



The 4th KNP Science Networking Meeting

Skukuza, 13 to 17 March 2006

"Understanding the future"

Program of presentations



Day 1: Monday 13 March 2006.

Registration:

Venue: Reception Skukuza tourist camp

Time: 12h00 to 17h00

Welcoming Dinner:

Venue: Skukuza golf course

Time: 18:30 (transport will be arranged where needed)
Cash bar will be open

Day 2: Tuesday 14 March 2006.

Late Registration:

Venue: Goldfields Auditorium, Skukuza

Time: 07h00 to 07h45

Presentations:

Session: *Introduction and welcome (Chair: D. Balfour)*

08h00 Welcome. D. Balfour

08h05 Opening address by head of Kruger National Park. B. Mkhize

08h25 The future of the tree-grass ratio in lowveld savanna. R. Scholes

08h55 **Discussion.**

Session: *Long-term data (Chair: D. Balfour)*

09h00 SAEON Ndlovu Node: a year down the road. D. Balfour

09h30 Thresholds of potential concern as benchmarks in the management of African savannas. K. Duffin

09h40 Do we know enough about the ecological role of large trees to allow them to fluctuate at levels as implied by some scientists? H. Eckhardt

09h50 **Discussion.**

10h00 **TEA**

Session: *Long-term data (continued) (Chair: Johan Pauw)*

10h30	Spatial dynamics of biodiversity and ecosystem function in a South African savanna: a structural equation modeling approach.	S. Andleman
10h40	Using long-term ecological data in Kruger Park: does competition between trees limit maximum woody biomass?	W. Sea
10h50	A phytosociological study in the Kruger National Park, south of the Sabie River.	L. Mostert
11h00	Discussion.	
11h10	Evaluating large mammal monitoring methods at different scales: implications for diversity indicators	J. Cromsicht
11h25	History and results of aerial line transect surveys using distance sampling in the Kruger National Park: 1998 – 2005.	I. Whyte
11h35	“SynBioSys Kruger”: Storing and managing the KNP’s wealth of data as an integrated unit	T. Mostert
11h45	Discussion.	
11h55	Biomaterial banking for use in conservation and wildlife management.	J. Joubert
12h05	Serum phytosterols and lipids of selected South African fauna.	F. O’Neill
12h20	Discussion.	
12h30	LUNCH	

Session: *Data management (Chair: Judith Kruger)*

- 14h00** Approaches for automating data management, analysis, and modeling M. Jones
- 14h30** **Discussion**
- 14h35** Thresholds of Potential Concern (TPC's): What are they and how the system works to test exceedance. J. Kruger
- 14h45** Using Kepler scientific workflows to automate thresholds of potential concern (TPC) modeling M. Schildhauer
- 15h05** The National Center for Ecological Analysis and Synthesis (NCEAS): Promoting Cross-disciplinary Collaboration and the Reuse of Data. J. Reichman
- 15h15** **Discussion**
- 15h25** TEA

Session: *Mammalian studies (Chair: Ian Whyte)*

- 15h45** The re-introduction of Klipspringer (*Oreotragus oreotragus*) to Table Mountain National Park. D. Zimmerman
- 15h55** Highlights from 20 years of research on large carnivores in Kruger National Park. G. Mills
- 16h15** New methods to determine the diet and movement patterns of lions. C. Tambling
- 16h25** **Discussion**
- 16h30** Current thinking regarding the distribution and impact of bovine tuberculosis on buffalo populations. P. Buss
- 16h40** **Discussion**
- 16h50** END OF DAY TWO
- 18h30** Andrew Mellon Foundation sponsored conference dinner

Day 3: Wednesday 15 March 2006.

Session: *Future implications of landscape associations (Chair: Louise Rademan)*

08h00	Wet or dry years? When do trees escape?	W. Bond
08h25	Using stable water isotopes to determine the depth of water used by different sizes of savanna trees.	E. February
08h40	Exploring the role of water and nutrients in determining savanna structure and function.	R. Verweij
08h55	Discussion	
09h05	Fire and nitrogen – what really matters?	C. Coetzee
09h15	Hillslope chromatography: Why clay accumulates where it does and its implications for natural resource management.	T. Hartshorn
09h25	Using terrain morphology and geochemical/mineralogical provenance to trace the origin of sodic patches in the northern KNP.	L. Khomo
09h35	A Geographic Framework for Identifying Hydrological and Biogeochemical Patchiness in Catenary Landscapes	O. Chadwick
09h45	Discussion	
10h00	TEA	

Session: *Future implications of nutrient - landscape associations* (Chair: *Shaun Levick*)

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| 10h30 | Plant tissue nutrient status across complex riparian habitats in the Shingwedzi drainage. | M. Cadenasso |
| 10h45 | Soil carbon and nitrogen contents across contrasting riparian and upland sites in the Shingwedzi drainage. | E. Cook |
| 10h55 | Relationship between grass quality, productivity and utilization on sodic sites and crests. | G. Alard |
| 11h05 | Changes in plant available nitrogen with changes in available water in a mesic savanna. | T. Keretetse |
| 11h15 | Discussion | |
| 11h30 | Landscape Patterns in Plant and Soil Micro- and Macro-Nutrient Distributions in the Kruger National Park: Implications for Management. | J. Ratnam |
| 11h45 | Nitrogen and phosphorous relationships with productivity, fire and herbivory in savannas: insights from a simple model. | M. Sankaran |
| 12h00 | Discussion | |
| 12h10 | LUNCH | |

Session: Landscape function: how will our understanding shape future decisions?
(Chair: Hugo Bezuidenhout)

14h00	The Savanna Convergence Experiment.	A. Knapp
14h10	Linking patterns of vegetation change with underlying processes in northern Kruger.	S. Levick
14h25	Does browsing limit tree recruitment? Results and implications of a long-term experiment in Hluhluwe iMfolozi GR.	C. Staver
14h35	Short-term growth responses of common grass species to soil moisture and defoliation in the Kruger National Park.	A. Swemmer
14h50	Continental- to Landscape-Scale Analyses of Tree Cover in African Savannas.	G. Bucinni
14h50	Discussion	
15h00	TEA	

Session: Using fire as a management tool in the future (Chair: Sue van Rensburg)

15h20	Results from the experimental burn plots	M Smith
15h30	Practical ways of incorporating variation in fire intensity into fire management of African savannas.	N. Govender
15h45	Forest colonization in savannas: A synthesis of fire-plant interaction in savannas.	V. Khavhagali
15h55	Clustering of savanna trees as a function of fire and competition	T. Groen
16h05	Fire experiments in Hluhluwe iMfolozi Park	M. Waldram
16h15	Discussion	
16h30	END OF DAY THREE	

Day 4: Thursday 16 March 2006.

Parallel Session 1: Goldfields Auditorium

Session: *How herbivores shape the future: the role of elephant (Chair: Mike Peel)*

08h00	Elephant impact on vegetation and habitats: are there indirect consequences for other ungulate species?	H. Fritz
08h30	Ecological guidelines for managing elephants.	N. Owen-Smith
08h45	A framework for understanding elephant effects on biodiversity.	R. Grant
09h00	Modeling the consequences of elephant damage on marula trees, KNP.	F. Mabuduga
09h10	Discussion	
09h20	Effects of rainfall, predation and age structure on the population dynamics of African Buffalo	P. Cross
09h30	Study Abroad programmes: their contribution towards monitoring of elephant utilization.	L. Kruger
09h40	Large herbivore habitat selection and foraging activity on the Kruger Park Experimental Burn Plots.	C. Burns
09h50	Discussion	
10h00	TEA	

Session: *How herbivores could shape the future in decision making (Chair: Rina Grant)*

10h25	Thresholds, Order-of –magnitude and sustainability in African savannas.	M. Peel
10h40	Do artificial waterholes change the way herbivores use the landscape?	I. Smit
10h55	Ecological determinants of birth timing in African Buffalo (<i>Syncerus caffer</i>).	S. Ryan
11h05	Buffalo of KNP and HUP: a comparative study.	B. Greyling
11h15	Discussion	
11h25	Habitat dependency and nutritional ecology of sable antelope.	J. Chirima
11h35	The influence of fire on the nutritional ecology of sable antelope in the Kgaswane Mountain Reserve, North-West Province.	F. Parrini
11h45	The effects of nutrients and habitat structure on reproduction and calf survival of roan antelope in different geographical areas in South Africa.	J. Van Rooyen
11h55	Discussion	
12h10	LUNCH	

Session: *Our water- our future* (Chair: *Christine Colvin*)

- 14h00** Drying of the Luvuvhu River: examining the roles of land cover change and water extraction with GIS-based hydrologic modeling and remote sensing T. Gyedu-Ababio
- 14h10** Changes in vegetation structure along the Sabie River 1990—2004, and predictions for the future. K. Kotschy
- 14h20** Multi-scaled heterogeneity of a riparian patch mosaics in the Sabie River landscape. M. Parsons
- 14h30** Ground water patterns in northern KNP C. Colvin
- 14h45** Definition of soil water dynamics using a combination of hydrometry and geophysics in the Nkuhlu Exclosure. B. Koning
- 14h55** The influence of catena soil water dynamics on the vegetation patch structure on the northern plains. S. Lorentz

15h05 **Discussion**

15h15 TEA

Session: *Biodiversity – our future* (Chair: *Navashni Govender*)

- 15h40** Biodiversity monitoring in Kruger National Park: How reliable are habitat surrogates? A. Andersen
- 15h55** Testing the concept of using potential habitat aspects as a surrogate for the occurrence of small vertebrate fauna (birds) in the KNP. A. Deacon
- 16h05** A study of rodent and shrew diversity and abundance in and outside the Nwashitsumbe enclosure site in the Kruger National Park. D. MacFadyen
- 16h15** The effect of anthropogenic activities to ant composition and the distribution of *Lepisiota incise* in KNP and its interaction with other ants H. Sithole
- 16h25** Analysis of environmental impacts of off-road driving and other concessionaire activities. G. Nortje

16h35 **Discussion**

16h45 END OF DAY FOUR

Day 4: Thursday 16 March 2006.

Parallel Session 2: Community hall

Session: *Invasion biology* (Chair: *Thembi Khoza*)

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| 08h00 | Integrated Control of water hyacinth in KNP | R. Brudvig |
| 08h10 | Beyond filling the gaps: advancing the science of invasion ecology using a new conceptual framework. | L. Foxcroft |
| 08h20 | The effect of competition from the native vegetation on the invasion of <i>C. odorata</i> in Hluhluwe-iMfolozi Park, South Africa. | M. te Beest |
| 08h30 | Interference potential of <i>Parthenium hysterophorus</i> with indigenous grass species. | M. van de Laan |
| 08h40 | Discussion | |
| 08h50 | A new <i>Ceratocystis</i> species from wounds made by elephants on trees in the Kruger National Park. | N. Kamgan |
| 09h00 | Population structure and insect associations of the fungal pathogen <i>Ceratocystis albifundus</i> in South Africa. | R. Heath |
| 09h10 | “Snow” in Kruger Park revisited – on the ecological significance of fungal plant parasites. | W. Maier |
| 09h20 | Discussion | |

Day 5: Friday 17 March 2006.

Session: *Socio-ecology (Chair: Kevin Moore)*

08h00	Understanding social-ecological systems	S. Pollard
08h30	To be announced	A. Spenceley
08h45	HIV/AIDS mortality and household reliance on natural resources in Bushbuckridge.	W. Twine
09h00	Discussion	
09h10	The insitutions and impacts of community-based avitourism in South Africa.	D. Biggs
09h25	Conflicting human interests over the re-introduction of African wild dogs (<i>Lycaon pictus</i>).	M. Gusset
09h40	People and Conservation into the future	H. Mmethe
09h50	Cultural Heritage in Kruger – what are we up to?	T Madzhuta
10h00	Discussion	
10h10	TEA	
10h35	Use and value of landscapes, flora and fauna by Tsonga communities in the rural areas of Limpopo Province, South Africa.	P. Brandon
10h45	To be announced	P. Theron
11h00	Research potential in the Transfrontier Park	F. Mutepfa
11h15	Discussion	
11h30	Concluding remarks	Herbert Prins