

Regional News - Lowveld Limpopo/Mpumalanga

TEMBO The Elephant Movements and Bio-economic Optimality Programme

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Context

Elephants are one of the main assets of most conservation areas in South Africa, generating income through tourist game viewing, live sales, photo safaris, and hunting expeditions. Elephants are important ecological drivers and there is a diversity of opinions as to their impact on savanna

systems. For example does high elephant density trigger a local decrease in biodiversity, through their negative impact on the woody component and concomitant cascading effects OR do elephants promote large herbivore diversity through their modification of the vegetation? The understanding of the role of elephants comprises a huge challenge for the improvement of natural resource management in mixed ownership conservation areas. One would expect that spatially explicit models could help to tune management decisions regarding the necessary actions to be taken in order to optimise income and mitigate negative ecological impacts. However, such models are not available, and this programme aims at filling this important gap.

TEMBO, The Elephant Movements and Bio-economic Optimality programme



- University of Wageningen
- Association of Private Nature Reserves - Timbavati



International Institute for
Geo-Information Science
and Earth Observation



Scientific Services,
Kruger National Park



Radboud University Nijmegen



Tilburg University



ARC Range and Forage
Institute



University of the
Witwatersrand



University of Kwazulu-Natal



Colorado State
University



Royal Melbourne Institute
of Technology University



OBITUARY

Scale

The distribution of elephants is mainly governed by three important factors: vegetation biomass, vegetation quality, and water, and by the spatial distribution of these resources. The analysis of the local spatio-temporal elephant dynamics will be accompanied by analyses at varying scales, higher spatial scales, with studies at local levels (10-100 km²) and regional levels (100-10000 km²), such as the use of available aerial survey results for elephant distribution. The impact of elephants on the presence and abundance of other grazer and browser species, through vegetation changes, will also be studied. Predictions of the elephant distribution will be used as input in a financial cost-benefit analysis for the optimisation of management actions. The proposed analysis for the TEMBO project will incorporate the different management objectives, which differ among conservation areas (KNP, communal, and surrounding private and corporate conservation areas). The project is set up in such a way that it accommodates different spatial scales so that the natural dynamics of elephants is captured in the financial analysis for the optimisation of resource management scenarios.

Importance

Understanding the causes and consequences of long-term patterns and dynamics of biodiversity and community structure is needed to help increase our ability to predict responses of communities to natural and anthropogenic change. Elephant spatio-temporal dynamics form a key role in this respect and the programme will be tackled at varying spatial and temporal scales. This understanding is critical for informing management decisions. Furthermore, this knowledge will help elucidate the controversial relationship between biodiversity and the functioning of savanna ecosystems. The programme will be made up of six PhD projects with three projects allocated to South African students and three to students from the Netherlands.

Dr. E. Mark Hutton

1912 - 2005

Dr Mark Hutton was born in South Australia and graduated B.Agr.Sc. from the University of Adelaide in 1933. He spent the first years of his professional career as Field Officer in the Dept of Agriculture until 1936 and as assistant Plant Breeder at Roseworthy College from then until 1940. During this period he completed his M.Sc. from Adelaide which he obtained in 1941.

He achieved eminence in various fields, first as a member and later as leader of the Genetics section of the CSIRO Division of Plant Industry. In 1952 he transferred to Brisbane where he joined Dr. J Griffiths Davies in building up a research group which was to gain independence as the Division of Tropical Pastures in 1959.

He was asked by Jack Davies to develop research on the improvement, by breeding, of tropical forage plants and he was able to build up a team of six scientists for this work. Recognising the importance of pasture legumes both as feed for animals and as agents for the improvement of soil fertility, he directed the main effort into breeding legumes in the genera *Macroptilium*, *Leucaena*, *Desmodium*, *Centrosema* and *Stylosanthes*. Work was also done on grasses of the genera *Setaria* and *Sorghum*. His research has led to a sound understanding of the genetics of these plants and to the release of several valuable cultivars of which his great personal achievement was the release of Siratro.

In 1969 Mark was appointed as the second Chief of the Division of Tropical Pastures, a position that he filled for eight years. During

this time the Division was faced with a period of consolidation and in 1973 and 1974 the Katherine and Kimberley research stations were added to Mark's responsibility. While they were an invaluable extension to the Division they brought with them the complexities of administering research in remote locations. These pressures led to Mark spending a lot of weekends and evenings at his office and those of us who knew him will know how important he had to consider things to put them before his family. Mark always befriended overseas visitors and visiting scientists and often took them into the family fold. Spending a Christmas with the Huttons was like a meeting of nations.

During all his time as Chief he still maintained a very full and active research programme of his own and after his retirement from the CSIRO he traveled throughout the world taking on research opportunities in South America (with CIAT in Colombia) and Asia. He also continued his work on *Leucaena* and succeeded in overcoming most of the problems associated with this promising tree legume.

Mark's contributions to agriculture have been recognized by a number of appointments and honours. In Queensland he was a member of the Faculty of Agriculture Board of the University of Queensland and an Honorary Research Consultant to its Department of Agriculture. He was President of the State Branch of the Australian Institute of Agricultural Science (AIAS) in 1964. He was also Federal President of the AIAS in 1966 and was made a Fellow of the Institute in 1967. In 1968 he received the Farrer Memorial Medal and in 1970 he was President of the XIth International Grassland Congress.

Professional Societies outside Australia also recognized his contributions to Grassland science by the award of Honorary

Fellowships. He was honored in this way by the Japanese Society for Grassland Science in 1974, the Indian Society for Forage Research in 1976 and the Grassland Society of Southern Africa in 1977. Mark and Gwen attended the annual congress of the GSSA, in Windhoek, in 1988.

Mark leaves his wife Gwen, daughters Judith and Faye and son John with their families who have always supported him during his long and fruitful career. Mark was also a close personal friend of two former presidents of the GSSA, Dick Dickinson and Albert Smith who (with his wife Marie) had the opportunity to do research in Mark's team at the CSIRO Division of Tropical Pastures in 1968/69.

Albert Smith and Dick Dickinson

Denis L Barnes

1921 - 2005

Denis Barnes, Honorary member of the GSSA, passed away suddenly on 19th July 2005, aged 83, in Port Elizabeth, while recovering from an operation. He was a founder member and past President of the GSSA, and remained active until his retirement. Denis was born 31st October 1921, in Pietermaritzburg, South Africa, only son of Blanche and William Barnes, and a fourth generation South African. He was educated at Maritzburg College, started a career in trigonometric survey, and served as an engineer in the South African Armed Forces during the 2nd World War. He served in Egypt and Italy, and participated in the Western Desert battle of El Alamein.

After the war, Denis studied for a BSc degree in Soil Conservation at Wits University, a special course for ex-servicemen, given under the leadership of Prof. John Phillips. Then in 1947, along with several other

“donga doctors”, as the graduates of this course were known, he emigrated to Southern Rhodesia to work in the Ministry of Agriculture. He started in the Department of Conservation and Extension, and then moved to lecture at the Gwebi Agricultural College, where he initiated some veld grazing experiments and completed a Masters degree by research, through Wits.

In 1954 he started a 26 year career in the Department of Research and Specialist Services, doing range and pasture research. Ten years of this was spent at the Grasslands Research Station near Marondera, on the intensive systems of the Mashonaland plateau. Then he took charge of the Matobo Research Station, where the research was focused on the semi-arid savanna systems of the west and south of Zimbabwe. His last eight years in Zimbabwe were spent at head office where he rose to the position of Chief of Botany and Ecology, heading all range and pasture research activities. During his time in

Zimbabwe, he was a keen horseman, owning two horses, and playing polo-crosse.

In 1981, Denis retired and returned to South Africa where he took a job in range and pasture research at Nooitgedacht Research Station in Mpumalanga. Here, he was able to concentrate on research, focusing on highveld grassland and forage systems. He published more than 45 scientific papers, of which close to half were published on work done at Nooitgedacht. He retired finally in 1995, and moved to Port Elizabeth. His last years in the Eastern Cape were definitely happy ones. He was able to indulge in another passion, which was researching family history. He was an active member of the MOTH, as well as the 1820 Settlers association. He also led a socially active life, with relatives and old friends in the Port Elizabeth area.

Kevin Kirkman

NOTICE

MEMBERSHIP FEES INCREASED for 2005/06

After lengthy debate at the 2005 AGM membership fees were increased to the following:

Category	2005/6 Fee from AGM Decision
Ordinary	R300
Associate	R265
Professional	R335
Family	R450
Overseas (South)	R595
Overseas (North)	R975
Institution	R780
Retired	R78

Invoices and statements will be posted at the end of October