



REPORT ON THE SAWMA CONFERENCE 16 – 19 SEPTEMBER 2008

Biodiversity Conservation – The Science Management Interface

Jan Venter, Eastern Cape Parks Board



Eastern Cape Parks (ECP) successfully hosted the 2008 Southern African Wildlife Management Association's conference at the Mpekweni Beach Resort during the week of 16-19 September. The conference theme was: Biodiversity Conservation – The Science Management Interface.

A record number of 179 delegates attended the conference which included academics, conservation scientists, wildlife managers and students. The universities, especially the local ones in Eastern Cape were well represented and the number of students attending and presenting made up a big percentage of the total number of people attending.

A total of 70 papers and 33 posters were presented on various interesting topics which included: managing and monitoring biodiversity; herbivore feeding and spatial ecology, carnivore and mega-herbivores ecology and conservation; marine and freshwater ecology and management; restoration ecology; vegetation monitoring; conservation science; communities, partnerships and conservation. The proceedings were opened by the Chairman of the Eastern Cape Parks Board, Mr. Andrew Muir and the plenary talk was presented by Dr. Bob Scholes from the CSIR. It is significant that a total of 13 of the papers and 4 of the posters that was presented during the conference actually covered research that was conducted on Eastern Cape Parks protected areas. The ECP marketing Department contributed greatly to successfully marketing the event and providing sponsorship. A number of ECP staff members were involved in organising the event and we thank all of them for their valuable contribution to the success of the event.



Awards

Although the main aim of the event was to exchange ideas and broadening the network of contacts, we have added some encouragement by awarding the best presentations. Congratulations to the following presenters:

The award for the Best Student and Overall Presenter went to Zvikomborero Tangawamira (Student at Conservation Ecology Research Unit, UP): Land-use transformation: threats and opportunities for conservation.

The award for **best presenter, Open Category** went to Norman Owen-Smith (Centre for African Ecology, WITS): Declining antelope populations: symptomatic of what?

The runner up awards went to:

Student: Harriet T Davies-Mostert - Demography and dynamics of a managed wild dog metapopulation: 10 years after the initiation of a national recovery programme.

Open Category: Paul Grobler - Application and limitations of assignment methods in conservation genetics: two case studies from South Africa.

Gideon Janse van Rensburg, HA Snyman & K Kellner's poster, Rangeland restoration and soil water improvement in a semi-arid South Africa, was awarded **best poster** and the **runner up poster** was: Who is willing to restore and why? Analysis of stakeholder interactions and involvement in thicket restoration by Emmanuelle Noirtin, D van den Broeck, M Zylstra, D de Groot.

Thanks again to Graham Kerley and André Boshoff, of the Centre for African Conservation Ecology, Nelson Mandela Metropolitan University, for donating three copies of the 2nd edition of Skead's *Historical incidence of mammals in the Eastern Cape* as book prizes for best presentations as well as Michelle Weyl, Marketing manager of NISC, Grahamstown, for donating and 3 runner-up prizes in the form of free subscriptions to a journal of choice available from NISC.



Abstracts of the winning presentations

Land-use transformation: threats and opportunities for conservation.

Z Tangawamira & RJ van Aarde*

*Conservation Ecology Research unit, Dept of Zoology and Entomology, University of Pretoria, Pretoria 0002, South Africa
rjvaarde@zoology.up.ac.za

Human-induced landscape transformation has profound effects on other species. Recently, conservationists have devised frameworks to reinstate landscape level ecological processes to enhance the persistence of species. These include the establishment of corridors, linkages, stepping stones and ecological networks to reduce the effect of fragmentation on the persistence of species. Such an ecological framework considers the spatial and temporal variability of landscapes and caters for the maintenance of ecological processes as a conservation objective.

We are developing an ecological framework based on a “megaparks for metapopulations metaphor” for elephants as a flagship for conservation in southern Africa. Our estimated land transformation rates for three conservation clusters ranged from three to seven percent over periods of 10 to 13 years. We could not attribute these changes to human intrinsic population growth rates and densities at a landscape scale. In addition, an increase in the area cultivated yielded a corresponding increase in the number of roads established for two of the three case studies. The probabilities of transition from conservation areas to transformed land were nearly similar for the three areas and there appears ample room for conservationists to incorporate these areas into holistic frameworks for species conservation and human livelihood development.

Declining antelope populations: symptomatic of what?

N Owen-Smith *

*Centre for African Ecology, School of Animal, Plant and Environmental Sciences, University of the Witwatersrand, Wits 2050, South Africa
Norman.Owen-Smith@wits.ac.za

Declining populations of certain antelope species within national parks and wildlife reserves in Africa have become a source of mounting concern, portending biodiversity losses. These have been ascribed to various causes, including poaching, human encroachment, blocked migrations, insularization, excessive waterpoints, and competition from livestock, elevated predation, disease outbreaks, habitat degradation and climatic extremes. Diagnosis requires evidence, which is generally sparse and unreliable. Causes may be identified at different levels, from proximate mechanisms through underlying processes towards the root of the problem.

Furthermore, causes generally operate as part of a broader web of influences. The challenge is to distinguish exogenous climatic influences, which can only be mitigated, from endogenous factors that may be rectified or counteracted. A case study with exceptional data is provided by drastic decreases in the abundance of roan and sable antelope recorded in Kruger National Park. Analysis revealed that these declines had occurred through elevated adult mortality rather than reductions in calf recruitment. The causal mechanism was established as elevated predation due to an increase in the prey base supporting lions, plus shifting prey selection towards less common ungulates when the principal prey species became less available. The chief prey species showed increased abundance and widened distribution as a result of the provision of numerous artificial waterpoints, aimed at buffering rarer antelope species against food shortages during droughts. Drought conditions increased the vulnerability of the rarer antelope species to predation while waterpoints elevated the local abundance of the common water-dependent species, supporting more lions. The waterpoints occluded the spatial refugia of low predation risk where the rarer antelope species were mostly found. Hence the root of the problem was

the loss of a functional aspect of ecosystem heterogeneity that contributed towards supporting the diverse herbivore assemblage.

Remedial action requires the strategic elimination of most artificial waterpoints aimed at restoring this ecosystem feature. Although many waterpoints have been closed, rarer antelope populations have not recovered. Regime shifts in habitat conditions as a result of climatic extremes may be implicated, but monitoring has become sparse and fragmented hampering continuing assessments. Losses in functional aspects of ecosystem heterogeneity that had formerly enabled herbivore populations to cope with climatic variability may be the most fundamental and general contributor to population declines by antelope species Africa-wide.

However, without the evidence provided by continued monitoring, managerial responses remain ineffectual or lacking. Hence I urge a review of the structural requirements to enable effective monitoring of herbivore populations to take place in protected areas throughout South Africa during this critical period of global change.

