

MOKALA
NATIONAL PARK



South African
NATIONAL PARKS

JUNE 2008

PARK MANAGEMENT PLAN



South African National Parks would like to thank everybody who participated and had input in the formulation of this document

This plan was prepared by Earnest Daemane and André Spies, with significant inputs from Deon Joubert, Eddie Ubisi, Abel Ramavhale, Marna Herbst and Alexis Symonds and wider support within SANParks.



AUTHORISATION

This management plan is hereby internally accepted and authorised as the legal requirement for managing Namaqua National Park as stated in the Protected Areas Act.

DATE: 30 JUNE 2008

Deon Joubert
Park Manager – Mokala National Park

Dries Engelbrecht
Regional Manager – Arid Parks

Paul Daphne
Managing Executive

Sydney Soudy
Chief Operating Officer

Dr David Mabunda
Chief Executive

Recommended to SANParks Board

Name: _____

Date: _____

Ms Cheryl Carolus
Chairperson – SANParks Board

Recommended to the Department of Environmental Affairs and Tourism

Name: _____

Date: _____

Mr Marthinus van Schalkwyk
*Minister – Department of
Environmental Affairs and Tourism*



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LIST OF ACRONYMS AND ABBREVIATIONS

DEAT	Department of Environmental Affairs and Tourism
EPWP	Expanded Public Works Programme
IUCN	The World Conservation Union
Mokala NP	Mokala National Park
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
TOPS	Threatened or Protected Species
TPC	Threshold of Potential Concern
V-Steep	The values (social, technological, economic, ecological and political), used to understand, with stakeholders, the social, economic, ecological context of the system to be managed, and the principles/values that guide management. These are used to develop a broadly acceptable vision of the future.

GLOSSARY OF SELECTED WORDS

Balance Scorecard – The performance management tool used by SANParks to ensure feedback and effective implementation of various management objectives.

Objectives hierarchy – most important, high level objectives at the top, cascading down to objectives at finer levels of detail, and eventually to operational actions at the lowest level.

Desired state – the full V-Steep range) that stakeholders desire.

Mission – An articulation of the Vision that describes why the park exists and its overall philosophy on how to achieve its desired state.

Threshold of Potential Concern – Concern are upper and lower levels along a continuum of change in selected environmental or biodiversity indicators. When this level is reached, or when modelling predicts it will be reached, it prompts an assessment of the causes of the extent of change.

Vision – A word “picture” of the future, or what the stakeholders see as the future for the park.

Vital attributes – Unique or special characteristics of the park, the determinants of which management should strive to protect, and the threats towards which management should strive to minimise.



EXECUTIVE SUMMARY

Mokala National Park (Mokala NP) is a new national park that is situated within the Kalahari bushveld Bioregion. The name *mokala* means camel thorn tree (*Acacia erioloba*) in the Setswana language and it is the characteristic tree in the area. The major biodiversity characteristics are the interesting habitat with the diverse ecosystem processes within a transition zone between the Karoo biomes and arid savanna bushveld, including seven major vegetation habitat units. A variety of herbivore species are found in Mokala NP, the dominant species are gemsbok, springbok and wildebeest. Mokala NP also has high value species such as black rhino and a population of disease free buffalo. A number of rare or high value species such as roan, sable and white rhino as well as the endangered tsessebe are also found in Mokala NP.

An important objective for SANParks is to promote all possible opportunities for visitors to appreciate and value national parks. Each park should be a priority for the conservation of biodiversity but also a nature-based tourism destination of choice, thereby constituting an economically and culturally valuable asset to the region in which it occurs. Therefore the whole process of setting a desired state for the park based on a mission, vital attributes, objectives and acceptable endpoints are all specified in this plan.

A set of appropriate programmes has been set up to achieve the desired state. It is primarily set around the conservation of the unique biodiversity characteristics of the area with the ecosystem processes and functions as the central components with a strong emphasis on building cooperation between stakeholders and good neighbourliness.

Generic guidelines for the all-important learning pathways, represented by the various feedback mechanisms in the adaptive management cycle, are presented. These needs to be made more explicit for the likely scenarios that unfold as SANParks manages Mokala NP.



OVERVIEW OF THE SANPARKS MANAGEMENT PLANNING PROCESS

Process overview

South African National Parks (SANParks) has adopted an overarching park management strategy that focuses on developing, together with stakeholders, and then managing towards a 'desired state' for a National Park. The setting of a park desired state is done through the adaptive planning process (Rogers 2003). The term 'desired state' is now entrenched in the literature, but it is important to note that this rather refers to a 'desired set of varying conditions' rather than a static state. This is reinforced in the SANParks biodiversity values (SANParks 2006) which accept that change in a system is ongoing and desirable. Importantly, a desired state for a park is also not based on a static vision, but rather seeks refinement through ongoing learning and continuous reflection and appropriate adaptation through explicit adoption of the Strategic Adaptive Management approach.

The 'desired state' of a park is the parks' longer-term vision (30-50 years) translated into sensible and appropriate objectives through broad statements of desired outcomes. These objectives are derived from a park's key attributes, opportunities and threats and are

informed by the context (international, national and local) which jointly determine and inform management strategies, programmes and projects. Objectives for national parks were further developed by aligning with SANParks corporate strategic objectives, but defining them in a local context in conjunction with key stakeholders. These objectives are clustered or grouped into an objectives hierarchy that provides the framework for the Park Management Plan. Within this document only the higher level objectives are presented. However, more detailed objectives, down to the level of operational goals, have been (or where necessary are currently being) further developed in conjunction with key stakeholders and specialists.

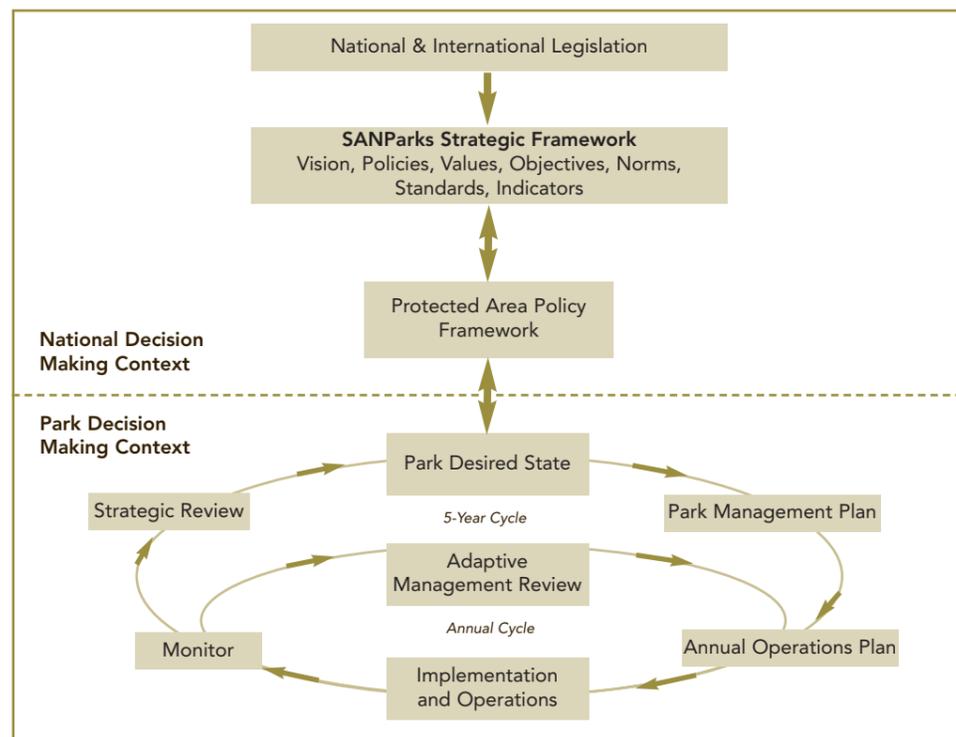


Figure 1: Protected Areas planning framework

This approach to the management of a National Park is in line with the requirements of the National Environment Management: Protected Areas Act No. 57 of 2003 (NEM: PAA). Overall the Park Management Plan forms part of a National Planning framework for protected areas as outlined in the figure on the left.

Park Management Plans were not formulated in isolation of National legislation and policies. Management plans comply with related national legislation such as the National Environmental Management: Biodiversity Act, national SANParks policy and international conventions that have been signed and ratified by the South African Government.

Coordinated Policy Framework Governing Park Management Plans

The SANParks Coordinated Policy Framework provides the overall framework to which all Park Management Plans align. This policy sets out the ecological, economic, technological, social and political environments of national parks at the highest level. In accordance with the NEM: Protected Areas Act, the Coordinated Policy Framework is open to regular review by the public to ensure that it continues to reflect the organisation's mandate, current societal values and new scientific knowledge with respect to protected area management. This document is available on the SANParks website.

The key functions of this management plan are to:

- ensure that the Park is managed according to the reason it was declared;
- be a tool to guide management of a protected area at all levels, from the basic operational level to the Minister of Environmental Affairs and Tourism;
- be a tool which enables the evaluation of progress against set objectives;
- be a document which can be used to set up key performance indicators for Park staff;

- set the intent of the Park, and provide explicit evidence for the financial support required for the Park.

This Management Plan for Mokala National Parks comprises four broad sections:

1. An outline of the context and desired state of the Park and how this was determined;
2. A summary of the management strategies, programmes and projects that are required to move towards achieving the desired state (obviously these strategies, programmes and projects can extend over many years but here we present the management focus until 2012). These are also monitored following an adaptive approach to management. It focuses park management on those critical strategic issues, their prioritisation, operationalisation and integration, and reflection on achievements to ensure that the longer-term desired state is reached.
3. An outline of the Strategic Adaptive Management methodology and strategies that will ensure that the Park undertakes an adaptive approach to management. It focuses park management on those critical strategic issues, their prioritisation, operationalisation and integration, and reflection on achievements to ensure that the longer-term desired state is reached.
4. Presentation of a high level budget.



INTRODUCTION

1.1. LOCATION

Mokala NP is located in the Northern Cape Province, 80 km south-west of Kimberley, and west of the Cape Town N12 road (Appendix 2, Map 1). The park was proclaimed to conserve the interface between the Savanna Biome and the Nama-Karoo Biome.

1.2. EXTENT

Mokala NP was proclaimed on the 19 June 2007. The park consists of a total land area of 19611 hectares (ha). Within a year of proclamation, the park was expanded through the acquisition of a 3396 ha property (Lilydale section, not yet proclaimed) on the Riet River. Mokala NP lies within the Pixley ka Seme District Municipality in the Northern Cape Province. Pixley ka Seme is one of the five district municipality in the province and is the second largest covering a total surface area of 102 727 ha with eight local municipalities. Mokala NP falls under Siyancoma Local Municipality consisting of three towns namely, Griquatown, Campbell and Douglas.

1.3. HISTORY

Deproclamation of Vaalbos National Park (VNP) in the Northern Cape Province resulted in the establishment of Mokala NP. VNP consisted of two sections, the largest one, the Than-Droogeveld section (18 120 ha) situated approximately 61 km north-west of Kimberley, and the smaller one, the Gras-Holpan section (4 576 ha) situated about 25 km west of Kimberley. In November 1997 and December 1998 reports were received of a land claim that would be lodged against the VNP, Than-Droogeveld section by the Sidney -on- Vaal claimants. After the claim was legitimized, SANParks investigated five other possible locations for the new National Park. All the reports indicated Wintershoek, in the Plooyburg area to be the best option. Mokala NP was selected for its biological and topographical diversity, expansion potential, reduced threats from mining and development, and its economic potential. In November 2002 the land claim was officially gazetted and SANParks accepted the validity of the claim. In November 2004 the negotiation process with the landowners of Wintershoek was officially launched and the submission report was forwarded to the Minister of Land Affairs and was signed on the 30 May 2006. SANParks took over the management of Wintershoek on 29 May 2006.

1.4. CLIMATE

The rainfall, mainly during summer, is erratic and can be as high as 700 mm per year (June to May), but also as low as 300 mm per year (June to May). The average annual rainfall for the Park is just over 400 mm per annum. The temperature is less erratic than the rainfall with cold winters (coldest months June - July) as low as -4°C while the summer (warmest months December - January) is as high as 44°C. Frost occurs, with the earliest date recorded being 27th April and the latest date 23rd September.

1.5. TOPOGRAPHY, GEOLOGY AND SOILS

The topography varies from rocky outcrops and koppie veld (hills) to large open plains. The highest point (Appendix 2, Map 2) occurs in the south western region of the park and measures 1306 meters above mean sea level (amsl) or 4300 feet amsl (rounded to the nearest highest hundred feet). The Protected Areas Act enforces a flying restriction of 2500 feet above the highest point in the park thus no aircraft may fly over the park lower than 6800 feet amsl.

Three geological types underlie Mokala NP: (i) The outcrops of the andesitic lavas of the Ventersdorp Supergroup, (ii) Dolerite intrusions mostly occurring as dykes (iii) Outcrops of tillite of the Dwyka Formation and shale of the Prince Albert Formation (Karoo Sequence). The largest part of Park is mainly underlain by aeolian sand of Tertiary to Recent age covering the Dwyka tillite.

The soil type varies from deep red and yellow sands (Hutton - and Clovelly soil forms) to shallow and stony (Mispah - and Kimberley soil forms) while the pans are very clayey (> 30% clay content) with the dominant soil forms Arcadia and Oakleaf.

1.6. HYDROLOGY

The Riet River runs along an 8 km section of the expanded Mokala NP (Lilydale section), forming part of the Riet-Modder sub-catchments of the Upper Orange Water Management Area. The Riet River is fed largely by the Modder River just upstream of Mokala NP. Water availability in the sub-catchments relies heavily on transfers from other areas and surface water, with ground water providing a small percentage of the availability. Water resource development includes two major dams that occur upstream of Mokala NP, the Kalkfontein Dam on the Riet River and the Krugersdrift Dam on the Modder River. Water quality in the Upper Orange water management area is generally good in less developed areas, but poor in the highly developed areas. Within Mokala NP itself, significant runoff does occur within the park; generating incremental surface flows along an ephemeral drainage feature originating within the higher lying randjiesveld in the south-east of the park. Under natural conditions, with approximately 50 mm or more of rainfall, this drainage system starts flowing, creating unique biophysical conditions within the park. However, human-developed earth dams (and a dirt road) dissect this feature, built for purposes of reducing erosion impacts and for retaining water. The truncation of flows by the dams has altered the natural hydrological characteristics of the floodplains and the downstream Vaalbos Pan.

1.7. VEGETATION

The vegetation of the area is classified under the Eastern Kalahari Bushveld Bioregion with the park represented by two vegetation units, namely *Kimberley Thornveld* and the *Vaalbos Rocky Shrubland*. The *Kimberley Thornveld* is characterized by well-developed tree layer with *Acacia erioloba*, *A. tortilis*, *A. karroo* and *Boscia albitrunca* and well-developed shrub layer

with occasional dense stands of *Tarchonanthus camphoratus* and *Acacia mellifera*. The *Vaalbos Rocky Shrubland* is found on the slopes and elevated hills and ridges within the plains in the park. The park consists of seven major vegetation-cum-habitat units namely: (1) *Acacia erioloba* - *Acacia tortilis* open Woodland; (2) *Acacia mellifera* - *Rhigozum obovatum* open Shrubland; (3) *Acacia mellifera* - *Acacia tortilis* open Woodland; (4) *Schmidtia pappophoroides* - *Acacia erioloba* sparse Woodland; (5) *Acacia mellifera* - *Acacia erioloba* open to closed Woodland; (6) *Eragrostis lehmanniana* - *Schmidtia pappophoroides* open Grassland; (7) *Cynodon dactylon* - *Ziziphus mucronata* open Woodland. Bordering towards the north of the Park is a very important unit, the *Northern Upper Karoo* falling under Upper Karoo Bioregion in the Nama Karoo Biome.

1.8. FAUNA

The inventory list of fauna occurring in Mokala NP is presently incomplete and will be updated through ongoing research. Mokala NP is home to number of ungulates species such as eland (*Taurotragus oryx*), kudu (*Tragelaphus strepsiceros*) red hartebeest (*Alcelaphus buselaphus*), blue wildebeest (*Connochaetes taurinus*), mountain reedbuck (*Redunca fulvurufula*), steenbok (*Raphicerus campestris*), grey duiker (*Sylvicapra grimmia*), springbok (*Antidorcas marsupialis*) and gemsbok (*Oryx gazelle*). The park also holds a significant population of endangered species such as tsessebe (*Damaliscus lunatus*) and the western subspecies of the black rhinoceros (*Diceros bicornis bicornis*). Other species of major importance in the park include roan antelope (*Hippotragus equinus*), white rhinoceros (*Ceratotherium simum*), disease-free buffaloes (*Syncerus caffer*) and black wildebeest (*Connochaetes gnou*). Other species such as giraffe (*Giraffa camelopardalis*), zebra (*Equus burchelli*), ostrich (*Struthio camelus*) are also found in the park.

1.9. ALIEN BIOTA

Extralimital species found in Mokala NP include species such as sable, nyala, and waterbuck. These species were already present on the farm when SANParks took over. Some of the other species that were present before the proclamation of the park, for example impala, may also be extralimital. A study of the distribution records of these species in historical times is currently under way to determine whether it may be justifiable to retain them in the park.

The key problem alien invasive plants found in Mokala NP include torch cactus (*Echinopsis spachiana*), silver-leaf bitter apple (*Solanum elaeagnifolium*), thorn apple (*Datura ferox* & *Datura stramonium*), honey mesquite (*Prosopis glandulosa*), old man saltbush (*Atriplex nummularia*), sponge-fruit saltbush (*Atriplex lindleyi*), seringa Persian lilac (*Melia azederach*), *Schinus molle*, sweet prickly pear (*Opuntia ficus-indica*) and Mexican poppies (*Argemone ochroleuca*).



PROTECTED AREA AND MANAGEMENT PLANNING FRAMEWORK

The protected areas Management Planning and Policy Frameworks that have been designed for the SANParks guides park management in setting up a management plan implementation thereof and the review of the plan. The essential feature of the system is the iterative way in which it will enable continual improvement in the management of the park through annual and five-year review cycles. The first step in developing/revising a management plan is to develop the desired state of the park.

2.1. DESIRED STATE

In order that the current, and future, extent of the Park may be protected and managed effectively, the desired state has been developed to guide park management in its daily operations. The development of a desired state for Mokala NP was guided by a two day stakeholder workshop in October 2007, during which a mission, vision and management objectives were produced (Stakeholder Participation Report, 2007). The vision and mission statements reflects the high-level essence of what Mokala NP is aspiring towards, and a hierarchy of objectives translating these broad values into strategic, auditable management outcomes (Figure 2). This section of the plan details the setting of Mokala NP's desired state, focusing on the determinants and threats to its vital attributes, and translating the maintenance of these determinants and overcoming of these threats from broad objectives into specific management actions.

Specific programmes to achieve the desired state for Mokala NP are detailed in the plan. These programmes are the core components of protected area management, categorized by SANParks under four broad headings: biodiversity conservation, sustainable tourism, building co-operation and effective park management. Finally, the plan outlines how the various Mokala NP park objectives will be prioritized, integrated and operationalised, and which feedback mechanisms will be used to ensure compliance, auditability and maximum learning, as part of the adaptive management cycle.

2.2. VISION OF THE PARK

"We are proud custodians of Mokala NP. We value Mokala NP for its biodiversity, culture, history and sense of place within the broader context of all the Northern Cape has to offer for the joy and benefit of all, now and into the future".

In order to achieve this Vision, **Mokala NP's Mission** is to:

Conserve a representative example of the natural and cultural heritage at the interface of the Nama-Karoo and Savanna Biomes, while providing benefits for present and future generation. We are committed to achieving this through actively enhancing good neighbourly relationships that are transparent, respectful and accountable and foster a co-operative process of ongoing, integrated activities to sustain the park value in the broader socio-ecological environment.

Inherent in this statement is the incorporation of flux as a key component of a functioning representative system. The Vision and Mission for Mokala NP ensure that while the park's management objectives and strategies conform to SANParks broad-level objectives, the specific high-level objectives of the Mokala NP can ultimately be traced back to its stakeholders' values.

2.3. OPERATING PRINCIPLES

Mokala NP takes its biodiversity values from the SANParks biodiversity values:

- We adopt a **complex systems view** of the world while striving to ensure the **natural functioning and long term persistence** of the **ecosystems** under our care.
- We aim at persistent achievement of **biodiversity representivity** and **complementarity** to promote **resilience** and ensure **ecosystem integrity**.
- We can **intervene in ecosystems responsibly and sustainably**, but we focus management on **complementing natural processes** under a "**minimum interference**" philosophy.
- We accept with humility the **mandate of custodianship** of biodiversity **for future generations** while recognising that both natural and social systems change over time.

2.4. VITAL ATTRIBUTES

Listing the vital attributes of a park is an important step in the objective-setting process as it identifies the fundamental purpose(s) of conservation management for a particular park. For each attribute, the factors which determine it are identified, together with the factors which threaten or constrain it. The management objectives of the park are then set with the intention of maintaining the determinants of, and on overcoming the constraints and threats to these vital attributes. These vital attributes were listed for Mokala NP, and clustered into four themes: Biodiversity, Cultural, Tourism, People, and Management/Institutional theme. The following vital attributes have been identified by stakeholders as making Mokala NP unique:

- Diverse range of attributes provide opportunities for a wide spectrum of visitor activities in a safe setting, in particular wide open landscapes with beauty/aesthetic value leading to a sense of place.
- Park has a range of cultural and heritage attributes with high associated education potential.
- Area is disease free, especially malaria.
- Proximity of Mokala NP to the N12 road / tourism route and large airport.
- Mokala NP is representative of the landscape and vegetation type of the area and boasts the iconic camel thorn tree.
- Mokala NP contains rare and unique biota (buffalo, roan antelope, vultures), some with associated high economic value.
- Mokala NP has extremes in seasonal temperature variations.
- High potential for park expansion and the incorporation of larger-scale biodiversity patterns and processes.
- Good national, provincial and public support for/interest in, the park. This provides opportunities to strengthen co-operative governance.
- Mokala NP has existing relationships with close neighbours which present opportunities for private/public partnerships and the further potential diversification of visitor activities (e.g. trophy hunting).
- Low population densities on park boundaries and therefore limited demands from gateway communities.
- Sound park capacity to generate, mobilise and integrate knowledge and good opportunities for new research.
- Sound park management with passionate well qualified professionals with special skills and knowledge re the breeding of rare species.
- Good park infrastructure.
- Opportunities for employment in and around the park, in particular because it is new.



Threats to Mokala NP vital attributes and determinants

Several factors can also become threats that inhibit ecosystem determinants or vital attributes and consequently inhibiting the pursuit of the vision. Threats to Mokala NP vital attributes include the following:

- Climate change
- Inappropriate development, over-commercialisation and associated pollution, including aesthetic pollution. This includes the threat of development 'creep' as well as ensuring appropriate on-site site layout and the choice of architectural style.
- Lack of appreciation for, and disturbance and/or destruction and lack of management of natural and cultural heritage resources. This includes inappropriate game translocations (diseases, Big 5 obsession), poaching and illegal plant collection and the risk of alien plants and animals.
- Discrepancies in political perspectives in relation to park matters and changes in political leadership.
- Deteriorating tourism services, infrastructure and standards in greater area.
- Lack of appropriate resourcing of park functions and to support park relationships with others.
- Failure to manage the tensions between visitor numbers, visitor experience and conservation values.
- Failure to use existing frameworks and tools e.g. conservation development framework, tourism plans, etc.
- Large-scale changes outside of the park and uncertainty re resource use outside the park but impacting on the park (e.g. water volume and quality).
- Lack of resources and capacity to maintain and strengthen existing knowledge and research base.
- Failure to apply environmental best practice (in-house).
- Failure to be cognisant of the impact of land claims and land prices/property market on expansion plan.
- Failure to manage the expansion process sensitively. (Negative perception of the expansion process and has to involve government) and more broadly, a failure to communicate park plan and mandate explicitly.
- Failure to manage the tensions between ethics and economics in the trophy hunting debate.
- Failure to build appropriate relationships and partnerships and failure to prioritise; Selected relationships (e.g. direct neighbours) may need attention first.
- Failure to influence or manage safety and security.

2. 5. THRESHOLD OF CONCERN

The following TPC themes for Mokala NP were developed in consultation with scientific experts and park management:

- Extent of vegetation change brought about by herbivores (consistent intense of particular patches within home range);
- Black rhinoceros population size and competition-induced injury and/or changes in competitive interactions in the black rhino population;
- Representative species of the vegetation types and unique habitat (*Acacia erioloba* - loss of older trees coupled with lack of recruitment; *Hoodia gordonii* – decrease in population size);
- Alien invasive plants (spread and density);
- Water use (boreholes water extraction).

These TPC themes will form part of biodiversity programmes to achieve the desired state. Once actual TPCs have been identified monitoring will be conducted to assess the potential exceedance of each. This has critical capacity and funding implications for the future budgeting and resource requirements of the park. It is therefore crucial to note that the adaptive management cycle cannot be successfully implemented without the necessary capacity for monitoring. Moreover, research should be solicited in conjunction with the monitoring to increase our understanding of the ecological processes in Mokala NP. Research should also be explicitly prioritized according to the issues reflected from Mokala NP's objective hierarchy. For the fact that Mokala NP is still a developing park, the above developed TPCs constitute only the initial range believed to be essential. Further research may reveal the need for additional TPCs.

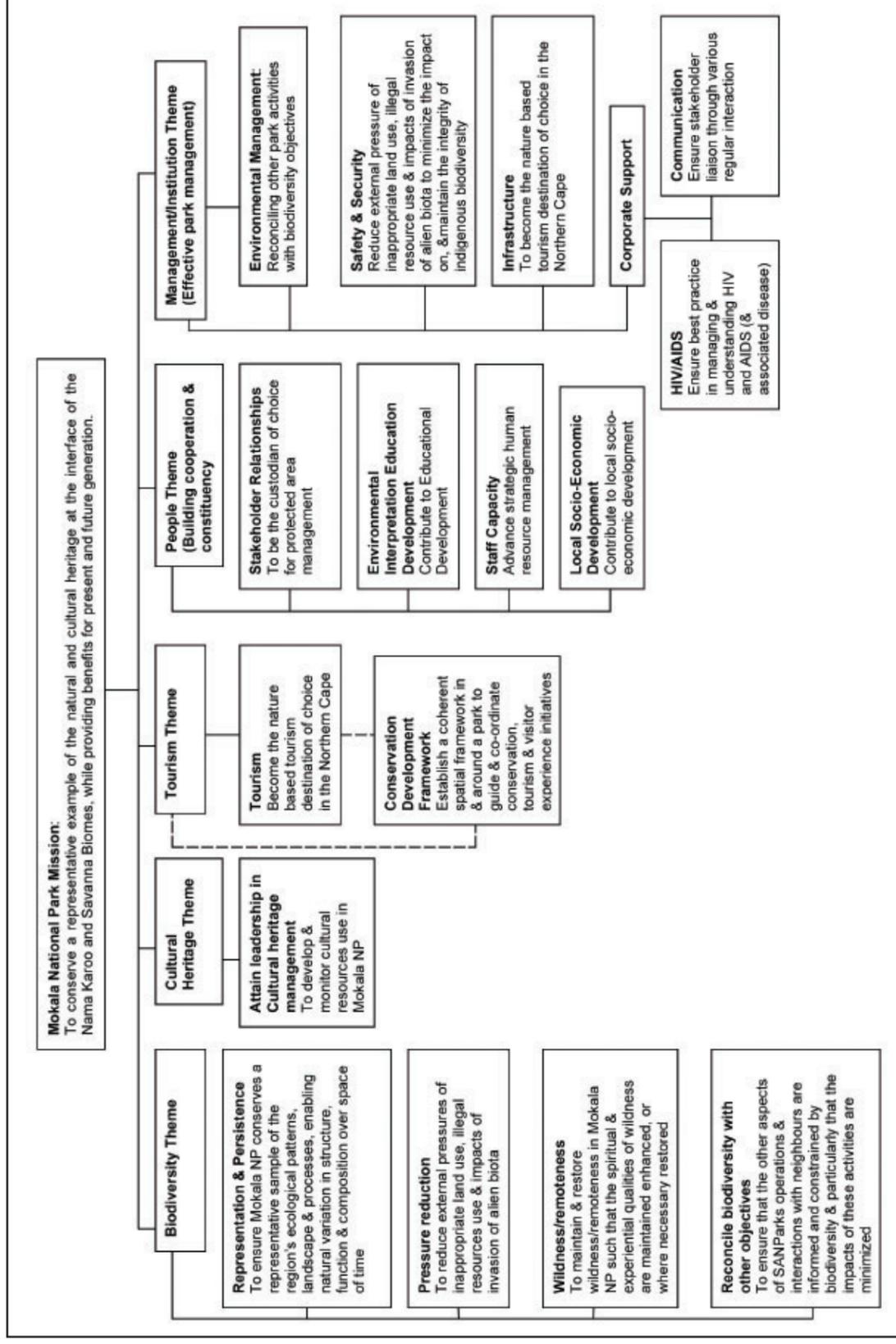


Figure 2. High level objectives in an objectives hierarchy for Mokala National Park



GUIDELINES AND PROGRAMMES TO ACHIEVE THE DESIRED STATE

This section deals with specific, but often cross-linked, programmes that address the park objectives and lead to management actions on the ground. Together they represent the park's best attempt to achieve the desired state. Each subsection is a summary of the particular programme, invariably supported by a detailed description called a low-level plan (supporting documents). All these programmes are guided by SANParks corporate level policies that translate SANParks values into operating principles. The various programmes are detailed under five categories as reflected in the SANParks biodiversity custodianship framework, namely Biodiversity, Cultural Heritage, Sustainable Tourism, Building Co-operation, and Effective Park Management.

3.1. BIODIVERSITY CONSERVATION

3.1.1. Park expansion programme

In order to achieve its national mandate of conserving representative samples of South Africa's different ecological landscapes, the establishment of ecologically sustainable parks remains a priority for SANParks. In this regard, the development of an expanded Mokala NP (Appendix 2, Map 3) revolves around three prime objectives, namely:

- The conservation of a representative sample of the regions prominent ecological patterns associated at the boundary of two biomes (Nama-Karoo & Savanna) and ecological processes (e.g., koppie-lowland interfaces, biome interfaces, large herbivore, fire, riverine etc) in a contiguous functional conservation area.
- The establishment of an economically sustainable park.
- Developing a park that is socially sustainable through the development of entrenched social linkages across the local area.

Context

Mokala NP currently has four identified vegetation units from two biomes, namely the Nama-Karoo and Savanna biomes, and azonal Upper Gariep Alluviums associated with the Riet River. Expansion into the greater domain would only add the unprotected azonal Highveld pan veld type vegetation units. Inclusion of the Riet River system in the north would provide another important river process albeit it a small section. The expanded park would offer a diversity of vegetation types characteristic of this area of the Northern Cape, ranging from rocky koppie vegetation through *Acacia* lowlands set on either nutrient rich clayey soils or poorer Kalahari sands with scattered pans, through to the Riet River.

Within a year of proclamation in 2007, the park was expanded through the acquisition of a 3396 ha large property on the Riet River. This was to partially meet the conservation and tourism objectives of the park. This inclusion added in a portion of the missing riverine process and the azonal Gariep alluviums. The park currently consists of 79% Savanna, 20% Nama-Karoo and 1% azonal vegetation types. Although all the vegetation types, except the Upper Gariep Alluvium, are least threatened they remain poorly protected nationally with only 1% of the Highveld Salt Pans, 12% of the Upper Gariep Alluvium, 1% of the Northern Upper Karoo, 20% of the Kimberley Thornveld and 58% of the Vaalbos Rocky Shrubland of the national targets currently protected. In this regard, Mokala NP plays an important role in the conservation of the Vaalbos Rocky Shrubland and Kimberley Thornveld. The planned expansion of the park into an 1823 km² footprint would see the park make a significant contribution (as a percentage of the target) in the conservation of Northern Upper Karoo (16%), Kimberley Thornveld (48%), and Vaalbos Rocky Shrubland (157%). Given the generally poor protection status of all the vegetation types, expansion in any direction would meet conservation objectives for these under protected vegetation types. This is in accord with the general outputs of the National Spatial Biodiversity Assessment.

However, the immediate expansion priorities are to focus on rectifying the parks rather inefficient shape and separation into two sections. Over the next five years (2008-2012) the emphasis would be on:

- Joining the Riet River section with the main body of the park, primarily for ecotourism reasons;
- Addressing the concave shape in the north western section of the park would attend to the managerially difficult shape. This expansion would add more of the limited Northern Upper Karoo vegetation types;
- Improving the accessibility and aesthetic entrance to the park through an expansion towards main road conduits in the south east.

These priority expansions are in line with recommendations of the National Protected Areas Expansion Strategy. These planned expansions entail a total of 14,550 ha and eight properties. The general large stock and game farming land use activities in the surrounding mosaic make for relatively easy assimilation of acquired land into the park.

The stand alone Graspan-Holpan 5000 ha large section of the park situated west of Kimberley is managed as a separate section. Its focus is on the breeding of disease-free buffalo, (only the Free State Sable are left, we moved all the others to Mokala NP already) for supplementation of populations in other national parks. It is expected that this will remain the areas focus into the near future, until more land can be added to Mokala NP to carry all the buffalo. The following table presents an outline of planned management objectives, initiatives and budget:

Table 1. Details of objectives and initiatives to address the park expansion programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Representation & Persistence: To ensure Mokala NP conserves a representative sample of the region's ecological patterns, landscapes and processes in a contiguous arrangement by establishing a connected landscape, enabling natural variation in structure, function and composition over space and time.	Representation: To incorporate the spectrum of biodiversity patterns representative of the Kalahari and Nama Karoo ecosystems with the addition of randjiesveld into Mokala NP as well as the processes which support its long-term persistence, and to re-introduce missing elements where possible.	Consolidation: To incorporate the spectrum of biodiversity patterns (including landscapes) representative of the Kalahari and Nama Karoo ecosystems and randjiesveld into Mokala NP, as well as the processes which support its long-term persistence	Joining the Riet River section with the main body of the park, primarily for ecotourism reasons.	√						H
			Purchasing of the Dampoort section at the current main gate to get a representative sample of Camel thorn veld when entering the park.	√						H
			Addressing the concave shape in the north western section of the park would attend to the managerially difficult shape. This expansion would add more of the limited Northern Upper Karoo vegetation types.	√	√	√	√	√	H	
			Improving the accessibility and aesthetic entrance to the park through an expansion towards main road conduits in the south east.	√	√	√	√	√	H	

If acquisition were to be considered the main option for inclusion, it is estimated that the expansion would cost in the region of R58 million at current escalating prices. There is however several possibilities to include large land holdings on long-term contracts. This could potentially reduce the estimated acquisition bill by up to 54%, to an estimated R27 million, but is largely dependent upon reaching consensus on park – contractual objectives with private land owners. There are no specific funds allocated for park expansion in the Mokala NP budget and will be funded entirely from the Park Development Fund. (For detailed programme refer to supporting document 1).

3.1.2. Sustainable natural resource use programme

Mokala NP does not have an active sustainable natural resource use programme in place. Therefore, this serves as a statement of intent to develop such a programme by the next revision of the management plan (i.e. in five years).

In this regard, Mokala NP has taken on the responsibility to, at a minimum; investigate requests by all relevant stakeholders to use park resources, subject to South African natural resource management legislation and SANParks corporate policy on sustainable resource use, which is still pending final approval by SANParks board. In this context, sustainable resource use means that the use of park resources must be monitored and managed such that resources are not removed from the system at a rate that is faster than that at which they can be naturally replenished. Furthermore, any use of park resources must not compromise the primary mandate of SANParks to conserve South Africa's biodiversity and cultural heritage, or negatively impact on its core business function of nature-based tourism, as it applies to Mokala NP. SANParks corporate policy on sustainable resource use also provides a framework for the development of park-level, standard operating procedures for resource use.

Managing Mokala NP for multiple uses, including sustainable resource use, requires a systems approach. In the context of developing a sustainable natural resource use programme, this approach highlights the need to develop adaptive socio-economic and ecological models and theories that require an understanding of how social, cultural, economic, political and ecological factors change, interact and impact on one another over time, and at different spatial scales, to influence people's resource use demands, the ability of the park to contribute towards meeting these demands (through the sustainable use of park resources and/or alternative measures), as well as improve the well-being of the park's stakeholders. Therefore, the sustainable resource use programme must integrate socio-economic and ecological systems, be multi-disciplinary and multi-scalar, emphasize adaptive and flexible resource use strategies, draw on local and scientific knowledge and use a range of different techniques and methodologies if it is to work. Adopting this management strategy for Mokala NP also carries multiple risks. As the park has only recently been established, there is no baseline data to guide the setting of sustainable resource use levels. Managing for such a complex system, with numerous feedbacks between the socio-economic and ecological components, has high capacity requirements in terms of in-house expertise and staff, time and finances. It will also require a high level of co-ordination and co-operation across divisions in SANParks (such as Conservation Services and People and Conservation), as well as with external partners e.g. government, NGOs, rural communities etc. The following tables present an outline of planned management objectives, initiatives and budget:

Table 2a. Details of objectives and initiatives to address the sustainable natural resource use programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
Reconciling biodiversity with other interests: To ensure that the other aspects of SANParks operations & interactions with neighbours are informed & constrained by biodiversity, & particularly that the impacts of these activities are minimized.	Reconciling biodiversity with other objectives: To ensure that the other aspects of SANParks operations & interactions with neighbours are informed & constrained by biodiversity, & particularly that the impacts of these activities are minimized.	Resource Use: To minimize the impacts of extractive resource use, & ensure that extractive resource use is only undertaken if it does not compromise biodiversity objectives & and is within corporate guidelines & management capacity constraints.	To initiate, co-ordinate or solicit a basic socio-ecological study of stakeholders needs.	√	√	√	√	√	M
			To identify current and potential resource use demands, and assess the feasibility for sustainable resource use at Mokala NP.	√	√	√	√	√	M
			To generate baseline data for setting sustainable resource use levels in response to stakeholder requests.	√	√	√	√	√	M
			To develop thresholds of potential concern for sustainable resource use in response to stakeholder requests.	√	√	√	√	√	M
			To develop standard operating procedures	√	√	√	√	√	M

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
		for sustainable resource use at Mokala NP.	based on pilot studies						
			To develop a sustainable resource use programme for Mokala NP	√	√	√	√	√	H

In order to achieve the various initiatives as portrayed above, the projected budget for the following five years is shown in Table 2b below.

Table 2b. Proposed budget to achieve various initiatives for the sustainable natural resource use programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R51,000	R54,060	R57,303	R60,741	R64,385
Total secured budget	R1,000	R1,060	R1,124	R1,191	R1,262
Total unsecured budget	R50,000	R53,000	R56,179	R59,550	R63,123

There are no funds allocated for sustainable resource use in the Mokala NP budget. The total secured budget is covered by the operational budget of the scientist: social, economic and tourism research. The total unsecured budget is for implementing research on sustainable resource use issues within the park in the form of conducting the relevant socio-ecological background studies and setting up the relevant resource use pilot studies to inform thresholds of potential concern and develop standard operating procedures for sustainable resource use. Should the unsecured budget not be obtainable from the NRF or through collaborative partnerships with other learning institutions (e.g. universities), we will not be able to do the research towards the implementation of sustainable resource use initiatives at Mokala NP. (For detailed programme refer to supporting document 2)

3.1.3. Herbivore management programme

In line with SANParks corporate policy on herbivore management, this program is cross-linked to issues of reintroduction and removal of alien/extralimital species, which are dealt with in the Reintroduction and Rehabilitation programmes.

The breeding of high value species is aimed at conserving breeding populations to supply other the National Park area and as a source of income. The main feature of the herbivory

programme is the departure from the use of stocking rates to determine the size of herbivore populations in Mokala NP. Rather, TPCs that explicitly measure the biodiversity changes brought about by herbivores will be used to make decisions about the removal of herbivores for ecological reasons (see Corporate Herbivore Management Framework in Coordinated Policy Framework document). A high priority for Mokala NP is therefore to develop a herbivory monitoring programme, in consultation with SANParks and other scientists, which adequately addresses the practicalities of the local context of Mokala NP. Once again, capacity for monitoring is crucial for the successful implementation of this non-equilibrium approach to herbivore management. The herbivore management plan is based on our current understanding of the spatially and temporally variable nature of Karoo and Kalahari ecosystems, as well as the resilience of the system. Inextricably linked to herbivore management is the provision of artificial water, which is one of the few options available to manipulate large herbivores in semi-arid environments. The water provision policy is closely linked to herbivore management and should be controllable and opened and closed to avoid over utilization of certain areas due the presence of water alone. These water points should be specifically monitored for vegetation and soil degradation. The following tables present an outline of planned management objectives, initiatives and budget:

Table 3a. Details of objectives and initiatives to address the herbivore management programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
Representation & Persistence: To ensure Mokala NP conserves a representative sample of the region's ecological patterns, landscapes and processes in a contiguous arrangement by establishing a connected landscape, enabling natural variation in structure, function and composition over space and time.	Persistence: To manage the park to ensure the long term persistence of biodiversity processes, maintaining, understand and by mimicking these processes.	Herbivory: To manage the process of herbivory in a manner that emulates the natural ecosystem fluxes (historically occurring in this region, recognising that much of the large mammals component was probably seasonally transient at different spatial and temporal scales	To understand the role of seasonal variability in driving animal movements and impacts and ecological densities (can lead to development of a 'variable carrying capacity' model).	√	√	√	√	√	H
			Manage the valuable species at Mokala NP for the benefit of SANParks to generate income for PDF and for re-introductions to other parks.	√	√	√	√	√	H
			Explore the potential of rotating artificial waterholes in the landscape and creating certain areas in the park far removed from artificial water sources in order to mimic spatially and temporally variable grazing regimes (Linked to hydrology)	√					L/M
			Evaluate the		√				M

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
			placement of artificial waterholes and subsequently limit the number of artificial waterholes on sensitive soils or at inappropriate landscape positions (i.e. considering piosphere effects) (Linked to hydrology)							
			Identify TPCs and develop appropriate monitoring program.	√	√	√	√	√		M
		Maintenance of fences	Ensure good management of perimeter fence to minimize the break out of animas from the park.	√	√	√	√	√		H

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 3b below. (For detailed programme refer to supporting document 3)

Table 3b. Proposed budget to achieve various initiatives for the herbivore management programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R70,000	R74,200	R78,652	R83,371	R88,373
Total secured budget	R70,000	R74,200	R78,652	R83,371	R88,373
Total unsecured budget	R0	R0	R0	R0	R0



13.1.4. Carnivore species management

The potential exist for the introduction of carnivores into the system to re-establish the predator-prey dynamics of the natural ecosystem. It is unlikely that the current herbivore populations and the size of Mokala NP will be able to sustain predation rates imposed by the minimum number of individuals of a founding population of larger carnivores. The introduction of larger carnivores into Mokala NP is not anticipated in the immediate future. Any introduction needs to be carefully considered against the objectives set out for Mokala NP and in consideration of stakeholder interests. From a management point of view the desired outcomes of predator/prey dynamics might be achieved by other ways of rather mimicking predation processes and pressures. Any proposals for the introduction need to consider the norms and standards stipulated by DEAT (2003) for the sustainable use of large predators and a number of conditions would need to be met prior the introductions of any large predators (see SANParks Policy Framework for the introduction of large carnivores).

3.1.5 Reintroduction

Currently there are no introductions required to re-establish historical population in Mokala NP. However, it may be necessary to supplement some of the present populations to enhance their genetic diversity and to improve the long term viability of these populations. Reintroduction should only take place if there is good evidence that the species occurred in the area in historical times and consideration should be given to whether the original causes of extinction have been removed. The quality of the habitat is important and therefore the introduction is subjected to scientific assessment of the amount and quality of habitat for species in question. Reintroduction programme is also guided by SANParks Management Plan Policy Framework and cross-linked to disease management and damage causing animals programmes.

3.1.6 IMPACTS MITIGATING PROGRAMME

Mitigation impacts of parks on neighbouring communities are divided into two programmes, namely Disease management and Damage causing animals.

3.1.6.1. Disease management

Management policies for SANParks aim to conserve the flora and fauna components and it is equally crucial to take into consideration occurrence of animal diseases that are both indigenous and endemic within national parks. SANParks Management Plan Policy Framework acknowledges the fact that these diseases are components of biodiversity and contribute to the natural ecological processes within these systems. However, it is also equally important to acknowledge that these diseases are potential source of infection for the domestic stock of the communities frequently associated with the boundaries of these areas. It is important that SANParks prevent the movement of these infectious agents into neighbouring communities and from becoming more widely distributed within South Africa. SANParks also strives to establish, through co-operative governance, synergistic relationships with relevant individuals and agencies, to develop and implement the disease management policy. The aim of SANParks corporate policy on animal disease management is therefore to provide SANParks with guiding principles to:

- maintain the natural fluxes of endemic disease as a component of biodiversity
- where possible prevent the introduction and/or limit the impact of alien disease
- prevent the spread of disease from National Parks to neighbouring communities and their domestic livestock.

SANParks maintains the following principles in managing disease:

- **Disease status** – SANParks will establish an inventory of both endemic and alien diseases present within each National Park. A risk profile will be determined for diseases, endemic and alien, moving from within a National Park into the surrounding communities and visa versa.
- **Monitoring systems** – SANParks will develop monitoring systems for each National Park to detect the fluxes in endemic diseases (controlled and others), to prevent the introduction of alien diseases, to detect emerging diseases and to prevent the movement of disease into surrounding communities.
- **Spread of disease** – SANParks will develop policy and strategies to prevent the spread of disease from one National Park to another or to neighbouring communities through the translocation of wildlife or the movement of vehicles equipment and personnel.
- **Investigation** – SANParks will develop and implement investigation procedures for each National Park to determine increases in the occurrence of disease or a perceived increased disease risk.
- **Research** – SANParks will determine research priorities for each National Park for specific diseases depending on the threat they pose to biodiversity and surrounding communities.
- **Management or control strategies** – SANParks will develop contingency plans for each National Park to mitigate the effects of controlled diseases, alien diseases that have the potential to affect biodiversity, zoonotic diseases and emerging diseases.
- **Constituency building** – SANParks will establish for each National Park the required working and informal relationships with relevant persons, communities, farmers, politicians, Department of Agriculture (National and Provincial), Provincial Departments of Conservation, government departments, academic institutions and other relevant individuals and agencies required to develop and implement an effective and efficient disease management policy.



The following tables present an outline of planned management objectives, initiatives and budget:

Table 4a. Details of objectives and initiatives to address the disease management programme in Mokala National Park.

High Level objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Reconciling biodiversity with other interests: To ensure that the other aspects of SANParks operations (revenue generation including tourism, resource use, management activities etc.) & interactions with neighbours are informed & constrained by biodiversity, & particularly that the impacts of these activities are minimised.	Reconciling biodiversity with the interests of neighbours: To ensure that SANParks interactions with neighbours are informed & constrained by biodiversity, & where impacts on biodiversity are inevitable, that these impacts are managed & minimised	Disease management: To develop and implement the disease management policy.	Develop clearly defined strategies for managing disease within the Mokala NP.	√	√	√				H
			Clearly define responsibilities of relevant personnel involved in disease management & provide training.	√	√	√				H
			Clarify appropriate mechanisms for decision making & guidelines for those decisions.	√	√	√				H
			Establish contingency plans with clearly defined levels of authority to mitigate the effects of disease	√	√	√	√	√		H

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 4b below.

Table 4b. Proposed budget to achieve various initiatives for the disease management programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R25,000	R26,500	R28,090	R29,775	R31,561
Total secured budget	R0	R0	R0	R0	R0
Total unsecured budget	R25,000	R26,500	R28,090	R29,775	R31,561

The budget for this section will mainly be spent on training personnel involved in disease management and will be sourced from the Veterinary Wildlife budget. Disease management concerning animals breaking out of the park is covered under the damage causing animal programme.

3.1.6.2. Damage causing animal programme

The aim of the Damaging causing Animal Operational Guideline is to provide management guidelines that will enable park management to formulate standard operating procedures for damaging causing/problem animals in the context of each park and the objectives as stipulated for each park. The area surrounding Mokala NP is mainly utilised for game and agricultural livestock farming. It is thus a Park priority to minimise the potential of any economic losses being incurred by neighbours through damage causing animals resident in the Park. Mokala NP is also resident to valuable and rare species and from a management point of view it is important to manage these game accordingly.

The contingency plans include operational procedures for the escape of damaging causing animals without any damage to livestock, with damage caused to livestock, where human threat is present or disease affecting damaging causing animals. All control measure must conform to SANParks Standard Operating Procedures for Lethal Population Management and the Standard Operating Procedures for Capture Translocation and Maintenance in Holding Facilities of Wildlife. Where methodology needs to differ from the Standard Operating Procedures it should be submitted to SANParks Animal Use and Care Committee for approval. The guiding principals ensure that infrastructural designs, construction and maintenance are done in a manner that does not allow animals to

move through or over fences. All functional and effective fences where applicable, around tourism facilities, refuse sites, staff accommodation within the park as well as functional and effective internal and boundary fences should be maintained to prevent potential damaging causing animals or valuable biota to escape. Pro-active actions need to be taken to educate and sensitise all park staff, contractors and visitors on damaging causing/problem animal issues and how they can be of assistance in limiting problem animal management. The guiding principals undertake to inform and liaise with the provincial authorities, other government institutions and affected stakeholders regarding problem biota management and to formulate possible joint management actions. Damaging causing/problem animals are generally a man-induced problem and management actions should be focused on prevention rather than cure.

First management options should be non-lethal, with as little impact as possible on the natural environment, the use of minimum invasive methods and all control actions should conform to legal requirements for health and safety, the environment, agricultural, veterinary and provincial laws and regulations. Guidance may be given to livestock owners and improved methods of protecting stock from predation or crops from destruction may be given. Often it is certain individual animals that tend to developed habits that cause damage to properties/humans. In such cases control efforts should attempt to focus on those individuals. The translocation of damage causing animals is seldom justifiable and should be avoided. However each case should be evaluated on its own merits and all management decisions should be taken following the operational guidelines as set out for Mokala NP. The following tables present an outline of planned management objectives, initiatives and budget:



Table 5a. Details of objectives and initiatives to address the damage causing animal programme in Mokala National Park.

High Level objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
Reconciling biodiversity with other interests: To ensure that the other aspects of SANParks operations (revenue generation including tourism, resource use, management activities etc.) & interactions with neighbours are informed & constrained by biodiversity, & where impacts on biodiversity are inevitable, & particularly that the impacts of these activities are minimised.	Reconciling biodiversity with the interests of neighbours: To ensure that SANParks interactions with neighbours are informed & constrained by biodiversity, & where impacts on biodiversity are inevitable, that these impacts are managed & minimised.	Damage causing animals: In consultation with stakeholders, minimise negative outcomes resulting from human-animal conflicts while ensuring that actions are informed & constrained by biodiversity, & where impacts on biodiversity are inevitable, that these impacts are managed and minimised.	Contain damaging causing animals inside Mokala NP by doing regular fence patrols & maintenance	√	√	√	√	√	H
			Increase good neighbourliness by proactively engaged with the farming community	√	√	√	√	√	M
			Increase tourist awareness by proactively engaged with environmental awareness programmes	√	√	√	√	√	L

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 5b below.

Table 5b. Proposed budget to achieve various initiatives for the damage causing animal programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R28,000	R29,680	R31,460	R33,348	R35,349
Total secured budget	R12,000	R12,720	R13,483	R14,292	R15,149
Total unsecured budget	R16,000	R16,960	R17,977	R19,056	R20,200

Veterinary Wildlife Services will be approached for assistance regarding the unsecured funds. (For detailed programme refer to supporting document 4)

3.1.7. Species of Conservation Concern programme

The programme strives towards prevention of extinction within the Mokala NP of any species on the IUCN's global critically endangered or endangered species and to put in place appropriate monitoring and conservation efforts of other species of conservation concern. SANParks is required to protect and monitor the plant and species within the National Parks and the ecosystems they represent in the Republic of South Africa. Species under threat of extinction are listed by SANBI in the IUCN Red Data Lists. National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) also has regulations relating to listed threatened and protected species. SANParks Framework Draft for Species of Conservation Concern is designed to determine which species should be prioritized for monitoring and setting of thresholds (TPCs). Species of concern will be subjected to a relative ranking procedure according to pre-defined criteria and then classified into categories. This transparent, rational framework will enable categorization of species for monitoring and possible management attention in national parks. Availability of resources will influence the extent to which SANParks can and will entertain species-specific conservation efforts, and it is anticipated that a SANParks-wide evaluation is undertaken to prioritize corporate spending on species efforts. Species of conservation concern include red data species, protected species (under the *National Forest Act, 1998, Act No. 84 of 1998*) and species listed under Threatened or Protected Species (NEM: Biodiversity Act, 2004, Act No. 10 of 2004).

TOPS list for Mokala NP (NEM: Biodiversity Act, 2004, Act No. 10 of 2004)

Endangered
Mammals
Damaliscus lunatus (tsessebe);
Diceros bicornis (black rhinoceros)

Vulnerable
Mammals
Hippotragus equinus (roan antelope)

Protected species
Mammals
Ceratotherium simum (white rhinoceros);
Connochates gnou (black wildebeest)

Plants
Harpagophytum procumbens (devil's Claw);
Hoodia gordonii (ghaap)

Other species of special concern include *Acacia erioloba* (camel thorn); *Boscia albitrunca* (shepherd's tree) listed as the Protected Tree species under the *National Forest Act, 1998, Act No. 84 of 1998*.

The black rhinoceros is one of the vital attributes of Mokala NP that need additional management consideration. Ten percent (10%) of the black rhino population (*Diceros bicornis bicornis*) in South Africa occur in Mokala NP. Setting of TPC will be based on competition-induced injury and/or changes in competitive interactions of the black rhinos as the forewarning for mortalities which will have significant viability implications due to small population size and therefore increased risk of population extinction. Monitoring through incidental observations by rangers will be essential. Protected tree species such as *Acacia erioloba* could also be lost due to porcupine ring barking and groundwater effects (over-extraction). Monitoring programme and TPC to measure the loss of older *Acacia erioloba* coupled with a lack of recruitment (at different landscape position) or when a certain proportion of the population is not producing seeds for a number of years are required. The following tables present an outline of planned management objectives, initiatives and budget:



Table 6a. Details of objectives and initiatives to address the Species of Conservation Concern programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Representation & Persistence: To ensure Mokala NP conserves a representative sample of the region's ecological patterns, landscapes & processes in a contiguous arrangement by establishing a connected landscape, enabling natural variation in structure, function & composition over space & time.	Persistence: To manage the park to ensure the long term persistence of biodiversity processes, maintaining, understand and by mimicking these processes.	Species of conservation concern: To understand and maintain viable populations of species of conservation concern, according to a realistic framework of threat.	Inventorize fauna & flora and determine which species should be prioritized for setting of thresholds (TPCs) and implement a monitoring program.	√	√	√				H
			Meet SANParks' obligations in terms of international agreements and conventions governing rare and threatened biota such that species on the IUCN's globally critically endangered or endangered lists will receive attention.	√	√	√	√	√	H	

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 6b below. (For detailed programme refer to supporting document 5)

Table 6b. Proposed budget to achieve various initiatives for the Species of Conservation Concern programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R60,000	R63,600	R67,416	R71,460	R75,748
Total secured budget	R0	R0	R0	R0	R0
Total unsecured budget	R60,000	R63,600	R67,416	R71,460	R75,748

There are no funds allocated for species of conservation concern management in the Mokala NP budget. Some of the costs will be covered by Scientific Services and are basically for the annual census. Inventory of flora will be undertaken by the Bloemfontein Museum for the next three years.

3.1.8. Water management programme

The Riet River has already been heavily utilised by other water users within the catchments, and thus the integrity of this water resource is compromised. SANParks staff cannot exert direct management control over water quantity and quality impacts because these occur upstream and outside of Mokala NP. This operational plan thus ensures involvement and integration with DWAF's integrated water resource strategy for the region, aimed at balancing water resource protection with development needs. TPCs for monitoring water quantity and quality of the Riet River must align with Ecological Reserve determination processes and outputs for the Riet-Modder sub-catchments, and river health initiatives where feasible. Monitoring to assess effective implementation of environmental water requirements should be a priority. More immediate management action is required to restore natural functioning of ephemeral drainage features originating within Mokala NP itself, where anthropogenic influences have negatively impacted the system. Specifically, rehabilitation of earth dams and roads that affect water related biodiversity processes in the park need to be considered, taking into account the desired state of the park, and impacts on humans.

Groundwater

Mokala NP Park occurs in an area where groundwater is a scarce resource. The operational plan is aimed at ensuring that groundwater is sufficiently monitored and managed in order to provide water of a high quality for staff and tourist needs, as well as game, without compromising biodiversity and long-term sustainability of the resource. Monitoring of groundwater abstraction volumes and groundwater levels, especially at the four boreholes providing water for human needs, are identified as critically important and a suite of potential TPCs are suggested

Artificial Surface Water Provision

Large water-dependent herbivores that would have been transient in Mokala NP are now sedentary due to fencing prohibiting free resource-driven movement patterns. Consequently, approximately 27 boreholes and a number of earth dams are dotted across the Mokala NP landscape to provide surface water for these animals. This plan is cross-linked to the herbivore management programme as it provides some preliminary guidelines regarding artificial surface water provision sustaining large, water-dependent herbivores. The following tables present an outline of planned management objectives, initiatives and budget:

Table 7a. Details of objectives and initiatives to address the water management programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Representation & Persistence: To ensure Mokala NP conserves a representative sample of the region's ecological patterns, landscapes & processes in a contiguous arrangement by establishing a connected landscape, enabling natural variation in structure, function & composition over space & time.	Persistence: To manage the park to ensure the long term persistence of biodiversity processes, maintaining, understand and by mimicking these processes.	Water management: To reinstate, maintain and mimic the hydrological processes that are characteristic of the region (Riet River)	Obtain the Rapid Reserve determination report from the Resource Directed Measures Directorate of DWAF, access current environmental flow requirements for the Riet/Modder river system	√						H
			Integrate with DWAF river flow monitoring activities along the Riet/Modder rivers to audit against flow requirements (can form TPCs for river flow)	√	√	√	√	√	H	
			Follow up with DWAF on completion of the Comprehensive Reserve study on the Riet/Modder system (expected to be completed in April 2009)		√				H	
			Become involved with the Catchment Management Forum of the Riet/Modder sub-catchment. Take part in formulation of a Catchment Management Strategy, including derivation of water quality objectives (potential water quality TPCs)	√	√	√	√	√	M/H	

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
			Integrate with the National Aquatic Ecosystems Health Monitoring Programme (NAEHMP) initiatives in the region (to determine current river health (Ecostatus) of the Riet River)	√	√					M
		To reinstate, maintain and mimic the hydrological processes that are characteristic of the region (Ephemeral drainage feature)	1). Instigate research to understand impacts of removing earth dams and other impacting infrastructure related to hydrology of the ephemeral drainage feature	√	√					H
			2). Rehabilitate earth dams and other impacting infrastructure (linked to rehabilitation programme)			√	√			H
		To reinstate, maintain and mimic the hydrological processes that are characteristic of the region (groundwater)	Conduct a hydrocensus of boreholes in the park (in collaboration with the provincial office of DWAF)	√						H
			Use hydrocensus results (from above) to compile a groundwater management plan, including the development of specific TPCs		√					H
			Comply with legal requirements regarding water abstraction, sewage sites and waste sites (e.g. registering and licensing abstraction	√						H



High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
			boreholes and waste/sewage sites through DEAT/DWAF)						
			Monitor and closely document abstraction rates/volumes and resting groundwater levels from boreholes used for human needs and test against appropriate TPCs.	√	√	√	√	√	H
			Monitor and closely document resting groundwater levels from boreholes not used for human needs (and test against appropriate TPCs)		√	√	√	√	L/M
	People objective	Tourism and visitor experience	Monitor the quality of water abstracted for human use and ensure that it complies with SABS 241 standards	√	√	√	√	√	H

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 7b below. (For detailed programme refer to supporting document 6)

Table 7b. Propose budget to achieve various initiatives for the water management programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R30,000	R31,800	R33,708	R35,730	R37,873
Total secured budget	R30,000	R31,800	R33,708	R35,730	R37,873
Total unsecured budget	R0	R0	R0	R0	R0

3.1.9. Rehabilitation programme

Multitudes of environmental and historical factors simultaneously interact in causing land degradation. All these types of degradations require rehabilitation in order to restore some of the functions of the original pre-disturbed ecosystems and the historical or pre-existing ecosystems. There is also a need to rehabilitate unwanted structures and develop eradication strategy of extralimital species. Rehabilitation of degraded areas in national parks is in compliance with SANParks Coordinated Framework Policy, NEM: BA (Act No. 10 of 2004) and the Conservation of Agricultural Resource Act (CARA, Act No 43 of 1983).

Soil Erosion

Soil erosion in Mokala NP can be ascribed to a number of factors such as degradation of the plant cover and composition resulting from poor grazing practice, occurrence of highly erosive and shallow soils, arbitrarily positioned water points and trampling by animals. The area allocated to Mokala NP has a long history of farming practices leaving some sections of the veld denuded, through the effects of overgrazing. Rainfall also played an important role in both soil erosion and protective vegetation cover. An extreme rainfall event occurred in 1988 and the large floods which swept the area allocated to Mokala NP significantly contributed to the existence of gullies evident in the park. The immediate and most direct management action

required in the Mokala NP in connection with surface water flow is potential rehabilitation of the ephemeral drainage features and pans. There is a need to reinstate, maintain and mimic hydrological processes that are characteristic of the region. Based on research findings, removal of the earth dams may become necessary to restore natural hydrological functioning of this feature, linked to biodiversity processes. Further survey is required in order to map all degraded areas in the park and implement rehabilitation and restoration needs.

Soil erosion control measures

The proposed strategies for soil conservation in Mokala NP will be based mainly on covering the soil for protection from rain-drop impact, increasing the infiltration capacity of the soil, and increasing the infiltration capacity of the soil to reduce water runoff. The reduction of water runoff could increase the chance of vegetation re-establishment and minimize erosion problem.

Alien Biota

Fauna

Extralimital species found in Mokala NP include sable, nyala and waterbuck. These are indigenous species outside their natural distribution range and therefore potential impacts on the ecosystem need to be considered. Eradication strategies addressing extralimital species in Mokala NP will be developed with the next five years.



Flora

The Conservation of Agricultural Resource Act (Act No. 43 of 1983) previously classified problem plants into two groups – declared weeds and plant invaders. Regulation 15 and 16 under this Act, which concern problem plants, were amended in 2003 and categorises alien species into four groups, declared weed (Category 1 plants), plant invaders (Category 2 & 3 plants) and indicators of bush encroachment. The following are the declared weeds and invader plants identified in Mokala NP (CARA, Act 43 of 1983, regulation 15):

Category 1 plants (declared weeds): *Echinopsis spachiana* (Torch cactus/Orrelkaktus); *Opuntia ficus-indica* (Sweet prickly pear/Grootdoringturksvy); *Argemone mexicana* (yellow-flowered Mexican poppy/geelblom-bloudissel); *Datura stramonium* (common thorn apple/gewone stinkblaar); *Solanum elaeagnifolium* (silver-leaf bitter apple/satansbos)

Category 2 plants (declared invaders): *Atriplex nummularia* (old man saltbush); *Agave sisalana* (sisal); *Prosopis glandulosa* (honey mesquite); *Eucalyptus camaldulensis* (red river gum/rooibloekom)

Category 3 plants (declared invaders): *Atriplex lindleyi* (sponge-fruit saltbush/oumansout-bos); *Melia azedarach*. (seringa Persian lilac/maksering).

Opuntia ficus-indica is the most dominant alien species covering an area of approximately 121 ha. Other less abundant species include *Echinopsis spachiana* (24 ha) and *Prosopis glandulosa* (12 ha). Species such as *Schinus molle* (pepper tree/peperboom) also occur in the park and covers an area of approximately 31 ha. In totality, invasive alien plants cover an area of approximately 212 ha in Mokala NP, constituting only 1.08% of the total area.

The following are the declared indicators of bush encroachment in Mokala NP (CARA, Act 43 of 1983, regulation 16):

Acacia mellifera subsp. *detinens* (black thorn/swarthaak); *Acacia karroo* (sweet thorn/soetdoring); *Acacia tortilis* (umbrella thorn/haak-en-steek); *Grewia flava* (velvet raison/fluweelrosyntjie) and *Tarchonanthus camphorates* (camphor bush/vaalbos). Although these species occur in Mokala NP, there is currently no bush encroachment problem but monitoring will be put in place to monitor any change in vegetation structure and composition.

Invasive alien plants control and eradication strategy

The main aim of controlling alien invasive plant species is to reach a point where, ideally, the plants concerned do no longer occur in that particular area or, at least, where the plants can no longer grow, produce viable seeds or spores, coppice, sprout or produce root suckers, reproduce vegetatively, propagate themselves in any other way, or spread into other areas. Further research is required to obtain detailed plant checklist so as to determine the extent of infestation and any emerging invasive alien plants. One or a combination of the following control methods may be used for current species occurring in the park: uprooting, felling, cutting, burning, and treatment with registered herbicides. Repetitive follow-up actions will be mandatory until the required control has been achieved. The following tables present an outline of planned management objectives, initiatives and budget:

Table 8a. Details of objectives and initiatives to address the rehabilitation programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objective	Initiative	Time Frame (years)					Priority		
				1	2	3	4	5			
Pressure reduction: To reduce external pressures of inappropriate land use, illegal resources use & impacts of invasion of alien biota, to minimise the impact on, & maintain the integrity of indigenous biodiversity	Rehabilitation: To drive towards re-establishment of structure and function of degraded land that is incorporated into Mokala NP (including the restoration of key processes which support the long term persistence of biodiversity)	Alien removals: To drive towards re-establishment of structure and function of areas degraded by the impacts of alien biota, by controlling and where possible eliminating these species	Inventorize all alien biota & develop species control and eradication strategy.	√	√	√				H	
			Conduct riparian vegetation survey within Mokala NP along the Riet River to determine extent of alien plant invasion.				√	√	L/M		
			Integrate with the Working for Water Programme to compile a feasible management strategy to eradicate alien plants.	√	√	√	√	√	L/M		
		Soil erosion: To distinguish between natural and human-induced erosion and take appropriate action to curb unnatural erosion, particularly in sensitive areas	Identify, classify & map all types of erosion the Mokala NP	√	√	√				H	
				Infrastructure rehabilitation	Instigate research to understand impacts of removing earth dams and other impacting infrastructure (i.e., drinking troughs) related to hydrology of the ephemeral drainage feature.	√	√	√	√	√	M
					Rehabilitate redundant structures & waste site.		√	√	√	√	M
	Rehabilitate earth dams and other impacting infrastructure (dependant on impacts)		√	√	√	√	M				



In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 8b below.

Table 8b. Proposed budget to achieve various initiatives for rehabilitation programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R157,961	R136,440	R118,233	R102,887	R90,018
Total secured budget	R157,961	R0	R0	R0	R0
Total unsecured budget	R0	R136,440	R118,233	R102,887	R90,018

There is no funding available in the 2008/2009 park budget to implement any of the listed sub-objectives but the Extended Public Works Programme (EPWP) will cover costs for alien clearing and rehabilitation of redundant structures. (For detailed plan refer to supporting document 7).

3.1.10. Fire management programme

Lack of research pertaining to fire management in the area makes it difficult to put forward appropriate conservation objectives for fire management, and a priority should be to encourage further research on the role of fire in the area. Clause 34 of the National Veld and Forest Fire Act 101 of 1998 presumes negligence on the part of a land owner if a fire that started on his land crosses a boundary and causes damage to neighbouring property. The Act presumably obliges SANParks to make firebreaks. However, the maintenance of firebreaks is not the current practice in the area. To comply with this requirement of Act 101 in an arid region like Mokala NP has a number of major drawbacks:

- Given the generally low risk of fires the effort and expense of maintaining firebreaks is poorly justifiable.
- Maintenance of firebreaks could have numerous negative localized impacts, for example inducing erosion which is already a major problem in the "koppie" areas.

Proposed Objectives for Fire Management

The objectives need to reconcile considerations of biodiversity conservation with fire security. It is proposed that neighbours should be approached with a view to forming a Fire Protection Association (FPA) in terms of Act 101 of 1998. This association allows all land owners (especially those neighbouring each other) to set, prevent, predict, manage and extinguish veld fires by ensuring that park staff are sufficiently trained (lighting and monitoring) and adequately prepared (equipment), in compliance to the FPA rules and regulations. The

discussions within the Association should be held to restrict firebreaks to situations where they are unavoidable to mitigate risks to property. If considerations of fire security make it necessary to extensively curtail natural fires, experiments will be conducted with a view to develop an appropriate burning programme.

Research and monitoring

Due to the extremely low fire frequency in the park, all fires will be mapped from MODIS 250m satellite images. The one constraint to using the MODIS 250m resolution imagery to map the fires is that the satellite will not detect fires that are smaller than "two football fields". These smaller patches of fires are however ecologically important and it is recommended that these fires be mapped on the ground with the Cybertracker system.

Crucial information that is required from the Mokala NP manager/ranger is the following:

1. Start date of the fire
2. GPS co-ordinates of the ignition points or as many GPS co-ordinates of the fire as possible
3. The cause of the fire
4. The end date of the fire
5. Total hectares burned.

It is the responsibility of the Section ranger of the park to ensure that the information is collected, processed and distributed to the relevant departments. The following tables present an outline of planned management objectives and initiatives:

Table 9a. PDetails of objectives and initiatives to address the fire management programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Representation & Persistence: To ensure Mokala NP conserves a representative sample of the region's ecological patterns, landscapes & processes in a contiguous arrangement by establishing a connected landscape, enabling natural variation in structure, function & composition over space & time.	Persistence: To manage the park to ensure the long term persistence of biodiversity processes, maintaining, understand and by mimicking these processes.	Fire: To understand the role of fire (as agent of infrequent disturbance) & to ensure its appropriate use to mimic the role of fire as a natural process.	Become part of or establish a Fire Protection Association.	√						H
			Ensure that equipment is in good working order.	√		√		√		H
			Ensure that staff is adequately trained regarding fire fighting.	√		√		√		H



In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown Table 9b below. (For detailed programme refer to supporting document 8)

Table 9b. Proposed budget to achieve various initiatives for the fire management programme in the Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R10,000	R10,600	R11,236	R11,910	R12,524
Total secured budget	R10,000	R10,600	R11,236	R11,910	R12,524
Total unsecured budget	R0	R0	R0	R0	R0

3.2 HERITAGE CONSERVATION

3.2.1. Cultural heritage resource programme

In order to fully comply with all management requirements for cultural heritage resources in the park a number of initiatives have been planned and will be implemented within the next five years. SANParks legal obligations and management principles regarding cultural heritage resources are included in the *Cultural Heritage Cooperate Policy Statement*.

Mokala NP offers fantastic historical and cultural history. Certain archaeological sites were known to exist on the farms currently incorporated into the Mokala NP. One of the Doornlaagte rock engraving sites was published by G.J. and D. Fock in 1989. Two other engraving sites were examined during a visit to the erstwhile Wintershoek game farm in the 1990s. The rock art sites that have been located within the Mokala NP are all of undoubted scientific interest and significance and will be an important research resource in the broader regional perspective. The individual sites are worthy of detailed recording and analysis. Part of their significance may be in relation to a broader spread of such sites, perhaps particularly in relation to sites nearer to and at the Riet River. Virtually all the engravings conform to the "San tradition" of rock art, with very few 'geometric' images being present. The heritage traces recorded in this survey reflect the histories of successive groups who have lived in this landscape, predominantly Khoe-San, Griqua, and Boer farmers. The following tables present an outline of planned management objectives, initiatives and budget:

Table 10a. Details of objectives and initiatives to address the cultural heritage resource programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Attain leadership in cultural heritage management	To develop & monitor cultural resources use in Mokala NP	Cultural Heritage: Include information in the Cultural heritage data base through documentation of cultural heritage sites and associated oral histories and indigenous knowledge (tangible & intangible heritage)	Develop maps, record GPS coordinates and copies of tracing for rock art sites	√	√	√	√			H
			To formulate and implement a Cultural Heritage Management Plan (CHMP) for the National Park as soon as inventurisation is completed.	Asses significance of individual sites	√					L
			Assess rock art conservation status and needs	√					L	
			Assess the conservation status/issues/sensitivity of individual sites	√					L	
			Assess the potential utilisation of sites (current & future)	√					L	
			Stakeholder participation	√					L	
			Maintain an appropriate balance between natural and cultural heritage in all aspects of park management.	√					L	
			Allocate resources to implement the CHMP	√					L	
			To formulate and implement Cultural Heritage site Management Plan (HMP) for heritage sites that have been identified for educational and tourism purposes	Visitor control measures	√					L
			Information boards & signage	√					L	
			Conservation measures	√					L	
			Restore and maintain heritage buildings and monuments	√					L	
			Interpretation plan	√					L	
			Maintain the sense of place at archaeological sites	√					L	



High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
		Develop sites for cultural tourism and Education	Rock art site development for visitor access	√						L
		To regularly monitor cultural resources in the national park, in order to determine state or condition of resources, and to enable decision-making in terms of conservation measures or improved management.	Design and implement a Monitoring System for cultural resources as required by the management plan	√						M
			Compile status files for all sites with condition reporting forms and photos.	√						M
			Assess sites as highly sensitive, sensitive or stable and monitor accordingly	√						L
			Annotate files after each visit	√						L

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 10b.

Table 10b. Proposed budget to achieve various initiatives for the cultural heritage resource programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R200,000	R50,000	R53,000	R56,180	R59,550
Total secured budget	R0	R0	R0	R0	R0
Total unsecured budget	R200,000	R50,000	R53,000	R56,180	R59,550

There is no funding available in the 2008/2009 park budget to implement any of the listed sub-objectives and supporting initiatives. The People and Conservation Division will be approached for funding. (For detailed programme refer to supporting document 9)



3.3. SUSTAINABLE TOURISM

3.3.1. Mokala NP Zoning Plan

The primary objective of a park zoning plan is to establish a coherent spatial framework in and around a park to guide and co-ordinate conservation, tourism and visitor experience initiatives. A zoning plan plays an important role in minimizing conflicts between different users of a park by separating potentially conflicting activities such as game viewing and day-visitor picnic areas whilst ensuring that activities which do not conflict with the park's values and objectives (especially the conservation of the protected area's natural systems and its biodiversity) can continue in appropriate areas.

The zoning of Mokala NP was based on an analysis and mapping of the sensitivity and value (Appendix 2: Map 5) of a park's biophysical, heritage and scenic resources; an assessment of the regional context; and an assessment of the park's current and planned infrastructure and tourist routes/products; all interpreted in the context of park objectives.

Overview of the use zones of Mokala NP

The summary of the use zoning plan for Mokala NP is shown in (Appendix 2: Map 4). Full details of the use zones (including high resolution maps), the activities and facilities allowed in each zone, the conservation objectives of each zone, the zoning process, the Park Interface Zones (detailing park interaction with adjacent areas) and the underlying landscape analyses are included in Appendix 1: Mokala NP Zoning Plan.

Remote Zone: This is an area retaining an intrinsically wild appearance and character, or capable of being restored to such and which is undeveloped. There are no permanent improvements or any form of human habitation. Limited low specification management tracks (i.e. not built up roads) are acceptable within this zone, though these should be kept to a minimum. It provides outstanding opportunities for solitude, with awe inspiring natural characteristics with sight and sound of human habitation and activities barely discernable and at far distance. The conservation objectives for this zone require that deviation from a natural/pristine state should be minimized, and existing impacts should be reduced. The aesthetic/recreational objectives for the zone specify that activities which impact on the intrinsically wild appearance and character of the area, or which impact on the wilderness characteristics of the area (solitude, remoteness, wildness, serenity, peace etc) will not be tolerated. In Mokala NP, Remote areas were designated in the hilly/mountainous central and southern sections of the park. These areas contain most sites with high environmental sensitivity and value. Remote areas were also designated on the lowland plains both in the west and in the Vaalboschpan section. This was done to ensure that a variety of habitats were protected within the Remote Zone, as well as to ensure that sufficient lowland habitats were kept vehicle-free in order to promote "Wilderness-type" recreational activities.

Primitive Zone: The prime characteristic of the zone is the experience of wilderness qualities with access controlled in terms of numbers, frequency and size of groups. The zone shares the wilderness qualities of the Remote zone, but with limited access roads, trails and the potential for basic small-scale self-catering accommodation facilities such as a small bushcamp or "Botswana rooftop type" camping at designated but undeveloped sites. Views of human activities and development outside of the park may be visible from this zone. The conservation objectives for this zone require that deviation from a natural/pristine state should be small and limited to restricted impact footprints, and that existing impacts should be reduced. The aesthetic/recreational objectives for the zone specify that activities which impact on the intrinsically wild appearance and character of the area, or which impact on the wilderness characteristics of the area (solitude, remoteness, wildness, serenity, peace etc) should be restricted and impacts limited to the site of the facility. Ideally visitors should only be aware of the facility or infrastructure that they are using, and this infrastructure/facility should be designed to fit in with the environment within which it is located in order to avoid aesthetic impacts. In Mokala NP, Primitive areas were designated in vlake and pan areas around Vaalboschpan and west of Doornlaagte. A Primitive link was designated through the hills north of the main restcamp to allow management and controlled tourist 4x4 access to alternative route to the northern vlatkes. The relatively sensitive areas south of the main restcamp were also designated Primitive. In areas where Remote zones border on the park boundary, a 100m wide Primitive zone was designated to allow park management access to boundaries along constructed roads.

Low Intensity Leisure Zone: The underlying characteristic of this zone is motorized self-drive access with self-catering accommodation units in small basic camps without facilities such as shops and restaurants. Facilities along roads are limited to basic self-catering picnic sites with toilet facilities. The conservation objectives for this zone specify that although deviation from a natural/pristine state should be minimized and limited to restricted impact footprints as far as possible, it is accepted that some damage to the biophysical environment associated with tourist activities and facilities will be inevitable. The aesthetic/recreational objectives for the zone specify that although activities and facilities will impact on the wild appearance and reduction of the wilderness characteristics of the area (solitude, remoteness, wildness etc) is inevitable, these should be managed and limited to ensure that the area still provides a relatively natural outdoor experience. In the Mokala NP zonation scheme, two Low Intensity Leisure areas were designated in a large hilly area extending northwest from the main restcamp (accommodating existing and proposed camp and picnic sites) and in the vlake areas around Doornlaagte. In addition, a link between these two areas, as well as links to the main gate from the restcamp (and an adjacent tourist loop), to the airstrip at Strydam, and a possible linkage to Lilydale were accommo-

dated in this zone. The edges of the Low Intensity Leisure zones were defined in terms of landscape sensitivity and value (as well as topographic) constraints, with most high sensitivity landscapes being excluded from this zone.

High Intensity Leisure Zone: This zone is characterized by high density tourist development nodes with amenities such as shops, restaurants and interpretive centres. This is the zone where more concentrated human activities are allowed, and is accessible by motorized transport on high volume transport routes. The conservation objectives for this zone specify that the greatest level of deviation from deviation from a natural/pristine state is allowed in this zone, and, it is accepted that damage to the biophysical environment associated with tourist activities and facilities will be inevitable. However, care must be taken to ensure that the zone still retains a level of ecological integrity consistent with a protected area. The aesthetic/recreational objectives for the zone specify although the high visitor numbers, activities and facilities will impact on the wild appearance and reduction of the wilderness characteristics of the area (solitude, remoteness, wildness etc) is inevitable, these should be managed and limited to ensure that the area generally still provides a relatively natural outdoor experience. In Mokala NP, High intensity leisure areas were designated around the main restcamp and associated staff and management facilities, as well as the satellite rest camp at Goede Hoop. Areas with high environmental sensitivity were excluded from this zone.

Overview of the Special Management Overlays of Mokala NP
Special management overlays which designate specific areas of the park that require special management interventions still need to be identified for Mokala NP (possible areas include identifying rehabilitation areas especially along eroded drainage lines).

Overview of the Park Interface Zone of Mokala National Park
The Park Interface Zones shows the areas within which landuse changes could affect a national park. The zones, in combination with guidelines, serve as a basis for a) identifying the focus areas in which park management and scientists should respond to EIA's, b) helping to identify the sort of impacts that would be important at a particular site, and most importantly c) serving as the basis for integrating long term protection of a national park into the spatial development plans of municipalities (SDF/IDP) and other local authorities. In terms of EIA response, the zones serve largely to raise red-flags and do not remove the need for carefully considering the exact impact of a proposed development. In particular, they do not address activities with broad regional aesthetic or biodiversity impacts.

The Park Interface Zone for Mokala NP has two overlaying categories, namely priority natural areas, and a visual/aesthetic zone (Appendix 2: Map 6).



Priority Natural Areas: These are key areas for both pattern and process that are required for the long term persistence of biodiversity in and around the park. The zone also includes areas identified for future park expansion. Inappropriate development and negative land-use changes should be opposed in this area. Developments and activities should be restricted to sites that are already transformed. Only developments that contribute to ensuring conservation friendly land-use should be viewed favourably.

Viewshed Protection Areas: These are areas where development is likely to impact on the aesthetic quality of the visitor's experience in a park. Within these areas any development proposals should be carefully screened to ensure that they do not impact excessively on the aesthetics of the park. The areas identified are only broadly indicative of sensitive areas, as at a fine scale many areas within this zone would be perfectly suited for development. In addition, major projects with large scale regional impacts may have to be considered even if they are outside the Viewshed Protection Zone. Tables 11a&b present an outline of planned management objectives, initiatives and budget:

Table 11a. Details of objectives and initiatives to address the zonation programme in Mokala National Park

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Reconciling biodiversity with other interests: To ensure that the other aspects of SANParks operations & interactions with neighbours are informed & constrained by biodiversity, & particularly that the impacts of these activities are minimized.	Reconciling other park activities with biodiversity objectives: ensure that all aspects of SANParks operations (revenue generation including tourism, resource use, developments, management activities, etc.) are informed & constrained by biodiversity, & particularly that the impacts of these activities are minimised.	To establish a coherent spatial framework in and around a park to guide and co-ordinate conservation, tourism and visitor experience initiatives	Extend zonation to include Lilydale	√						H
			Upgrade the zonation to a Conservation Development Framework						√	H

Table 11b. Proposed budget to achieve various initiatives for the zonation programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R0	R0	R0	R0	R250,000
Total secured costs	R0	R0	R0	R0	R0
Total unsecured costs	R0	R0	R0	R0	R250,000

3.3.2. Tourism Programme

The coming into existence of the Mokala NP creates an opportunity to deploy the concept of *cultural landscape* as opposed to discrete heritage sites. Unquestionably, many (but not all) of the heritage resources highlighted in the Cultural Heritage Programme may be used in educational and tourism contexts. The vital tourism attributes for Mokala NP are the landscape beauty/aesthetic value (& associated photo opportunities); cultural and heritage attributes: presence of e.g. archaeological, rock paintings and battle sites; disease-free, esp. malaria; proximity to N12 tourism route and large airport; potential for diverse visitor activities based on a diverse attribute mix; the sense of place and the Camel thorn "mokala" icon. The vision of this plan is to create a major tourism destination in the Mokala NP region. It will be achieved through improved marketing and the development of high standard accommodation and diverse tourist activities. The growth of the park will ensure more tourist support in a diverse wilderness experience. This in turn will increase financial revenue which will augment a sustainable product. Mokala NP has three lodges (Mosu, Mofele and Lilydale) that can accommodate 104 guests. Haak-en-Steek cot-

tage can accommodate 4 guests and a camping site with 5 stands. The park also offers conference facilities at all three lodges that can accommodate 30, 30 and 40 guests respectively.

The current tourism profile is supported by the objectives set-out in the desired state and park objectives. This tourism plan does not only want to deliver customer service effectively, but attempts to include a more diversified product in line with the expansion plans of the park. The involvement of the communities in the Mokala NP tourism product will in future effectively increase SMME's and concessionaires participation (specifically like supply of fresh grown vegetables by the local community for restaurants). The growth of the park as a whole will also fit into the regional tourist expansion plans. It will also strive to change the existing guest profile to be more representative of South African society and attract international guests to the Northern Cape. Tables 12a&b present an outline of planned management objectives, initiatives and budget:

Table 12a. Details of objectives and initiatives to address the tourism programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority			
				1	2	3	4	5				
To become the nature based tourism destination of choice in the Northern Cape.	Objective 1: To link the nature based tourism to the opportunities associated with the expansion of the park and to capture its link to the unique spectrum of biodiversity landscapes associated with the Greater Kimberley area	1) Increased tourism awareness of park biodiversity assets. 2) Diversify tourism product based on the biodiversity assets.	Incorporate interesting/unique biodiversity assets into tourism product such as access to the previously privately owned areas (Plooyburg, Magersfontein etc.).	√						H		
	Objective 2: To upgrade and expand the infrastructure to enhance the visitor experience	1) Keep tourism standards as high as possible. 2) Be a top ecotourism destination	Create Day Visitors facilities and picnic areas in Mokala NP.	√							H	
			Upgrade the depilated cottage at Haak-en-Steek to a secluded luxury site.	√							H	
			Upgrade unit # 1 at Mosu Lodge for families and universal access.	√	√							H
			Build 6 new camp sites at Motswedi Camp and 10 luxury camp sites at Lilydale.			√						M
			5 Eco-camping sites (GPS co-ordinates to a tree, have to be fully self sufficient).				√					M
			Develop an 8-bed wilderness camp. Upgrade tourist gravel road inside Mokala NP.	√								H
			Establish main entrance gate for access control to Mokala NP.			√						M
			Have accommodation graded at three and four star grading.	√								H
Build tourist shop at Mosu Lodge (reception). Environmental Education centre.			√						H			
Upgrade Mofele Lodge			√						M			

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority				
				1	2	3	4	5					
	Objective 3: To expand the cultural heritage tourism initiatives*	Upgrade tourism product to include newly discovered cultural heritage sites and associated oral histories and indigenous knowledge (tangible and intangible heritage). - Involvement of stakeholders in the implementation process. - Maintain the sense of place at heritage sites. - Cultural tours inside and outside Mokala NP to i.e. Magersfontein	Train SANParks Mokala NP staff in wilderness and cultural tourism.	√							H		
			Implementation of a monitoring programme with which the future conservation and sustainable utilisation of the heritage resources can be maintained should be part of the cultural resource LLP.		√							M	
			Develop information boards and signage which allows interpretation of the specific cultural sites.	√									H
	Objective 4: To diversify, expand and develop the tourist product:*	* This objective links closely with the infrastructure LLP.	Develop a wedding venue with a chapel/s that blend in with the environment.			√						H	
			Provide a playground for children at Lilydale Lodge.			√							M
			To investigate the implementation of hunting opportunities. Various options exists that could be followed by SANParks that does not have to take place on proclaimed national park land. Trophy Hunting generates more than game sales and this could generate significant amounts of revenue.			√							L
			Develop working relations with concession partners in the community.			√							H
			Develop trails for tourists with physical				√						H

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
			Develop trails for tourists with physical or visual disabilities (Mosu Lodge).			√			H
			Initiate the full functioning of the conference facilities at the park.	√					H
			Introduce 4x4 trails.		√				M
			Introduce guided and non-guided horse trails.		√				M
			Introduce quad bike trails at Lilydale.		√				M
			Introduce guided mountain bike trails at Mosu and Mofele and self-guided mountain bike trails at Lilydale.	√					H
			Introduce guided hiking trails (one-night over-night back pack trails).		√				H
			Focus strongly on team building and workshop activities at Mofele and Lilydale.		√				H
			Present different theme nights at lodges.		√				M
			Combine ecotourism / activity packages i.e. afternoon guided mountain bike trail, bush braai, star gazing and guided night drive back to lodge.		√				M
			Introduce edutainment by Star gazing / Astronomy.	√					H
			Offer adventure activities, especially at Mofele and Lilydale.		√				M
			Offer wedding tourism packages.	√					H
			Offer conference tourism packages.	√					H
			Offer bush cuisine.	√					H
			Offer archery at old shooting range near Mosu Lodge as part of team building activities.		√				M
			Offer catch-and-release fly fishing at Lilydale.	√					H

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
			Offer canoe / inflatable trips on Riet River at Lilydale.	√					H
	Objective 5: To market Mokala NP effectively to increase the unit occupancy year on year.	Develop a marketing plan with regional marketing manager.	Conduct a comprehensive socio-economic study.	√					H
			Need to conduct marketing research to determine primary- and secondary markets.	√					H
			Conduct regular marketing surveys.	√		√	√	√	H
			Display information on geological, archaeological, fauna and flora at specific locations in the park for educational purposes.	√					M
			Promote this park together with two clusters, first with the Arid cluster and second with the Frontier cluster.	√					H
			Become involved in local and regional tourism initiatives.	√					H
			Develop proper marketing material.	√					H
			Commission a market need analysis to strengthen the tourism plan.	√					H
			Marketing to the local cultural group and people with disabilities. The primary markets, however, are Northern Cape, Western Cape and Gauteng. Secondary markets are the remaining six provinces.	√					H
			Provide a quality detailed map of the park to visitors.	√					H
			Become more involved in regional tourism activities and organisations that include municipalities and private sector initiatives.	√					H

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown Table 12b below. (For detailed programme refer to supporting document 10)

Table 12b. Proposed budget to achieve various initiatives for tourism programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R3,395,432	R3,667,066	R3,960,431	R4,277,266	R4,619,447
Total secured budget	R2,553,000	R2,757,240	R2,977,819	R3,216,045	R3,473,330
Total unsecured budget	R842,432	R909,826	R 982,612	R1,061,221	R1,146,117

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
			between the Kgalagadi, Richtersveld, Namaqua and Augrabies National Parks as a tourism route.							
			Hand out free pamphlets and brochures on general information concerning the park as well as directions to the park.	√						H
			Appoint a marketing officer conference coordinator to provide general information, such as tariffs, accommodation units and activities and plan conferences.		√					H
			Develop sky atlases and displays, given the general clear skies.		√					M
	Objective 6: To enhance the quality of service through targeted training	Do a Training Needs analyses	Perform tourism surveys to verify customer satisfaction.		√					H
Train staff to use the Room Seeker reservation system effectively.			√						H	
Train staff on aspects of marketing, which include knowledge of their role in conservation.			√						H	
To appoint staff that has sufficient knowledge and experience to implement this model.			√						H	
To train staff in Hospitality, House keeping, Room Seeker, First aid / Safety, Environmental awareness, Marketing, Computer literacy, Field guiding, and Food & Beverage (hosting).			√						H	

3.4. BUILDING COOPERATION AND CONSTITUENCY

3.4.1. Stakeholder relationship management programme

Statement of Intent

The People and Conservation Department (P&C) of the Mokala NP has already started to engage itself with various governmental and non-governmental departments. This positive cooperation will build bridges, enhancing a people-friendly Park. Not only is the conservational ethic strengthened by interactions, meetings and events, but also through commitment of both parties to achieve a common goal of having a park which represent all people of South Africa.

General Stakeholders

General stakeholder participation from P&C involves the following: The Department of Environmental Affairs and Tourism (DEAT), Department of Tourism, Environment and Conservation (DTEC), Department of Labour, Department of Education (DoE), Department of Agriculture, Department of Health, Department of Water Affairs and Forestry (DWAF), Tourism, Hospitality, Education and Training Authority (THETA), South African Police Services (SAPS), Local Municipalities – Thembelihle, Siyancuma, Sol Plaatjie, Litsineng, and Pixley ka Seme District Municipalities, Local Department of Justice, Local Department of Social Development the Regional Human Rights Commission, Northern Cape Environmental Education Forum, Youth Against Crime (SAPS), South African First Indigenous and Human Rights Organisation, SARHA, WESSA. These stakeholders are involved in many celebrations and in enhancing cooperation between the Park and the people living in the area. Current local suppliers such as Jacobsdal GWK, and other interested businesses, also in the neighbouring communities, are all involved in supplying the Mokala NP with their goods.

Communities

The Park Forum will be established as the result of the park management plan and desired state processes and will consist of community members and a representative of many stakeholders in the area. Meetings will be held quarterly in a year. A general good relation with the local government in terms of

public participation has to be improved and the Mokala NP has to be represented on the (Pixley ka Seme) Municipality Forum or council. Local government and municipal representation has to be part of the Park Forum, Park Advisory Forum and Infrastructure projects. Mokala NP will like to host and co-plan joint projects/events especially by commemorating special calendar days (Abor Day, Youth Day, SANParks Week, etc.) via the community development workers, the local councillor and the communication forum. An Advisory Forum has to be established with regards to the Poverty Relief Project. Community organisations act as stakeholders and involve the Local communities' youth groups, elderly groups, women's groups, HIV/Aids oriented groups, church groups, political parties and the 'Youth against crime' (SAPS), with the common goal of establishing a network with various organisations and Departments to address and counteract problems collectively. The Park, and especially the P&C Department, experiences a very good, willingness and positive relationship with its neighbouring schools, including primary, secondary. Tertiary institutions and colleges must also form part of the parks Environmental Education. No co-management agreements are currently in existence with any of the communities.

Stakeholders

The main international stakeholders identified are the Global Vision International (GVI). GVI contributes mainly as an add-on to the human resources of the Park by providing international members for a year, mainly to assist in P&C Park activities although not active presently due to accommodation constraints. Provincial Government Departments are involved via partnerships with various Northern Cape Departments such as the Department of Tourism, Environment and Conservation, DWAF, the Department of Education Support Services in the staging of special day commemorations with the Provincial Public Protector, GCIS, local Department of Justice, local Department of Social Development and the Police Services at least once a year. Links with tourist associations like NOCCI, Kimberley Guest House Association, and the Northern Cape Tourism Authority exist. Tables 13a&b present an outline of planned management objectives, initiatives and budget:

Table 13a. Details of objectives and initiatives to address the stakeholder relationship management programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
To be the Custodian of Choice for Protected Area Management	To establish & maintain good relationship with all relevant stakeholders.	To ensure that communication with the park and government entities are improved.	Engage the park with government initiatives in support of poverty alleviation and community development.	√	√	√	√	√	H
			Develop a joint Memorandum of Understanding with the government and other stakeholders.	√					L
		To establish a meaningful and beneficial relationships with a wide range of stakeholders	Establish an effective park forum which will facilitate the transfer of messages and ideas.	√	√				H
			Develop ways of communication between the park and the communities for support of local procurement e.g. community forums or echo-clubs.	√		√	√	√	M
			Quarterly forum meetings with stakeholders to improve communication.	√	√	√	√	√	H
			Engage the park in partnership with the farmers union and farmers who are not part of the union who are neighbouring the park	√	√				L

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
		To play a significant role in supporting local economic development, economic empowerment and social development in neighbouring communities.	To contribute to local skills development by supporting learnerships, implementing needs related training programmes and by forming the foundation for business opportunities.	√	√	√	√	√	H
			Contribute to the creation of job opportunities and entrepreneurial opportunities for local communities.		√	√	√	√	L
			Identify and implement community projects which will help on economic development of the local communities.		√	√	√	√	H
			Support training initiatives which develop capacity and skills in local communities to provide services to the park.		√	√	√	√	H
			Provide support to training initiatives by other agencies to provide training to members of the community to become independent business or to secure employment in conservation, service provision, research and eco-tourism.		√	√	√	√	H
			Integrate park into local and regional poverty alleviation project and initiatives such	√	√	√	√	√	H



High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
			as WFW and EPWP.						
			Identify opportunities for outsource to PDI and SMME's		√	√	√	√	M

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown Table 13b below.

Table 13b. Proposed budget to achieve various initiatives for the stakeholder relationship management programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R63,000	R40,000	R21,200	R21,320	R21,448
Total secured budget	R40,000	R0	R0	R0	R0
Total unsecured budget	R23,000	R40,000	R21,200	R21,320	R21,448

There is not enough funding available in the 2008/2009 park budget to implement all of the listed sub-objectives and supporting initiatives. The total secured cost will solely be used for the establishment of the park forum. If no other funding can be secured from the Corporate People and Conservation department, most of the initiatives will not be executed. (For detailed programme refer to supporting document 11)

3.4.2. Environmental interpretation education programme

School and community interactions take place continuously and at various levels. Get to Know Your Park Campaign deals with all groups (schools and adults) visiting the Park for the first time and requesting an Environmental Education programme. These groups not only include local community school groups, but schools and groups from the Kimberley and other provinces. Environmental educational information is provided as far as possible on the Park with focus on the physical experience.

The park will hosts numerous environmental campaigns in commemorating environmental calendar days like National Water Week, World Environment Week, Arbor Week, World Aids Day annually as well as environmental competitions like the Marula kids competition (an annual competition hosted by SANParks P&C Head Office). All Primary Schools situated within a radius of +/- 100 km of the park are invited to participate. There is currently no community engagement on the youth, women and/or elderly groups where programmes are jointly hosted. The People and Conservation Division will liaise with relevant stakeholders from government as well as non-government agencies in jointly presenting programmes on national events on these environmental calendar days. Programmes will mainly be held in the park in order to enhance park visits but also at venues within the communities with the focus on taking the park to the community. The Mokala NP will support the enhancement of Outcomes-Based Education. The People and Conservation staff is committed to invest in the development of an environmentally friendly ethic established in the youth. Projects include the launching of Eco Clubs in conjunction with Department of Tourism, Environment and Conservation and the proposed establishing of Junior Honorary Rangers in conjunction with the Honorary Rangers who are currently working on such a programme. To complement and support these education and awareness programs, the Park/People and Conservation department will develops and maintains resource materials, tools and kits, supports teacher programs, develops information resources such as booklets, slide shows, DVD's, pamphlets and develops and maintains interpretive displays and signage.

Monitoring

External evaluation of EIE programmes presented in the park will be done by means of evaluation feedback forms that will be supplied to all groups. Internal monitoring will be done by feedback to the Park Manager during weekly staff meetings, where problems and suggestions on programmes will be discussed and reviewed.

Indigenous knowledge outreach programmes

Artefacts in the Mokala NP area are to be interpreted with the help of specialist from McGregor Museum and the communities. This will help to unlock the mystery of the uses of some of the artefacts so that they could be appreciated not just as items to be catalogued but as pieces of living history. People of the communities, especially the older ones, will be asked to share their indigenous knowledge regarding the origin and use of some cultural artefacts by a specialist to help record and bring to life their past. This interaction also will bring folk in touch with their old environment that has been forgotten and lost with modern lifestyles.

Teacher development

Teacher development, e.g. OBE enhancement programmes, linking curriculum with biodiversity conservation and Park resources will be developed.

SANParks staff

Staff awareness about various issues of life, e.g. Social wellness, HIV/AIDS, Skills development, Physical health and Sports are done to staff and their families from time to time. A holiday programme for staff children includes guided walks, interpretive talks, slide shows, and guided drives in the Park will be implemented.

Research and monitoring

More research will be done on indigenous knowledge and how it could contribute to the Park activities and Environmental Education. Increased capacity building amongst our local youth regarding their future career involvement in parks will take place. Both external and internal monitoring and evaluation is encouraged. Tables 14a&b present an outline of planned management objectives, initiatives and budget:

Table 14a. Details of objectives and initiatives to address the environmental interpretation education programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
To Contribute to Local Educational Development	To establishment the Environmental Education programmes of a high quality standard that cater for various groups and categories	Develop and implement an effective environmental education and awareness strategy linking to NRNCS	Develop educational and interpretative programmes for the park that includes target recipients, community profile, strategic options, access to the park, outreach, partnerships, educational themes, resource requirement, infrastructure requirements, and staff requirements	√	√					H
			Ensure that any visitor facilities developed in the park are used as sites for experiential learning and integrated to interpretative opportunities.	√	√	√	√	√	M	
			Develop links with regional and local environmental education networks to facilitate the development of education programmes in the park	√	√				H	
			Collect material resources that will help on the development of EE programmes and activities.	√	√	√	√		H	
			Build a constituency for conservation among teachers, make use of networks and reach out schools which are unable to visit the park due to financial constrains.		√				L	
			Build an Environmental and information centre to facilitate EE programmes in the park.		√				H	
			Work with established NCEE forum to coordinate EE learning in the park.	√	√	√	√	√	H	

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
			Develop partnerships with local schools and liaise with local schools and teachers through regular meetings.	√	√	√	√	√		H
			Establish extension programmes to local schools and maintain flexible, pre-packaged OBE resource materials which are linked to the curriculum.	√	√	√	√	√		H
		Identify and develop cultural heritage resource for EIE processes	Source internal or external expertise to assist with the development of a Cultural Resource Programme.	√	√					H
			Identify and integrate the development of education and interpretation facilities and material on cultural heritage resources into any educational, training and interpretation programmes developed by the park.		√	√				H
			Develop guidelines for cultural interpretation and indigenous knowledge in EIE programmes.	√	√					H
			Working with cultural heritage authorities on implementing of heritage resources into the activities within the park.	√	√	√	√	√		H

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 14b below.

Table 14b. Proposed budget to achieve various initiatives for the environmental interpretation education programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R41,500	R31,500	R21,624	R22,922	R24,297
Total secured budget	R20,400	R0	R0	R0	R0
Total unsecured budget	R21,100	R31,500	R21,624	R22,922	R24,297



There is not enough funding available in the 2008/2009 park budget to implement all of the listed sub-objectives and supporting initiatives. All of the above infrastructure initiatives are reliant on the availability of funds from EPWP or Infrastructure development. If no funds are received from these two sources, then none of the infrastructure initiatives will be executed. The People and Conservation Division will allocate budgets for the following years. (For detailed programme refer to supporting document 12)

3.4.3. Local socio-economic programme

The programme focuses on contributing towards local economic development, economic empowerment and social development in communities and neighbouring areas adjacent to the park. This is achieved through partnership with Local Government (Integrated Development Plans), participate in Government Programmes (WfW, EPWP, etc.) to contribute to local skills development by supporting learnerships, implementing needs related training programmes and by creating business opportunities.

The park currently provides opportunities for EPWP (Extended Public Works Programme) projects and works together with EPWP implementers from the planning stage to implementation to ensure the goals of EPWP are met. However, not many activities regarding local socio-economic development are being implemented within the Mokala NP at present. There will be more projects such as staff and tourist infrastructure construction to be done in future, as funds become available from DEAT. This will be properly communicated and addressed. Within the management of one of the corporate goals of constituency building, several efforts and attempts should be made in order to support this important function. In terms of the EPWP that include the variety of Poverty Relief Projects, the stringent requirements set by the government should meticulously be followed in order to benefit the target groups of the communities who are in need. Training during these projects should also be regarded as an important component for the sake of capacitating the participants for further development and employment e.g. SMME's. Exit strategies and opportunities for employees on the EPWP'S should be communicated and orchestrated wherever opportunities are anticipated and arise. Training opportunities for employees, un-employed community members, as well as members of SSME'S should be negotiated and researched where possible. Tables 15a&b present an outline of planned management objectives, initiatives and budget:

Table 15a. Details of objectives and initiatives to address the local socio-economic programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
To contribute to the local Socio-Economic Development	To obtain a good level of public interest and socio development.	Establish a joint working relationship with national and provincial government	Participating in Government Programmes (WfW, EPWP, etc.)	√	√	√	√	√	H
			Contribute to local skills development by supporting learnerships, implementing needs related training programmes and by forming the foundation for business opportunities.	√	√	√	√	√	H
			Partnering with Local Government to form part of the Integrated Development Plans (IDP's).	√	√	√			H
		Play a significant role in supporting local economic development, economic empowerment and social development in neighbouring communities.	Contribute to local skills development by supporting learnerships, implementing needs related training programmes and by forming the foundation for business opportunities.	√	√	√	√	√	M
			Contribute to the creation of job opportunities and entrepreneurial opportunities for local communities.		√	√	√	√	L
			Support training initiatives which develop capacity and skills in local communities to provide services to the park.	√	√	√	√	√	H
		Integrate park into local and regional poverty alleviation project and initiatives such as WfW and EPWP.		√	√	√	√	√	H
			- Identify opportunities for outsource to PDI and SMME's	√	√	√	√	√	L

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 15b below. (For detailed programme refer to supporting document 13)

Table 15b. Proposed budget to achieve various initiatives for the local socio-economic programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R10,000	R40,000	R10,600	R11,236	R11,910
Total secured budget	R10,000	R0	R0	R0	R0
Total unsecured budget	R0	R40,000	R10,600	R11,236	R11,910



3.5. EFFECTIVE PARK MANAGEMENT

3.5.1. Environmental management programme (includes waste, energy, water, NEMA compliance)

Statement of Intent

Developments, activities and operational issues in Mokala NP are currently governed by SANParks conservation values and discipline principles, policies and standard practices. At present the park does not have a specific environmental programme to address the overall requirements of implementing the SANParks policies. However, it is Mokala NP's intent to detail the needs and requirements for establishing the appropriate environmental management approaches for developments, activities and operational issues within the park in the next 5 year period. The following table presents an outline of planned management objectives, initiatives and budget:

Table 16. Details of objectives and initiatives to address the environmental management programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objective	Initiative
Reconciling biodiversity with other interests: To ensure that the other aspects of SANParks operations & interactions with neighbours are informed & constrained by biodiversity, & particularly that the impacts of these activities are minimized.	Reconciling other Park activities with biodiversity objectives: To ensure that non-biodiversity management aspects of SANParks operations (revenue generation including tourism, resource use, developments, and management activities, amongst others) are informed and constrained by biodiversity conservation objectives, and that the impacts of these activities on biodiversity are minimised.	Internal developments: Minimise the impacts associated with the development of tourism and Park management infrastructure, and ensure that such developments do not compromise biodiversity objectives.	1) Ensure that developments are in accordance with the EIA process (NEMA) and corporate policies 2) Determine tourism carrying capacities 3) Implement green standards and environmental best practice based on corporate policy.
		Internal activities: Minimise the impacts associated with tourism and Park management activities, and ensure that such activities do not compromise biodiversity objectives.	1) Implement green standards and environmental best practice based on corporate policy.
		External developments: Minimise the impacts associated with inappropriate developments outside the Park.	1) Engage with regional land management authorities, including IDPs and SDFs 2) Provide input into EIAs for external threatening developments. 3) Ensure that external developments are not visually obtrusive or out of character with the Park.

3.5.2. Security and Safety Programme

The objectives of safety and security plan is to ensure that effective visitor safety measures are in place, and that tourist perceptions are managed in order to protect the brand and reputation of SANParks and SA Tourism Industry at large.

Context

The main section of the park currently has a boundary fence line of approximately 103 km's including the breeding camp. The Lilydale section has a fence line of approximately 24 km's and the Graspan section has boundary fence line of about 33 km's. Most potential threats are linked to other illegal activities in and around the park, including illegal entry/ trespassing, illegal hunting, collecting reptiles, invertebrate fauna or plants, illegal resource use etc. Daily park activities that are implemented to mitigate these activities form an important part of this plan.

Equipment

All personnel must be equipped in terms of Occupational Health and Safety requirements. Equipment for dealing with medical incidents / emergencies must be maintained and available in all relevant areas of the workplace such as restaurant/kitchen, reception, rangers' store, technical store and each vehicle. Conservation personnel who are responsible for area coverage throughout the park should be issued fire arms and comply with the Firearms Act. The following equipments are also required: camping equipment for extended patrols, uniforms, bullet proof vests, velcro belt, teargas, baton, handcuffs, rain suit, backpack, torch and water bottle.

EMI (Environmental Management Inspector) roll out

All conservation staff in duties and powers of an EMI needs to be trained to the level of their relevant grade and implement enforcement and compliance in terms of EMI powers.

The Collection of Information

- Utilise internal and external information sources such as CIS, SAPS, SANDF, other conservation and law enforcement agencies and NGO's.
- Utilise informer network in neighbouring communities.
- Create detailed patrol reports – including spoor and terrain conditions.
- Improve information from patrol observation skills and awareness of team.
- Gather information from liaising with all relevant park users and neighbouring communities.
- Utilise observation and listening posts.

- Implement the use of pocket books (EMI requirement) and Cyber Trackers wherever possible.

Threat analysis –strategic intent

The threat analysis includes a comprehensive analysis of the actual and perceived threats to the environmental, visitor, staff and infrastructure security. Based on available Intelligence, certain activities, areas and individuals will be identified as being at risk of criminal attacks and other dangers posed to tourists. Dangers must be prioritised in terms of the real threat to individual visitors and staff, as well as the threat to the SANParks brand.

Monitoring and evaluation

The strategic and operational plan needs to be continuously developed and changed according to feedback from monitoring and evaluation. Indicators are not yet adequately developed but would include a measure, number of violent and non-violent attacks per year, incident records, and tourism perception indicators such as positive and negative media measures. A High Level Visitor Safety Forum must be implemented and should hold two meetings per year to monitor the progress and implementation of the Visitor Safety Plan. Smaller committees should meet more regularly to ensure implementation and sustainability and report back to high-level meetings.

Risks

The Primary areas at risk are rest camp, reception, park entrance gate and all outside posts. Secondary areas at risk are staff village and work areas (e.g., workshop, refuse site). Persons at risk are visitors alone in secluded areas, individuals walking alone after dark, tourists with expensive cameras and equipment, elderly persons, personnel on patrol, personnel at observation posts and park informers. Cash handling points at risk are rest camp reception, restaurant at rest camp and administrative office in the rest camp main building. Available resources should therefore be focused primarily on these high-risk areas. One of the main actions to manage the movement of criminal elements in the park is to manage the visitor gateways in high-risk areas. This would take the form of vehicular gateway management. At the park's main visitor entrance point, access control works on a two way radio system whereby reception opens the gate for visitors via radio signal. The risk factor involved with this is extremely high as the staff has no idea of the risk involved in allowing unwanted elements. The building of a proper gate control access point is of critical importance to enable park staff to access possible safety and security situations. Table 17a&b presents an outline of planned management objectives, initiatives and budget:



Table 17a. Details of objectives and initiatives to address the security and safety programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority	
				1	2	3	4	5		
Pressure reduction: To reduce external pressures of inappropriate land use, illegal resources use & impacts of invasion of alien biota, to minimise the impact on, & maintain the integrity of indigenous biodiversity	Create & maintain a safe & secure environment in and around the park	Ensuring visitor safety	Ensuring visitor safety by implementing measures of control	√	√	√	√	√	H	
			Gathering and processing of information	√	√	√	√	√	H	
			Regular analysis of gathered information	√	√	√	√	√	H	
		Execution of law enforcement actions	Ensure that conservation staff undergoes training to qualify as EMI's.	√		√		√		H
			Continuous training of all staff in terms of vigilance.	√	√	√	√	√		M
			Continuous training of conservation staff in terms of law enforcement and first aid.	√	√	√	√	√		H
			Increase intensity of day and night patrols.	√	√	√	√	√		H
		Ensure secure keeping and safe transit of cash.	Supply sufficient equipment to conservation staff to perform their duties as requested.	√		√		√		M
			Ensure that money is kept at secure place in park before banking.	√		√		√		H
		Train personnel adequately in vigilance during cash transit.	√		√		√			H
Appointment of gate personnel to perform gate control	√							H		

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 17b below.

Table 17b. Proposed budget to achieve various initiatives for the security and safety programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total program costs	R420,000	R445,200	R471,912	R500,225	R530,239
Total secured budget	R370,000	R392,200	R415,732	R440,675	R467,116
Total unsecured budget	R50,000	R53,000	R56,180	R59,550	R63,123

The unsecured funding is mostly needed for equipment to be used for law enforcement actions and equipment. If funding can not be secured, planned vehicles and foot patrols will have to be reduced. (For detailed programme refer to supporting document 14)

3.5.3. Infrastructure Programme

The plan addresses a number of strategic considerations including the guiding principles or constraints that need to be taken into account with respect to all developments within the Mokala NP (Appendix 2: Map 7). A phased approach to the development of visitor infrastructure aims to provide a balanced range of facilities and opportunities for both local community and foreign tourists who are compatible with the Park sensitivity analysis and zonation. Additionally, this plan seeks to provide and maintain facilities required for cost effective management in a manner compatible with the Mokala NP conservation development framework and desired state for the Park. Future development of the Park details the building of ablution facilities and extra offices at reception, the establishment of two picnic sites and a camping site, the construction of entrance gates, the construction of additional self catering units, staff accommodation and upgrading of existing facilities. A number of new developments are proposed in order to provide a balanced range of facilities and opportunities for both local community and foreign tourists while promoting visitor experiences which take into account established business interests in the district. The requirements of management with respect to access to the Park estate and ensuring the integrity of the Parks boundaries are also provided for. Finally the plan details the rehabilitation and decommissioning requirements of the Mokala NP with respect to unwanted infrastructures in the Park that are related to past agricultural use of the area. Although the acquisition of additional property to expand the Park is difficult to plan for, a budget for all of the above-mentioned infrastructural requirements needs to be compiled.

Description of Current Structure

a. Tourism Infrastructure

- Mosu Lodge
- Mofele Lodge
- Haak and Steek Camp
- Lilydale Lodge
- Tourist roads network

b. Management and Support Infrastructure

- Park Administration Offices
- Staff Accommodation
- Management Roads
- Fences
- Bulk Services

Visitor Infrastructure

The rationale behind the development of visitor infrastructure is that the present facilities at Mosu and Mofele do not cater for the traditional SANParks visitor and are inadequate in relation to the balance between the potential of the area and needs of visitors to the Park. Contract research or visitor sample surveys will be required to determine needs and visitor satisfaction within the various market segments, as well as costs and benefits of project proposals. Impact of tourist developments will have to be monitored.

Management infrastructure:

The development and maintenance of facilities including buildings, fences, roads and pumps, etc required for the effective management of the Mokala NP is unavoidable. This plan seeks to provide and maintain the minimum of facilities required for effective management in a manner compatible with the Mokala NP conservation development framework and desired state of the Park. Basic research to determine development or maintenance costs in relation to service by outside agencies will be carried out on a project basis. Monitoring will focus on maintenance costs and condition of infrastructure and equipment.

Future developments

Future developments entail a proposal to change the existing Duty Manager's house into additional rooms to accommodate school groups. Haak and Steek cottage also need to be upgraded and the lapa at Mosu and Mofele cottage are constructed. The Mokala NP also currently has a limited number of self catering facilities and there is a need to develop some new self catering units at Mosu Lodge. The development of a five unit wilderness camp (the first of perhaps a few) may be seen as an attempt to diversify the income streams of the park and improve our income to cost ratio, while providing for a specific niche in the market of local tourism options. There are currently no ablution facilities for guests arriving at the reception and this need to be



addressed. Offices for Section Ranger and P&C officer also need to be constructed as there are no adequate offices at present. Alternate sites for staff village also need to be investigated as the park is expanding and the appointment of staff to perform management duties is being jeopardized due to the fact that there is not enough accommodation for the staff. There is also a need for research house and the plan is to upgrade one of the old farm worker houses at Doornlaagte. Other important future developments include development of education centre for establishment of education centre, visitor centre and establishment of camping sites and picnic sites.

The Game Viewing roads of the Mokala NP leads through almost all spectra of what the park can offer but unfortunately a lot of these roads become inaccessible after just a few millimetres of rain. It is therefore absolute imperative that the 55 km road surface that we currently have in the park be gravelled. The need for a 4x4 route over the mountain also needs to be investigated. The proposal to build a few game viewing hides on the ground dam walls in the drainage system of the park should be investigated. The current game fence line is not in good condition and need to be upgraded to National Parks and Provincial standards with the use of funding from the EPWP. Should it be viable to introduce predators like cheetah it will be absolutely imperative to erect a new predator proof fence.

Quarries and waste site

Mokala NP currently has 4 quarries that we used in the past. The viability of these should be investigated and registered as there will be a need to use gravel for the maintenance of the internal. The current waste site was inherited and consists of an open trench of about 30m x 2m. As and when waste is collected from the lodges it is transported to the site with a tractor or bakkies and dumped. A proper waste management program (including recycling) will have to be developed as soon as possible as to ensure minimum impact.

Entrance Gate(s)

There is currently no control over guests coming into or leaving the park as the current Mokala NP gate is opened remotely by radio from the reception or from a dedicated vehicle and / or handset radios. The ideal will be the appointment of at least two gate guards but this can only happen once a proper infrastructure at the gate (Gate house and ablution) is in place. Rangers are currently used in cases of emergencies such as gate system breakdown, or over weekend. With the expansion of the park there will be a need to make a clear decision on where the entrance gate should be situated. Tables 18a&b present an outline of planned management objectives and initiatives:

Table 18a. Details of objectives and initiatives to address the infrastructure programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority		
				1	2	3	4	5			
To become the Nature Based Tourism destination of choice in the Northern Cape	To develop, manage & enhance a range of sustainable tourism products	Major upgrades of existing tourism facilities	Additional rooms at Mofele Lodge			√				H	
			Upgrade of Haak & Steek Cottage		√					H	
		New infrastructure development	Office block for Section Ranger, P&C and Duty Manager	√							H
			Ablution facilities for guests at reception	√							H
		Building of new Lapa's at Mosu and Mofele Lodges	√							H	
		Graveling of tourist roads	√	√	√	√	√			M	
		Building of new Wilderness camp			√					M	
		Replace boundary fence		√						M	
		Staff accommodation	√							H	
		Game viewing hides			√					L	
		Education centre		√						M	
		Camping site	√							H	
		Picnic sites	√							H	
		Visitor Centre			√					L	
		Upgrade of airstrip		√						M	
		New entrance gates			√					M	
		Research house			√					L	
		Additional tourism accommodation at Mosu Lodge					√			L	
		Rehabilitation (linked to rehabilitation programme)	Drinking troughs	√							M
			Reservoirs		√						M
Redundant structures				√					L		
Erosion	√		√	√	√	√	√	√	M		
Dam walls				√	√	√	√	√	L		
Waste site	√								H		

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 18b below.

Table 18b. Proposed budget to achieve various initiatives for the infrastructure programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total program costs	R756,680	R631,448	R701,826	R775,056	R582,867
Total secured budget	R4,159,212	R4,084,344	R451,925	R479,040	R507,783
Total unsecured budget	R354,468	R205,104	R249,901	R296,016	R75,084



An effort will be made to get the unsecured funding from EPWP or infrastructure grants. Should this effort be unsuccessful, the low priority initiatives will not be executed. With secured funds, priority will be given to maintenance issues rather than new development. (For detailed programme refer to supporting document 15)

3.5.4. Staff Capacity Building Programme

The purpose of this plan is to assist the Management of Mokala NP in determining the staff needs to be able to manage as productive as possible. Mokala NP is a very new park and is expanding rapidly. The current areas of staff involvement include Mokala NP main section with two lodges, conference facilities and reception, Lilydale Lodge also with accommodation and conference and then Graspan, the breeding station for valuable species. All of these sections are operational and in some areas require staff with specific skills. The placing of adverts, holding of interviews and appointment of suitable candidates are guided and governed by corporate policies.

Staff composition

The staff component at the main section comprises of Park Management and Administration, Conservation, Tourism and People & Conservation and is fully operational in all the departments. Mokala NP is also managing its own restaurant. Graspan has three permanent positions that are currently vacant. Lilydale has 12 approved positions. Currently only 8 of these are filled and the others are soon to be advertised.

Department	Current Positions	Proposed
Park management & admin	2	3
Tourism	20	38
Conservation	9	15
P&C	1	2
Technical	1	5

Staff requirements

To enable Mokala NP management to manage all the current facilities and activities optimally, all the positions on the organogram need to be filled (Figure 3). Until this is accomplished, the current staff will be over utilised and Mokala NP will not be able to provide visitors to the park the ultimate experience. The immediate action plan will be to prioritise the most critical positions that will enable Mokala NP to operate as best possible taking all aspects in account e.g. customer expectation, quality of the experience, maintenance of the facilities etc and appoint these staff member as soon as possible. However the limited housing available in the park will have a definite impact on this. Table 19a-b presents an outline of planned management objectives, initiatives and budget.

Table 19a. Details of objectives and initiatives to address the staff capacity programme in Mokala National Park.

High Level Objective	Mokala NP Objectives	Sub-objectives	Initiatives	Time Frame (years)					Priority
				1	2	3	4	5	
Advance Strategic Human Resource Management	To ensure good human resource management.	To ensure that Mokala NP is managed according to set rules regulations and policies to enable maximum customer satisfaction and income generation.	To ensure that staff is trained adequately.	√	√	√	√	√	H
			Ensure that staff are all informed regarding SANParks policies	√	√	√	√	√	M
		Motivated staff component	Keep staff informed regarding the direction and objectives of the park by having regular Imbizo's	√	√	√	√	√	M
			Keep staff motivated and positive with good management skills	√	√	√	√	√	M

In order to achieve the various initiatives as portrayed above the projected budget for the following five years are shown in Table 19b below. (For detailed programme refer to supporting document 16).

Table 19b. Proposed budget to achieve various initiatives for the staff capacity programme in Mokala National Park.

	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Total programme costs	R2,355,000	R2,590,500	R2,771,835	R2,965,863	R3,173,473
Total secured budget	R2,355,000	R2,590,500	R2,771,835	R2,965,863	R3,173,473
Total unsecured budget	R0	R0	R0	R0	R0

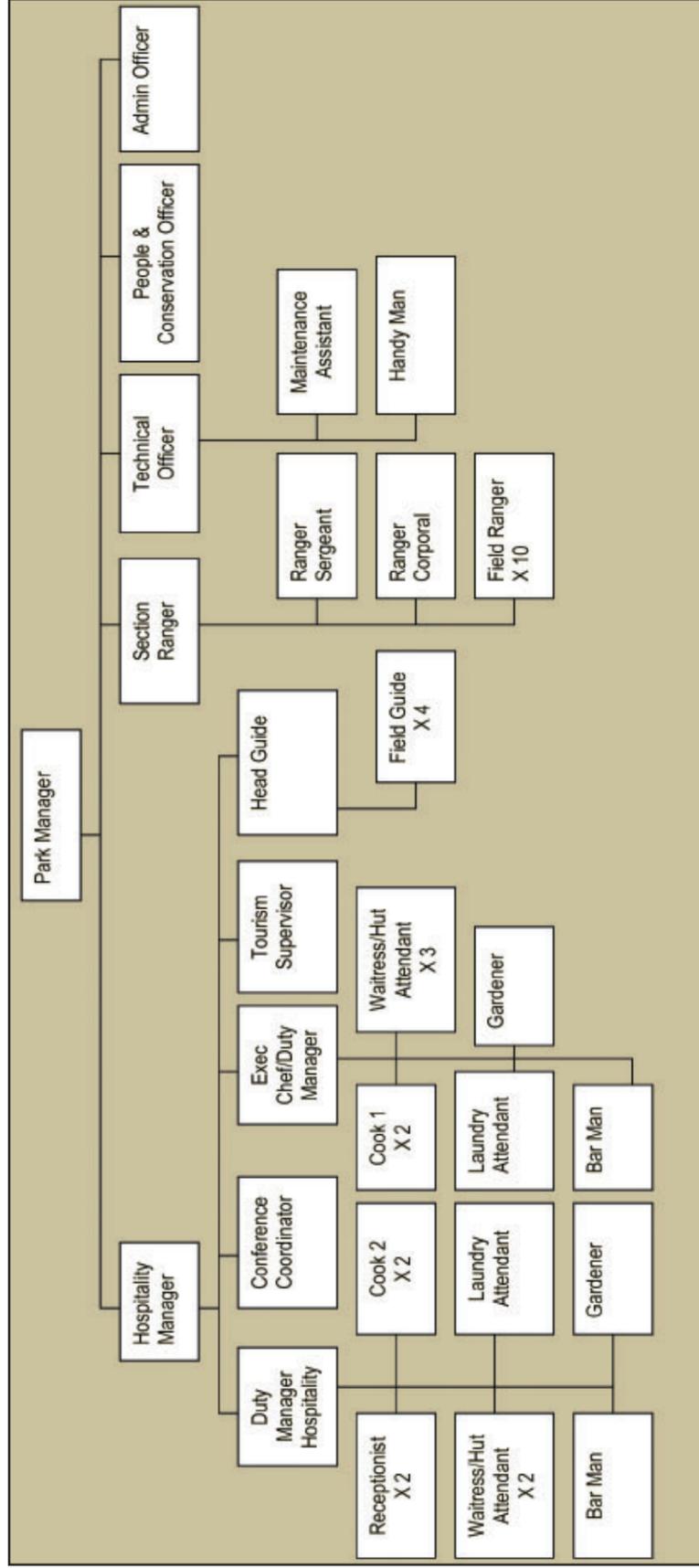


Figure 3. Mokala National Park organogram

3.5.5. Corporate Support

Mokala NP enjoys corporate guidance (SANParks, 2006) for several other programmes that will develop park-specific initiatives within the next 5 year management cycle. These programmes include HIV/AIDS, Risk Management and Communications.



ADAPTIVE AND INTEGRATIVE STRATEGIES TO SUSTAIN THE DESIRED STATE

The desired state cannot be effectively maintained without the explicit attention given to prioritisation, integration, operation, and above all reflection and adaptation according to the principals in the biodiversity custodianship framework (SANParks 2006). This will be further developed in consultation with the public.

The desired state of Mokala NP must be set in a refined and focussed way to restrict any additional filtering processes. It is aimed to address most of the park objectives in the next five year management cycle or at least the foundations laid towards prioritising and addressing them. A balance must be struck between the energy needed to deal with immediate threats and the necessity of laying the all-important groundwork for long-term strategic successes.

Given the desired state and the objectives hierarchy to achieve it, the park management should draw up a detailed plan of action down to annual operation level and wherever necessary down to the level of tasks and duties. The park manager must be satisfied that all this planning assist in achieving the desired state and goals set for Mokala NP. A further cross-check is contained in the Balance Scorecard system implemented by SANParks, which serves not to replace any objectives contained in this plan but rather consolidates them into generic terms to be useful at corporate level to facilitate strategic planning and measurement.

It is hoped that the guidance offered in this section will assist decision-making in a structured way, although ongoing evaluation is imperative. If these obligatory feedbacks are effectively honoured, it is believed that Mokala NP will be practising an acceptable if not sophisticated level of adaptive management, and in accordance with our overarching values around complex systems, will have the best chance of achieving the desired state in a sustainable way.

Lack of informative and effective feedback, which should stimulate proper reflection by managers, is the commonest underlying cause of failure of adaptive management, and hence of reaching the desired outcomes we set for parks. The hallmark of adaptive management is ongoing learning, and this only results if users apply their minds to the adaptive cycle (Biggs and Rogers 2003). This section aims to detail generic procedures but in the way that they are most likely to be used specifically in Mokala NP, by which the integrity of these feedbacks, and hence learning, will be guaranteed.

- *Feedback that the management action as decided upon and specified, is carried out as such:* - This responsibility lies with line-function management, and will be reported on via SANParks regional reporting structures to the Executive Director: Parks. Failure to check this feedback on management action could easily happen at Mokala NP due to its relatively remote location and limited staff capacity. Nevertheless, the evaluation of herbivore impacts and different tourism development models requires prioritisation and focused attention.
- *Feedback whenever a TPC specifying the endpoints of any biodiversity objective is violated, or is credibly predicted to be violated in the future:* - This requires that a disciplined monitoring programme be put in place, that the custodian of the particular programme duly reports

the exceedance to a competent, preferably formally constituted, joint science-management forum, which includes the Park Manager. This must lead to a documented management response, recognising that the “do nothing response” may also be a specific justifiable response. The suite of biophysical, but particularly vegetation-herbivore interaction TPCs in Mokala NP is relatively focused and monitoring for these must be commissioned as soon as possible if we are to have some idea of where we find ourselves relative to the desired state. Experience shows that it is far better to have roughly defined preliminary TPCs (and improve these later, something which then tends to happen automatically) than wait years for perfect ones to be developed.

- *Feedback that the predicted outcome of a management intervention, in response to the exceedance of a TPC, is achieved, or what materialised instead in its place:* - This is usually directly measurable by checking whether that same TPC returned to within its acceptable limits after management action was initiated. In Mokala NP, this follow-up should be formally done through (at least) a quarterly meeting of a science-management forum where the best adaptive decision must be taken in the light of this evaluation. Some obvious outcomes likely to be of major learning value in this regard are interactive effects of herbivory on Mokala NP’s highly diverse ecosystem and differential rehabilitation strategies for degraded veld. Additional issues requiring such feedback, but for which no TPCs are set, include progress towards building inclusive and honourable cooperation arrangements and steps towards applying appropriate development and tourism models in the light of biophysical and social objectives and targets.
- *Feedback to SANParks Head Office of the overall performance of Mokala NP relative to its stated objectives:* - This will be done via an annual State of Biodiversity Report for Mokala NP as well as other incidental reporting. It is clear that Mokala NP will, for several themes, take many years to progress towards the desired state (rehabilitation and consolidation / expansion) or will require a changing and adapting approach to management in the face of all-important partnership and governance scenarios. Nevertheless, thresholds need to be developed for these themes, although explicit interim “targets” may also assist in tracking progress in these cases.
- *Feedback as to whether organisational or societal acceptance of the consequence of an intervention is still, as agreed on previously, acceptable:* - This is a longer-term adaptive evaluation, and if expectations are roughly met, can be dealt with at the time of the 5-yearly public meeting held to review the management plan. If, however, significant unintended consequences materialised that have shorter-term impacts, it will be the responsibility of the science-management forum to sense this, reflect on it, and make an appropriate recommendation to the Park Manager. The areas this is most likely to occur are the methods and rationale for large game stocking as well as for elephant and large predator management; the cost and effectiveness of Mokala NP engaging in wild dog and other metapopulation management strategies in future and how this interacts with other core biodiversity and socio-economic goals and balancing requirements. Strides in assessing and develop-

ing appropriate economic and development models for this park will need to also be made within the broader cooperative governance sphere. At times, feelings of lack of progress and even hopelessness may need to be countered.

- *Feedback as to whether the monitoring programme and list of TPCs is parsimonious and effective:* - This is the responsibility of the scientific custodians involved, but overall responsibility for the programme as a whole rests with the science-management forum. It is broadly challenged during each 5-yearly revision cycle. It is anticipated in Mokala NP that the costs of carrying out a very basic set of vegetation and biodiversity monitoring procedures is likely to raise eyebrows, and will need ongoing motivation, justification and adjustment and fine-tuning. Attention will also need to be given to developing thresholds and monitoring for other non-biodiversity related socio-political aspects, such as progress towards promoting community participation and empowerment and building a strong cooperative spectrum supportive of the aspirations of the park.
- *Feedback as to whether overall park objectives need adjustment in the longer-term:* - This is dealt with effectively at the 5-yearly review step. However, in the case of perceived ‘emergencies’ the Park Manager is constrained within the limits of agreement. It is likely that monitoring procedures for vegetation-herbivory interactions, associated habitat integrity and biodiversity patterns will be perceived as onerous and that suggestions will arise over time to scrap or downgrade these. This will be a crucial debate, especially around SANParks obligation to balance elephant conservation with broader biodiversity heterogeneity maintenance goals and responsibilities, as well as the integration of differing management objectives in contractual and state-owned sections of the park.
- *Feedback regarding, or at least latent preparation for, surprises:* - By definition these cannot be predicted. It will, however, be an explicit obligation of the Park Manager to take responsibility to stimulate contingency and risk management assessments. From an ecosystem perspective, dealing with such surprises is best dealt with by generating scenarios and we must aim for at least one structured scenario planning session per 5 year cycle. It is suggested that scenarios significantly appropriate in the Mokala NP situation revolve around cooperative governance, partnership and constituency building successes, particularly including approaches to balancing our biodiversity conservation mandate with appropriate ecotourism and accompanying economic models as well as with herbivory impact management options. Scenarios around the relative power of contractual versus other developmental and stakeholder pressures (in terms of costs and benefits and their distribution) and scenarios around different futures regarding societal attitudes to elephant when traded off against other values in society will be crucial. Formulating and contemplating these scenarios will significantly promote survival value of this park into the future.

If these obligatory feedbacks are effectively honoured, it is believed that Mokala NP will be practicing a sound level of adaptive management, and in accordance with our overarching values around complex socio-ecological systems, will have the best chance of achieving the desired state in a sustainable way.



5. HIGH LEVEL BUDGET

Without dedicated and approved budgets and the staff at hand to implement, this Management Plan is merely a paper exercise. The Park has undertaken an exercise to integrate and prioritise the projects, programs and actions that are required to for the period 2008-2013. Projects and programs presented in the plan are not a 'wish list' of activities but are the set required to meet the long-term business objectives of 'establishing' the Park by 2030.

Table 20 provides an estimation of the costs involved in striving towards the desired state for Mokala NP over the next 5-year period through all of the objectives and associated programmes detailed in this management plan. This is divided into the following components:

- **Park operational and maintenance budgets:** The Park expects to generate about R14.7m over the five year period from current products and services. Expenditure is expected to total about R34.1m, which will run into an estimated deficit of R19.4m over the five years. A total of R850K has been identified for biodiversity conservation projects but heritage projects remain unfunded. A total of R14.9m has been set aside for tourism projects and a further R70K for people and conservation projects. The remainder of the funds allocated under the effective park management section for safety and security, infrastructure maintenance and staff capacity totals R2.7m.
- **Development budgets:** The park has been successful in securing about R7.4m in funds from the Infrastructure Development Programme (IDP). These projects are largely focused on developing new administration, staff and tourism infrastructure and upgrading bulk services.
- **Park expansion** an estimated R58m (acquisition of all farms) remains largely unfunded. These parcels of land are identified as key to consolidating the park and providing greater tourism opportunities to the park.

6. CONCLUSION

This plan hopes to emphasize the expansion and consolidation of Mokala NP to conserve and increase its biological, cultural and tourism potential, making it part of an economic benefit for the Northern Cape. It endeavours to enhance the protection of an important interface between the Savanna Biome and the Nama-Karoo Biome. It strives to invest in conservation and socio-economic upliftment programmes through its ecotourism activities. Increased constructive involvement with its associated stakeholders is seen as fundamental activity to meet park objectives.

Table 20 – Summary of costing programmes for Mokala National Park.

A. INCOME	2008/2009		2009/2010		2010/2011		2011/2012		2012/2013	
	Projected	Funded								
Conservation fees	-62,200		-66,865		-71,900		-77,270		-83,100	
Retail Gross profit	-609,085		-654,800		-703,900		-756,700		-813,400	
Tourism income	-1,850,585		-1,989,400		-2,138,600		-2,299,000		-2,471,400	
Other Income	-25,800		-27,735		-29,815		-32,051		-34,455	
Total (ZAR)	-2,547,670		-2,738,800		-2,944,215		-3,165,021		-3,402,355	
B. EXPENDITURE - Other										
Depreciation		121,056		128,319		136,018		144,179		152,830
Finance (vehicles, rent etc)		1,900,000		2,014,000		2,134,840		2,262,930		2,398,706
Total costs (B) (ZAR)		2,021,056		2,142,319		2,270,858		2,407,109		2,551,536
C. EXPENDITURE - Programmes										
Biodiversity conservation - sections 3.1.1 - 3.1.10	280,961	11,526,000	130,380	11,670,000	138,203	11,659,805	146,494	11,652,953	155,181	11,649,089
Heritage conservation - section 3.2.1	0	200,000	0	50,000	0	53,000	0	56,180	0	59,550
Sustainable tourism - sections 3.3.1 - 3.3.2	2,553,000	842,432	2,757,240	909,826	2,977,819	982,612	3,216,045	1,061,221	3,473,330	1,396,117
Building co-operation - sections 3.4.1 - 3.4.3	70,400	44,100	0	111,500	0	53,424	0	55,478	0	57,655
Effective park management - sections 3.5.1 - 3.5.4	6,884,212	16,404,468	7,067,044	17,748,104	3,639,492	18,845,481	3,885,578	20,002,611	4,148,372	20,964,075
Total costs (C) (ZAR)	9,788,573	29,017,000	9,954,664	30,489,430	6,755,514	31,594,322	7,248,117	32,828,443	7,776,883	34,126,486
Expenditure/ha (ZAR)	499	N/A	508	N/A	344	N/A	370	N/A	397	N/A
TOTAL (B + C) - A (ZAR)	9,261,959	N/A	9,358,183	N/A	6,082,157	N/A	6,490,205	N/A	6,926,064	N/A



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APPENDIX 1

MOKALA NATIONAL PARK ZONING PLAN

1. INTRODUCTION

The primary objective of a park zoning plan is to establish a coherent spatial framework in and around a park to guide and co-ordinate conservation, tourism and visitor experience initiatives. A zoning plan plays an important role in minimizing conflicts between different users of a park by separating potentially conflicting activities such as game viewing and day-visitor picnic areas whilst ensuring that activities which do not conflict with the park's values and objectives (especially the conservation of the protected area's natural systems and its biodiversity) can continue in appropriate areas. A zoning plan is also a legislated requirement of the Protected Areas Act, which stipulates that the management plan, which is to be approved by the Minister, must contain "a zoning of the area indicating what activities may take place in different sections of the area and the conservation objectives of those sections".

The zoning of Augrabies Falls National Park was based on an analysis and mapping of the sensitivity and value of the park's biophysical, heritage and scenic resources; an assessment of the regional context; and an assessment of the park's current and planned infrastructure and tourist routes/products; all interpreted in the context of park objectives. This was undertaken in an iterative and consultative process. This document sets out the rationale for use zones, describes the zones, and provides management guidelines for each of the zones.

2. RATIONALE FOR USE ZONES

The prime function of a protected area is to conserve biodiversity. Other functions such as the need to ensure that visitors have access to the park, and that adjoining communities and local economies derive benefits from the area, potentially conflict with and compromise this primary function. Use zoning is the primary tool to ensure that visitors can have a wide range of quality experiences without comprising the integrity of the environment.

Further, people visit a park with differing expectations and recreational objectives. Some people are visiting a park purely to see wildlife as well as natural landscapes. Others wish to experience intangible attributes such as solitude, remoteness, wildness, and serenity (which can be grouped as wilderness qualities), while some visit to engage in a range of nature-based recreational activities, or to socialize in the rest camp. Different people have different accommodation requirements ranging from extreme roughing it up to luxury catered accommodation. There is often conflict between the requirements different users and different activities. Appropriate use zoning serves to minimizing conflicts between different users of a park by separating potentially conflicting activities such as game viewing and day-visitor picnic areas whilst ensuring that activities which do not conflict with the park's values and objectives (especially the conservation of the protected area's natural systems and its biodiversity) can continue in appropriate areas. Use zones serve to ensure that high intensity facilities and activities are placed in areas that are robust enough to tolerate intensive use, as well as to protect more sensitive areas of the park from over-utilization.

3. PARK USE ZONATION SYSTEM

The zoning system

SANParks has adopted a dual zoning system for its parks. The system comprises:

- Visitor use zones covering the entire park, and
- Special management overlays which designate specific areas of a park that require special management interventions.

The zoning of Mokala National Park is shown in Map 4, and summarised in Table One.

The Zoning process and its linkage to the underlying environmental analysis

The park use zonation plan is a lean version of the Conservation Development Framework (CDF). The park use zonation is based on the same biodiversity and landscape analyses undertaken for a CDF. However, certain elements underlying the CDF may not be fully incorporated into the park use zonation. In particular, the park use zonation plan will usually not incorporate elements such as a full tourism market analysis. Typically the park use zonation approach is applied in smaller and developing parks such as Mokala National Park, though the long term objective is to have a full CDF for all parks.

The zoning for Mokala National Park was underpinned by an analysis and mapping of the sensitivity and value of a park's biophysical, heritage and scenic resources. This analysis examined the biophysical attributes of the park including habitat value (in particular the contribution to national conservation objectives), hydrological sensitivity (areas vulnerable to disruption of hydrological processes such as floodplains and wetlands), topographic sensitivity (steep slopes), soil sensitivity (soils that are vulnerable to erosion) and vegetation vulnerability to physical disturbance. In addition, the heritage value and sensitivity of sites was examined (including palaeontological, archaeological, historical and current cultural aspects). The visual sensitivity of the landscape was also examined in order to identify sites where infrastructure development could have a strong aesthetic impact. This analysis was used to inform the

appropriate use of different areas of the park, as well as to help define the boundaries between zones. The zoning was also informed by the park's current infrastructure and tourism products, as well as the regional context (especially linkages to neighbouring areas and impacts from activities outside the reserve). Planned infrastructure and tourism products were also accommodated where these were compatible with the environmental informants. These were all interpreted in the context of the park objectives. This was undertaken in an iterative and consultative process.

Map 5 shows the relationship between the use zoning and the summary products of the biodiversity and landscape sensitivity-value analysis. This indicates that in general it was possible to include most of the environmentally sensitive and valuable areas into zones that are strongly orientated towards resource conservation rather than tourist use. Further, in many cases the boundaries between zones are based on changes in environmental sensitivity. Table 2 summarises the percentage area of the park covered by each zone, as well as the percentage of the highly environmentally sensitive and valuable areas (defined as areas with values in the top quartile of the sensitivity value analysis) that are in each zone. Almost 74.5% of the park is covered by zones that are strongly conservation orientated in terms of their objectives (i.e. Remote and Primitive), with just under half of the park (46.3%) zoned in the most strongly conservation orientated zone (Remote).

Although the conservation orientated areas represent a large portion of the park, they are not particularly efficiently sited from conservation point of view, with only a relatively weak positive correlation between the spatial distribution of environmentally sensitive habitats and the conservation orientated zones, with the Remote zone containing 46.7% of the highly sensitive habitats and covering an almost identical 46.3% of the park. Primitive areas are slightly better located, and cover 28.2% of the park and include 33.6% of the sensitive habitats. The tourist orientated Low Intensity Leisure zone manages to avoid sensitive areas slightly better, and covers approximately 24.6% of the park yet contains only 16.6% of the sensitive habitats. Unfortunately, the High Intensity Leisure zone contains a disproportionately high proportion of the parks sensitive habitats. This legacy of inherited infrastructure is mitigated by the fact that the extent of this zone is limited.

Zone	General Characteristics	Experiential Qualities	Interaction between users	Type of Access	Type of activities	Type of Facilities	Limits of acceptable change: Biophysical	Limits of acceptable change: Aesthetics and recreational
REMOTE*	Retains an intrinsically wild appearance and character, or capable of being restored to such.	Solitude and awe inspiring natural characteristics	None to very low	Strictly controlled access, only on foot. Limited management motorised access allowed.	Hiking in small groups	Established footpaths where erosion may be a problem. Essentially undeveloped and roadless, except for limited management tracks.	Deviation from a natural/pristine state should be minimized, and existing impacts should be reduced	Activities which impact on the intrinsically wild appearance and character of the area will not be tolerated.
PRIMITIVE	Generally retains wilderness qualities, but with basic self-catering facilities. Access is controlled. Provides access to the Remote Zone, and can serve as a buffer.	Experience wilderness qualities	Low	Controlled access. Accompanied or unaccompanied. Foot, 4x4 vehicles	Hiking, 4x4 drives; game viewing; possibly horse riding	Small, basic, self-catering, distributed to avoid contact between users; or limited concessions with limited numbers, 4x4 trails; hiking trails	Deviation from a natural/pristine state should be small and limited to restricted impact footprints. Existing impacts should be reduced.	Activities which impact on the intrinsically wild appearance and character of the area should be restricted, and impacts limited to the site of the facility.
LOW INTENSITY LEISURE	The underlying characteristic of this zone is motorised self-drive access with basic self-catering facilities. The numbers of visitors are higher than in the Remote and Primitive Zones. Camps are without modern facilities such as shops and restaurants.	Comfortable facilities in a relatively natural environment.	Moderate to high	Motorised self-drive access. When buses are permitted, some roads should be designated as accessible to self-drive only.	Motorised self-drive game viewing, picnicking, walking, cycling; rock climbing; hiking, adventure activities.	Facilities limited to basic self-catering picnic sites, ablution facilities, information/education centres; parking areas. Small to medium self-catering (incl. camping) rest camps (25-35 beds) with ablution facilities, but not shops or restaurants. Low spec access roads to retain wilderness ambience.	Deviation from a natural/pristine state should be minimized and limited to restricted impact footprints as far as possible. However, it is accepted that some damage to the biophysical environment associated with tourist activities and facilities will be inevitable	Although it is inevitable that activities and facilities will impact on the wild appearance and reduce the wilderness characteristics of the area, these should be managed and limited to ensure that the area still provides a relatively natural outdoor experience
HIGH INTENSITY LEISURE	The main characteristic is that of a high density tourist development node, with modern amenities, where more concentrated human activities are allowed.	Comfortable and sophisticated facilities while retaining a natural ambience	High	Accessible by motorised transport (caribus) on high volume transport routes that are often tarred. Includes delivery vehicles.	As above. Additional sophisticated infrastructure. Larger, organised adventure activities (orienteezing, fun runs). Dining at restaurants.	High density tourist camps with modern amenities. Footpaths, transport systems, accommodation, shops, restaurants, curio and refreshment stalls; education centres. High volume roads. Botanical Gardens.	The greatest level of deviation from a natural/pristine state is allowed in this zone, and it is accepted that damage to the biophysical environment associated with tourist activities and facilities will be inevitable.	Although it is inevitable that the high visitor numbers, activities and facilities will impact on the wild appearance and reduce the wilderness characteristics of the area, these should be managed and limited to ensure that the area generally still provides a relatively natural outdoor experience appropriate for a national park.

Figure 1: Summary of Use Zone Characteristics

Table 2: Summary of the percentage area of the park covered by each zone, as well as the percentage of the highly environmentally sensitive and valuable areas (defined as areas with values in the top quartile of the sensitivity value analysis) that are in each zone.

		Zone as a percentage of park area	Percentage of highly sensitive areas that are in the zone
Mokala National Park			
Conservation orientated zones	Remote	46.3	46.7
	Primitive	28.2	33.6
Tourism orientated zones	Low Intensity Leisure	24.6	16.6
	High Intensity Leisure	0.8	3.1

Remote Zone

Characteristics

This is an area retaining an intrinsically wild appearance and character, or capable of being restored to such, and is undeveloped and roadless. There are no permanent improvements or any form of human habitation. Limited low specification management tracks (i.e. not built up roads) are acceptable within this zone, though these should be kept to a minimum. It provides outstanding opportunities for solitude with awe inspiring natural characteristics. If present at all, sight and sound of human habitation and activities are barely discernable, and at far distance. The zone also serves to protect sensitive environments from development impacts and tourism pressure.

Visitor activities and experience

Activities: Access is strictly controlled and on foot. Groups must be small, and can either be accompanied by a guide or unaccompanied. Several groups may be in area at the same time, but if necessary densities and routes should be defined so that no signs can be seen or heard between the groups. The principles of "Pack it in Pack it out" must be applied. Note that although limited management access by vehicle is allowed in this zone, tourist access is strictly non-motorised.

Interaction with other users: There is no interaction between groups. The numbers of groups within the area will be determined by the ability to ensure that there is no interaction between groups.

Objectives of the zone (Limits of acceptable change):

Biophysical environment: Deviation from a natural/pristine state should be minimized, and existing impacts should be reduced.

Aesthetics and recreational environment: Activities which impact on the intrinsically wild appearance and character of the area, or which impact on the wilderness characteristics of the area (solitude, remoteness, wildness, serenity, peace etc) will not be tolerated.

Facilities

Type and size: No facilities are provided. Should overnight facilities be required to serve this zone, these should be placed in the adjoining zones. Limited low specification management tracks (i.e. not built up roads) are acceptable within this zone, though these should be kept to a minimum.

Sophistication of facilities: No facilities except self carried portable tents. Guidelines for washing, ablution and cooking must be defined according to the "Pack it in Pack" it out principles. Camping is permitted only at designated sites.

Audible equipment and communication structures: None.

Access and roads: Public access is non-motorized. Vehicular access and parking is provided in the adjoining Primitive zone. Established footpaths may be provided where erosion risks occur. Limited low specification management tracks (i.e. not built up roads) are acceptable within this zone, though these should be kept to a minimum.

Location in Park

In Mokala NP, Remote areas were designated in the hilly/mountainous central and southern sections of the park. These areas contain most sites with high environmental sensitivity and value. Remote areas were also designated on the lowland plains both in the west and in the Vaalboschpan section. This was done to ensure that a variety of habitats were protected within the Remote Zone, as well as to ensure that sufficient lowland habitats were kept vehicle-free in order to promote "Wilderness-type" recreational activities.

Primitive Zone

Characteristics

The prime characteristic of the zone is the experience of wilderness qualities with the accent on controlled access. Access is controlled in terms of numbers, frequency and size of groups. The zone shares the wilderness qualities of the Remote zone, but with limited access roads, trails and the potential for basic small-scale self-catering accommodation facilities such as a small bushcamp or "Botswana rooftop type" camping at desig-



nated but undeveloped sites. It also provides access to the Remote zone and Wilderness Areas. Views of human activities and development outside of the park may be visible from this zone.

This zone has the following functions:

- It provides the basic facilities and access to serve Wilderness Areas and Remote zones.
- It contains concession sites and other facilities where impacts are managed through strict control of the movement and numbers of tourists, for example in concession areas, all tourists are restricted to concession safari vehicles.
- It serves as a buffer to the fringe of the park and other zones, in particular Wilderness and Remote.
- It serves to protect sensitive environments from high levels of development.

Visitor activities and experience

Activities: Access is controlled in terms of numbers, frequency and size of groups. Activities include hiking, 4x4 drives, game viewing and “Botswana rooftop type” camping at designated but undeveloped sites. Access is controlled either through only allowing access to those with bookings for specific facilities, or alternatively through a specific booking or permit for a particular hiking trail or 4x4 route. Several groups may be in area at the same time, but access should be managed to minimize interaction between groups if necessary.

Interaction with other users: Interaction between groups of users is low, and care must be taken in determining the number and nature of facilities located in the area in order to minimize these interactions.

Objectives of the zone (Limits of acceptable change)

Biophysical environment: Deviation from a natural/pristine state should be small and limited to restricted impact footprints. Existing impacts should be reduced. Any facilities constructed in these areas, and activities undertaken here should be done in a way that limits environmental impacts. Road and infrastructure specifications should be designed to limit impacts.

Aesthetics and recreational environment: Activities which impact on the intrinsically wild appearance and character of the area, or which impact on the wilderness characteristics of the area (solitude, remoteness, wildness, serenity, peace etc) should be restricted and impacts limited to the site of the facility. Ideally visitors should only be aware of the facility or infrastructure that they are using, and this infrastructure/facility should be designed to fit in with the environment within which it is located in order to avoid aesthetic impacts.

Facilities

Type and size: Facilities are small, often very basic, and are distributed to avoid contact between users. Alternatively facilities designed for high levels of luxury, but limited visitor numbers can be accommodated here (e.g. controlled access private camps or concession sites). Accommodation facilities such as a small bushcamp or “Botswana rooftop type” camping at designated but undeveloped sites are anticipated in this zone in Mokala National Park.

Sophistication of facilities: Generally facilities are small, basic and self-catering, though concession facilities may be significantly more sophisticated.

Audible equipment and communication structures: None.

Access and roads: Vehicular access to facilities is limited to low-spec roads, often 4x4 only. Tourist and game viewing roads are 4x4 only. Established footpaths are provided to avoid erosion and braiding.

Location in Park

In Mokala NP, Primitive areas were designated in vlaktes and pan areas around Vaalboschpan and west of Doornlaagte. A Primitive link was designated through the hills north of the main restcamp to allow management and controlled tourist 4x4 access to alternative route to the northern vlaktes. The relatively sensitive areas south of the main restcamp were also designated Primitive. In areas where Remote zones border on the park boundary, a 100m wide Primitive zone was designated to allow park management access to boundaries along constructed roads.

Low Intensity Leisure Zone

Characteristics

The underlying characteristic of this zone is motorized self-drive access with basic self-catering facilities. The numbers of visitors are higher than in the Remote and Primitive zones. These camps are without modern facilities such as shops and restaurants. Relatively comfortable facilities are positioned in the landscape retaining the inherent natural and visual quality which enhances the visitor experience of a more natural and self providing experience. Access roads are low key, preferably gravel roads and/or tracks to retain a wilderness ambiance. Facilities along roads are limited to basic self-catering picnic sites with toilet facilities. In some parks, large busses and open safari vehicles are not permitted.

Visitor activities and experience

Activities: Self drive motorized game viewing, picnicking, walking, cycling, rock climbing, hiking, adventure activities.

Interaction with other users: Moderate to high

Objectives of the zone (Limits of acceptable change):

Biophysical environment: Deviation from a natural/pristine state should be minimized and limited to restricted impact footprints as far as possible. However, it is accepted that some damage to the biophysical environment associated with tourist activities and facilities will be inevitable.

Aesthetics and recreational environment: Although activities and facilities will impact on the wild appearance and reduction of the wilderness characteristics of the area (solitude, remoteness, wildness etc) is inevitable, these should be managed and limited to ensure that the area still provides a relatively natural outdoor experience.

Facilities

Type and size: Picnic sites, view sites, information centres, ablution facilities, parking areas, education centres etc. Small self-catering (including camping) camps of low to medium density 25-35 beds. Additional facilities could include swimming pools. Trails for 4x4 trails could also be provided. Day visitor sites are not placed within the camps. Day visitor sites must relate to the general self-catering characteristic of the zone.

Sophistication of facilities: Self contained self-catering units with bathroom facilities. Camp sites will include ablution facilities. These camps are without modern facilities such as shops and restaurants.

Audible equipment and communication structures: Cell phone coverage in vicinity of camps. Code of use for cell phones and radios required to retain relative level of solitude.

Access and roads: Motorized self drive sedan car access (traditional game viewing) on designated routes which are preferably gravel roads. In some parks, large busses and open safari vehicles are not permitted. When busses are permitted some roads should be designated as accessible to self drive only. Roads are secondary gravel tourist roads or minor game viewing roads.

Location in Park

In the Mokala NP zonation scheme, two Low Intensity Leisure areas were designated in a large hilly area extending northwest from the main restcamp (accommodating existing and proposed camp and picnic sites) and in the vlaktes areas around Doornlaagte. In addition, a link between these two areas, as well as links to the main gate from the restcamp (and an adjacent tourist loop), to the airstrip at Strydam, and a possible linkage to Lilydale were accommodated in this zone. The edges of the Low Intensity Leisure zones were defined in terms of landscape sensitivity and value (as well as topographic) constraints, with most high sensitivity landscapes being excluded from this zone.



High Intensity Leisure Zone

Characteristics

The main characteristic is that of a high density tourist development node with modern amenities such as restaurants and shops. This is the zone where more concentrated human activities are allowed. As impacts and particularly cumulative impacts are higher, such facilities should be placed on the periphery of the park. Staff not directly associated with tourism facilities should be accommodated outside of the park if possible. All industrial type facilities such as laundries, abattoirs, maintenance depots and workshops should ideally be located outside of the park within suitably zoned adjoining urban or rural areas. Accessible by motorized transport (Car/bus) on high volume transport routes. More concentrated activities occur than in than Low Intensity leisure.

Visitor activities and experience

Activities: Traditional game viewing routes with associated more sophisticated infrastructure, sight seeing at tourist destinations, picnicking, walking, cycling, rock climbing, hiking, adventure activities (orienteering, scuba diving, fun runs), activities associated with amenities such as dining in restaurants.

Interaction with other users: High

Objectives of the zone (Limits of acceptable change)

Biophysical environment: The greatest level of deviation from a natural/pristine state is allowed in this zone, and, it is accepted that damage to the biophysical environment associated with tourist activities and facilities will be inevitable. However, care must be taken to ensure that the zone still retains a level of ecological integrity consistent with a protected area.

Aesthetics and recreational environment: Although the high visitor numbers, activities and facilities will impact on the wild appearance and reduction of the wilderness characteristics of the area (solitude, remoteness, wildness etc) is inevitable, these should be managed and limited to ensure that the area generally still provides a relatively natural outdoor experience.

Facilities

Type and size: High density camps providing tourist accommodation with modern amenities. Restaurants, shops, education centres, botanical gardens. Day visitor sites are provide outside of main camps. Day visitor sites or picnic sites may provide catered facilities and kiosks. In some parks it may be necessary to provide high density recreational sites with a wide

range of intensive activities (edutainment centres) close to the periphery of the park. Picnic sites, view sites, information centres, ablution facilities, parking areas, education centres etc. Staff villages and administrative centres restricted to core staff. Non essential staff housing, administration and industrial activities positioned outside of or peripheral to the park.

Sophistication of facilities: Moderate to high density facilities. Self catering and catered. These camps have modern facilities such as shops and restaurants.

Audible equipment and communication structures: Cell phone coverage in vicinity of camps. Code of use for cell phones and radios required to retain relative level of solitude.

Access and roads: The zone is highly motorized including busses and delivery vehicles on designated routes which are often tarred. Care must be taken to distinguish between roads that serve as high access delivery routes to camps, link roads between camps, and game viewing roads to minimize conflict between users.

Location in Park

In Mokala NP, High intensity leisure areas were designated around the main restcamp and associated staff and management facilities, as well as the satellite rest camp at Goede Hoop. As far as possible areas with high environmental sensitivity were excluded from this zone.

THE PARK INTERFACE ZONE

The Park Interface Zones highlights the areas around a park within which landuse changes could affect a national Park. The zones, in combination with guidelines, will serve as a basis for a.) identifying the focus areas in which park management and scientists should respond to EIA's, b.) helping to identify the sort of impacts that would be important at a particular site, and most importantly c.) serving as the basis for integrating long term protection of a national park into the spatial development plans of municipalities (SDF/IDP) and other local authorities. In terms of EIA response, the zones serve largely to raise red-flags and do not remove the need for carefully considering the exact impact of a proposed development. In particular, they do not address activities with broad regional aesthetic or biodiversity impacts.

The Park Interface Zone for Mokala NP has two overlaying categories, namely priority natural areas, and a visual/aesthetic zone, depicted in Map 6.

Priority Natural Areas

This zone aims to ensure the long term persistence of biodiversity, within and around the park, by identifying the key areas on which the long term survival of the park depends. This includes areas important to both biodiversity pattern (especially reasonably intact high priority natural habitats) and processes (ecological linkages, catchments, intact hydrological systems, etc.). This does not imply any loss of existing rights (e.g. current agricultur-

al activities or legal extractive biodiversity use such as fishing), but rather aims to ensure the parks survival in a living landscape.

Priority natural areas include areas identified for future park expansion, as well as reasonably natural areas of high biodiversity value which are critical for the long-term persistence of biodiversity within the park. These include adjacent natural areas (especially high priority habitats) which function as an ecologically integrated unit with the park, as well as areas critical for maintaining ecological links and connectivity with the broader landscape.

Development guidelines

Inappropriate developments and negative land use changes (such as additional ploughing of natural veld, development beyond existing transformation footprints, urban expansion, intensification of landuse through golf estates etc) should be opposed within this area. Developments with site specific impacts (e.g. a lodge on a game farm) should be favourably viewed if they contribute to ensuring conservation friendly land use within a broader area. Further inappropriate developments, such as dam construction, excessive aquifer exploitation, and development resulting in the loss of riparian vegetation, should be opposed. In addition, the control of alien vegetation, the control of soil erosion, and appropriate land care (e.g. appropriate stocking rates) should be promoted.

Viewshed protection

These are areas where developments could impact on the aesthetic quality of a visitors experience in a park. This zone is particularly concerned with visual impacts (both day and night), but could also include sound pollution.

Development guidelines

Within these areas any development proposals should be carefully screened to ensure that they do not impact excessively on the aesthetics of the park. The areas identified are only broadly indicative of sensitive areas, as at a fine scale many areas within this zone may be suitable for development. Furthermore, major projects with large scale regional impacts may have to be considered even if they are outside the Viewshed Protection Zone.

CURRENT STATUS AND FUTURE IMPROVEMENTS

The zonation needs to be extended to incorporate the Lilydale section. The current park use zonation is based on the same biodiversity and landscape analyses undertaken for a Conservation Development Framework (CDF); however certain elements underlying a CDF such as a tourism market analysis are not be fully incorporated into the park use zonation. A full CDF will be developed for Mokala National Park within the current update cycle. Remote areas will be investigated for possible formal declaration as Wilderness Areas in terms of Section 22 of the PAA. Special management overlays need to be identified where appropriate.



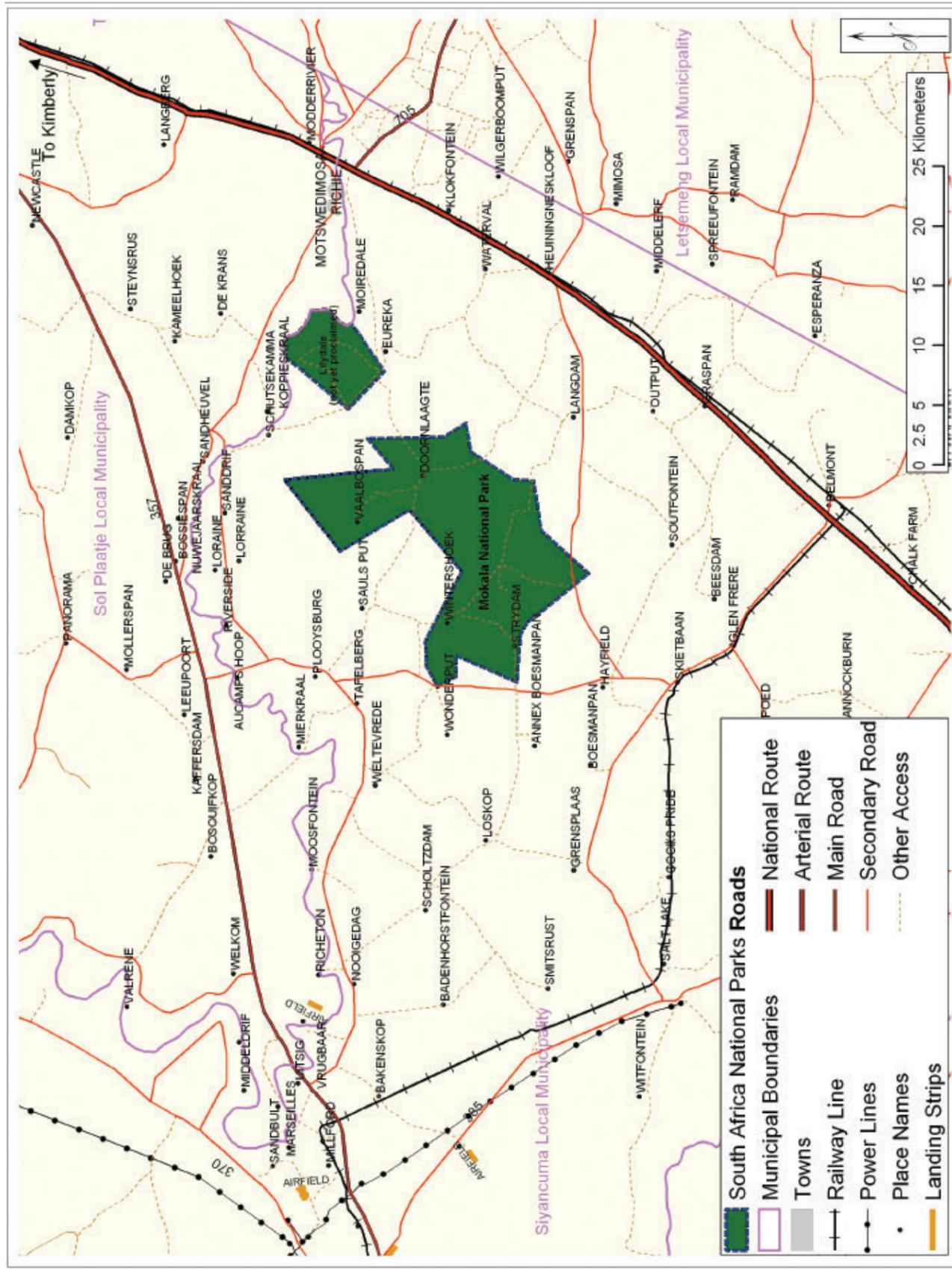
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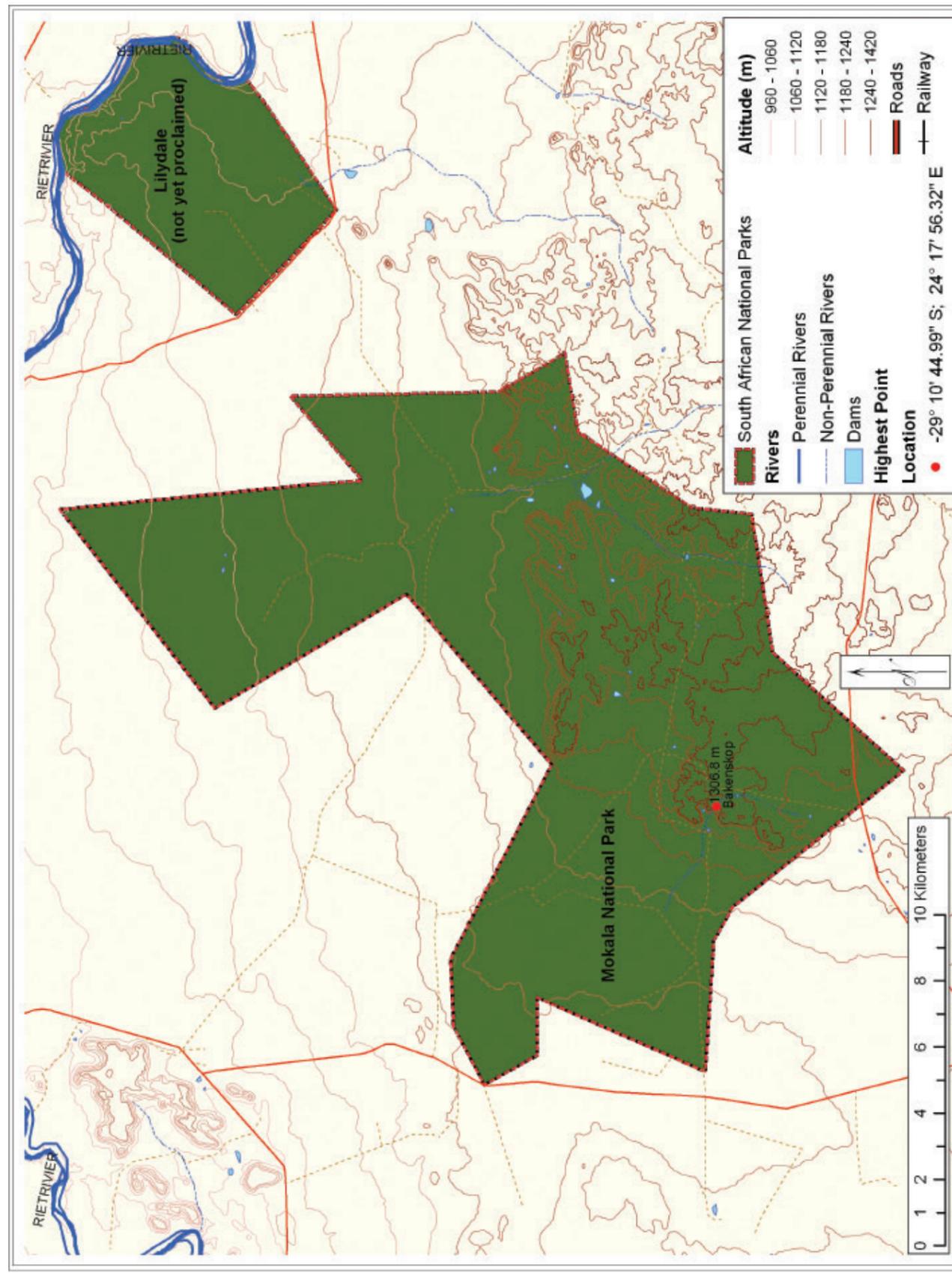
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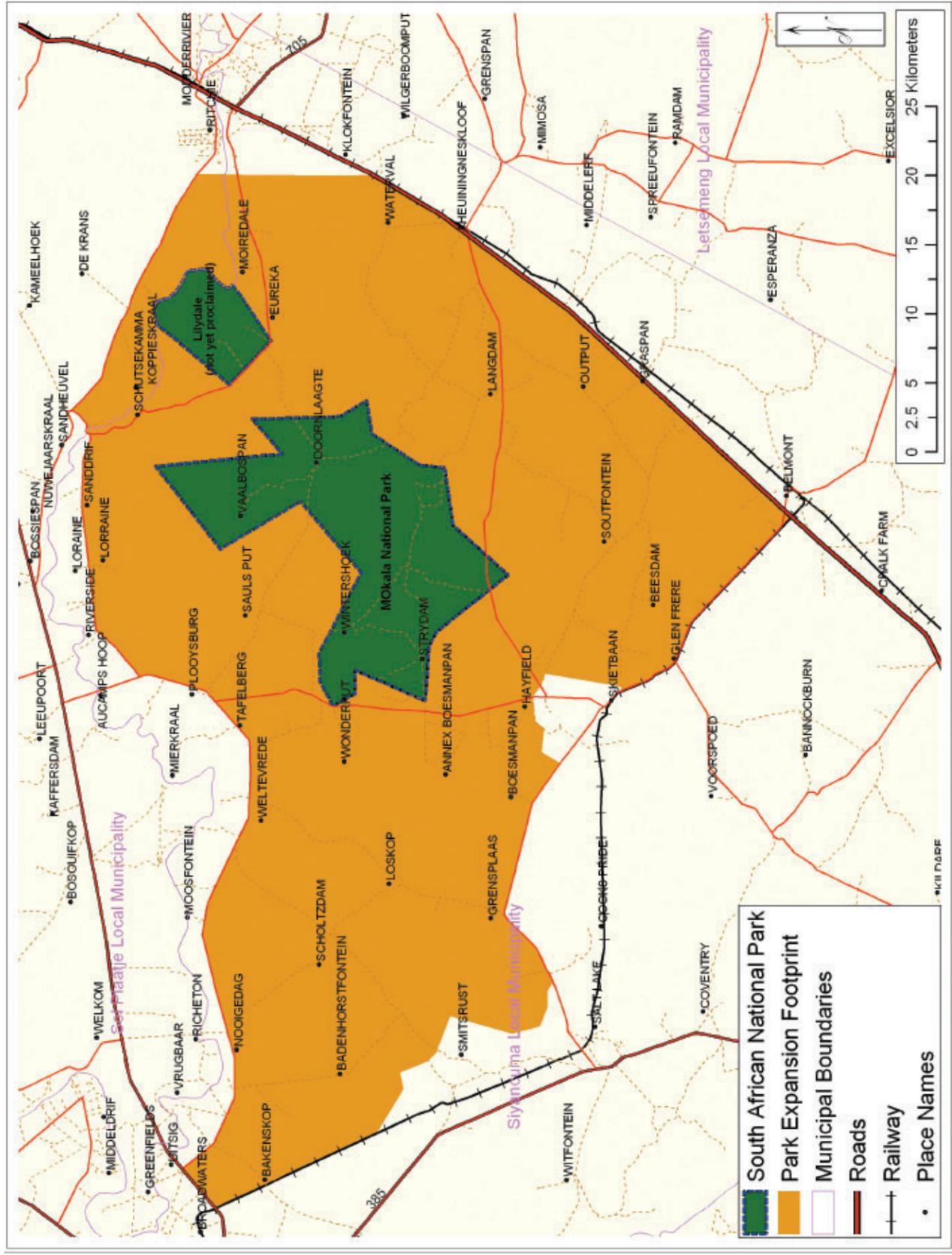
Map 1 – Regional Map



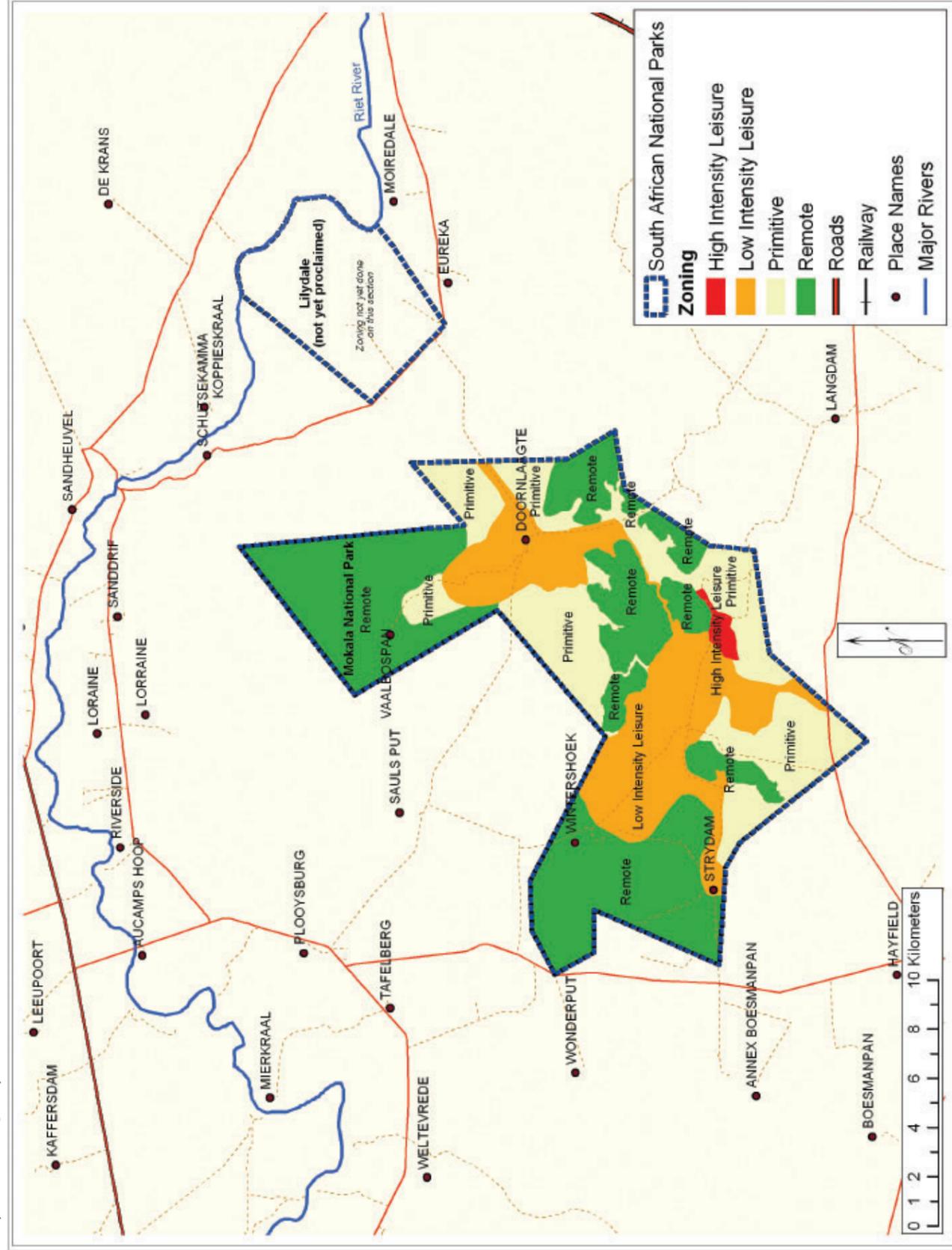
Map 2 – Physical features of the park



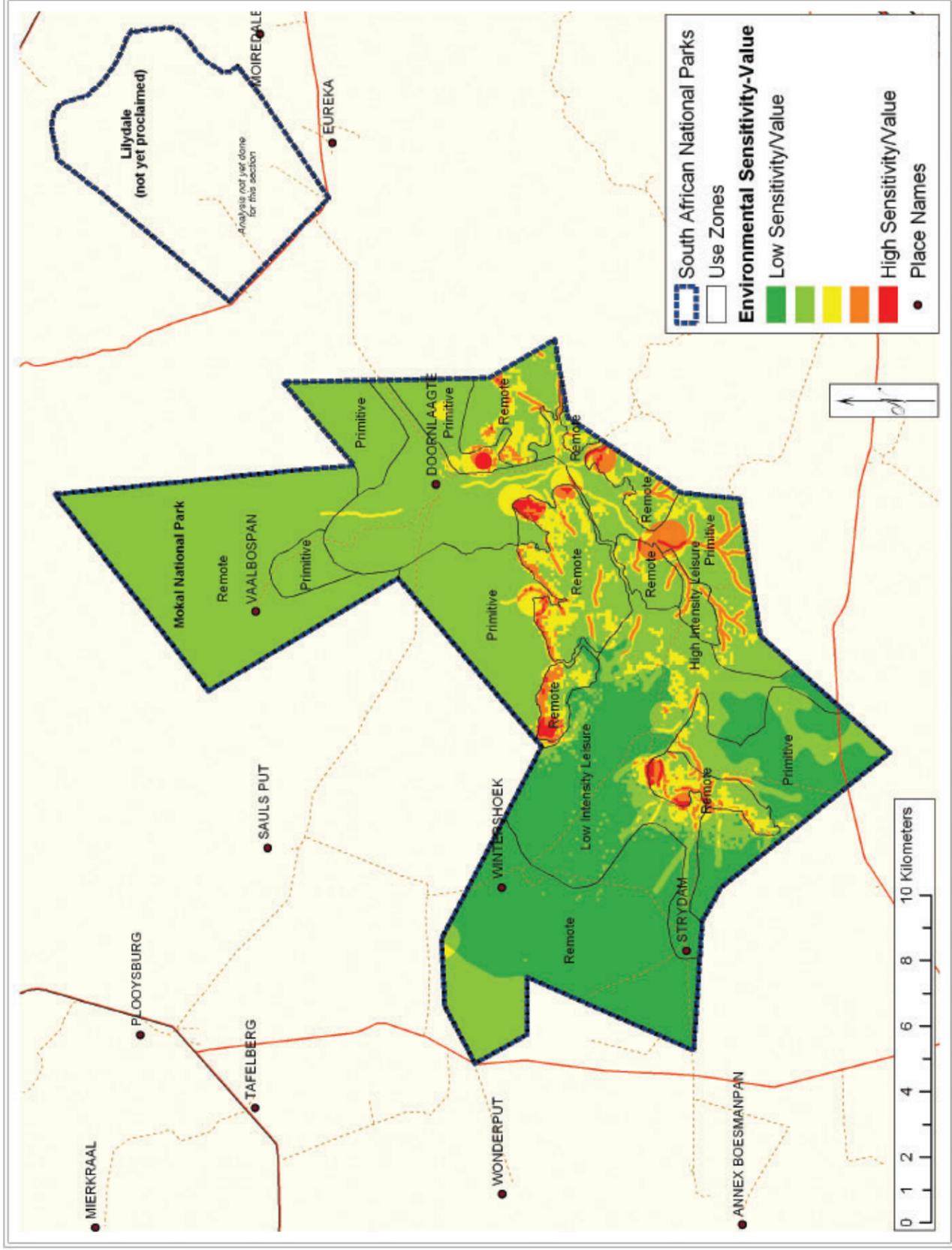
Map 3 – Land tenure and park expansion



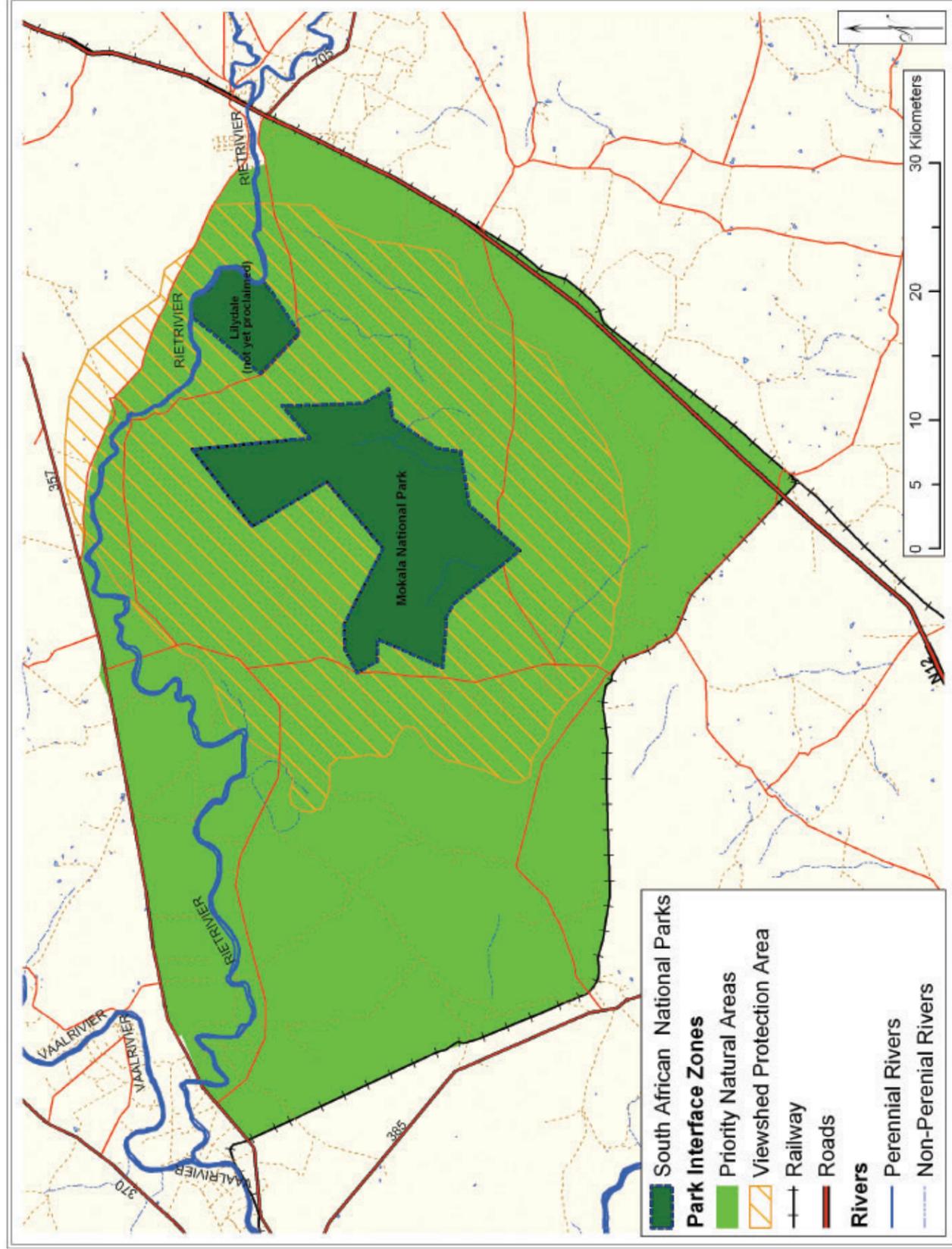
Map 4 – Zoning Map



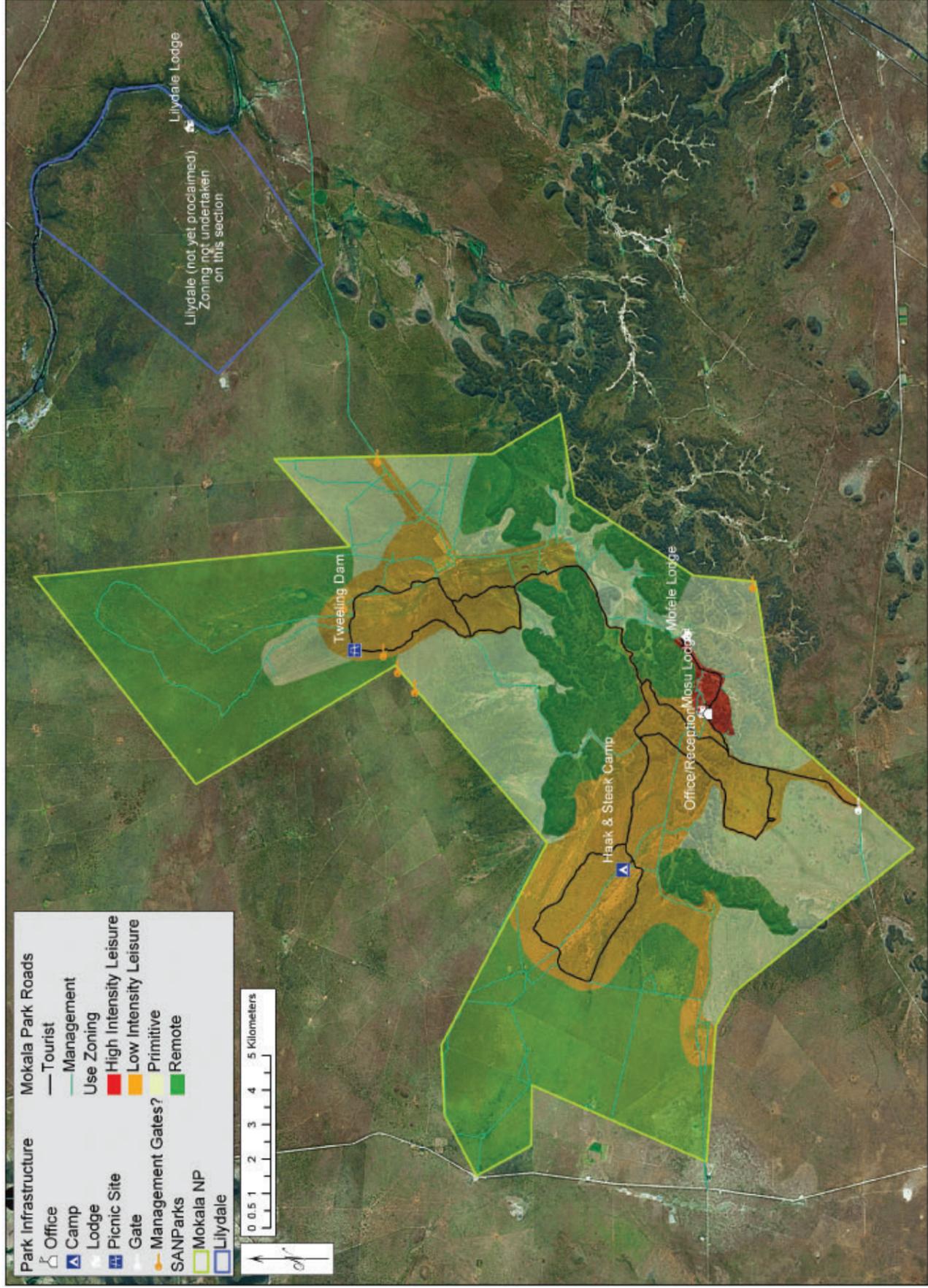
Map 5 – Zoning with sensitivity value



Map 6 – Buffer areas of interface zones



Map 7 – Infrastructure and development





South African
NATIONAL PARKS

MOKALA NATIONAL PARK
P O Box 281
Modderivier
8700

Tel: (053) 204 0158
Fax: (053) 204 0176