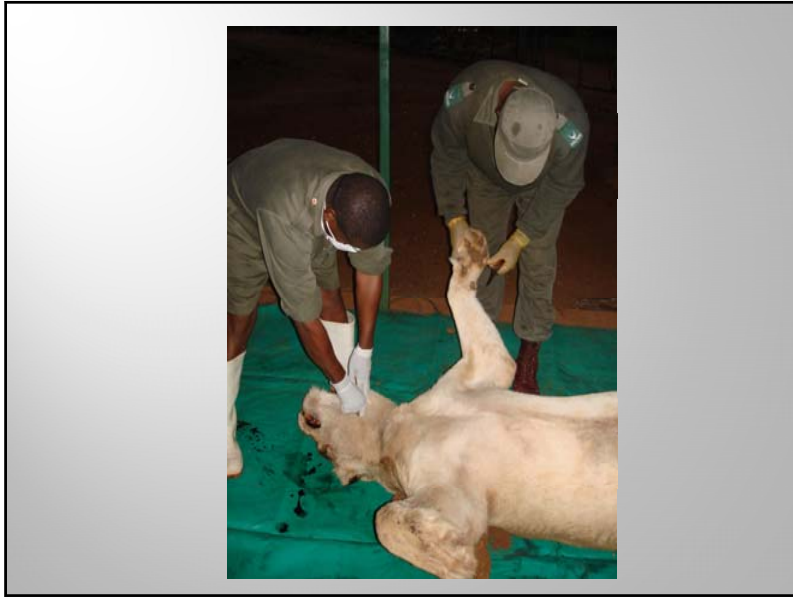| Species	Number
?	11
Buffalo	17
Elephant	466
Human	34
Hyena	122
Lion	77
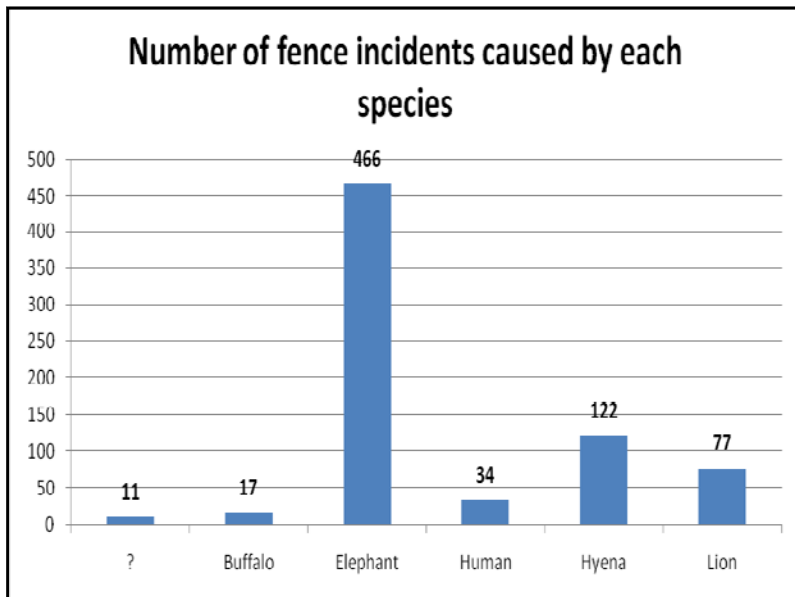
Number of fence incidents per type of fence (fence line of the study=91km; Nb of fence incidents of the study=727), corresponds to 8 fence incidents per km of fence over 10 months

Type of fence	Distance (km)	Fence incidents per type of fence	Fence incidents per kilometer
1.8 m rail/cable post fence	18	161	8,9
2.4 m electric fence	8	24	3
2.4 m new I-Beam fence	38	119	3,1
2.4 m old fence	22	375	17,0
2.4 m steel fence	5	14	2,8
NA	NA	25	NA
River fence	NA	9	NA
All the fence line	91	734	8,0

Courtesy: Kenneth Muchocho State Vet

Number of fence incident per month per species

Marula fruiting season

Buffalo — Elephant — Human — Hyena — Lion

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FIRM MILESTONES	
WWF Project ZA1490 and USFWS Afe-0401	
Year 1	Year 2 (Extensions)
1. BTSS operationalised (Northern KNP Fence)	1. Embed FISS in the North
2. 40 workers trained-Materials produced	2. Extend FISS to the South
3. Pocket PC with Cyber Tracker deployed - New system- FISS	3. Extend Cyber Tracker capture to Limpopo/Mpumalanga DCA units
4. Data analysed	4. Define elephant/Carnivores egress drivers-Telemetry (AfESG Year 2?)
5. Fence permeability profiles produced – the first ever in Africa – corridors and hot spots identified	5. Strategic Review of fencing in TFCAs- AHEAD
6. Database and FISS operational links created for State vet	
7. Marula driver identified for elephants	

Conclusions......

Fence Interface Research and Monitoring

▫ *FISS pinpoints areas and drivers of fence permeability*

▫ *prepares mitigatory strategies*

▫ *Lends precision for disease and HWC modelling purposes*

▫ *Move towards a greater understanding of fences*

" I am under enormous political pressure to fence large parts of the Uganda wildlife estate"

Moses Wafula CEO UWA

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