

CHAPTER 5

POLICY REVIEW PHASE 1: RETHINKING THE PURPOSE AND PROCESS OF ECOSYSTEM AND ELEPHANT MANAGEMENT IN KNP (1996 - 1999)

Advances in academic ecology filtered through to theories of conservation management and finally to the practice of management itself. Though new insights based on the flux-of-nature provided answers as to why past conservation efforts have often failed, they also created many more questions and challenges for future conservation approaches. Acknowledging the complexity and uncertainty inherent in ecosystem functioning brought with it an uncomfortable question: how do we manage for resilience and diversity using our imperfect knowledge of ecosystems and our limited understanding of how and why they change?

The elephant debate threw into sharp focus some of the most serious challenges that managing for resilience and diversity presents:

- The need to manage ecosystems as an interactive whole, not as a set of species
- The need to be proactive not reactive
- The need to engage and consult stakeholders and the public, particularly about controversial and contested issues
- The need to manage despite uncertainty, and to fast track research by designing management that can lead to learning

The late 70s and early 80s had seen the emergence of an approach to natural resource management explicitly designed in recognition of the flux and complexity of natural systems. **Adaptive Resource Management**^{12,13} – learning by doing – offered a means of dealing with uncertainty by incorporating research into management actions. This was based on the principle that planned interventions in nature could be used to systematically test assumptions about ecosystem behaviour, and thereby enable managers to adapt and learn. A South African derived version of adaptive management, **Strategic Adaptive Management (SAM)**¹⁴, was first applied in KNP for river management and then became the model to rewrite KNP and eventually all SANParks management plans. SANParks' elephant policy review proceeded alongside the development of this more proactive management approach for KNP and other parks.

SAM is based on three principles:

- Strategic – goal-seeking and proactive. No change, impact, risk or management option can be evaluated without reference to a clearly defined ecosystem desired state.
- Participatory – engaging stakeholders to meet their needs and values.
- Adaptive – we must manage using an imperfect knowledge base and if we do this systematically, with foresight and reflection, we can learn by doing.

Both the process of SAM and stakeholder consultation by conservation agencies in South Africa were in their infancy in the early years of the elephant policy review process, and have been refined over time through their own learning-by-doing process.

The KNP management planning and elephant management policy process

Early 1996 saw the beginning of a series of meetings between KNP scientists, external scientists and stakeholder groups to develop a new elephant management policy for KNP, drawing on a broader KNP management planning process using SAM.

1996 resolutions, vision and planning principles

On 8 February 1996 the KNP scientists and managers held a workshop in Skukuza in conjunction with members of the IUCN African Elephant Specialist Group (AfESG). Two days later the same group met with delegates from both AfESG and the International Fund for Animal Welfare (IFAW). Following these meetings the rationale for reviewing the elephant management policy was established in an internal report¹⁵.

One of the criticisms expressed at the February 1996 meetings was that the mission statement and management objectives of the Kruger National Park were vague and did not facilitate clear interpretation. Research and Development and Operations staff of the KNP subsequently met on a weekly basis to derive, through a formal workshop process developed as part of SAM, specific objectives from the overall vision and operating principles.

The broader KNP visioning process that was taking place to define a desired state for KNP's ecosystems as part of SAM provided the following vision for KNP:

“To maintain biodiversity in all its natural facets and fluxes and to provide human benefits ... in a manner which detracts as little as possible from the wilderness qualities of the KNP.”

Operating principles for the process of achieving this vision were described as follows:

- “Biodiversity will be maintained by natural processes, and not manipulated deliberately by management intervention. Management intervention will, however, be justified if it is aimed at restoring biodiversity lost through past mismanagement or through human influences outside the KNP.
- Management intervention will be undertaken in such a way as to increase our knowledge of the system and of the consequences of the management actions.
- We recognize that we will never achieve complete predictability and will need to manage with incomplete information.”

On 30 October 1996 a range of possible management options was listed and debated at an internal KNP workshop held in Skukuza¹⁶. At this meeting a number of resolutions were developed:

- National Parks Board mandate is to conserve all elements of biodiversity. Elephants are not more important than any other component, although they are major ecosystem components.
- Wildlife populations do not remain static through time and space, and consequently elephant populations should not be maintained at a stable unvarying ceiling. Fluctuation in numbers and density should be introduced to simulate ecosystem processes and enhance biodiversity.
- In contrast with all other known animal species elephant do not respond to short-term climatic cycles so that, in recognition of the negative impact unimpeded population growth would have on other wildlife in an unnaturally limited “conservation island”, some form of population control would be necessary.

- There is evidence of severe impact by elephant at current densities in certain areas of the park.

There was consensus that the consequences of unrestricted elephant population growth resulting in an ultimate self-induced population crash are not acceptable.

These resolutions were presented to the public as part of a debate at Midrand on 12 November 1996. A discussion document circulated prior to the meeting included the intention to test hypotheses about the impact of water provision on elephant distribution and population growth, as well as the draft vision statement and operating principles for KNP. In keeping with these principles the intention to reduce the number of artificial water points in KNP was explained. It was acknowledged that the public had already expressed reservations about the removal of water points.

Formal presentations were also made by various stakeholder groupings – including representatives of communities neighbouring KNP, tourism, environmental and conservation NGOs. Few comments were voiced by participants in response to the National Parks Board's proposals, either in the discussion document or the resolutions. This was interpreted as a mandate to proceed with the detail of the new policy proposal.

Development of a new elephant management plan for KNP

In February 1997, the National Parks Board hosted a three day workshop, attended by a number of local and international scientists, to discuss the maintenance of biodiversity in the KNP. Discussion focused on the development of means for the determination of 'Thresholds of Potential Concern'. The concept of TPCs had been developed as part of SAM – to describe the desired range of variation in ecosystem conditions contributing to the desired state. TPCs were designed as red flags marking the limits of acceptable change – at which managers would be prompted to assess, based on the cause of the change, whether management intervention is necessary.

On 17 March 1997, at a meeting of National Parks Board staff in Skukuza, the resolutions and principles developed and agreed on in the preceding events were used to formulate a new policy recommendation for elephant management in KNP. In October 1998 this policy was published on the internet for public comment. In addition on 31 October the plan was presented at a public meeting in Nelspruit, where almost unanimous public support was given, the only objection being from animal rights group Falcon, who advocated waiting until the then relatively new technique of contraception could be used in place of lethal population control. As there was no guarantee of this, and acknowledging the support of the majority of the people and organisations represented, the Board of the now SANParks approved the new KNP elephant management policy on 12 March 1999. The policy and the rationale behind it were then published in the journal *Koedoe*⁶.

The basis of this plan was as follows:

- To introduce controlled fluctuations in elephant population density to create or maintain heterogeneity and conserve biodiversity.
- To manage elephant populations according to measured impacts on biodiversity rather than on absolute numbers; to use a decision support system based on TPCs.
- To create of zones of high and low impact (Figure 6): to allow the elephant population to increase in high density zones and to progressively reduce the population in low density

zones. In addition to create two botanical reserves where the presence of elephant will be allowed but at a controlled level.

- To define zones that roughly conform to the known boundaries of elephant clans.
- To close artificial water points in order to restrict elephants' dry season foraging ranges and create refuges for upland tree species.

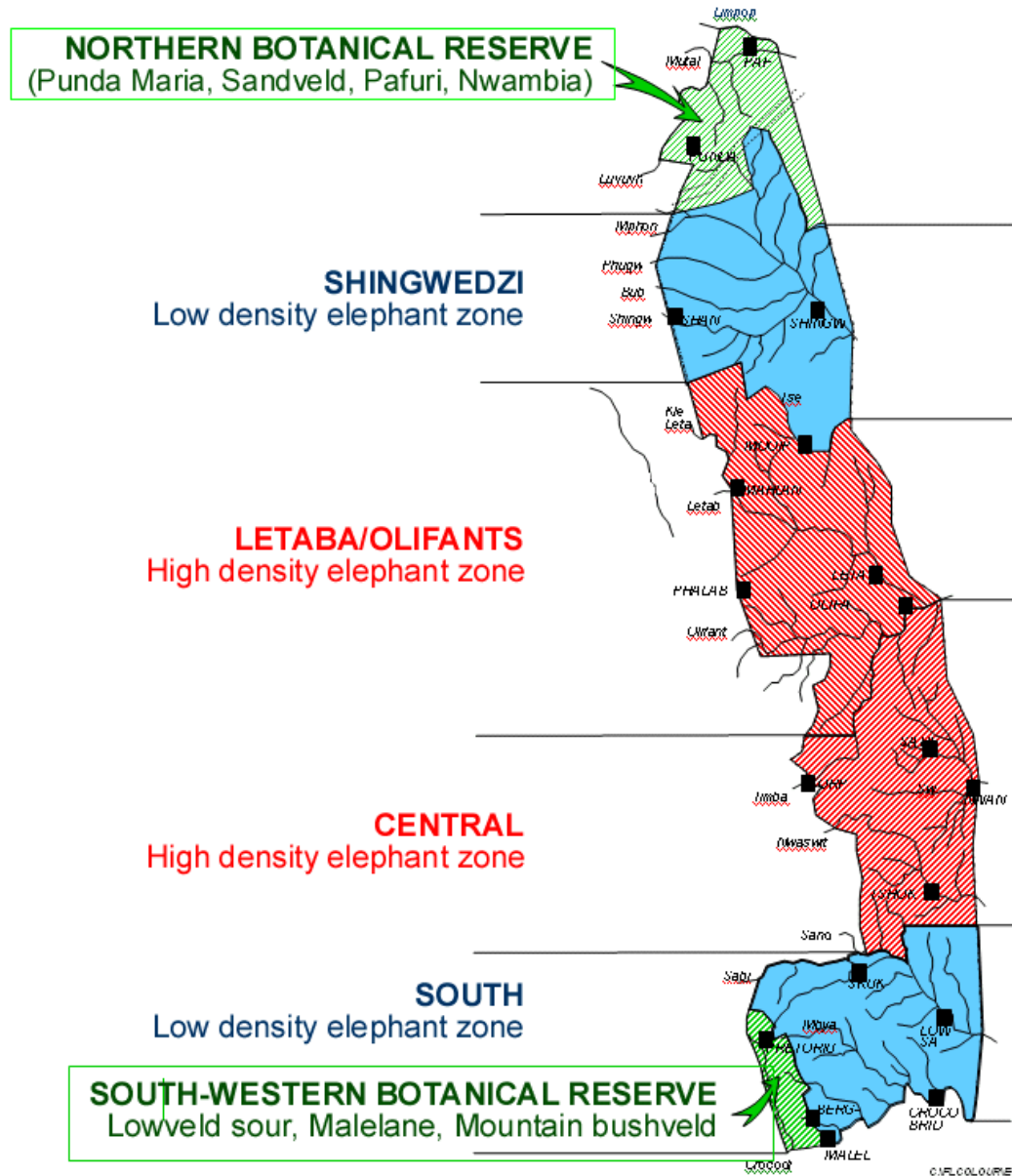


Figure 6: 1999 proposed elephant management zones for KNP