



Tankwa Karoo National Park

Park Management Plan

For the period
2014 - 2024



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Section 1: Authorisation

This management plan is hereby internally accepted and authorised as required for managing the Tankwa Karoo National Park in terms of Sections 39 and 41 of the National Environmental Management: Protected Areas Act (Act 57 Of 2003).

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Date: 01 May 2014

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Date: 19 August 2014

Approved by the Minister of Environmental Affairs

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Date: 10 November 2014

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Glossary

Balanced scorecard	The performance management tool used by SANParks to ensure feedback and effective implementation of various management objectives.
Desired state	The park desired state is based on a collectively developed vision and set of objectives of the desired future conditions (that are necessarily varying, across the full V-STEEP range) that stakeholders desire.
Tourism development node	A location or an area, possibly an intersection, that is identified for multi- tourism services. Depending on volumes, this will generally offer a variety of products and services and may include an activity departure point and would likely be zoned as high-intensity leisure.
Endemism	Confined to a specific place or area.
Extra-limital	Those species occurring outside their historical distribution.
Feral animal	A feral animal is a domestic animal that has returned to the wild. It is distinguished from a stray cat, which is a pet cat that has been lost or abandoned, while feral cats are born in the wild.
Guidelines	DEAs Guidelines for the development of a management plan for a protected area in terms of NEM:PAA (Cowan & Mpongoma 2010).
Mission	An articulation of the Vision that describes why the park exists and its overall philosophy on how to achieve its desired state.
Objectives hierarchy	The objectives for a park, with the 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.
Responsible tourism	Tourism that maximises benefits to local communities, minimises negative social or environmental impacts, and helps local people conserve fragile cultures, habitats and species. Or, it is a tourism or leisure activity implementing a practice that is respectful of natural and cultural environment and which contributes, in an ethical manner, to local economic development.
Stakeholder	A person, an organ of state or a community contemplated in section 82(1)(a); or an indigenous community contemplated in section 82(1)(b) of NEM:BA
Tankwa	The spelling refers to the Tankwa Karoo National Park.
Tanqua	The spelling refers to the region.
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
V-STEEP	The values (social, technological, economic, ecological and political), used to understand, with stakeholders, the social, economic and ecological context of the system to be managed, and the principles / values that guide management. These are used to develop a broadly acceptable vision for the future.

Acronyms and abbreviations

1	AIS	Alien and invasive species
2	AMSL	Above mean sea level
3	APO	Annual plan of operations
4	BSP	Biodiversity social projects
5	CARA	Conservation of Agricultural Resources Act (Act 43 Of 1983)
6	CDF	Conservation development framework
7	CPF	Coordinated policy framework
8	CRMF	Corporate risk management framework
9	CSD	Conservation services division
10	DEA	Department of Environment Affairs
11	EDRR	Early Detection and Rapid Response
12	EE	Environmental Education
13	EIA	Environmental Impact Assessment
14	EMP	Environmental Management Plan
15	EPWP	Expanded Public Works Programme
16	FET	Further Education and Training
17	GCBC	Greater Cederberg Biodiversity Corridor
18	GEC	Global environment change
19	GG	Republic of South Africa Government Gazette
20	GN	Government notice
21	HIA	Heritage impact assessment
22	HR	Human resources
23	IDP	Integrated development plan
24	ISCU	Invasive species control unit
25	NBSAP	National Biodiversity Strategy and Action Plan
26	NEMA	National Environmental Management Act (Act 107 of 1998)
27	NEM:BA	National Environmental Management: Biodiversity Act (Act 10 of 2004)
28	NEM:PAA	National Environmental Management: Protected Areas Act (Act 57 of 2003)
29	NGO	Non-governmental organisation
30	NPT	National Parks Trust
31	OHS	Occupational health and safety
32	P&C	People and Conservation
33	PM	Park management
34	RM	Regional manager
35	SA	South Africa
36	SAHRA	South African Heritage Resources Agency
37	SANBI	South African National Biodiversity Institute
38	SANParks	South African National Parks
39	SHR's	SANParks Honorary Rangers
40	SAPS	South African Police Service
41	SDF	Spatial development framework
42	SMME	Small, medium and micro enterprises
43	SKEP	Succulent Karoo Ecosystem Programme
44	SRFPA	Suid Roggeveld Fire Protection Association
45	SSC	Species of special concern
46	TKNP	Tankwa Karoo National Park
47	TPC	Threshold of potential concern
48	WMC	Wildlife management committee
49	WWF-SA	Worldwide Fund for Nature South Africa



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Introduction

The first management plan for the Tankwa Karoo National Park (TKNP) required in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003 as amended) (NEM:PAA) was submitted to, and approved in part, by the Department of Environment Affairs (DEA) in 2008.

This first review of the management plan builds on the foundation of the first plan and addresses its inadequacies. The layout of the plan follows the format provided in the Guidelines drawn up by the DEA (Cowan & Mpongoma 2010) while also incorporating the adaptive planning process adopted by South African National Parks (SANParks). Local municipalities, the district municipality and other organs of state as well as other stakeholders were consulted as required (Appendix 3). Relevant aspects of local authority plans were considered in the compilation of the plan.

The plan serves as a reference to the management and development of the park in its current and envisaged future form with information on the background, biophysical context, desired state, management and programmes at strategic and operational levels.

This management plan will come into effect following the approval by the Minister in terms of sections 39 and 41 of NEM:PAA on a date specified by the Minister and is intended for a timeframe of 10 years after commencement unless it is replaced earlier by a newly approved plan. SANParks will review this plan no later than ten years after the commencement date.

The plan follows the DEA guidelines and contains the following sections for this plan:

- **Section 1** provides for the required authorisation
- **Section 2** provides a record of the legal status of the park, descriptions of its context as well as relevant local, regional, national and international agreements
- **Section 3** sets out the framework of legislation, national policies, SANParks structures, policies, guidelines, practices regarding management
- **Section 4** describes the consultation process followed in the preparation of this plan
- **Section 5** presents the vision, purpose, values, principles and attributes considered in developing a desired state for the park and provides the high level objectives as basis for the management programmes contained in Section 10 of the plan
- **Section 6** outlines the zoning plan
- **Section 7** describes access and facilities
- **Section 8** summarises the expansion and consolidation strategy
- **Section 9** sets out the concept development plan
- **Section 10** provides a strategic plan with programmes, objectives and activities with cost estimates. Monitoring and evaluation are integrated into the actions
- **Section 11** contains detailed costing of the programmes

Appendices to this plan contain further details such as proclamations, co-management areas, legislation and policies.



Section 2: Legal status

2.1 Name of the area

The Tankwa Karoo National Park (TKNP) was initially declared on 19 September 1986 (in Government Gazette No. 1934). A full list of proclamations is given in Appendix 1.

2.2 Location

The Tankwa Karoo National Park is situated in the northern section of the Tanqua Karoo approximately 140 km north of Ceres, 100 km south of Calvinia, 120 km west of Sutherland and 25 km south-west of Middelpos, and is bounded by the Cedarberg Mountains in the west, the Roggeveld escarpment to the east and the Klein Roggeveld Mountains to the south-east (Appendix 6, Map 1). Two public roads leading from Ceres to Calvinia and Middelpos (the R355 and P2250) cut through the park. The park falls across the two provinces of the Western Cape Province and the Northern Cape Province of South Africa. The Tankwa Karoo National Park has been recognised as important in the face of climate change as it provides a migration corridor for succulent plants in this region.

2.3 History of establishment

San hunter-gatherers who inhabited the region prior to pastoral occupation have left numerous rock paintings spread throughout the escarpment areas surrounding the park. Nomadic pastoralism first brought sheep into the succulent Karoo about 2, 000 years ago, and cattle some 1, 500 years later. The European pastoralists (trekboere) who moved northwards from the Cape Peninsula in the 18th century were nomadic, moving with their flocks to suitable grazing. In the 19th century, the succulent Karoo became the first biome used for settled European pastoralism. Several historical clay homesteads in various stages of decay are found throughout the park. Old cultivated fields are found scattered all along the floodplains that drain into the Renoster River, with canals and dam walls constructed in order to assist with flood irrigation.

Declared in 1986 to protect the under-conserved Succulent Karoo as one of 25 biodiversity hotspots throughout the world, the Tankwa Karoo National Park is still in a stage of expansion, consolidation and development.

2.4 Contractual agreements

The privately owned Gannaga Lodge which is located on 15 ha private land surrounded by the park is situated on the Roggeveld escarpment at the summit of the Gannaga pass. SANParks has entered into an agreement with the owners whereby they would sell their land to SANParks while being allowed to develop tourism infrastructure. The contract further stipulates an annual fee to be paid to SANParks.

Table 1 below give a summary of the privately owned land that was contractually included into the park.

Title deed	Farm name	Portion No	Extent (ha)	Owner	GG	Proclamation date	Period
T55878/2010	Hoenderhoek 3	0	532.06	NPT		Not declared	
T29542/2010	Gannaga 1029	0	1, 028.15	WWF-SA		Not declared	
T8922/2007	Paarde Kraal 4	0	2, 714.05	NPT	807	25 Oct 2013	

Title deed	Farm name	Portion No	Extent (ha)	Owner	GG	Proclamation date	Period
T8922/2007	Paarde Kloof 113	0	261.36	NPT	807	25 Oct 2013	
T55878/2010	Waterval 64	0	1, 339.90	NPT		Not declared	
T55878/2010	Taaiboschkloof 63	0	1, 035.26	NPT		Not declared	
T85118/2007	Kleinfontein 1 027	4	934.65	NPT	807	25 Oct 2013	
T8922/2007	Leeuw Kloof 114	2	599.57	NPT	807	25 Oct 2013	
T8922/2007	Leeuw Kloof 114	0	3, 277.57	NPT	807	25 Oct 2013	
T30923/2004	Lange Kloof 60	1	1, 563.18	NPT	807	25 Oct 2013	
T55878/2010	Quaggafontein 66	1	1, 672.80	NPT		Not declared	

2.5 Co-management agreements

There are currently no co-management agreements effective.

2.6 Total area

The park currently covers approximately 146, 373 ha of which 138, 570 ha are proclaimed while 7, 803 ha are in the process of being proclaimed (Appendix 6, Map 3). The park has reached a size where the park ecosystem is now relatively intact and able to accommodate many ecological processes.

A list of all the proclamations can be found in Annexure 1.

2.6 Highest point

The highest point in the park is 1, 640 m above mean sea level. The latter is of note as this determines the park's airspace (2,500 feet above the highest point, thus 7,912 feet) above the park (Appendix 6, Map 2). The park ranges in altitude from 316 m to 1, 640 m with the majority of the park lying within the 450-750 m range.

2.7 Municipalities within which the park falls

The park falls within the Cape Winelands District Municipality in the Western Cape Province and the Namakwa District Municipality in the Northern Cape Province. Parts of the park lay in three local municipalities the Witzenberg Local Municipality with the administrative office in Ceres, the Hantam Local Municipality with the administration office in Calvinia and the Karoo Hoogland Local Municipality with the administration office in Williston.

2.8 Land claims

There is currently no land claim registered against any portion of land within the park.

2.9 International, national and provincial listings

The Tankwa Karoo National Park falls within the international biodiversity hotspot of the Succulent Karoo (Myers *et al.* 2000) as recognised by Conservation International. A wide range of relevant legislation (e.g. NEMA, NEM:PAA, NEM:BA, Water Act, Fencing Act, damage causing animal regulations *etc.*) will predominantly guide decisions made in the park. The Tankwa Karoo National Park is actively involved in the Greater Cederberg Biodiversity Corridor (GCBC) aimed at linking protected areas and private lands to establish a corridor along the natural migratory routes from the Karoo to the coast.

2.10 Environmental authorisations

There are no authorisations.

2.11 Biophysical and socio-economic description

A summary of biophysical aspects of importance to this plan are given here, with more details given in a State of knowledge report (SoKR).



2.11.1 Climate

The Tanqua Karoo is one of the most arid sections of the Karoo. Isohyets of mean annual rainfall for the Karoo indicate that the TKNP falls into the 0-500 mm range, with 25% of the mean annual precipitation falling in summer. The mean July minimum temperature is 5,7°C, and the mean January maximum temperature is 38,9°C. The highest average maximum temperatures occur from November to March while the highest average wind speeds are recorded between October and March.

2.11.2 Topography

The lowest area is on the farm Luiperdskop South in the southern section of the park, while the highest section occurs in the eastern corner reaching to the top of the escarpment of the Roggeveld mountain range (Appendix 6, Map 2). The dominant landforms consist of plains, a large flat dolerite plateau, large floodplains, Roggeveld escarpment and the Renoster River catchment area.

2.11.3 Geology and soils

The Tanqua basin was formed 278 million years ago by the movement of the Cederberg and the Hex Rivier Mountains pushing the surface down and starting a shallow 500-700 meter deep basin. This was flooded, sand and clay deposits accumulated during the Ecca period (a duration of about 28 mya), when the sea levels dropped and the basin dried out. The geology of the TKNP consists of Bokkeveld Group shales, Witteberg Group sandstones and quartzites, and sediments of the Karoo Supergroup (chiefly Dwyka and Ecca Formations). Soils consist of the following formations; Abrahamskraal, Waterford, Kookfontein, Skoorsteenberg, Tierberg, Whitehill, Prince Albert and Elandsvlei (Dean and Milton 1999). Resulting in soils of deep sands and weathered bedrock on the flats and shallow rocky soils on the mid and foot-slopes.

2.11.4 Hydrology

Two perennial rivers run through the park, these are the Renoster River, which runs through the south-eastern part of the park and Tankwa River which runs through the southern section of the park. The park conserves the majority of the Renoster River catchment area. One man-made dam is located within the park boundaries, Oudebaaskraal dam can be found along the Tankwa River, 50 km south of the park offices. The dam attracts over 100 species of birds and is a key birding spot for many visitors. Attention to borehole and other water over utilisation must be monitored in this park so as not to affect hydrological features, and their significance in the landscape.

2.11.5 Flora

The park falls into the Succulent Karoo Biome and comprises the lowland (tanqua karoo) and upland (western mountain karoo) succulent karoo vegetation types. Vegetation types conserved by the park are: Central Tanqua Grassy Plain, Roggeveld Shale Renosterveld, Tanqua Escarpment, Succulent Karoo, Roggeveld Karoo, Tanqua Wash Riviere, and Nieuwoudville Roggeveld Dolerite Renosterveld. The remarkable endemism and diversity of the Succulent Karoo flora, generally at its most spectacular from August to October, is one of the more prominent aspects of the park. The lowland succulent karoo is described as very sparse shrub land and dwarf shrub land (<0.3m). The upland succulent karoo which includes the Roggeveld and Elandsberg Mountains is described as generally consisting of small to medium sized shrubs and succulents.

At present the plant species list for the park stands at 780 plant species with four new species to science found within the last four years (Appendix 6, Map 7). Invasive alien plant infestations are relatively limited to riverine areas and are managed via removal and monitoring at this stage.

2.11.6 Fauna

Although more comprehensive species lists are constantly being updated, the current numbers of fauna in the park to date are: 44 mammal species (including the Cape mountain zebra, *Equus zebra zebra* and the Black footed cat, *Felis nigripes*, both listed as Vulnerable), 10 arachnids and 21 reptile species. Animal re-introductions have taken place since the 1990's with the majority of re-introductions beginning in 2004 to 2012. The following species have been re-introduced; Cape mountain zebra, gemsbok *Oryx gazella*, red hartebeest *Alcelaphus buselaphus*, springbok *Antidorcas marsupialis* and eland *Tragelaphus oryx*. The results of the first aerial census in 2013 indicate that these re-introductions have been a success and there is a potential for additional animal re-introductions of more species (i.e. brown hyena *Hyaena brunnea*, cheetah *Acinonyx jubatus* and black rhino *Diceros bicornis bicornis*). The park is renowned for fine Karoo birding and 187 bird species have been documented to date, perhaps most notably for avid birders the enigmatic Burchell's courser *Cursorius rufus* can be easily seen in the park. Very few fish species have been recorded in the park, the Oudebaaskraal dam has high numbers of the chubbyhead barb *Barbus anoplus*, which is listed as Least Concern. This species complex is currently under revision and may be separated into more species. The Clanwilliam sandfish *Labeo seeberi*, has a status of Endangered, is thought to occur in the upper parts of the Tankwa River. A survey of the river upstream of the dam is due to take place with the potential to re-introduce the sandfish should they no-longer be in this part of the river system. Very little is known about the amphibians of the park, currently five amphibian species are recorded. Future research projects on amphibians and insect inventories for TKNP are planned.

2.11.7 Archaeology and cultural heritage

An inventory of all the colonial heritage sites within TKNP was conducted in 2005 resulting in the identification of 46 potential heritage sites. These sites include historic cemeteries, farmsteads and outbuildings. This initiative has shown that the park has significant heritage resources within its boundaries and further research is required to locate and identify pre-colonial heritage sites within the park including burial grounds, rock paintings and cave dwellings.

2.11.8 Socio-economic context

There are three major urban settlements Calvinia, Sutherland, and Ceres and the small village of Middelpoort nearest the park. The closest stakeholders to the park are the adjoining farming community. The regional economy is focussed primarily on livestock farming and the growth of tourism products. The park has employed a significant number of contract staff under the Expanded Public Works Programme (EPWP) within the Working for Water (WfW) and Working on Land (WoL) programmes. Small livestock farming can cause some incompatibility in adjacent land use with a relatively high potential for conflict around predator impacts to livestock farmers. The TKNP and the region have the potential to offer a wilderness experience to the Cape metropolitan market with an exciting range of opportunities for marketing and ecotourism development. The park has built new tourism infrastructure at the Elandsberg rest camp and Perdekloof camp site. New tourism products and activities are being investigated including picnic sites and a visitor node at the Oudebaaskraal Dam. The wider area has been identified as having a mining potential with hydraulic-fracturing (Fracking) being the main type of mining identified.



Section 3: Policy framework

3 Introduction

SANParks, like all protected area management authorities, are subject to the constitution, legislation, international agreements, national policies and government priorities. Section 41 of the NEMA:PAA requires that management plans be located within the context of a Coordinated Policy Framework (CPF), with SANParks complying with a first CPF having been developed in 2006.

This CPF will be updated within the 2015 / 2016 financial year. The CPF will provide the information required by the Department of Environmental Affairs (DEA) guidelines for management plans (Cowan & Mpongoma 2010). This document will summarise the institutional, ecological, economic and social environment for park management and includes:

- (1) An introduction to the management plan requirements of the NEM:PAA, what it means for stakeholders, and the corporate provisions SANParks has made to comply with NEM:PAA.
- (2) SANParks as an organisation: including its organisational structure, vision, mission, biodiversity values and performance management system (by means of the Balanced scorecard), and its approach to strategic adaptive management.
- (3) Policies and guiding principles
 - a) Finances and commercialisation
 - b) Tourism
 - c) Zoning system in parks
 - d) Stakeholder relationships
 - e) Management to maintain biodiversity and ecosystem processes.
 - f) Risk management
 - g) Safety and security
 - h) Cultural heritage resources
 - i) Resource use
 - j) Research

The CPF can be downloaded from the SANParks website using the link http://www.sanparks.org/conservation/park_man/. A revised and updated CPF is due in 2013.

SANParks policies are guided by its vision and mission statements. As a public entity, SANParks is committed to act in pursuit of transformation of South Africa's society in support of entrenching South Africa's democracy. And as such, this policy framework is open to public review by stakeholders.

The planning cycle for management plans in SANParks is 10 years, although programmes and costing will be revised at a more regular basis, normally every five years but more often if needed.

3.1 Park specific framework

All park managers (except for Kruger) report to the Managing executive: Parks through a Regional general manager. In the case of the TKNP this is via the Regional general manager for the Cape region. The park's organogram (Figure 1) sets out the reporting structure in the park.

3.2 Park rules

The park rules can be found in Appendix 5.

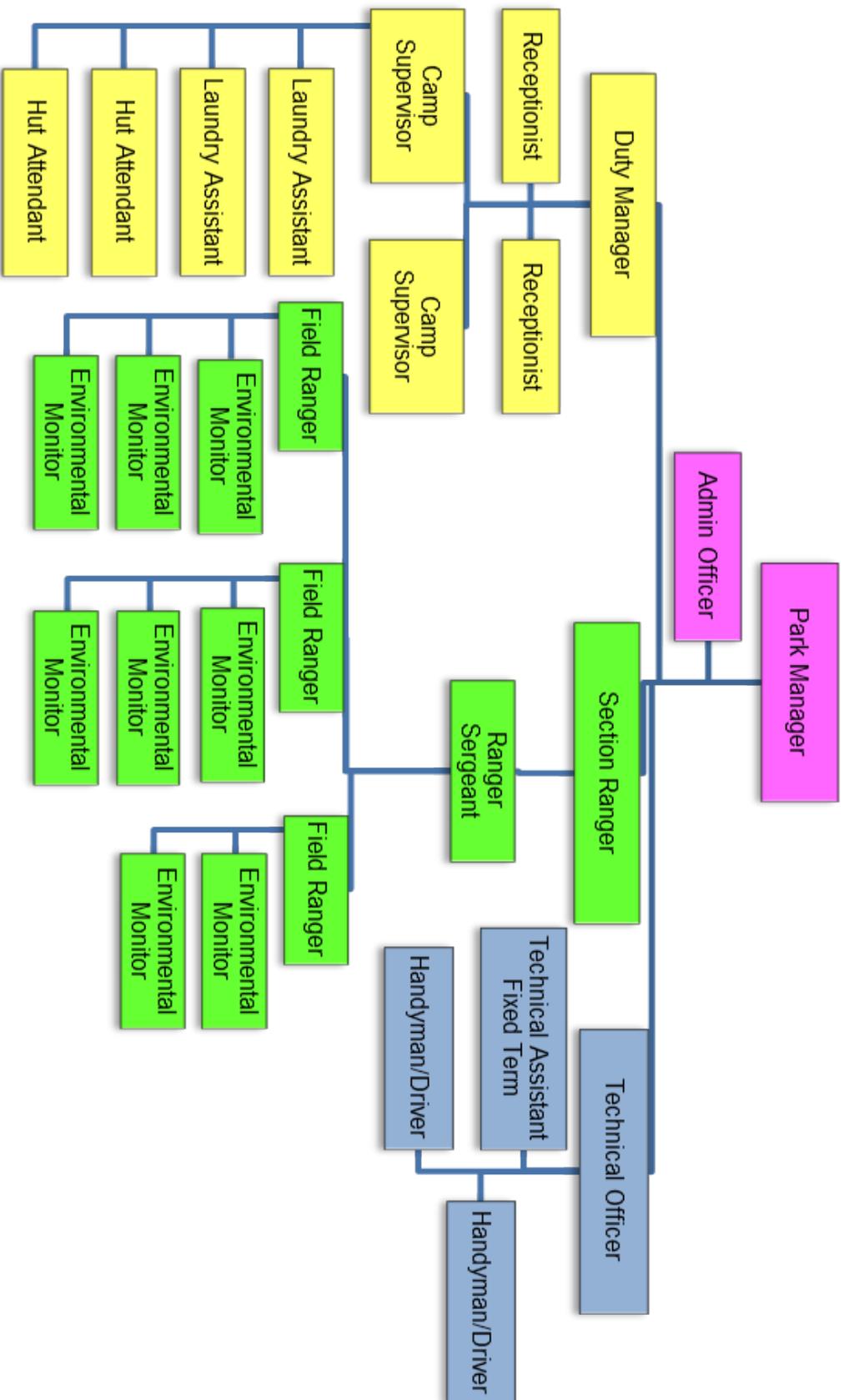


Figure 1. Park organogram.



Section 4: Consultation

SANParks recognises that parks must serve societal values and that they need to be part of and interrelate with the broader landscape and socio-economic context within which they are situated. The goal of the park within the public participation process is to work directly with stakeholders to ensure that the stakeholder concerns and aspirations are consistently understood and considered. Therefore stakeholders, both interested and affected, were included in the revision process of the park management plan by notifying them of participation processes through mechanisms suitable for the different stakeholder groups. These processes provided the opportunity for input from all stakeholders within reasonable timeframes, with the emphasis on sharing of information and joint learning. Processes also aimed to recognise all knowledge, indigenous, ordinary and expert, as well as the diversity of values and opinions that exist between stakeholders. The commitment to the incorporation of public opinion into this plan is rooted in the parks' management activities and is therefore geared towards promoting conservation values (and society's connection with those values, as also outlined in the NEM:PAA) and promoting this goal in part, by engaging the broader context in which the park is situated. The adaptive planning process that was followed was designed to (a) help stakeholders express opinions and values in a structured way, (b) to use the opinions and expressed values to formulate a vision for TKNP, and (c) to translate the vision into management objectives that reflect the values as expressed by stakeholders.

The objectives of the stakeholder participation process are to:

- Create a channel for the accurate and timely dissemination of information to interested and affected stakeholders;
- Create the opportunity for communication between SANParks and the public;
- Promote opportunities for the building of understanding between different parties;
- Provide the opportunity for stakeholders to give meaningful input into the decision-making processes that drive the development of the park management plan.

The approach to the stakeholder participation process is based on the principles embodied in the following legal framework:

- The Constitution of the Republic of South Africa Act No. 108 of 1996;
- National Environmental Management Act No. 107 of 1998 (NEMA); and
- The National Environmental Management: Protected Areas Act No.57 of 2003 as amended by the National Environmental Management: Protected Areas Act No.31 of 2004.

In addition to the above legal framework, the stakeholder process was developed with the guiding principles for SANParks stakeholder participation in mind. SANParks thus undertakes to:

- Seek to notify stakeholders of participation processes through appropriate mechanisms.
- Ensure that the process provides the opportunity for input from all stakeholders within reasonable timeframes, emphasising the sharing of information, joint-learning and capacity building.
- Promote participation by stakeholders through timeous and full disclosure of all relevant and appropriate information.
- Provide feedback on the outcome of the process to stakeholders and demonstrate how their inputs have been considered in the decision making process.
- Ensure that methodologies accommodate the context of the issue at hand and the availability of resources (people, time, money) and do not conflict with these guiding principles.

- Give particular attention to ensuring participation by marginalised communities, communities with specific concerns, or communities that have contractual rights in the national park.

Details regarding the stakeholder process are outlined in Appendix 3.



Section 5: Purpose and vision

5.1 Purpose of the park

NEM:PAA requires that the park be managed in accordance with purpose for which it was declared. The original purpose of the park is not officially specified, neither in the first gazetted declaration nor any subsequent addition (Appendix 1). However, the park protects the under-conserved succulent karoo, now acknowledged as one of 25 biodiversity hotspots in the world. This objective is consistent with the vision, mission and objectives hierarchy that was derived through recent consultation with stakeholders, as set out in this section. Hence SANParks will manage the TKNP in accordance with the objectives derived at the stakeholder workshop on 22 July 2013.

5.2 Vision and mission

The vision is an inspirational statement designed to provide a picture of the envisaged future for the park. It answers the question of ‘where do we want to go?’ SANParks’ corporate vision, which holds for all national parks including TKNP, is as follows:

VISION

“South African National Parks connecting to society”

The mission defines the fundamental purpose of the park, succinctly describing why it exists and what it does to achieve its vision. The mission of each park is developed in consultation with stakeholders. The existing mission was not revised at the TKNP stakeholder workshop on 22 July 2013 but the stakeholders agreed that SANParks could refine it. The new mission reads as such.

MISSION

“We endeavour towards the conservation of Tankwa Karoo National Park through the integrated, effective and adaptive management of ecological systems, cultural heritage, and responsible tourism. As a regional partner, we develop and maintain community participation and empowerment.”

5.3 SANParks corporate vision of the desired state of Tankwa Karoo National Park

Examined from the perspective of the entire system of national parks, SANParks has identified a broad strategic direction for each individual national park. This corporate strategic direction is intended to enable each park to complement the role of other parks in adding overall value to South Africa’s national park system in terms of biodiversity conservation, recreational opportunities and regional socio-economic contribution. Thus the following strategic direction for TKNP has also informed the programmes of implementation (Section 10) of this management plan:

Tankwa Karoo National Park has high scenic value, and moderate biodiversity value. It is important as a bank of rare species and species endemic to the succulent karoo biome. There is potential for improvements in heritage value, environmental education and awareness and in the diversity of tourism products. Infrastructure development requirements include staff housing. There are no prospects for surplus income generation but the deficit can be reduced. The national biodiversity value of the park will improve over the next 20 years. The biodiversity risk profile is low.

5.4 Operating principles or values

The stakeholders at the meeting of 22 July 2013 recognised and endorsed the current park values, SANParks corporate and conservation values (as set out in the SANParks CPF). The park values are as follows:

- We have mutual respect for cultural, economic, land use and environmental differences across the range of stakeholders.
- We recognise that ecosystems and biodiversity are complex, and that we will seldom have all the information we want to make decisions, thus we adopt a 'learning by doing' approach to their management.
- We strive for a culture of working together, strengthening partnerships, honesty, cooperative sharing of expertise, and of empowerment and advancement of all parties.
- We believe that clear definition of each stakeholder group's expectations, and how we balance the distribution of costs and benefits, will help us to avoid irreconcilable conflict in future.
- We seek transparency and openness from all partners and stakeholders within and around TKNP.
- We will manage TKNP and its assets to its full potential, but within biodiversity and aesthetic constraints.
- We will promote TKNP as an integral part of the Hantam Tankwa Roggeveld region.

5.5 Park context

The context refers to the current circumstances and the conditions that determine these circumstances. The context is therefore important as a set of agreed-upon realities that will influence the setting of management objectives.

In addition to the context summarised under sections 2.1 to 2.12.8 stakeholders requested that the undermentioned additional context be added:

- The new development and associated impact of the Square Kilometre Array (SKA) nearby Carnarvon;
- The advancement of bioregional planning;
- Completion of various provincial and or municipal public works projects could lead to an increase in unemployment;
- Emphasis is placed on the effective management of fresh water resources as highlighted by the SANParks Global Environmental Change Assessment: Aquatic Ecosystems;
- Acknowledgement that the local economy has deteriorated in the last five years;
- To acknowledge Williston, Middelpoort and Nieuwoudtville as part of the Hantam Tankwa Roggeveld region and the positive impact the park could have on these towns;
- The majority of visitors to TKNP is of local origin and these numbers are steadily increasing;
- Unemployment lead to criminal activities and these reflect seasonal fluctuations;
- In general there is a population increase as well as variations in age and racial demography in the region;
- TKNP is reflected in the IDP and SDF of the Hantam local municipality;
- SANParks strategic view of TKNP as depicted in the park differentiation;
- SANParks has adopted the new responsible tourism strategy;
- The National Protected Area Expansion Strategy acknowledges TKNP as an important area.

5.6 Vital attributes

The vital attributes of the park are the important characteristics and / or properties of the park that concisely describe the key features of the park. The park identified seven attributes that are vital to the approach by which it is managed. The key attributes are:

- The succulent karoo is considered one of 25 biodiversity hotspots in the world, with the Roggeveld a recognised centre of endemism. There is an extreme range of biodiversity contrasts over a small area (going from the Cape / Boland / Cederberg area to the Tankwa flats and Roggeveld Mountains), endemic birds, rare plant, and animal species. In TKNP the emphasis is on nature (rather than game).
- This is a semi desert environment with a rainfall gradient (an unusual combination), clean water and large temperature variations.



- TKNP has a unique ambience and sense of place, with a feeling of wide open space, the attraction of the 'kaaltes' and a unique landscape. It is underdeveloped and provides wilderness qualities with a great variety of landscape attributes (*i.e.* not only the flowers are an attractant; they do not always flower successfully).
- Historical sites in TKNP (*e.g.* San paintings, 'klei huisies') enhance the park's cultural aesthetic value. The region is home to people with a culture and way of life that is their own. This also provides a large range of activities and experiences in the region.
- TKNP as a developing and growing destination is contributing to local and regional tourism.
- Major contributor through bioregional linkages in the formation of the Greater Tankwa Cederberg mega reserve.
- Pristine star gazing experience.

5.7 Determinants and risks to the vital attributes

A major component of park management's responsibility is to ensure the maintenance of the determinants or strengths of the vital attributes and to limit the influence of threats to the system where possible.

The boxes below reflect the vital attributes, determinants and threats.

1. The succulent karoo is considered one of 25 biodiversity hotspots in the world, with the Roggeveld a recognised centre of endemism.	
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Determinants: Good ecological integrity of the diverse landscapes and vegetation types, declared national park, park expansion and consolidation strategy, extreme range of biodiversity contrasts over a small area, endemic birds, rare plants, and animal species.	
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Threats	
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The possible over-development of the park and the region. Increased poaching including illegal harvesting. Old farm lands.	Mining (Fracking). Alien fauna and flora. Increased dust pollution. Erosion.
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2. The unique climatic range from the semi desert Tankwa plains into the Roggeveld escarpment	
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Determinants: Land consolidation, landscape, topographical and rainfall gradient, large temperature variations, different vegetation types, geological formations, sense of place	
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Threats	
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Climate change (change in temporal and spatial rainfall patterns).	
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3. Tankwa Karoo National Park has a unique ambience and sense of place, with a feeling of wide open space.

Determinants: Relative remoteness from large urban centres and impacts of mass tourism, underdeveloped, wilderness qualities, variety of landscapes, cultural footprint.

Threats

Undesirable developments outside the park (mining, wind and solar). Over development in park. Deterioration of infrastructure.	Light pollution (uncontrolled driving at night, developments). Open access (public roads through park).
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4. Historical sites in TKNP and a region that is home to people with a culture and way of life that is their own.

Determinants: Diverse historic cultures, declared national park, ancient footprint, sites relatively undisturbed, 'klei huisies', grave sites

Threats

Lack of resources to manage (capacity and funding). Loss and lack of knowledge. Vandalism.	Climate change (exposure / weathering). Lack of support from authorities (SAHRA). Lacking heritage skills and research. Indiscriminate demolition.
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5. Tankwa Karoo National Park as a developing and growing destination is contributing to local and regional tourism.

Determinants: Growing visitor numbers, new tourism infrastructure added, potential to expand and introduce new tourism products, potential to introduce new tourism activities

Threats

Lack of staff and funding to keep tourism product up to high standards and introducing new ones.	International financial crisis.
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6. Major contributor through bioregional linkages in the formation of the Greater Tankwa Cederberg mega reserve.

Determinants: TKNP contribute 146, 373 ha, Renoster River catchment, recognised eastern boundary of GCBC, great escarpment to sea, historic migratory path, clean water.

Threats

Lack of funding to consolidate;	
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7. Pristine star gazing experience

Determinants: Open skies, no light pollution, dry climatic conditions, remote location

Threats

Light pollution link to development. Dust pollution.	Development affecting the skyline.
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5.8 High level objectives

While the Mission sets out the “Where do we want to go”, high level objectives act as the roadmap to achieve the Mission. These high level objectives tend to flow naturally from the vital attributes. The desired state is achieved by means of a hierarchy of objectives, starting with an overall objective aligned with SANParks’ organisational structure and the park’s Vision and Mission statements, then broad, high level objectives (this Section) and then to finer and finer levels of detail, ending with specific operational or management actions (Section 10).

Discussions at the stakeholder meeting gave rise to an initial set of high level objectives. These were refined to reflect the following:

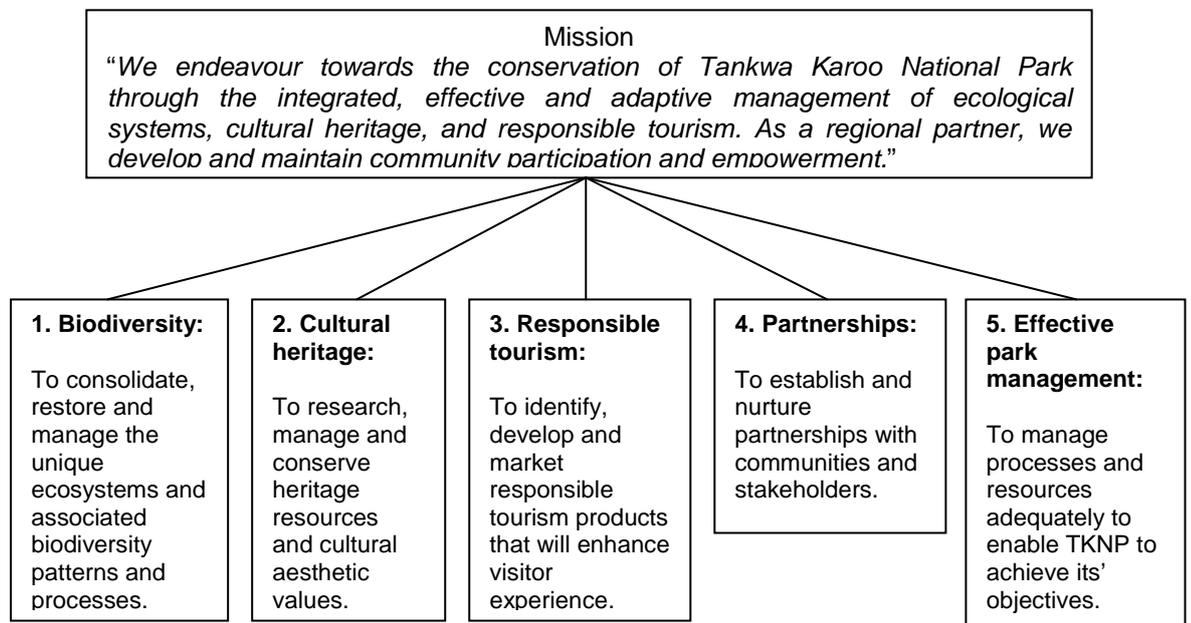


Figure 2: Park high level objectives

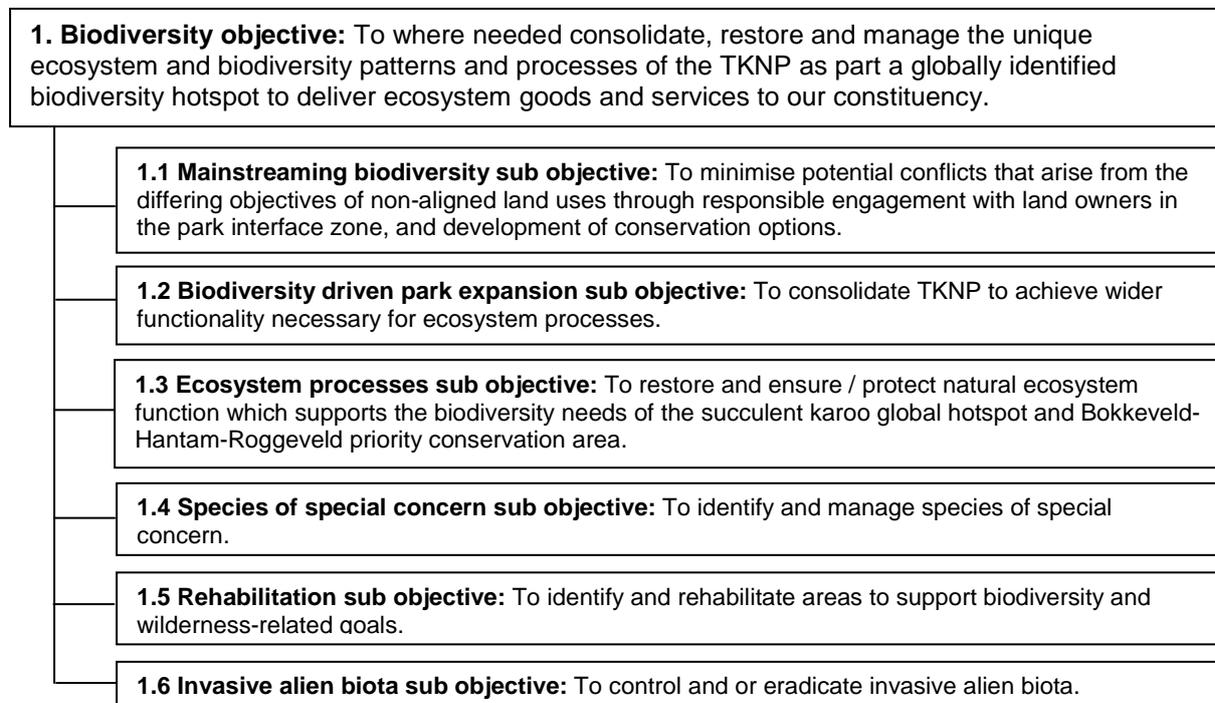


Figure 3: Biodiversity objective and supporting sub objectives.

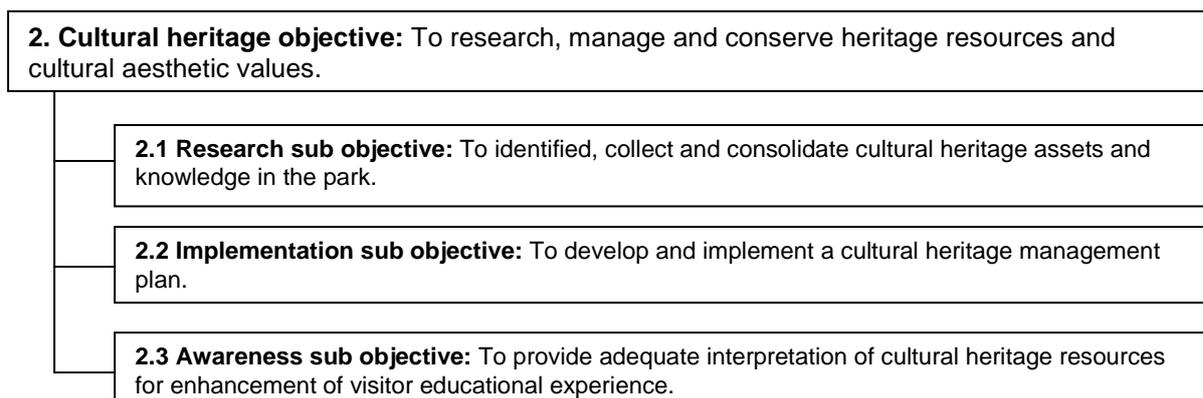


Figure 4: Cultural heritage objective and supporting sub objectives.

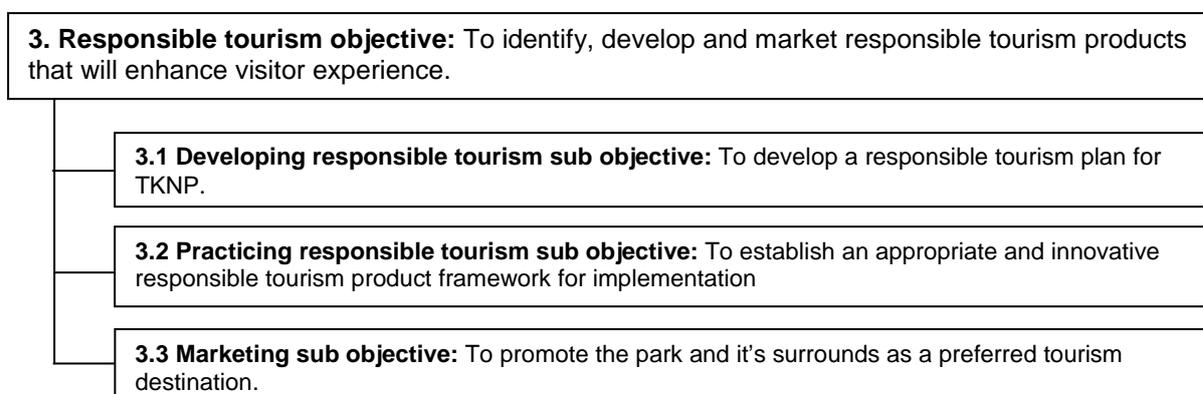


Figure 5: Responsible tourism objective and supporting sub objectives.

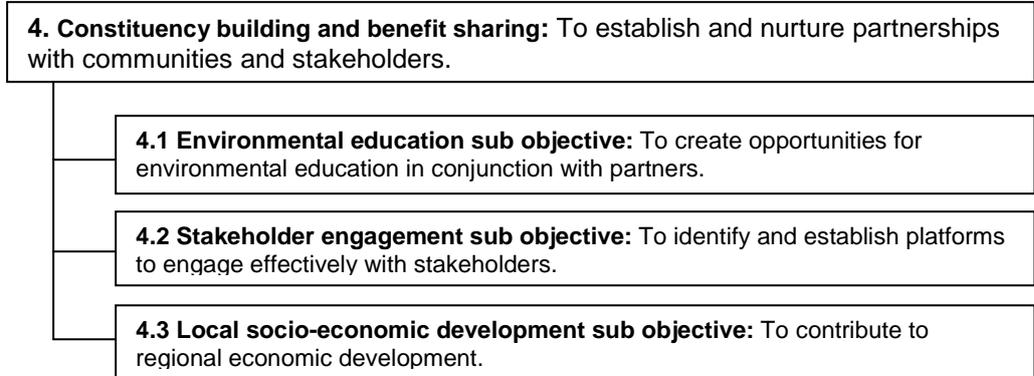


Figure 6: Stakeholder beneficiation objective and supporting sub objectives.

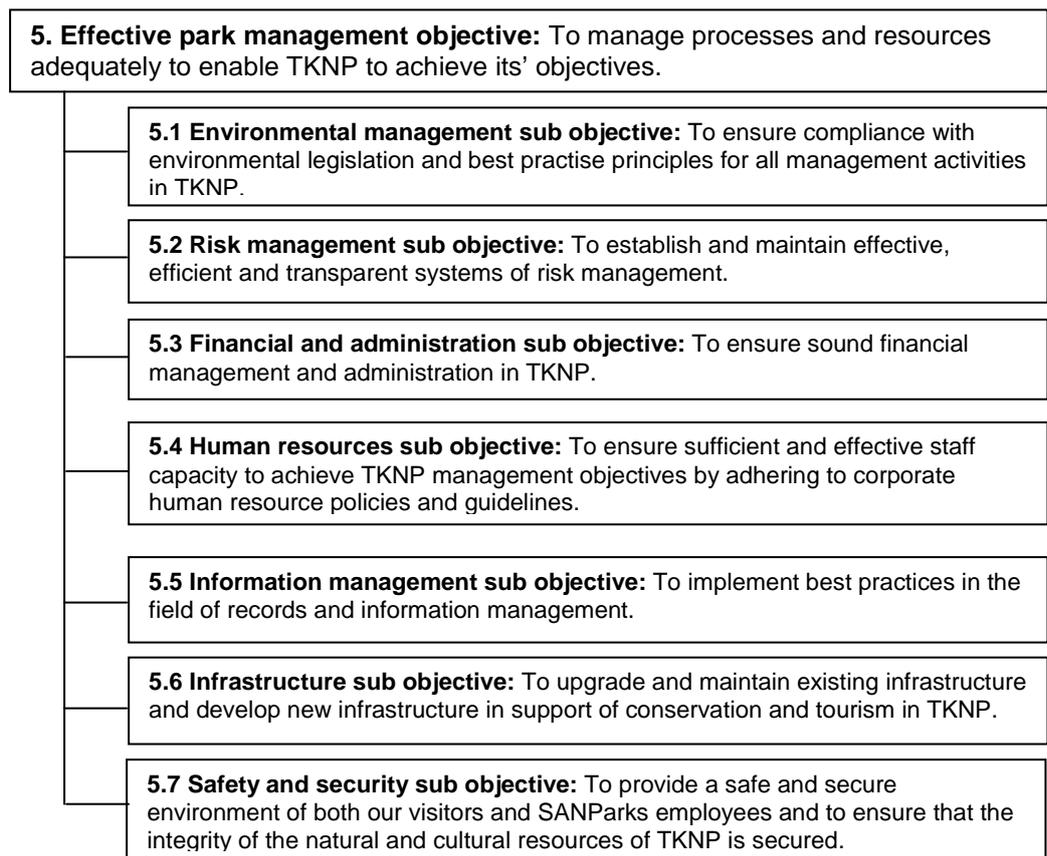


Figure 7: Effective park management objective and supporting sub objectives.

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Section 6: Zoning

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 minimising 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 TKNP was based on an analysis and mapping of the sensitivity and value 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.

In addition to internal use zoning, the zoning plan also describes how the park interacts with the processes which control land use and activities in the buffer zones around national parks (e.g. municipal SDF's and IDP's). The buffer zones identify the area within which activities such as landuse change may have an influence on the park (current and future extent), describe responses at a strategic level, and serve to define the buffer zone in terms of the DEA policy on buffer zones for national parks and the SANParks buffer zone policy.

Overview of the use zones

The summary of the use zoning plan for TKNP is shown in Appendix 6, 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 buffer zone (detailing park interaction with adjacent areas) and the underlying landscape analyses are included in Appendix 2.

Remote zone

This is an area retaining an intrinsically wild appearance and character, or capable of being restored to such and which is undeveloped and roadless (although limited unimproved management tracks are allowed). There are no permanent improvements or any form of human habitation. It provides outstanding opportunities for solitude, with awe inspiring natural characteristics with sight and sound of human habitation and activities barely discernable and at a far distance. The conservation objective is to maintain the zone in a natural state with no impact on biodiversity pattern or processes. Existing impacts on biodiversity either from historical usage or originating from outside the zone should be minimised. 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 TKNP, remote areas were designated in the mountain and escarpment areas in the east of the park, and in the higher sections of the Elandsberg, as these areas have high environmental sensitivity and value as well as wilderness characteristics. Remote areas were also designated on some of the smaller koppies, such as the Leeuberg, Sterretjiesberg, Potkleiberg and Poukop due to their high sensitivity values. A remote area was also demarcated in the west to protect red data plant species recently discovered there.

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 has wilderness qualities, but with limited access roads (mostly 4x4) and the potential for basic small-scale self-catering accommodation facilities or small concession lodges (which would generally have more sophisticated facilities). Views of human activities and development outside of the park may be visible from this zone.

The conservation objective is to maintain the zone in an almost completely natural state with little or no impact on biodiversity processes, and very limited and site specific impacts on biodiversity pattern. Existing impacts on biodiversity either from historical usage or originating from outside the zone should be minimised. 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 TKNP, primitive areas were designated to protect most of the remaining sensitive areas that were not incorporated into Remote zones from high levels of tourism activity. In TKNP, primitive areas were designated to buffer remote areas and to protect most of the remaining sensitive areas not included in the Remote zone (such as the low hills and special vegetation types) from high levels of tourism activity. Most of the plains were included in this zone to minimise potential for visual and aesthetic disturbance, even though they had lower environmental sensitivities and values overall. Primitive areas were also designated in the Langkloof and Perdekloof valleys, and on the escarpment at Quaggasfontein to allow access into the remote mountain areas.

Low intensity leisure zone: The underlying characteristic of this zone is motorised self-drive access with self-catering accommodation units in small basic camps without commercial facilities such as shops and restaurants. Facilities along roads are limited to basic picnic sites with toilet facilities. The conservation objective is to maintain the zone in a largely natural state that is in keeping with the character of the park, mitigate the biodiversity impacts of the relatively high levels of tourism activity and infrastructure that are accommodated within this zone through careful planning and active management, and to ensure that both the negative effects of the activities and infrastructure are restricted to the zone. 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 TKNP, low intensity leisure areas (LIL) were designated along selected current access routes in the plains areas and up the Gannaga Pass to the east. The low intensity leisure areas in the plains were designated to accommodate a network of self-drive tourist game / viewing loops, and potentially picnic sites or education / interpretive centres. Oudebaaskraal dam and surrounds was also designated LIL to facilitate planned tourist activities there, which may also attract higher visitor numbers to the dam. Low intensity leisure zones almost entirely avoid larger areas of high landscape sensitivity and value.

High intensity leisure zone: The main characteristic is that of a high density tourist development node with amenities such as shops, restaurants and interpretive centres. This is the zone where more concentrated human activities are allowed, and is accessible by motorised transport on high volume transport routes. The main focus is to ensure a high quality visitor experience, however the conservation objectives still require that the high levels of tourism activity and infrastructure that are accommodated within this zone are planned and managed to minimise the effect on the surrounding natural environment, and that the zone must still retain 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 TKNP a HIL zone was demarcated around the Roodewerf node, which includes the park tourist and management facilities, as well as WWF accommodation and ablution facilities, but in future may include a tea garden and curio shop, and potentially a new staff village. A HIL zone was also designated around the Tankwa guest house and airstrip, which would facilitate the development of a tourist node in the southwest of the park, where commercial amenities (for example tea garden, restaurant) could be provided to visitors, as well as act as a service point to facilitate and coordinate aquatic activities on the Oudebaaskraal dam.

Summary of the buffer zones around Tankwa Karoo National Park

This section describes how the park interacts with the processes which control land use and activities in the buffer zones around national parks (e.g. municipal SDFs and IDPs). The buffer zone section identifies the area within which activities such as landuse change may have an influence on the park (current and future extent), describes responses at a strategic level, and serves to define the Buffer zone in terms of the DEA policy on buffer zones for national parks and the SANParks buffer zone policy.

The current extent of the TKNP is included in a conservation focused category in the land use maps included in the SDFs of the local and district municipalities in which the park is located.



These SDFs are the spatial components of municipal IDPs. The park interacts with the appropriate local government processes such as SDF and IDP development on an ongoing basis as part of the Bioregional programme, in order to ensure that issues such as appropriate development of Buffer zones around parks are also incorporated into proactive land use planning instruments such as SDFs and IDPs.

The park buffer zone shows the areas within which landuse changes could affect a national park. The buffer zone, in combination with guidelines, will serve as a basis for (i) identifying the focus areas in which park management and scientists should respond to EIA's, (ii) helping to identify the sort of impacts that would be important at a particular site, and most importantly (iii) 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. Tankwa Karoo National Park has two buffer zone categories (Appendix 6, Map 6), which can overlap each other.

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 favorably.

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.

Current status and future improvement

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 full tourism market analysis and detailed investigation of development nodes are not fully incorporated into the current park use zonation. A CDF will be developed for TKNP once the park approaches its planned final extent. In the interim, as the park is rapidly expanding, it is anticipated that the zoning will need to be updated regularly. Remote areas will be investigated for possible formal declaration designated as wilderness areas in terms of section 22 of the PAA. Special management overlays which designate specific areas of the park that require special management interventions (e.g. areas requiring rehabilitation) will also be identified.

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Section 7: Access and facilities

7.1 Public access and control

The following public access points and control measures are applicable to all visitors:

- Access points to the park. Vehicular access points to visitors are via the P2250 provincial road from Ceres, the P2252 from Sutherland, the P2250 from Middelpos and the P2267 from Calvinia respectively. All visitors are required to report to reception at Roodewerf office.
- Internal access control. Visiting guests can explore the park in a vehicle, by mountain-bike or on-foot within designated tourist roads and trails (maps are available at reception).

7.2 Areas with restricted access

All guests are restricted to the designated tourist roads. Accommodation facilities are for the use of overnight guests only, whilst a few management tracks are marked with no entry signs. Day visitors are allowed to drive on roads going to the various camps, where required, however travel is prohibited anywhere in the park between 19:00 – 05:30 from October to March and 18:00 – 06:30 April to September.

7.3 Airfields and flight corridors

There is a gravel airfield situated at the Tanqua guest house within the park. The airstrip is located at 32°24'01.54"S; 19°50'41.97"E.

7.4 Administrative and other facilities

Table 2 below includes facilities for operational purposes enabling the park in fulfilling the legal mandate of South African National Parks. The park administrative office situated at Roodewerf is the only developed administration hub which currently includes a reception area, offices, training centre, stores and a small laundry.

Table 2: Administrative infrastructure in Tankwa Karoo National Park.

Infrastructure / Visitor sites	Current status / use	Zone	Proposed role by 2024
WFW accommodation & ablutions at Roodewerf	Accommodation – Basic Contractor	HIL	Accommodation
Platfontein	Accommodation - Honorary Ranger/Training	Mixed Use	Honorary Ranger/Training accommodation/ Possibly convert for Educational / Visiting groups in future.
Klipfontein	Accommodation - Ranger outpost	LIL	Accommodation
Quaggasfontein	Accommodation - Ranger outpost	LIL	Ranger outpost accommodation
Maansedam staff accommodation	Accommodation – Staff	LIL	Accommodation for visiting groups, students or volunteers
Oudebaaskraal staff housing	Accommodation – Staff	LIL	Staff accommodation
Staff accommodation De Zyfer	Accommodation - Staff	LIL	Staff accommodation
Staff accommodation Voorsorg	Accommodation - Staff	LIL	Accommodation

Infrastructure / Visitor sites	Current status / use	Zone	Proposed role by 2024
Airstrip at Tanqua guest house	Airstrip	LIL	Airstrip
Roodewerf generator room	Electricity provision, bulk fuel store / station	HIL	Electricity hub and fuel station
Park administrative office at Roodewerf	Park administrative office building – Mixed Use	HIL	Park administrative office, Commercial Centre, Park Entry Point, Visitor Information
Staff accommodation at Roodewerf	Accommodation - Staff	HIL	Staff accommodation
Laundry at Roodewerf	Small laundry attached to Roodewerf offices	HIL	Convert existing laundry to office and replace with new laundry building
Management tracks	Roads - Mixed Use	LIL	Transit
Provincial roads	Roads - Mixed Use	Mixed	Sightseeing, Transit
Tourism roads	Roads - Mixed Use	LIL	Sightseeing, Transit. Upgrade of existing routes and conversion of existing management roads to tourism routes.
Stores at Tanqua guest house	Technical operations and storage	Mixed	Technical operations and storage
Workshops and stores at Roodewerf	Technical operations and storage	Mixed	Technical operations and storage
Park boundary fencing	Existing jackal proof fence	LIL	Upgrade to game fencing for area integrity
Eight x Water points for game	Water provision fauna	Mixed	Water provision fauna and game watching, some picnic sites
10 x Water provision points	Water provision human	LIL	Addition of four points to increase to a total of 12 water points for human consumption

7.5 Visitor facilities

Visitor facilities include all non-commercial facilities and points of interest available to visitors, to the exclusion of any management and administrative facilities, and are set out in Table 3 below.

The park currently offers the following tourist points of interest:

- Gannaga pass
- Langkloof Gorge
- Oudebaaskraal Dam

Activities offered in the park which are currently self-drive / walk include:

- 4x4 trails
- Birding
- Game viewing
- Geo-caching
- Hiking routes (limited network)
- Mountain-biking (limited network)
- Stargazing

Over and above the points of interest and activities, none of which are currently charged for, there are a number of cultural heritage sites within the park, which are at present undeveloped, however some may become key attractions in future.

7.6 Commercial activities

For purposes of this plan, commercial activities include all income generating facilities, products and services offered, and are broken down into those operated by the park and those operated by third parties for example concession lodges.



7.6.1 Accommodation

Accommodation units and formal- as well as informal camping sites that are dispersed through the park (all infrastructure is summarised in Table 2). Visitor facilities can be described as:

- **De Zyfer cottage.** An old farmstead newly renovated and dating back from the early 1900's. It is the closest accommodation to the park offices at Roodewerf.
- **Elandsberg wilderness camp.** Five cottages situated 18 km from the park offices at Roodewerf. Each cottage boasts beautiful views of the Karoo plains and imposing Roggeveld escarpment.
- **Paulshoek cottage.** The Paulshoek farmstead, restored in 2003, is able to accommodate up to six guests. The cottage is situated approximately five km from the park offices at Roodewerf.
- **Tanqua guest house.** The Tanqua guest house is situated on the southern boundary of the park and close to the Oudebaaskraal dam. Situated next to the main building is the air strip, allowing fly-ins by guests. The facility is best suited for groups of up to 20 guests.
- **Varschfontein cottage.** The cottage is also an old farmhouse that was renovated in 2005 and is able to accommodate up to nine guests. The cottage is situated 45 km from the park offices at Roodewerf.
- **Langkloof campsite.** The campsite with two stands is situated approximately 18 km from the park reception at Roodewerf, within the scenic upper reaches of the Langkloof (Afrikaans for Long Gorge).
- **Perdekloof campsite.** The newly constructed campsite with six stands, each with own ablutions and small kitchenette, was completed in April 2012. Situated approximately eight km from the reception, the campsite provides modern luxury within the beautiful natural surrounds of the Perdekloof.

Informal Campsites

Fully self-sufficient campers are allowed to camp at designated spots on an "only leave your footprints"- basis. Each site is for the exclusive use of the party reserving the site. A maximum of 15 people is allowed per site.

- **Biesiesfontein**, 35 km from reception.
- **Oom Rickert se Huis**, 16 km from reception;
- **Pyper se boom**; eight km from reception;
- **Skaapwagterspos**, 13 km from reception;
- **Steenkampshoek**, 12 km from reception;
- **Volmoersfontein**, 32 km from reception;

Steenkampshoek may be closed or will only be used by controlled vehicular access in future, as it falls within an area that has been rezoned to Primitive.

7.6.2 Concessions

The privately owned Gannaga Lodge is situated on the Roggeveld escarpment at the summit of the Gannaga pass and is located within the park. The lodge is approximately 24 km from the park offices at Roodewerf and features a conference venue, guesthouse, restaurant and licensed bar and is managed by the owners Johan and Norette Visagie.

SANParks has entered into an agreement with the owners whereby they would sell most of their land to SANParks while retaining 15 ha on which they would be allowed to develop tourism infrastructure. The contract further stipulates an annual fee to be paid to SANParks.

The feasibility to commercialise the Tanqua guest house by leasing it to a concessionaire will be investigated.

Table 3: Commercial facilities available in Tankwa Karoo National Park.

Infrastructure / Visitor sites	Current status / use	Zone	Proposed role by 2024
De Zyfer cottage	Accommodation, Self-Catering, limited service economy	LIL	Accommodation
Elandsberg wilderness camp	Accommodation, Self-Catering, limited service economy	HIL	Accommodation, walking trails, Expand camp to 10 Units
Paulshoek cottage	Accommodation, Self-Catering, limited service economy	LIL	Accommodation
Tanqua guest house	Accommodation, Self-Catering, limited service economy	HIL	Bed and breakfast accommodation, walking trails,
Varschfontein cottage	Accommodation, Self-Catering, limited service economy	LIL	Accommodation
Perdekloof campsite	Camping, premium facilities (power / no power)	Mixed	Camping, sightseeing, walking trails
Langkloof campsite	Camping, premium facilities (power / no power), mixed use	Mixed	Camping, sightseeing, walking trails, 4x4 route
Volmoesfontein	Camping bush rustic, no facilities	LIL	Picnic site, history museum
Biesiesfontein	Camping bush rustic, no facilities	LIL	Rustic camping, basic facilities
Pyperseboom	Camping bush rustic, no facilities	LIL	Rustic camping, basic facilities
Rickert se Huis	Camping bush rustic, no facilities	LIL	Rustic camping, basic facilities
Skaapwagterspos	Camping bush rustic, no facilities	LIL	Rustic camping, basic facilities
Steenkampshoek	Camping bush rustic, no facilities	Primitive	Likely closure of campsite as within primitive zone. Alternatively may be used as a hiking / mountain-biking overnight stopover.
PRIVATE LODGE (CONCESSION AGREEMENT)			
Gannaga Lodge	Accommodation (Full Service) – bar, restaurant, small conference / wedding facility	Mixed use	Accommodation (Full Service) – bar, restaurant, small conference / wedding facility

7.6.3 Retail and other facilities

There are currently no commercially operated facilities within the park.

7.6.4 Activities

There are currently no commercially operated activities within the park.



7.7 Cultural heritage sites

There are a large number of cultural heritage sites within the park, and these need to be documented and the sensitivity and relevant cultural heritage value ascribed within the cultural heritage plan. A number of sites have already been identified with tourism development and or interpretation potential, this largely based on their location, the extent and intactness of the sites or the potential interest the location. This superficial analysis, as presented in Table 5 below, may lead to certain sites being prioritised for investigation and feasibility study, in anticipation of the completion of the Cultural heritage plan.

Table 4: Cultural heritage sites in Tankwa Karoo National Park.

Heritage node	Attraction	Cultural heritage value	Use zone	Proposed role by 2024
Biesiesfontein	Graveyard at Biesiesfontein	Cultural		Interpretation only
	Ruins at Biesiesfontein	Historical		
Blouputs	Mud house at Blouputs	Historic		Interpretation only
Elandsberg	Elandsberg viewpoint		LIL	Development / interpretation potential
	Stone kraal at Elandsberg	Historic	LIL	
	Stone kraal at Elandsberg	Historic	LIL	
	Stone walls at Elandsberg	Historic	LIL	
	Various stone ruins at Elandsberg	Historic / cultural	LIL	
Gannaga pass	Gannaga pass	Historical	LIL	Interpretation only
	Stone kraal at Gannaga	Historical	LIL	
	Stone ruins at Gannaga	Historical	LIL	
Grasberg	Mud ruin at Grasberg	Historical		No interpretation / development
	Stone ruins at Grasberg South	Historical		Development / interpretation potential
Langkloof	Langkloof Pass		LIL	No interpretation / development
Leeuberg	Stone kraal east of Leeuberg (1)	Historical		No interpretation / development
	Stone kraal west of Leeuberg (2)	Historical		
Luiperdskop	Mud house at Luiperdskop	Historical		Interpretation only
	Mud ruins at Luiperdskop	Historical		No interpretation / development
Maansedam	Mud house at Maansedam east of current homestead	Historic / cultural		Interpretation only
	Mud house at Maansedam west of current momestead	Semi-Historic		Interpretation only

Heritage node	Attraction	Cultural heritage value	Use zone	Proposed role by 2024
	Mud store at Maansedam	Semi-historic		Interpretation only
	Stone kraal at Maansedam	Semi-historic		No interpretation / development
Paulshoek	Stone kraal at Paulshoek	Historic		No interpretation / development
	Stone ruin at Paulshoek	Historic / cultural		No interpretation / development
Perdekloof	Grave sites in Perdekloof	Historic		Development / interpretation potential
Potklynsberg	Stone ruin at Potklynsberg-East	Historical		No interpretation / development
Prambergfontein	Graveyard at Prambergfontein	Historical		Interpretation only
	Mud ruins at Prambergfontein	Historical / cultural		Interpretation only
Springbokvlakte	Mud ruins at Springbokvlakte	Historical		No interpretation / development
Uintjiesbos	Graveyard at Uintjiesbos	Cultural		Development / interpretation potential
	Mud building at Kleinbegin Uintjiesbos	None		
	Mud house for school teacher Uintjiesbos	Historic / cultural		
	Mud ruin at Uintjiesbos	Historic / cultural		
	Old mud hostel at Uintjiesbos	Historic / cultural		
	Ruins at Braksekop Uintjiesbos	None		
	School building at Uintjiesbos	Historic / cultural		
	Stone kraal at Uintjiesbos	Historic		
	Stone store at Uintjiesbos	None		
Vaalhuisie	Mud ruin at Vaalhuisie	Historical		No interpretation / development
Varschfontein	Graveyard at Varschfontein	Historical		Interpretation only
	Mud house at Varschfontein	Historical		
	Mud store at Varschfontein	Historical		
	Stone kraal at Varschfontein	Historical		
Volmoersfontein	Graveyard at Volmoersfontein	Historical		Development / interpretation potential
	Mud house at Volmoersfontein	Historical		
	Stone kraal and mud ruin at Volmoersfontein	Historical / cultural		

7.8 Community use

Tankwa Karoo National Park currently has a residents living on the property Driefontein purchased from Hester Steenkamp. SANParks and have entered into an agreement that they may remain on the land until such time as they move or pass away but that no further generations may stay on the land.

7.9 Mining

No mining, legal or otherwise, is currently known to occur in the park. Mining applications in the buffer zone are treated in terms of the SANParks buffer zone policy.

7.10 Servitudes

None.



Section 8: Consolidation and expansion

The expansion and consolidation of the park is in line with the national strategic objective (DEA 2005) of expanding South Africa's protected area system. The expansion and consolidation programme are also informed by SANParks policy regarding land inclusion (SANParks 2006; Knight *et al.* 2009), and the National Protected Areas Expansion Strategy (DEA 2008) and the three year rolling land acquisition plan. It is important to note that this three year plan can change due to the availability of funds, willing buyer willing seller concept and the negotiation process. The expansion of TKNP remains a priority for SANParks given its internationally recognised unique biodiversity. It falls in line with the National Biodiversity Strategy and Action Plan (NBSAP) objectives (DEAT 2005), namely:

- Strategic objective 5 of expanding the national protected area system towards 12% of the terrestrial area; and
- Strategic objective 3 of a coordinated approach to the management of terrestrial and aquatic ecosystems. In addition, it conforms to the National Protected Areas Expansion Strategy (NPAES) (DEA 2008).

Acquisition can be by means of own (SANParks) funding; government funding or donation from a private / NGO donor. In the case of SANParks or state funding the acquired land becomes state land and is declared as national park. In some cases a private entity may acquire the land for national park purposes, but retains ownership and the land is proclaimed as such (such as WWF-SA; NPT). Contractual park areas refer to cases where private or communal land is incorporated into the park (and declared as such) under agreement between the parties but they retain ownership.

The overall vision for TKNP is to protect a representative sample of the globally recognised succulent karoo hotspot, the cultural heritage, and its ecosystem services, with the support and active participation of all stakeholders enhancing livelihoods of the region. The succulent karoo is in an internationally recognised biodiversity hotspot, one of nine priority areas in need of national conservation (Driver *et al.* 2004). The park forms the basis of one of the identified national protected areas (Tankwa-Cedarberg-Roggeveld) expansion focus areas (DEA 2008) and the Western Fold Mountains ecoregion (Driver *et al.* 2012). In order to achieve its national mandate of conserving representative samples of South Africa's different ecological landscapes, the establishment of an ecologically sustainable park in the Tanqua Karoo remains a priority for SANParks. In this regard, the development of an expanded TKNP, has a number of principle objectives, namely: (i) consolidate the ecological representation and resilience (e.g. climate change) of park and its surrounds through a series of conservation-focused partnerships and strategic land acquisitions over the next 10 years; (ii) restore and ensure / protect natural ecosystem function which supports the biodiversity needs of the Bokkeveld-Hantam-Roggeveld priority conservation area and its delivery of essential ecosystems services; (iii) conserve the Renoster River catchment area, a tributary of the Tankwa River system, and (iv) establishment of a tourism product as an alternative land use for the impoverished Tanqua valley.

The expansion plan concurs with the umbrella succulent karoo biome planning exercise (Diver *et al.* 2004), that identified numerous conservation priorities in the biome. It provided a defensible and strategic conservation planning product. The focus of the parks expansion will be to strengthen the identified biological patterns and processes for the area, namely the succulent plant diversity on the Roggeveld Mountains, the riverine processes, upland lowland interfaces, ecological corridors and the large mammals upland-highland movement processes.

The footprint for the expanded park totals 402, 012 ha and ranges from the Cedarberg protected area in the west to the Roggeveld Mountain in the east. Priorities include the consolidation of key areas through acquisition (43, 825 ha), mainly in the Roggeveld mountains and key land parcels for boundary consolidation purposes (Appendix 6, Map 3).

Land to the immediate north and west of the park has been identified for inclusion via acquisition or contractual (29, 524 ha) and includes the important ecological corridor (that totals 47, 700 ha) with the Cedarberg protected area to the west. In addition, a further 126, 500 ha has been identified for inclusion via contractual arrangements and these range from the northern areas through to the east of the park. It is worth noting that the western corridor would include three new vegetation types to the park, namely SKv 3 Agter-Sederberg Shrubland, SKv 2 Swartruggens Quartzite Karoo and FFq 2 Swartruggens Quartzite Fynbos – all of which are least threatened (Mucina & Rutherford 2006). The planned acquisitions would cost an estimated R70 million, with the eastern priority areas costing around R30 million.



Section 9: Concept development plan

9.1 Long term development plan

Development is not considered lightly and is only done to fulfil a real operational need or tourism opportunity. All sites considered for development, are located on previously disturbed sites where existing facilities and infrastructure that have traditionally provided either access to the park and / or a tourism or visitor services. The type and nature of facilities provided for at these sites should not only meet visitor expectations, but also be compatible with the ethos of the area.

There is a clear relationship between the role that a site fulfils and the underlying visitor use zone (as per zonation map provided in Appendix 6, Map 4) in which that site is situated. Tables 6-11 summarise the proposed activities and development per site, which park zones are applicable and the management guidelines for the sites. In order to enhance the visitor experience of these tourism features, appropriate and sustainable infrastructure and facilities need to be provided, in accordance with the conservation and responsible tourism mandate.

New activity or product development may create disturbance, *e.g.* hiking / mountain-biking trails, accommodation *etc.*, however these will be considered based on the zonation and will comply to all legal requirements governing development.

It is important to note that the implementation of projects is dependent on the availability of funds.

9.2 Development nodes

The area around the Tanqua Guesthouse and airstrip is envisaged to be developed into a high intensity visitor node including mixed visitor activities around the Oudebaaskraal dam, with additional accommodation units to be built and the development of water related activities.

9.3 Communication routes

The roads leading to the areas that are planned to be developed as listed in Table 7 will have to be upgraded when the development takes place. There is a need for new tourism roads in the park, which will be developed on existing roads to improve the flow of vehicles as well as the visitor experience throughout the park.

9.4 Service supply routes

Where possible existing supply routes will be used, but some new routes will be developed when the developments referred to in Table 7 takes place.

9.5 Infrastructure development proposals

All infrastructure development proposals, including activity development proposals are presented in Tables 5 – 10 below.

9.5.1 Administrative and other facilities

Table 5: Proposed administrative and other facility development

Infrastructure / visitor sites	Current status / use	Use zone	Proposed role by 2024	Probability
Roodewerf staff accommodation	In development	HIL	Create new staff accommodation and entertainment area	In development
12 x Water points for game	Addition to existing	Mixed use	Addition of four water points to existing eight, for water provision for fauna and game watching, with potential to add some picnic sites in the vicinity.	High
Develop of new tourism routes	Existing management routes	LIL	Existing roads in Luiperdskop and Sterretjiesberg sections to be developed into tourism routes. Development would require creation of a new route on the old route.	High
Laundry at Roodewerf	Small laundry attached to offices	HIL	Completely new facilities to be developed as existing facilities are too small and attached to main offices. Existing laundry to be converted to offices	High
Entrance gates	None	HIL	Propose five (manned or unmanned) access control / entrance gates required on P2250, P2267 and P2252 + Oudebaaskraal. Priority gate would be P2250 from Ceres entrance.	High
Fuel station at Roodewerf	None	HIL	Proposed, for inclusion either as part of Tourism Hub or along R 355. Consider in line with desired expansion to Cedarberg	Medium
Park boundary / game fence	Existing fence	LIL	Upgrade existing jackal proof fence to a game fence in order to protect area integrity and manage biodiversity	Medium
Airstrip and helipad at Roodewerf	None	HIL	Receiving fly-inns as well as SANParks usage	Low
Stables at Roodewerf / Oudebaaskraal dam	None	Mixed Use	Need dependent on feasibility of horses used as visitor horse-riding activities and potential use for ranger duties	Medium

9.5.2 Visitor facilities

Table 6: Proposed visitor facility development

Infrastructure / visitor sites	Current status / use	Use zone	Proposed role by 2024	Probability
Interpretation centre / museum	None	LIL	Likely to be considered for development at Uintjiesbos school	High
Visitor information at Roodewerf	Basic	HIL	To enhance visitor information provided relating to the park	High
Develop picnic sites	None	LIL	Develop four to six different picnic sites, with varying facilities (basic or none) along key tourist routes.	High
Bird hide at Oudebaaskraal dam	None	LIL	To be developed (Likely SANParks Honorary Ranger project)	High



9.5.3 Commercial activities

There are a wide variety of commercial activities to be developed within the park, in order to expand the tourism product and thus park sustainability, and these are listed in Table 7 - 10 below.

All activities will be individually investigated and their priority determined based on feasibility and income potential. Following these studies, some potential activities may be excluded from potential development.

In addition, there are a large number of activities for potential development that are excluded as they are considered unlikely to be developed within the term of this plan. However, should the market change or a third party supplier present an real opportunity, any and all products may be considered based on the agreed terms and locations, as per the TKNP tourism product development framework presented in Appendix 4.

It is important to note that the execution of the programmes is dependent on the availability of funds.

9.5.3.1 Accommodation

Table 7: Proposed accommodation development.

Product type	Infrastructure / visitor sites	Current status / use	Zone	Proposed role by 2024	Probability
Self-catering; Limited service; Economy accommodation	Elandsberg product expansion. Expand product from five to 10 units.		LIL	New development Additional 7 units Type dependent on tender but desire as follows: 3 x 2 Bedroom cottages 2 x One-bedroom cottages	In Development
Self-catering; Limited service; Economy accommodation	Oudebaaskraal dam accommodation	None	LIL	Ten units to be developed Family and individual units	High
Camping (premium facilities) (power/no power)	Oudebaaskraal dam campsite	None	LIL	Six sites to be added to existing campsites	High
Self-catering; Limited service; Economy accommodation	Die Jaghut	Existing structure located below dam wall.	LIL	Renovation of existing building and conversion for tourism use.	Medium

9.5.3.2 Concessions

No new concession development is planned at this time, though Gannaga Lodge may expand as desired as it is their property, and conservation fees are charged per visitor.

It is aimed to promote concession facilities on SANParks booking website.

9.5.3.3 Retail and other facilities

Table 8: Proposed retail and other commercial facility development

Product type	Infrastructure / visitor sites	Current status / use	Zone	Proposed role by 2024	Probability
Retail Services; Activity hub; Convenience store / curio shop / tea garden	Roodewerf Retail services	None	HIL	Create a commercial centre at Roodewerf	High
Retail Services; Activity hub; Convenience store / curio shop / tea garden	Oudebaaskraal dam	None	Mixed Use / HIL	Extent dependent on Cedarberg expansion may move Activity Hub to north west corner of park. May only include refreshments and dam specific activities or may include all activities and retail facilities.	High
Retail Services; Curio shop	Onderwadrif curio shop	Existing building	LIL	Desire to limit development footprint and will depend on tourism development node decisions. Potential for outsourcing.	Medium

9.5.3.4 Activities

Leisure activities are a mechanism for income generation, with the potential for community development and without the high capital investment required for accommodation.

Key challenges regarding provision of leisure activities in future will be diversity of offering, customer demand and increasing the 'adventure' element of activities in order to engage the younger markets and markets with a high disposable income.

Activity development will need to take the visual impact of each activity into account, in order to ensure the unique selling proposition of remoteness of the park is maintained. Certain activities will also need to cater for different product grades and visitor experience levels.

Table 9: Proposed activity development.

Activity	Product type	Infrastructure / visitor sites	Current status	Use zone	Proposed role by 2024	Probability
Activity	Canoeing	Canoe rental	Not available	LIL	Oudebaaskraal dam (Zonation of dam) / Tankwa River (Perennial)	High
Activity	Boat excursion	Scheduled seasonal boat trips on dam	Not available	LIL	Day / Sunset Oudebaaskraal dam (Zonation of dam)	High



Activity	Product type	Infrastructure / visitor sites	Current status	Use zone	Proposed role by 2024	Probability
Activity	Windsurfing	Windsurfer rental on dam	Not available	LIL	Oudebaaskraal dam (Zonation of dam)	Medium
Activity	Trails hiking (Unguided)	Hiking Trails	Not Available	Mixed use	Expansion of existing trails with varying distances and loop combinations. Proposed locations include: Elandsberg, Perdekloof, Langkloof, Renoster River, Roggeveld	High
Activity	Trails hiking (Guided / unguided)	Overnight Hiking Trail(s)	Not Available	Mixed use	Consider level of facilities/infrastructure to offer. Potential sites include: Perdekloof, Langkloof, Watervlei, Taaiboschplaats, Quaggasfontein, Steenkampshoek	High
Activity	Trails mountain-biking (Unguided)	Duration / Distance based Mountain-biking Trails	Not Available	Mixed use	Consider varying routes with different distances and difficulty grades	High
Activity	Trails mountain-biking (Guided / unguided)	Overnight Mountain-biking Trails	Not Available	Mixed use	Consider level of facilities/infrastructure to offer. Potential for sharing of facilities with hikers	High
Activity	Trails Horse-riding (Guided)	Duration based Horse-riding trails	Not Available	Mixed use	Duration based and / or overnight trails Infrastructure required would include stables. Overnight trails have complexities regarding stabling of horses and grazing overnight whilst visitors could use hiking huts.	Medium

Activity	Product Type	Infrastructure / Visitor Sites	Current Status	Use Zone	Proposed Role by 2024	Probability
Activity	Rock climbing (Guided / unguided)	Rock climbing	Not Available	Primitive / LIL	Unguided will require a permit. Consider various lengths and grades and package combinations. Potential Site Roggeveld.	High
Activity	Geo caching	Geo caching	Currently available	LIL	Expansion of current product. Potentially making use of interpretation sites and existing disturbed sites.	Medium
Activity	Paragliding	Paragliding	Not available	Primitive	Consider product packaging e.g. rock climbing / hiking / stairway. Permit required. Proposed location: Roggeberg	Medium
Activity	River rafting	Seasonal river rafting	Not available	Mixed use	Two man rafts used on Tankwa river.	Low
Activity	Stairway (via Ferrata / Ironway)	Stairway	Not available	Primitive	Consider length and difficulty as potential for school groups. Consider product packaging e.g. rock climbing / hiking / stairway. Permit required Proposed location: Roggeberg.	Medium
Activity	Swimming	Swimming in the dam / rivers	Not available	Mixed use	Only allowed in the dam and river, no swimming pools to be built.	High
Activity	Trail Running (Unguided)	Trail running	Not available	Primitive	Utilising hiking trails	High
Activity	Tubing	Seasonal river tubing	Not available	Mixed use	Tubing on Perennial Tankwa River.	Medium
Interpretation	Bird watching	Bird watching tours / boat cruises	Not available	Mixed use	Either on the dam or in the park as a hike or drive.	High



Activity	Product Type	Infrastructure / Visitor Sites	Current Status	Use Zone	Proposed Role by 2024	Probability
Interpretation	Astronomy tours	Astronomy tours	Not available	LIL	May be packaged with Sutherland or on its own.	High
Development products	Photography courses	Nature / landscape photography courses	Not available	Mixed use		Medium
Development products	Skills courses	Variety of duration-based and possibly seasonal courses	Not available	Mixed use	Astronomy, survival skills, off-road driving skills, orienteering skills, first aid training, rope skills, rock climbing, mountain-biking skills.	High
Child activities	Children trails	Walking trails for children	Not available	Mixed use		Medium
Child activities	Holiday programmes in camps	Duration based holiday programmes for children; Crafting and other activities for children	Not available	Mixed use	Driver / safety issues a consideration to feasibility.	Low
Child activities	Learner programmes	Educational programmes	Not available	Mixed use	Driver / safety issues a consideration to feasibility.	Medium
Child activities	Youth camps / summer camps	Summer camp for children	Not available	Mixed use	Driver / safety issues a consideration to feasibility. Environmentally based summer camps, including survival skills, bush appreciation, tracking, etc.	Low
Business / events	Competitive events based on allowed activities	Various competitive events	Not available	Mixed use	Development of various competitive events to be considered including: adventure races, marathons, mountain-bike races, rock climbing competitions.	High

Activity	Product Type	Infrastructure / Visitor Sites	Current Status	Use Zone	Proposed Role by 2024	Probability
Business / events	Events based on allowed activities	Various events options	Not available	Mixed use	Development of various events to be considered, including: paragliding challenge, ski-dive for rhinos, amazing race family challenge, music in the Karoo, Africa Burn, and more.	High
Business / events	Product launches	Product launches	Available	LIL	Vehicles and other products relating to nature based tourism.	High

9.5.4 Cultural heritage sites

A number of unused historical homesteads and farm buildings in the park are currently falling into disrepair. In order to preserve them an appropriate use must be found for them. Several of the buildings lend themselves to a mixed use of tourism accommodation and auxiliary functions, while Maansedam and Platfontein farms have the potential to support environmental education programmes as well as accommodating groups of interested people.

At this time it is not yet clear whether the sites will be developed as visitor attractions or for commercial use, though it is likely that the Uintjesbos and Volmoersfontein will have a commercial element, where Uintjesbos will likely have some form of retail facilities possibly a curio shop and restaurant / coffee shop and Volmoersfontein is likely to be developed as a cultural activity site for tours and potentially storytelling.

Table 10: Proposed cultural heritage sites to be developed

Heritage node	Attraction	Use zone	Proposed role by 2024	Probability
Uintjesbos	Graveyard at Uintjesbos	LIL	Development / interpretation Site with most identified potential, pending cultural / heritage study	High (1)
	Mud building at Kleinbegin Uintjesbos	LIL		
	Mud house for school teacher Uintjesbos	LIL		
	Mud ruin at Uintjesbos	LIL	Renovate key buildings and convert Uintjesbos school building into an interpretation centre. Include signage for remaining buildings only.	
	Old mud hostel at Uintjesbos	LIL		
	Ruins at Braksekop Uintjesbos	LIL		
	School building at Uintjesbos	LIL		
	Stone kraal at Uintjesbos	LIL		
	Stone store at Uintjesbos	LIL		



Heritage node	Attraction	Use zone	Proposed role by 2024	Probability
Volmoersfontein	Graveyard at Volmoersfontein		Development / interpretation. Need some funds to restore and maintain the existing Mud House and then for interpretation of the Mud House, Graveyard and Stone Kraal.	High (2)
	Mud house at Volmoersfontein			
	Stone kraal and mud ruin at Volmoersfontein			
Grasberg	Stone ruins at Grasberg South		Development / interpretation. Renovation including interpretation.	High (3)
Biesiesfontein	Graveyard at Biesiesfontein		Interpretation only	Medium
	Ruins at Biesiesfontein			
Blouputs	Mud house at Blouputs		Interpretation only	Medium
Elandsberg	Elandsberg Viewpoint	LIL	Interpretation only though development potential exists	Low
	Stone kraal at Elandsberg	LIL		
	Stone kraal at Elandsberg	LIL		
	Stone walls at Elandsberg	LIL		
	Various stone ruins at Elandsberg	LIL		
Gannaga pass	Gannaga pass		Interpretation only. Is a historical site built by hand (Thomas Bains) Could include ½ stops	Medium
	Stone kraal at Gannaga			
	Stone ruins at Gannaga			
Luiperdskop	Mud house at Luiperdskop		Interpretation only	Medium
Maansedam	Mud house at Maansedam East of Current Homestead	Mixed use	Interpretation. Potential for environmental education. Development based on activity feasibility	Medium
	Mud house at Maansedam West of Current Homestead	Mixed use	Interpretation only	Medium
	Mud store at Maansedam	Mixed use	Interpretation only	Medium
Perdekloof	Grave sites in Perdekloof	Primitive	Interpretation only though development potential exists.	Low
Prambergfontein	Graveyard at Prambergfontein	Mixed use	Interpretation only	Medium
	Mud ruins at Prambergfontein	Mixed use	Interpretation only	Medium
Waaikop	Various mud ruins at Waaikop	Mixed use	Interpretation only	Medium
Witbankies	Graveyard at Witbankies	Mixed use	Interpretation only though development potential exists.	Low

Witbankies	Mud ruins at Witbankies	Mixed use	Interpretation only though development potential exists.	Low
Varschfontein	Graveyard at Varschfontein	Mixed use		
	Mud house at Varschfontein	Mixed use		
	Mud store at Varschfontein	Mixed use		
	Stone kraal at Varschfontein	Mixed use		



Section 10: Strategic plan

10 Introduction

Sections 3, 4 and 5 of this plan outlined the policy framework, the consultation process and development of a mission and high level objectives for the park. In this section the goals and higher level objectives of the park are developed into lower level objectives and sub-objectives and finally into operational actions. In this way decision-making, even at the operational level, can be traced all the way back to the core values and inputs from stakeholders on which they have been based. This approach conforms to the requirements of the NEM:PAA, the NEM:BA, SANParks policy, and ratified international conventions.

Programmes of implementation, developed as outlined above, form the strategic plan for this planning cycle, are arranged under the following headings:

- Bioregional
- Biodiversity
- Tourism
- People and Conservation
- Effective park management

Each programme is presented as follows:

- **Programme name:** A name describing the programme.
- **High level objective:** Stating the overall goal of the programme.
- **Background:** Overview of intent, guiding principles, description, outcome, research and monitoring and risk (all where applicable).
- **Tables:** Outline of objectives, initiatives and management actions within the scope of the objective with an indication if the programme is once off, continuing or conditional on the availability of resources. These tables have the following headings:
 - **Initiatives or objectives** The various initiatives or objectives, derived from the hierarchy of higher level objectives, which make up each programme.
 - **Actions:** The actions necessary to achieve the objective.
 - **Responsibility:** The SANParks person, section, department, division or unit responsible for implementing the action.
 - **Indicator:** A measure whereby the achievement of the objective can be evaluated.
 - **Timeframe:** An indication of when the action is likely to be completed (indicated by year over the planning cycle).
 - **References:** References to relevant programmes, lower level plans (LLP's) or other documents.

The commitments outlined in the various programmes under section 10 are aligned with the performance management system of the operational staff. This is revised annually to ensure all the actions will be implemented.

10.1 Bioregional

The purpose of the bioregional objective is to conserve systems and processes within and around the park by acquiring sufficient land to consolidate and manage the park so that it makes a significant contribution to the conservation of the succulent karoo. The park also aims to establish corridors and buffer zones from information generated through the succulent karoo ecosystem plan in its activities. The park maintain the partnership developed with the Greater Cedarberg Biodiversity Corridor (GCBC) bioregional programme and its' vision to maintain the faunal and floral assemblages and ecological processes representative of the area for the long-term beneficiation of the region and country. It aims to collaborate with relevant international, national, provincial and local government structures; non-governmental organisations (NGO's) and land owner groups.

10.1.1 Land consolidation / expansion programme

The purpose of this programme is to achieve the SANParks goal of conserving ecological systems and patterns typical of the region by acquiring conservation worthy land through purchase or other means by following the SANParks land acquisition framework. The park is currently 146, 373 ha, and remains a priority for SANParks due to its biodiversity and landscape diversity.

The main objectives of park expansion include:

- The consolidation of an ecologically viable park encapsulating the altitudinal variation from the Roggeveld Mountains to the Tankwa River valley in the face of expected climatic change, and the varied vegetation types of the area;
- To protect an ecologically representative sample of the Bokkeveld-Hantam-Roggeveld priority conservation area;
- To include within the park and thus protect almost the entire Renoster River catchment system;
- To connect the Cederberg conservation area with the Roggeveld escarpment as part of the GCBC creating a viable migration corridor.
- To provide an appropriate eco-tourism opportunity as an economic engine for this region. The former Succulent Karoo Ecosystem Project (SKEP) identified 22 vegetation types in the Tanqua and the adjacent Roggeveld. Eleven of these occur only in this area and as such can only be conserved in TKNP. The park expansion plan therefore aims to include many new vegetation types into the park boundaries, which in turn contain many threatened species and the larger Tankwa will ensure proper ecosystem functioning and the establishment of migration routes which will add to the wilderness experience for tourists and creating a sustainable existence of Tankwa Karoo National Park. This may affect park management as more land will require more capacity to manage more threatened species and greater distances to travel.

This programme links with objective 1 and sub-objective 1.2 on page 14.

PARK EXPANSION / CONSOLIDATION PROGRAMME					
High level objective: To consolidate the ecological representation and resilience of TKNP through a series of conservation-focused partnerships and strategic land acquisitions over the next 10 years					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To acquire strategically identified properties to ensure that ecological deficiencies and the logistical and development requirements of park management are addressed	Update the conservation expansion plan as per section 8 of this document.	CSD, PM	Plan	Ongoing	
	Motivate and prioritise acquisitions.	CSD, PM	Priority list	Ongoing	
	Target the acquisition of 40, 000 ha / 10 years.	CSD, PM	Land purchased	Ongoing	
	Review conservation expansion plan	CSD, PM	Annual report	Year 3, ongoing	



Objectives	Actions	Responsibility	Indicators	Timeframe	References
To promote ecological linkages across the landscape through strategically-identified contractual land partnerships and provide possible responsible development options	Draw up a detailed linkages map covering the area from the Roggeveld to the ocean (including a map of current conservation land status)	CSD, PM	Map and plan	Year 2	
	Develop a potential partnership database with the GCBC	PM, CSD	Database of partners	Year 2, ongoing	
	Establish a cost-benefit evaluation of intactness of the land	PM, CSD	Report	Year 2	
	Negotiate and implement contracts	CSD, PM	Signed contracts	Year 2, ongoing	
	Review delivery of partnership contracts against targets (landscape linkages to the GCBC)	PM, CSD	Annual report	Year 3, ongoing	

10.1.2 Mainstreaming biodiversity programme

The purpose of this programme is to engage and interact with neighbours and surrounding communities bordering the park to establish and maintain meaningful and beneficial relationships with a wide range of stakeholders supporting SANParks' core business, and the parks's desired state specifically. Tankwa Karoo National Park has on its surrounding borders a myriad of land uses taking place, from traditional stock farming and subsistence agriculture to luxury game farms and even the threat of hydraulic fracture mining (fracking). All of these activities can negatively affect the natural systems in the park and its future to conserve biodiversity, if left unchecked and uninformed. The park aims to minimise the negative impacts of poor conservation strategies and development along its borders, through the proactive engagement with surrounding land owners and regional planners. The achievement of the park's aspirations depends on understanding the relationships and inter-dependencies between various strategic planning processes and partnerships in the region. The park will co-operate with the relevant international, national, provincial and local government structures insofar as these affect the park and keep track of issues affecting the park and region to ensure functional ecosystem are protected. Through education about the importance of biodiversity, the park intends to the raise awareness of people and communities, in the interface zone, to the plight of conservation in the region. By building positive relationships with land owners and providing a central point for conservation ideas and examples TKNP can achieve the objective of this programme.

This programme links with objective 1 and sub-objective 1.1 on page 14.

MAINSTREAMING BIODIVERSITY PROGRAMME					
High level objective: To minimise potential conflicts that arise from the differing objectives of non-aligned land uses through responsible engagement with land owners in the park interface zone, [cooperative positive change in attitudes / harmonious relationships] and development of conservation options					
Objectives	Action	Responsibility	Indicators	Timeframe	References
To minimise potential conflicts that arise from the differing objectives of non-aligned land uses through responsible engagement with land owners in the park interface zone, and development of conservation options	Identify land use in surrounding park buffer zone	PM, SR, Regional Risk Manager, CSD	Report	Year 1	
	Undertake risk-benefit analysis of identified properties	PM, Regional Risk Manager	Report	Year 2	
	Engage with identified and prioritized land owners to achieve common conservation goals	PM, CSD	Minutes of meetings	Ongoing	
	Reference possible conservation options for land use	PM, CSD	Scientific report	Year 2	
	Identify possible external threats from development	CSD, PM	List of threats	Ongoing	
	Participate in IDP and SDF processes to influence decisions	PM,	Minutes of meetings	Ongoing	
	Engage with relevant forums and participate in EIAs, scoping etc.	PM, CSD	Scoping, EIA reports	Ongoing	
	Establish communication protocols with land owners and partners to improve communications	CSD, PM	Minutes of meetings, plans	Ongoing	

10.2 Biodiversity

Biodiversity management is the core mandate of Tankwa Karoo National Park. The park's approach to biodiversity is in line with SANParks policies and the principles of adaptive management. A number of biodiversity management programmes were developed with the aim to effectively manage the diversity, patterns and processes of the unique succulent karoo region. The key management strategies listed below cover the next planning cycle (or longer) so that the park can advance towards its desired state in terms of biodiversity:

- Ensure the sound management of wildlife through the development and implementation of specific programmes, guidelines and protocols for harvesting, species re-introductions and removals;
- Undertake research to understand threats to the fresh water systems in the park and take actions to mitigate these;
- Undertake appropriate fire management through the preparation of management guidelines and implementation of a fire management programme;
- Improve knowledge and management of red data species through the species of special concern (SSC) programme;
- Rehabilitate the landscapes in the park through appropriate actions to manage alien and extralimital plants and animals, as well as erosion control through the development and implementation of programmes;
- Continue with standard conservation management such as the maintenance of conservation infrastructure and continuing with operational activities.

10.2.1 Ecosystem processes

The purpose of this programme is to ensure that conservation of biodiversity within Tankwa Karoo National Park remains functional and provide for continued operation of the ecosystems in the region. The main processes that affect the functioning of the ecological systems in the park have been identified as herbivore (and fire) impact on the vegetation, the associated impact of predation on the herbivores, as well as the aquatic systems and the effects of climate and change thereof on the ecosystems as a whole. This programme aims to identify the interactions of key concern to the park, develop management activities, whether it is to take action or monitor, and to implement these for the continued management of diversity in the Succulent Karoo biome. Due to the complexity of these relationships four sub-objectives were developed within this objective.



10.2.1.1 Herbivory and predation programme

The TKNP sits at the heart of historic mammal migration routes, situated between the summer rainfall Bushman land and the winter rainfall Fynbos biome. Animal migrations would have been frequent with certain species remaining resident in the area while others would have only been seasonally passing through. This area was heavily hunted in the early 1900's and the remaining large game were removed or chased away by livestock farmers as they believed these animals competed with their stock for food. Along with the herbivores their associated large predators including lion *Panthera leo*, cheetah *Acinonyx jubatus*, brown hyena *Hyaena brunnea* and leopard *Panthera pardus* were hunted and removed. Tankwa Karoo National Park inherited this system when it was established in 1986 and only a few springbok and kudu *Tragelaphus strepsiceros* remained on the lands. It is the aim of the park to understand the role these animals played in the Succulent Karoo biome and where possible return them to the ecosystem. The park is embarking on a systematic approach to return species to the park and will evaluate each re-introduction as possibilities arise. The management and augmentation of already introduced populations of cape mountain zebra, gemsbok, red hartebeest, eland and springbok will continue into the foreseeable future.

This programme links with objective 1 and sub-objective 1.3 on page 14.

ECOSYSTEM PROCESSES PROGRAMME					
High level objective: To restore and protect natural ecosystem function which supports the biodiversity needs of the succulent karoo global hotspot and Bokkeveld-Hantam-Roggeveld priority conservation area.					
Herbivory and predation: To understand and manage the ecosystem processes of herbivory and predation within TKNP.					
Mammalian herbivory: To identify the major herbivore architects, including locally extinct species and modifiers of heterogeneity and understand their function across the landscape at different spatial and temporal scales.					
Objectives	Action	Responsibility	Indicators	Timeframe	References
To identify herbivores acting as major architects in TKNP.	Research what the main drivers of succulent karoo ecosystem are and make recommendations.	CSD, PM	Scientific report	Year 1	
To develop, monitor and refine thresholds of concern for herbivory impact in TKNP.	Compare climate data to vegetation trends- long term (based on data received from current long term monitoring plots).	CSD, PM	Scientific report	Year 2	
	Evaluate current herbivory TPCs and comparisons and refine TPCs for TKNP.	CSD, PM	TPC's refined	Ongoing	
To understand the effect of spatial and temporal water distribution on herbivore composition and distribution and how this affects heterogeneity and biodiversity.	Map all water points in park.	CSD	Maps	Year 1	
	Assess water distribution based on season flux of herbivores (closed system).	PM, CSD	Scientific report	Year 3 & 4	
	Aim to mimic natural movements across landscape through spatial distribution of water.	PM, CSD	Census reports	Year 4, ongoing	
	Monitor existing open and closed water points (including rivers, springs etc.) for animal usage.	PM, CSD	Reports	Year 1, ongoing	
To identify and reintroduce appropriate locally extinct species.	Investigate the feasibility of re-introduction of black rhino into the park.	CSD, PM	Scientific report	Year 1	
	Analyse historic data and make recommendations.	CSD, PM	Lists, reports	Year 2	
	Introduce suitable / applicable species.	CSD, PM	Reports	Year 3, ongoing	

Objectives	Action	Responsibility	Indicators	Timeframe	References
To supplement and manage existing populations	Monitor the health of existing populations to ensure natural growth allowing for predation.	PM, CSD	Census reports	Year 1, ongoing	
	Introduce as necessary according to the WMC genetic maintenance policy.	CSD, PM	Reports	Year 2, ongoing	
Predation: To understand the role of predators in TKNP's ecosystem dynamics, particularly in the context of predator-prey relationships in this park.					
To identify and reintroduce appropriate locally extinct species	Investigate the feasibility of re-introduction of brown hyena and cheetah into the park.	CSD, PM	Scientific report	Year 1	
To identify and monitor the habitat requirements, prey selection and population dynamics of prioritised predators.	Assess each species for long-term sustainability of predator populations in TKNP.	CSD, PM	Scientific Report	Year 1 & 2	
	Recommend management actions based on species assessments.	CSD, PM	Report	Year 2	
	Implement and monitor actions.	PM, CSD	Scientific Report	Year 3, ongoing	
Balancing needs: To evaluate options and alternatives together with partners in line with ecological considerations and constraints and stakeholder needs.					
To identify and monitor the habitat requirements, prey selection and population impact by damage causing animals and consider how to balance this with biodiversity and stakeholder needs.	In conjunction with neighbours ensure the effectiveness of the fence as a mechanism for containing problem animals within TKNP.	PM	Minutes of meetings	Year 2	
	Develop an incident reporting and investigation system with neighbours.	PM	Reporting system	Year 2	
	Implement reporting system and evaluate the effects of damage-causing predators on neighbouring livelihoods.	PM, CSD	Reports	Year 2, ongoing	
To comply with provincial legislation regarding wildlife management	Investigate norms and standards regarding minimum requirements for fences, balancing it with recognised international landscape initiatives.	CSD, PM	Report	Year 1	
	Ensure fencing is compliant with provincial regulations.	PM	Reports	Year 2, ongoing	

10.2.1.2 Water in the landscape programme

The purpose of this programme is to understand the role of surface and groundwater in an arid ecosystem as a potential major driver of important ecological functions and ecosystem health. The Tankwa- and Renoster River systems find their way from the Roggeveld escarpment through the Tanqua plains and the park connecting with the Doring- and later the Olifants River systems. Protecting the health of the upstream catchment area of the Olifants-Doring catchment area in Tankwa Karoo National Park is one of the key freshwater conservation efforts within the park.

The key river, surface- and ground-water issues in TKNP are:

- to develop a key understanding of the role of non-terrestrial ecosystems on the arid succulent karoo ecosystem and landscapes (this will require research effort),
- to evaluate the role and significance of groundwater systems in TKNP as a driver of vegetation pattern,
- to ensure healthy river function, particularly for the Tankwa and Renoster River systems.

While one of the aims of the park expansion programme is to include the Renoster River catchment within the park boundaries, whilst the health of the Tankwa River system will require broader catchment management approaches.

This programme links with objective 1 and sub-objective 1.3 on page 14.



ECOSYSTEM PROCESSES PROGRAMME					
High level objective: To restore and protect natural ecosystem function which supports the biodiversity needs of the succulent karoo global hotspot and Bokkeveld-Hantam-Roggeveld priority conservation area.					
Objective: To develop an understanding of and maintain/ restore the aquatic ecosystems (including sub-surface water) and the links with and influences on terrestrial systems and landscapes.					
Sub-objectives	Action	Responsibility	Indicators	Timeframe	References
To monitor and promote healthy aquatic ecosystem function of rivers, wetlands and pans and retaining appropriate fluctuations in time and space.	Map and ground truth wetlands.	CSD, BSP	Maps and lists	Year 2	
	Implement river health monitoring.	CSD, PM	Scientific report	Year 2	
	Continue alien clearing activities along riparian habitat and monitor.	BSP, PM, CSD	Reports and maps	Ongoing	
	Map existing infrastructure.	BSP, PM	Maps and lists	Year 1	
	Assess effects of redundant infrastructure on aquatic systems.	CSD, PM	Scientific report	Year 3, ongoing	
	Make recommendation for appropriate management actions.	CSD, PM	Scientific report	Year 4	
	Implement appropriate management actions.	PM	Reports	Year 4, ongoing	
	Monitor management actions taken.	PM	Reports	Year 4, ongoing	
To evaluate the effect of current aquatic management on recharge of the ground water systems (aquifers) in the park.	Research recharging of aquifers.	CSD	Scientific report	Year 3	
	Map pans and springs.	CSD, BSP	Maps and lists	Year 3	
	Monitor flow.	CSD, PM	Reports	Year 4, ongoing	
To monitor and manage the sustainable usage of ground water.	Fit water meters to boreholes.	PM	Inventory list	Year 1	
	Monitoring meters.	PM	Reports	Ongoing	
To monitor the role, significance and consequences of artificial surface water provision in the TKNP landscape.	Fit water meters to water points / pumps.	PM	Inventory list	Year 1	
	Monitoring meters.	PM	Reports	Ongoing	
To develop a management plan for the Oudebaaskraal dam addressing the legal requirements and biodiversity needs.	Facilitate the writing and updating of the Dam management plan.	PM, CSD	Dam Management Plan	Year 1	
	Implement recommendations and scheduled actions.	PM	Report	Year 2, ongoing	
	Develop a site plan.	PM, CSD	Site plan	Year 2	
	Develop management guidelines to facilitate potential restoration of natural processes.	CSD, PM, BSP	Guidelines and scientific report	Year 3	
	Monitor actions.	CSD, PM, BSP	Report	Year 3, ongoing	

10.2.1.3 Climatic conditions programme

The mean annual rainfall (mm) for the Karoo falls into the 0-500 mm range making the western section of the TKNP one of the most arid sections of the Karoo. The park is one of a few national parks that receives summer- and winter rainfall. Up to 30% of its annual rainfall can consist of summer rain with the remaining precipitation falling in the late autumn and winter months. Summer rain develops in the north, stretches into the Tankwa basin, making it the most southerly area in the country to receive summer rain as natural precipitation supporting stretches of grassland through the central sections of the park. Scattered within the grasslands a few smaller mountains can be found with plant communities that need winter rain. The Tanqua basin separates two winter rainfall areas, the Cedarberg Mountain in the west and the Roggeveld escarpment in the east. The whole area might therefore be seen as a transitional ecotone guided by rainfall regimes which contribute to the unique composition of the plant communities found in Tankwa Karoo National Park.

The massive geographical and environmental gradient from the Tanqua plains to the Roggeveld escarpment not only contributes to the spectacular and panoramic views in TKNP, but also creates four different temperature regimes as well as playing a part in the unique rainfall patterns in the area. This dramatic gradient begins on the Roggeveld escarpment (1, 640 m amsl) moves through the Elandsberg Plateau (735 m amsl), Tankwa basin (310 m amsl) and into the Cedarberg Mountains (650 m amsl). This dramatic gradient is thought to be responsible for the unique composition of all natural ecosystems found in TKNP which will be further researched in years to come.

This programme links with objective 1 and sub-objective 1.3 on page 14.

ECOSYSTEM PROCESSES PROGRAMME					
High level objective: To restore and protect natural ecosystem function which supports the biodiversity needs of the succulent karoo global hotspot and Bokkeveld-Hantam-Roggeveld priority conservation area.					
Objective: To understand the major effects of climate (especially rainfall and global change) on biodiversity, and allow this context to inform management decisions, including the no-action decision.					
Sub-objective	Action	Responsibility	Indicators	Timeframe	References
To monitor important aspects of climate (e.g. rainfall, wind, humidity and temperature).	Establish weather stations across the park to gather data on all micro-climates.	PM, CSD	Weather stations	Year 1	
	Collect, monitor and interpret weather data.	PM, CSD	Scientific Reports	Ongoing	
	Align management decisions with findings and knowledge on climatic patterns and processes.	PM	Reports	Year 2, ongoing	

10.1.2.4 Fire programme

The National Veld and Forest Fire Act 101 of 1998 (“the Veldfire Act”) aims at wildfire management through the prevention and combating of veld, forest and mountain fires. It defines the expression “veldfire” to include forest and mountain fires. Although the Veldfire Act’s principal aim is the regulation of wildfires, it also has a role to play in veldfire management generally. This is because the Act aims to control the spread of veldfires by imposing obligations on landowners such as the preparation and maintenance of firebreaks. The Veldfire Act provides for compliance with environmental requirements (Conservation of Agricultural Resources Act No 43 of 1983 (CARA), The Atmospheric Pollution Prevention Act No 45 of 1965 and The Fire Brigade Services Act, No. 99 of 1987), the management of risk to life and property (Occupational Health and Safety Act, No. 85 of 1993). Regulation 12 of CARA states that except on authority of a written permission, no land user may burn any veld or utilise any veld on his / her farm unit that has been recently been burned. The TKNP has a fire management plan as required by the Veldfire Act which is updated on an annual basis; this includes staff training and building the capacity of the park to fight fires. TKNP is a member of the Southern Roggeveld Fire Protection Association (SRFPA) for the area as stipulated by law and participates in meetings and assists in veldfire fighting when required.

Fire is a landscape scale disturbance, it creates gaps in the vegetation which in turn provides open space for plant establishment and regeneration (Carson and Pickett 1990).



Fire maintains biodiversity by contributing to the maintenance of species richness in avoiding competitive exclusion and by increasing diversity of species (Lavorel *et al.* 1994). Of the vegetation types in TKNP, Roggeveld Shale Renosterveld is the only vegetation type where fire is a driving variable. The optimum fire cycle for renosterveld in low rainfall areas (200 mm / annum) is once every 10 - 15 years (Helme and Rebelo 2005; Van Der Merwe and van Rooyen 2010). Fire is not an ecosystem driver in the low lying arid areas of the park, and the primary drivers of the plant communities here are soil type (depth, rockiness) and soil moisture (partly related to aspect, as well as presence of drainage). At present TKNP does not undertake prescribed burning of the renosterveld areas within the park as it burns regularly under natural conditions often ignited by lightening from thunder storms over the escarpment. Historically, the renosterveld and Tanqua plains have been particularly overstocked when compared to levels considered sustainable for grazing of these vegetation types (Du Toit 1998). These sensitive vegetation types should thus be managed to avoid over-trampling and local overgrazing, as well as sheet and bank erosion, particularly after fire. To ensure successful recruitment after fire, grazing by large numbers of game should will be monitored within the first three years after a fire (van der Merwe and van Rooyen 2010). By the same token, overgrazed veld should not be burnt until it is sufficiently rested and recovered with a minimum of two years rest (Helme and Rebelo 2005).

This programme links with objective 1 and sub-objective 1.3 on page 14.

ECOSYSTEM PROCESSES PROGRAMME					
High level objective: To restore and protect natural ecosystem function which supports the biodiversity needs of the succulent karoo global hotspot and Bokkeveld-Hantam-Roggeveld priority conservation area.					
Objective: To promote fire as a natural ecosystem process in TKNP and to evaluate and respond appropriately to fire threats to infrastructure and human lives					
Sub-objectives	Action	Responsibility	Indicators	Timeframe	References
To evaluate and understand the role of fire as a natural process in the TKNP ecosystems.	Research the role of fire as a driver in the Roggeveld renosterveld system.	CSD	Scientific report	Year 1	
To identify fire threats and risks.	Evaluate vegetation maps and land use in and around park.	CSD, PM	Maps and reports	Year 2, ongoing	
	Generate responsible attitudes, and respond appropriately at the individual, park and regional levels.	PM	Minutes of meetings, incident reports	Year 1, ongoing	
To participate meaningfully in the regional Fire Protection Association (FPA).	Maintain membership of FPA.	PM	Membership	Year 1, ongoing	
	Attend FPA meetings.	PM	Minutes of meetings	Year 1, ongoing	
	Update park fire plan according to FPA rules.	CSD, PM	Fire plan	Year 1, ongoing	
To ensure field staff have adequate fire training to deal with wildfires and prescribed burning.	Staff to attend regular training.	PM	Certificates	Year 1, ongoing	
	Acquire and maintain all fire equipment.	PM	Equipment inventory and reports	Year 1, ongoing	

10.2.2 Species of special concern programme

The purpose of this programme is to establish an understanding of the threats to species in Tankwa Karoo National Park and develop management actions to allay these. The park was established for the primary purpose of conserving the succulent karoo biodiversity hotspot and although the focus of biodiversity management is primarily at the landscape scale, there is the need to implement specific management strategies aimed at conserving threatened, rare or endemic species termed species of special concern (SSC). Many threatened and endemic plant species and other taxa are found in the park and priority species need to be monitored to identify necessary management actions and to ensure the persistence of such species in the park. The aim is to fill knowledge gaps of Red Data Listed (Raimondo *et al.* 2009) species through identification, inventory and prioritisation of candidate species (plants and animals) within the park. Once the species lists have been reviewed and species prioritised, threats to populations will be identified through infield surveys and feasible management actions to lessen or reverse the threats will be identified. In some cases management actions may require direct intervention such as predator control measures and population relocation or indirect methods such as alien plant clearing and correct fire management. The results of the field surveys and management actions will be fed back into national programmes such as South African National Biodiversity Institute (SANBI) Red Data listing programme. The primary aim is to prevent extinction of any species in TKNP where possible.

A small population of Cape mountain zebra (listed as vulnerable in SA) has been reintroduced into the park and an opportunity exists within TKNP to address concerns over the genetic diversity of the national population through introduction of unrelated individuals and thereby establishing a conservation population adding to the two that SANParks already has at Karoo National Park and Mountain Zebra National Park.

This programme links with objective 1 and sub-objective 1.4 on page 14.

SPECIES OF SPECIAL CONCERN PROGRAMME					
High level objective: To understand the current threats facing our identified species of special concern in TKNP and prioritise for action, where appropriate.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To monitor Cape mountain zebra populations in the park.	Regular road census counts of Cape Mountain Zebra of individual numbers.	PM, CSD	Census reports	Ongoing	
	Aerial census-yearly for first three years and every third year thereafter to validate road count numbers.	PM, CSD	Census reports	Ongoing	
	Genetic maintenance as per wildlife policy.	CSD, PM	Wildlife reports	Year 3, ongoing	
To assess the risk profile of identified species of special concern.	Identify species in park and define categories: affected by climate change, red data list and monitor.	CSD, PM	Database populated, lists	Ongoing	
	Identify species that are heavily used by herbivores as SSC and / or indicator species and monitor.	CSD, PM	Database populated, lists	Ongoing	
	Prioritise categorised species for monitoring.	CSD, PM	Database populated, lists	Year 2, ongoing	
	Develop field guide for park staff and update regularly with occurrence records in park.	CSD, PM	Field guide. Database populated	Year 2, ongoing	
To understand the distribution and population status of prioritised species of special concern.	Develop appropriate monitoring programme for identified species.	CSD, PM	Programme developed	Year 2, ongoing	
	Develop recommendations and implement actions.	CSD, PM	Reports	Year 2, going	
	Secure funding and partnerships to monitor.	PM, CSD	Partnership agreements	Ongoing	
	Train staff in field monitoring.	PM	Certificates	Year 2, ongoing	
	Implement monitoring and review status.	PM, CSD	Reports	Year 3, ongoing	



10.2.3 Habitat degradation and rehabilitation programme

The purpose of this programme is to re-establish a self-sustaining habitat that closely resembles the natural condition in terms of structure and function of a healthy succulent karoo ecosystem. The most common transforming agents in the Tanqua-Karoo have been agricultural operations, pastoralism and crop production. These land use practices have led to changes in the vegetation cover and numerous infrastructures dotted across the landscape. There are still remnants of structures such as farm dams, windmills, weir's and houses remaining in the park. Removal and rehabilitation of these areas forms a vital part of the rehabilitation strategy of the park. All restoration and rehabilitation activities will be included in a monitoring framework to establish the effectiveness of the programme and to feedback into the adaptive process to evaluate the success of the programme. The long-term aim of rehabilitation is to return a transformed system to some form of cover or state that is protective, productive, aesthetically pleasing or valuable in a conservation sense. The scale at which management actions will be taken is determined by the current state of the system in relation to biotic (vegetation cover) and abiotic (soil cover) conditions and what is required to return the system to a working state.

Transformed lands that were ploughed or grazed require attention and will be monitored for passive recovery over time. At present there are no immediate plans to actively rehabilitate these areas to enhance vegetation recovery through active restoration efforts of seeding or planting of plants. It is therefore recommended that herbivore density should be managed in such a way that it complements the passive restoration of these old lands. The feasibility of such passive recovery will be monitored and adapted to more active interventions if applicable. Active restoration requires the implementation of restoration strategies which seek to influence and rectify changes (Brudwig 2011), manipulations can be used to aid natural processes, so that the desired ending point is reached sooner (Palmer *et al.* 1997). In arid environments disturbance regimes that reduce vegetative cover in turn increase the soil temperature affecting evaporation and plant establishment. To remedy this negative cycle restoration efforts in TKNP will include contouring of slopes, furrows and pits perpendicular to the slope so that they act as water catchments and trap wind-blown soil, nutrients, organic matter and seeds. In a dry environment planting and provision of water for plant establishment is not economically viable and restoration methods in TKNP will be developed with this in mind.

This programme links with objective 1 and sub-objective 1.5 on page 14.

HABITAT DEGRADATION AND REHABILITATION					
High level objective: To rehabilitate and restore natural patterns and processes of degraded land and monitor recovery.					
Vegetation: To restore the composition, structure and function of degraded vegetation.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To establish trends and patterns in vegetation degradation and rehabilitation.	Analyse current data and make recommendations of known degraded areas.	CSD, PM	Scientific report	Year 1	
	Establish long-term monitoring techniques (remote sensing, fixed point photos, surveys).	CSD, PM	Reports	Year 2, ongoing	
	Monitor and measure effects of actions taken.	PM, CSD	Reports	Year 2, ongoing	
	Research into other degraded areas in the park.	CSD, PM	Scientific report, maps	Year 1	

Objectives	Actions	Responsibility	Indicators	Timeframe	References
To prioritise areas for rehabilitation.	Identify and map areas in park for active rehabilitation.	CSD, PM, BSP	Maps	Year 1	
	Prioritise areas for rehabilitation based on the Habitat Degradation and Rehabilitation Monitoring Programme assessment document.	CSD, PM, BSP	Priority Lists	Year 2	
	Establish rehabilitation of areas where infrastructure such as old farmhouses and dams have been removed.	PM, BSP	Plan and APO	Year 2, ongoing	
	Implement rehabilitation actions where required.	PM, BSP	Plan and APO	Year 2, ongoing	
	Monitoring success of interventions.	PM, BSP, CSD	Annual report	Year 2, ongoing	
Erosion: To restore the landscape by combating detrimental erosion					
To restore natural soil processes.	Undertake assessment of site-specific drivers (natural vs non-natural processes) and map detrimental erosion (sheet, gully, etc.).	CSD, BSP	Scientific report & maps	Year 3	
	Prioritise sites for rehabilitation.	CSD, PM	List	Year 3, ongoing	
	Select appropriate rehabilitation intervention to address site-specific drivers of runoff.	PM, CSD	Annual report	Year 4, ongoing	
	Implement and monitor management interventions and actions.	PM, BSP	Annual report	Year 4, ongoing	
Removal of old infrastructure: To restore the natural and aesthetic appeal of land that was previously transformed through the removal of undesirable infrastructure.					
To list, prioritise areas for action and remove infrastructure.	Update inventory of old infrastructure.	PM	Inventory	Ongoing	
	Prioritise areas for removal of infrastructure.	PM, BSP	Priority list	Ongoing	
	Determine appropriate methods.	CSD, PM, BSP	Scientific report	Year 2, ongoing	
	Implement and monitor management interventions and actions.	PM, BSP, CSD	Annual report	Year 2, ongoing	

10.2.4 Feral animals, alien and invasive species programme

The purpose of this programme is to eradicate and control current domestic and alien species invasion of the Tankwa Karoo National Park and to prevent future infestations where possible.

10.2.4.1 Feral animals

In the park expansion process several farms was purchased and with the acquisition SANParks inadvertently became the new owner of “feral goats” *Capra hircus*. These animals are currently roaming the mountainous areas in the north east of the park. Feral goats are considered an invasive alien species in the South African protected area context. They have negative impacts on indigenous biodiversity by changing vegetation communities and reducing the cover and diversity of plant species, including endemic species, particularly in arid and semi-arid regions (Moolman and Cowling 1994). This happens at the expense of indigenous species such as klipspringer *Oreotragus oreotragus* and grey reebuck *Pelea capreolus*.

Since 2008 the Northern Cape Department of Agriculture, Land Reform and Rural Development has successfully caught and translocated eighty seven goats. These animals are now part of a breeding programme to preserve the unique gene pool.

The domestic cat *Felis catus* also occur in the park as a result of the park expansion process. These animals pose a threat to the indigenous biodiversity, in particular the African wild cat *Felis silvestris lybica* and possibly the Black footed cat *Felis nigripes* that inhabit the park. It is known that these two species can breed with feral cats and therefore ongoing efforts are made to remove these animals.



10.2.4.2 List of invasive species occurring in TKNP

An updated national list of invasive alien species in terms of Section 70(1)(a) of NEM:BA, is due for publication in April 2014. The updated NEM:BA list along with the list of species in the Conservation of Agricultural Resource Act (CARA) (Act 43 of 1983) will be used as the baseline of species to be removed and controlled in TKNP. Species identified through the process of early detection of new invasive species within TKNP will be added to the invasive species list for the park.

Table 11: Alien invasive species recorded within TKNP

Botanical name	Common name
<i>Acacia cyclops</i>	Red-eyed wattle, Rooikrans
<i>Agave americana</i>	Century plant, American aloe, Garingboom
<i>Agave sisalana</i>	Sisal, Garingboom
<i>Argemone mexicana</i>	Yellow-flowered Mexican poppy, Geelblombloudissel
<i>Argemone ochroleuca</i>	Sweet mexican poppy, White-flowered Mexican poppy, Mexikaansepapawer
<i>Arundodonax</i>	Giant reed, Spanish reed, Spaanseriet
<i>Atriplex lindleyi</i>	Lindley's saltbush, Sponge-fruit salt bush, Blasiesoutbos, Kleinbrakbossie
<i>Atriplex nummularia</i>	Old man saltbush, Oumansoutbos
<i>Bromus rigidus</i>	Rippgut grass, Rye brome
<i>Eucalyptus camaldulensis</i>	Red river gum, Rooibloekom
<i>Gomphocarpus fruticosus</i>	Shrubby milkweed, Milkwood, Melkbos
<i>Nicotiana glauca</i>	Brazilian tree tobacco, Wild tobacco, Tabakboom, Wildetabak
<i>Opuntia articulata</i>	Paper spine cactus, Spruce cone cholla
<i>Opuntia ficus indica</i>	Indian fig opuntia, Sweet prickly pear, Boereturksvy
<i>Opuntia humifusa</i>	Large flowered or creeping prickly pear
<i>Polypogonmons peliensis</i>	Rabbit's foot, Brakbaardgras
<i>Populus canescens</i>	Grey poplar, Gryspopulier, Poplier, Vaalpopulier
<i>Prosopis glandulosa</i>	Honey mesquite, Mesquite, Muskietboom, Heuningprosopis
<i>Ricinus communis</i>	Castor oil plant, Kasterolieboom
<i>Rostraria pumila</i>	Rough cat's tail
<i>Salix babylonica</i>	Peking willow, Babylon willow, Weeping willow, Treurwilger
<i>Salsola kaki</i>	Russian thistle, Prickly saltwort, Russian tumbleweed, Russieserolbossie
<i>Schinus molle</i>	Peruvian pepper, Pepper tree, Peperboom
<i>Tamarix ramosissima</i>	Pink tamarisk
<i>Xanthium spinosum</i>	Spiny cocklebur, Burweed, Boetebossie

10.2.4.3 Description of the land infested, assessment of the extent of infestation

Tankwa Karoo National Park is situated on the southern boundary of the northern cape with the Roggeveld escarpment in the east, Cederberg Mountains in the west, and Klein Roggeveld Mountains in the south. The park is 146, 373 ha in size and alien infestation covers roughly 20, 259 ha of the park at present. The park's priority areas for alien control include the riverine areas from the top of the Renoster River down to the Tankwa River (catchment area) and the old lucerne dams. The northern section of the park is where the majority of the alien plants occur. The riparian zones are prone to infestations mainly by *Prosopis glandulosa*, *Ricinus communis* and *Nicotiana glauca* which follow the moisture gradient of the drainage lines.

The biggest areas of concern were the farms Middeldrift, Oudebaaskraal, Boezak, Roodewerf, Waaikop, Uintjesbos and De Zyfer. These farms had high densities of *Prosopis glandulosa*, the most prominent alien in TKNP. *Prosopis spp* have a drastic impact on the water table and water run-off, by reducing the carrying capacity and increase the density of the vegetation which limits movement by animals through the area.

The major concern regarding the current infestations is that clearing in the bottom sections of the river system has been completed, and these areas and newly purchased land in the upper catchment needs to be cleared before seed is spread downstream into cleared areas.

10.2.4.4 Status report on the efficacy of past control measures

The WfW alien clearing project has been implemented by SANParks Biodiversity Social Projects (BSP) (previously known as ISCU- Invasive Species Control Unit) in TKNP since September 2004. The initial clearing in the park is done along the rivers and dry river beds mainly with chainsaws and brushcutters, including an application of the herbicide Confront mixed with Actipron and a blue dye. To date initial clearing is at 19, 495 ha and the park has achieved 96% of its targeted 20, 259 ha of initial clearing. The park has concentrated on initial clearing over the past couple of years but now mainly concentrates on maintaining the follow up work. Follow up clearing methods include the use of loppers, Zubat Saws and hand pulling of seedlings.

New lands in the park will be included in the park's AIS infested areas mapping database during 2014 / 2015. As the park continues to expand, the mapping and inclusion of AIS infested areas will be ongoing.

The programme as so far achieved the following:

- Clearing about 96% of high density initial *Prosopis glandulosa* infestations in the park;
- Initial clearing of 14% of the total area of the park;
- Since 2004 it provided sustainable jobs for 44 beneficiaries and developed four contractors. The social development and training component of the project contributed greatly to the advancement of these people's livelihoods.

10.2.4.5 Current measures to monitor, control and eradicate alien invasive species

The SANParks alien invasive species framework provides an integrated approach to alien and invasive species management, with the primary objective of meeting the biodiversity objectives of the park's management plan. The Framework includes five vital components:

- Assessment and risk analysis
- Priority setting
- Early detection and rapid response
- Control
- Restoration

Alien and invasive species (AIS) are considered important for monitoring in TKNP; the majority of the IAS has been removed through the Working for Water programme, however there still exist many AIS on neighbouring lands and along the riverine area. Monitoring of the spread of the AIS along the borders of the park is required and regular clearing of species found on old lands. The outcomes of the Global Environmental Change (GEC) project (<http://www.sanparks.org/conservation/scientific/cape/gec.php>) of the Cape Research Centre will inform the actions needed in TKNP to combat and control AIS. Reports will include the status of AIS in TKNP, as well as recommendations for prevention of future invasions and information on pathways of introduction. A full assessment and risk analyses of AIS in TKNP will enable priority setting. The goal of prioritisation is to direct the available resources in a way that will be both ecologically sensitive and economically viable. A generic set of criteria have been developed for prioritising areas and species that will be used in TKNP, once species have been prioritised for clearing this will be fed into an APO (Annual plan of operation) for the project which will form the basis of the motivation for funding.

Until the prioritisation process has been completed for the entire park the current project will focus mainly on maintaining previously cleared sites. Working with the South African National Biodiversity Institute's Early Detection and Rapid Response Programme (EDRR) the park will aim to identify entry pathways into the park so that new AIS introductions may be prevented and enable a rapid response to eradicating or containing the infestation. Established invasions are much more costly to eradicate. Even though a new invasion might seem insignificant, it must be prioritised to ensure it does not spread and require exponentially more effort and resources to clear.



A long term control strategy will be developed for areas in TKNP that have established / high density AIS stands. Follow-up operations in cleared sites will be assessed annually and these assessments will inform the annual plan of operations (APO) in TKNP, which aim to set out clearing schedules for each site, personnel requirements and financial information.

Control methods, or combinations thereof, are designed to suite the target species and the environment in which it occurs. The following methods are used the park (including riparian zones along the Renoster and Tankwa Rivers, terrestrial areas and drainage lines):

- Chainsaws
- Loppers and hand saws
- Bio-control
- Chemical (herbicides)
- A combination of the above methods

The following species have provisionally been identified as a priority for control:

- *Acacia cyclops*
- *Prosopis glandulosa*
- *Argemone ochroleuca*
- *Eucalyptus camaldulensis*
- *Arundo donax*
- *Nicotiana glauca*
- *Populus x canescens*

10.2.4.6 Indicators of progress and success, indications of when the programme is to be completed

By the end of the 2014 / 2015 financial year all existing *Prosopis*-infested areas should be cleared. The riverine and catchment areas in the park will need annual follow-up operations until at least 2017. As the park acquires new land which may have infestations, this estimate may need revision.

Unless all alien invasive species are cleared from the upstream sections of the Tankwa and Renoster Rivers the riparian habitats within the park will undergo regular re-infestation. To prevent repeat infestations into TKNP, the buffer zone of the park requires attention for AIS clearing too. The monitoring and control programme is therefore unlikely to ever reach completion.

This programme links with objective 1 and sub-objective 1.6 on page 14.

DOMESTIC, ALIEN AND INVASIVE SPECIES PROGRAMME					
High level objective: To anticipate, prevent entry and where feasible control / eradicate domestic and alien species.					
Objective: To systematically survey and list alien species in and around TKNP.					
Sub-objectives	Actions	Responsibility	Indicators	Timeframe	References
To systematically survey TKNP, in order to determine alien species abundance and distribution, and maintain updated species lists.	Develop maps for species and abundance and continuous updating of priority areas.	CSD, PM, BSP	Maps, lists	Year 1	
	Compare new list with existing park list of IAS and identify new problem species.	CSD, BSP	Scientific report	Year 2	
	Add new records of species.	CSD	Lists	Year 2, ongoing	
To detect new incursions of invasive species to allow for rapid response and eradication where feasible.	Develop field guide for new invasive species in arid parks.	CSD, PM, BSP	Field guide	Ongoing	
	Identify and report new invasive species in the park.	PM, BSP, CSD	Report	Ongoing	
	Identify areas or species of concern and prioritise for removal of IAS.	CSD, PM, BSP	Priority list	Ongoing	
	Write APO for clearing operations. Implement and monitor outcomes.	PM, BSP, CSD	Annual report	Ongoing	
To monitor the spread of high priority species and inform management accordingly.	Conduct site inspections.	BSP, PM	Reports	Ongoing	
	Submit regular reports on clearing and control measures.	BSP, PM	Annual reports	Ongoing	
	Analyse distribution data and make recommendations.	CSD, PM	Scientific report	Year 2, ongoing	
Objective: To prevent the introduction of alien species.					
To prohibit the use of alien species in staff quarters and tourism accommodation - use alternative species in accordance with the species list of the park.	Develop a list of appropriate and not appropriate garden species for the park.	CSD, PM	Planting guide	Year 2, ongoing	
	Ensure that staff adhere to code of conduct for the park.	PM	Annual report	Year 2, ongoing	
To determine and monitor high risk areas for invasions adjacent to TKNP and ensure management is initiated as required.	Prioritise areas for survey outside the park in the buffer zone.	PM, BSP, CSD	Priority list, map	Ongoing	
	List and collate areas where potential risk currently occurs.	PM, BSP	List	Ongoing	
	Map alien and invasive species in the buffer zone.	BSP, PM	Map	Year 2 & year 3	
	Develop recommendations per situation as required.	PM, BSP, CSD	Report	Year 2, ongoing	
Objective: To ensure the effective and timely development and implementation of integrated control strategies, in such a manner that rapid response and long-term maintenance goals are met.					
To ensure that areas requiring management are incorporated into the appropriate clearing plans.	Update management unit clearing plan annually.	BSP, PM	Map	Ongoing	
	Continuous maintenance control of species and areas according to the current management support programme.	BSP, PM	Reports	Ongoing	
	Write APO for clearing operations. Implement and monitor outcomes.	PM, BSP, CSD	Annual report	Ongoing	



Sub-objectives	Actions	Responsibility	Indicators	Timeframe	References
To introduce biological control agents and / or other appropriate and novel methods (subject to risk-benefit evaluation) where appropriate and necessary.	Investigate the use of biological control and novel methods in TKNP.	BSP, CSD, PM	Scientific report	Year 3	
	Develop actions where appropriate.	BSP, CSD, PM	Scientific report	Year 3	
	Implement and monitor actions.	BSP, CSD, PM	Annual report	Year 3, ongoing	
To mitigate negative impacts of feral animals on indigenous biodiversity.	To remove feral animals from the park.	PM	Annual reports and census counts	Ongoing	

10.3 Responsible tourism programme

The purpose of the responsible tourism programme is to act as an enabler for conservation through enhancement of the financial sustainability of the park. Not all parks will attain sustainability on their own, and thus financial sustainability is viewed across all SANParks parks as a whole.

In accordance with the provisions under NEM:PAA and the Public Finance Management Act, Act 1 of 1999, SANParks has the legal authority to engage in nature-based tourism in national parks for the purpose of conveying conservation, public enjoyment, constituency building and income generation.

SANParks has adopted and aligned itself to the national Responsible Tourism Strategy. Responsible Tourism aims to:

- maximises benefits to local communities,
- minimises negative social or environmental impacts, and
- helps local people conserve fragile cultures, habitats and species.

Tankwa Karoo National Park is in a development / consolidation phase and has the potential to expand westwards to link up with the Cedarberg wilderness area and to a lesser extent eastwards to include more of the Roggeveld escarpment. One of the key attributes of the Park (from a tourist point of view) is the open landscape and wide open spaces. Besides some of the larger herbivores (e.g. Gemsbok and Eland) it does not have dangerous animals, making it an ideal destination for relatively free movement of guests. Being located within a few hours' drive from Cape Town, it is an ideal weekend destination for this market. The main attractions are the expansive Tankwa plains and the Roggeveld Mountains on the eastern edge, the unique flowers during early spring, the birdlife and the rich cultural heritage to be found in the TKNP.

TKNP currently has 61 beds managed by SANParks and can accommodate 48 persons for formal and informal camp sites. It further has a contractual agreement with Gannaga Lodge which offers 20 beds in the full service sector.

For 2012 / 2013 financial year (2011 / 2012 in brackets), SANParks operated facilities operated at 54,8% (51,1%) room / unit occupancy, while bed occupancy was 31,4% (28,2%). Camping person nights were 2,595 (1,354). Effective infrastructure and activity development, in order to promote park sustainability by increasing the tourism products and services sold and the annual visitor numbers and income generation, is dependent on extensive and improved tourism planning.

This programme links with objective 3 and sub-objectives 3.1 – 3.3 on page 14.

RESPONSIBLE TOURISM					
High level objective: To identify, develop and market responsible tourism products that will enhance the visitor experience.					
Objective: To develop a responsible tourism baseline for TKNP.					
Sub-objectives	Action	Responsibility	Indicators	Timeframe	References
Set Responsible Tourism baseline to ensure implementation of best practice.	Develop a responsible tourism baseline.	GM: Strategic tourism services, PM	Responsible tourism baseline	Year 1	
	Implement a template for annual review of performance against the baseline.	GM: Strategic tourism services	Report	Year 1	
	Annual measurement and review in line with the responsible tourism baseline.	PM	Report	Ongoing	
To measure and manage key tourism performance indicators.	Measure performance against tourism performance indicators.	PM	Statistics	Annually	
	Monitor to ensure improvement in tourism performance.	PM	Statistics	Ongoing	
To promote effective visitor communication whilst creating conservation learning opportunities.	Conduct an interpretation survey.	Mgr: Visitor management and interpretation, PM	Survey results	Year 1	
	Develop an interpretation plan.	Mgr: Visitor management and interpretation, PM	Interpretation plan	Year 1	
	Implement the findings of the interpretation plan priorities, including signage to and from the park and all interpretation within the park.	PM	Signage and site interpretation	Year 3, Ongoing	
	Align Cultural Heritage Plan with development and interpretation priorities.	PM, GM: Strategic tourism services	CHM plan	Ongoing, or as required	
To promote effective visitor management and flow.	Conduct a visitor management survey in accordance to the Visitor Management Policy.	Mgr: Visitor management and interpretation	Survey results	Year 1	
	Develop and implement Visitor Management Plan	Mgr: Visitor management and interpretation, PM	Visitor management plan	Year 1	
	Develop and communicate the code of conduct for activities.	Snr Mgr: Tourism standards, PM	Code of conduct	Year 1	
	Classify and number all roads in the park according to revised road grading.	PM	Document	Year 1	
Objective: To establish an appropriate and innovative responsible tourism product framework for implementation.					
To create the product development framework and plan	Develop a comprehensive tourism product development framework and plan	PM	Product development framework	Year 1	



Objectives	Action	Responsibility	Indicators	Timeframe	References
To create the product development framework and plan	Develop, prioritise and implement potential tourism products.	PM	Product development plan	Year 2	
	Review and maintain the tourism product development framework.	PM	Product development framework	As required	
Objective: To promote the park and its surrounds as a preferred tourism destination.					
To develop and implement the sales and marketing plan	Develop Sales and Marketing plan (including branding).	GM: Sales and marketing, Mgr Regional sales and marketing, PM	Plan	Year 1	
	Formalise the Branding, promotions and booking processes for concessionaires.	PM, GM: Sales and marketing	Marketing and sales plan	Year 1	
	Conduct market research.	Mgr: Visitor management and interpretation, PM	Report	Year 1, review annually as required	
	Review and update marketing and sale plan.	GM: Sales and marketing, PM	Marketing and sales plan	Ongoing	

10.4 Constituency building and benefit sharing

The People and Conservation (P&C) department in SANParks was established to build constituencies among people in support of the conservation of the natural and cultural heritage assets within national parks. Through strengthening relationships with neighbouring park communities, management of cultural resource and indigenous knowledge management, environmental education, awareness and interpretation, social science research, and youth outreach. Currently there is no P&C capacity in TKNP to implement the actions identified in the programmes below. Until such time as there is capacity in TKNP the park will investigate innovative ways to overcome capacity constraints. The park also aims to initiate and maintain formal and informal partnerships with all levels of government, business partners, community organisations, non-governmental organisations, customers and employees. The park currently falls within three municipal areas and a sound working relationship exists with the local government structures and communities. Stakeholders are engaged with on different levels and in diverse ways according to their needs. It is vital to the existence, development and expansion of the park to maintain good relations with these stakeholders. Due to the diversity of engagements within this programme three sub-objectives were developed within this objective.

10.4.1 Cultural heritage programme

The purpose of this programme is to establish and sustain the significance, authenticity and integrity of the of heritage resources for which SANParks is responsible for the enjoyment and benefit of visitors to the park. Tankwa Karoo National Park as a cultural landscape has a rich cultural heritage which complements the parks biodiversity and therefore offers a great conservation opportunity. The cultural heritage of the park is subject to the National Heritage Resources Act no 25 of 1999. The National Heritage Resources Act encourages the development of heritage management plans for proper management of heritage resources.

This area has a rich history and the inclusion of the Renoster River system into the park ensures that the cultural and social history pertaining to the river is conserved. In an arid environment like the Tanqua Karoo water is the key to survival and the centre point of societies that developed in this area.

The Renoster River has many sights along its banks of the people who lived there and depended on it for life, such as the Khoi-San with evidence of spiritual grounds in the catchment area and the settlers, like the shepherds who built their homes deep in the kloofs. This area was also earmarked as one of the first in the Karoo for European settlement and today some of these dwellings of mud, clay and straw still remain. However time and the elements are working to erode this history and the signs of earlier inhabitants of the Tanqua Karoo. An assessment of all the cultural heritage resources within TKNP is required and the park aims to develop a management plan to ensure that precious histories are not lost. Currently the park relies on external researchers to undertake this task as TKNP does not have the staff capacity.

This programme links with objective 2 and sub-objectives 2.1 – 2.3 on page 14.

CULTURAL HERITAGE PROGRAMME					
High level objective: To research, manage and conserve heritage resources and cultural aesthetic values.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To identify, collect and consolidate cultural heritage assets and knowledge in the park.	Collect and consolidate cultural heritage resources.	PM, CSD	Lists, records	Year 1	
	Develop and then maintain a database of the cultural mapping of the tangible and intangible heritage resources associated with the park.	PM, CSD	Lists	Year 3, ongoing	
	Formally capture the internal history of the park such as park establishment, anecdotal stories, park highlights, etc.	PM, CSD	Lists	Year 3, ongoing	
	Identify and prioritise research needs for cultural heritage.	CSD, PM	Lists	Year 3, ongoing	
	To develop baseline awareness and interpretation tool relating to cultural heritage in TKNP.	PM	Cultural Heritage Plan	Year 3, ongoing	
	Monitor and evaluate research recommendations for management implementation.	CSD, PM	Reports	Year 4, ongoing	
To develop and implement a cultural heritage management plan.	Develop a cultural heritage management plan.	CSD, PM	Plan	Year 2, ongoing	
	Develop site specific management plans for identified sites.	CSD, PM	Plan	Year 3, ongoing	
	Implement and monitor actions.	PM, CSD	Reports	Year 3, ongoing	
To provide adequate interpretation of cultural heritage resources for enhancement of visitor educational experience.	Provide appropriate interpretation in the form of information boards, pamphlets and brochures.	PM	Pamphlets, brochures	Year 2, ongoing	
	Facilitate the establishment of heritage trails and routes if appropriate.	PM, CSD	Map, trails & routes	Year 3, ongoing	
	Implement and maintain trails and routes where applicable.	PM	Reports	Year 3, ongoing	
	Investigate the provision of informative talks and implement where possible.	PM, DM	Research report	Year 2, ongoing	



10.4.2 Local socio-economic development programme

The purpose of this programme is to establish and maintain co-operative, collaborative and mutually beneficial relationships with communities and stakeholders supporting SANParks core business. The park falls within three local municipalities and has three major urban settlements Calvinia, Sutherland, and Ceres and one small village of Middelpos near the park. The regional economy is focussed primarily on livestock farming and the growth of tourism products. However there is still a significant level of poverty and unemployment in the region. The park has employed a number of locals under the Expanded Public Works Programme (EPWP) operating within the park and its buffer zone. The Tankwa Karoo National Park aims to investigate the development of a range of opportunities for marketing and ecotourism products that can support and grow the local regional economy.

This programme links with objective 4 and sub-objective 4.3 on page 15.

STAKEHOLDER BENEFICIATION PROGRAMME					
High level objective: To establish and nurture partnerships with communities and stakeholders.					
Regional economic development: To contribute to regional economic development.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To support the local and regional economy.	Where feasible ensure procurement from local businesses.	PM	Report	Ongoing	
	Promote regional tourism.	DM, PM	Marketing report	Ongoing	
	Recruit staff from local communities where possible.	PM, DM	HR list	Ongoing	
	Research possible opportunities within the park for local SMME's to participate and make recommendations.	PM, DM, CSD	Research report	Year 2, ongoing	
To participate in the implementation of biodiversity social projects for TKNP.	Facilitate the implementation of BSP projects in the park.	BSP, PM	BSP report	Ongoing	
	Assist in planning of projects and budgeting in TKNP.	BSP, PM	Plans	Ongoing	
	Investigate exist strategies and future projects for BSP in TKNP.	BSP, PM	Research report	Year 2, ongoing	
To evaluate the feasibility of future resource use projects.	Research use of date orchard at Oudebaaskraal and the establishment of an indigenous nursery and make recommendations.	CSD, PM	Research report	Year 2	
	Implement recommendations where appropriate.	CSD, PM	Report	Year 3	
	Develop a list of possible resource use products in the park.	PM, CSD	List	Year 2, ongoing	

10.4.3 Environmental education programme

At present the Tankwa Karoo National Park does not have the capacity to host and facilitate environmental education (EE) programmes. To this end the parks aims to work closely with local educational partners and develop joint programmes for the education of the youth and also adults from surrounding communities. A needs assessment for subject content, infrastructure, participants and funding will be the first avenues investigated and developed where possible.

This programme links with objective 4 and sub-objective 4.1 on page 15.

ENVIRONMENTAL EDUCATION PROGRAMME					
High level objective: To create opportunities for environmental education in conjunction with partners.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To provide youth development programmes in order to build a conservation constituency.	Investigate the possibility in developing youth development programmes with the Department of Basic Education.	BSP, PM	Research report	Year 2, ongoing	
	Plan and develop youth development programmes if feasible.	PM	Plan	Year 3, ongoing	
	Implement programmes.	PM, BSP	Report	Year 4, ongoing	
	Evaluate and update programmes.	PM	Annual report	Year 4, ongoing	
To engage in environmental education activities.	Liaise with local schools and relevant education bodies to undertake an assessment of needs.	PM	Minutes of meetings	Year 2	
	Investigate appropriate infrastructure for education purposes and make recommendations.	PM, BSP	Research report	Year 2	
	Plan and develop environmental education programmes.	PM	Plan	Year 3	
	Implement programmes.	PM, BSP	Report	Year 4	
	Evaluate and update programmes.	PM	Annual report	Year 4	

10.4.4 Stakeholder engagement programme

Currently Tankwa Karoo National Park participates in many forums, is a member of associations and participates in festivals and celebrations relevant to the parks objectives such as the Middelpoos Police Forum and the Annual Vleis Fees in Calvinia. A major challenge to this programme is the locality of the park and the long distances between the park, its neighbours and local communities. This requires park management to travel to numerous meetings often taking a full day to travel to destinations and back again; this also makes it difficult to hold comprehensive meetings for the park where all stakeholders and partners can attend. This can be seen with the breakdown of the Park Forum, due to non-attendance of stakeholders for reasons stated above. As a solution to this challenge it has been proposed that the Park Forum meetings be integrated with current community forum meetings and in this way reach a wider audience of stakeholders of value to the park. The Boland region of the SANParks Honorary Rangers (SHR's) support TKNP with various project with a specific focus on fund raising.

This programme links with objective 4 and sub-objective 4.2 on page 15.



STAKEHOLDER ENGAGEMENT PROGRAMME					
High level objective: To identify and establish platforms to engage effectively with stakeholders.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To build sound cooperation and stakeholder relationships.	Meet with regional initiatives and/or actively participate in activities.	DM, PM	Minutes of meetings	Year 1, ongoing	
	Actively engage with all relevant stakeholders formally and informally when required.	BSP, PM	Minutes of meetings, correspondence records	Years, ongoing	
To participate in existing networks and for a.	Investigate re-establishment of a Park Forum or the use of an existing or alternate forum and make recommendations.	PM, BSP, RM	Research report	Year 1	
	Implement recommendations and attend selected fora	BSP, PM	Report	Year 1, ongoing	
	Regularly attend networks meetings such as but not limited to farmers unions, the FPA and Police forum meetings.	PM	Minutes of meetings	Year 1, going	
To co-ordinate and support the SHR's in all activities relating to TKNP.	Identify park requirements and needs and ensure that these are communicated to the SHR group.	DM, PM	List	Year 1, ongoing	
	Facilitate appropriate allocation of SHR's in park's activities and provide necessary guidance.	DM, PM	APO	Year 1, ongoing	
	Attend meetings and participate in regular communication with SHR's.	PM	Minutes of meetings	Year 1, ongoing	

10.5 Effective park management

Effective park management programmes (including daily, weekly, monthly quarterly and annual actions, reports and reviews) are geared to ensuring that the values and objectives of the park are maintained. These programmes put in place the systems and processes that enable proactive management of the park's objectives. This section outlines the management programmes, objective and actions that assist in effective park management such as environmental management, financial management (e.g. procurement, reporting), budgeting, maintenance planning, and monitoring compliance.

10.5.1 Environmental management programme

The purpose of this programme is to minimise negative operational impacts on the park. The park will develop a system to manage their operational impacts. Such a system will provide the framework for the formulation and implementation of proper impact management that are required for all activities within the park. The purpose is to set clear guidelines for the management of environmental impacts and resource use. Proper management of development and operational activities can be achieved through appropriate planning tools and effective controls. A number of management tools are used to develop and manage the park in a manner consistent with relevant legislation and the SANParks policy framework.

Guiding principles:

- Minimise or eliminate negative environmental impacts and use of natural resources.
- Incorporate best practice environmental management into management practices.
- Comply with all relevant legislation.

Regarding new developments or upgrades the NEMA and NEM:PAA and regulations provide guidance regarding a number of activities that are either prohibited or require permits. Environmental impact assessments (EIAs) are viewed as an important management tool in identifying and managing impacts associated with a particular activity.

For certain activities, the NEMA requires that environmental authorisation be obtained from the competent authority, with the process and activities contained in the EIA Regulations. Where authorisation is not legally required, the minimum requirement will be the preparation of an Environmental Management Plan (EMP).

The primary spatial planning tool is the zoning plan. Zoning provides for a full spectrum for usage of the park, ranging from high-density recreation to a wilderness experience, while ensuring that the ecological integrity, cultural resources and ‘sense of place’ of the park are maintained and / or enhanced.

Zoning is seen important strategic intervention to ensure the protection of the park’s biodiversity, heritage and aesthetic values while allowing its optimal development as a tourism destination. On a broad scale the zoning plan acts as the first “filter” in determining whether a proposed development is compatible and / or complementary in a specific use zone.

Special emphasis must be placed on water use, energy efficiency and waste management focusing on the following:

- Identification of environmental aspects and significant environmental impacts,
- Identification of relevant legislative and regulatory requirements;
- Identification of priorities, appropriate environmental objectives and targets.
- Establish a structured process to implement policy, achieve objectives and meet targets.
- Plan, control, monitor and review implementation for continuous improvement.

This programme links with objective 5 and sub-objective 5.1 on page 15.

ENVIRONMENTAL MANAGEMENT PROGRAMME					
High level objective: To develop and implement a comprehensive environmental management plan for the park.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To ensure compliance with environmental legislation and best practice principles for all management activities in the park.	Make new legislation and regulations available to park staff and stakeholders.	PM	Information available	Ongoing	
	Review and develop best practice principles for environmental management.	PM	Document available	Ongoing	Zoning plan
	Conduct internal scoping of environmental impacts.	PM	Document available	Ongoing	Zoning plan
	Develop a comprehensive environmental management plan for the park.	PM	Plan available	Year 2,	
To implement an environmental management plan for the park.	Implement the EMP.	PM	Report	Year 2, ongoing	
	Ensure EMP is kept up to date.	PM	Report	Year 2, ongoing	
To implement best practice in terms of park activities.	Ensure that EIAs, HIAs and BAs are conducted where required.	PM	Document available	Ongoing	
	Ensure that SOPs or EMPs are developed to guide activities.	PM	Documents	Ongoing	



10.5.2 Risk management programme

The purpose of the programme is to update and maintain the park's risk profile and to manage risks accordingly. The management of business risk is regarded by SANParks as an integral part of management across all business operations. In line with corporate governance best practices and as per PFMA requirements, the Board of SANParks has formalised the risk management processes by adopting a Corporate Risk Management Framework (CRMF). As its foundation, the risk management framework has an enterprise-wide risk identification and assessment process, based on thorough understanding of the environment in which the organisation operates and the strategic corporate objectives it intends to deliver on.

The main aim of the CRMF is to instil a culture of corporate risk management and risk ownership being practised as the responsibility of all. This will provide SANParks with a comprehensive understanding of all identified risks and their potential impact on the achievement of objectives - thereby creating a good basis for the effective management of those risks that are assessed as exceeding the risk appetite of the organisation.

Acknowledging that all activities occurring at different levels within the organisation are exposed to various types of risks, the focus of this framework is to shift the attention of the organisation towards a philosophy of optimising the balance between potential risks and the potential rewards that may emanate from both pro-active and conscious risk oriented actions. As such SANParks maintains a corporate risk profile of the identified key strategic risks the organisation faces. This profile is communicated to the Board and is reviewed on an ongoing basis. The risk profile reflects among others the risks identified, how each is addressed and or monitored.

At individual park level the park manager is responsible for risk management. Being the link between the operational activities and its environment on the one hand, and the corporate support and management structure on the other, the park manager is many instances responsible for implementation of corporate initiatives, programmes, management plans and others that form part of the SANParks strategy to address or mitigate issues of risk.

Examples are the implementation and roll-out of a safety and security plan, implementing and maintaining ecological monitoring systems to identify and assess the impact of environmental change, and complying with financial and cash-flow directives especially in economically depressed times.

Similarly, the park manager needs to ensure that emerging issues of risk, that can jeopardise the achievement of park (and SANParks' corporate) objectives, are timely identified and assessed in terms of possible severity. In consultation with the corporate support structure such issues are either assessed to be within the management capacity of the park and its existing resources, or the matter is elevated to a corporate level, where a specific risk management strategy is agreed upon, resources allocated where applicable, and a risk management or monitoring plan is implemented.

This programme links with objective 5 and sub-objective 5.2 on page 15.

RISK MANAGEMENT PROGRAMME

High level objective: To ensure that emerging issues of risk, that can jeopardise the achievement of park (and SANParks' corporate) objectives, are timely identified and assessed in terms of possible severity.

Objectives	Actions	Responsibility	Indicators	Timeframe	References
To establish and maintain effective, efficient and transparent systems of risk management.	Identify and assess risks for all business operations in the park.	PM	Risk register	Year 1	Legislation
	Develop a risk management plan including responses to address and prevent or mitigate issues of risk.	PM	Risk response plan	Year 1	Legislation
	Motivate for funding related to risk management where possible.	PM	Budget provision	Ongoing	
	Monitor effectiveness in terms of the risk response actions and improve as needed.	PM	BSC	Ongoing	

10.5.3 Finance and administration programme

The purpose of the programme is to ensure sound financial management and administration. SANParks budget policy follows the zero-based approach, which implies that every category must be critically assessed, evaluated and supported by an approved business plan. Once budget amounts have been determined for a category, it needs to be compared to previous years and any variance in excess of budget guidelines must be motivated and explained. Annual budgets should be compiled in accordance to budget guidelines and instructions issued annually by SANParks Corporate Finance Division.

Without incisive financial management of the park, there can be no realistic conservation effort. For the next planning cycle the park will ensure that all park operations and park projects are cost effective and financially sound. In addition particular attention will be given to developing a diverse income base and proactive financial networking to enable to the park to move towards being financially sustainable.

This programme links with objective 5 and sub-objective 5.3 on page 15.

FINANCE AND ADMINISTRATION PROGRAMME

High level objective: To ensure sound financial management and administration in TKNP.

Objectives	Actions	Responsibility	Indicators	Timeframe	References
To attain effective financial management of the park.	Ensure less than 1% variance on cost of operations.	PM	Monthly financial statements	Year 1, ongoing	Financial management systems
	Ensure sound financial management of special projects; i.e. Working for Water; Working on Land; others.	PM, BSP	Budget targets achieved	Year 1, ongoing	Project business plans
To grow revenue (Including alternative sources of revenue).	Identify new and align existing business opportunities within the TKNP with the commercialisation programme of SANParks.	PM, DM, Manager Regional sales, Manager Regional business, RM	Opportunities identified. New income streams generated	Year 1, ongoing	Commercialisation strategy
To ensure financial accountability and align financial management systems.	Implement recommendations from annual audit report.	PM	Audit report	Year 1, ongoing	
	Ensure sound financial management according to procurement policy.	PM	Audit reports	Year 1, ongoing	
	Prepare accurate and realistic annual budgets.	PM, RM	Annual budgets prepared	Year 1, ongoing	Annual budgets
	Provide monthly financial reports by cost centre.	PM	Reports prepared	Year 1, ongoing	
	Ensure effective asset and inventory management.	PM	Registers and records	Year 1, ongoing	



10.5.4 Human capital development programme

The purpose of the human capital development programme is to ensure that the park is supported by an adequate human resources function in order to provide effective conservation, visitor and supporting services. SANParks has developed corporate human resources policies, guidelines and procedures to guide the park and its workforce in an effectively organised structure focusing its operations.

By adhering to these policies, guidelines and procedures the park will ensure that competent staff are appointed, and that current staff will be managed in an effective manner to keep them positive, proactive and committed to their tasks and responsibilities. This will also ensure that human resource management will comply with the relevant national legislation.

Park human resource capacity is not only defined by development of current staff, but requires the holistic management of the appropriate human capital. This includes the creation of a learning environment, developing leadership skills, sharing of knowledge and experiences as well as developing socially important lifestyle management programmes to help employees and their families deal with the negative effects of lifestyle diseases including HIV-AIDS.

Park administration must in a prescribed way report on deaths, new appointments, attendance registers, overtime claims, leave *etc.* A salary instruction is prepared from this and then sent to head office for processing and preparation of monthly salaries. The park reviews training needs on an annual basis and submits this to SANParks head office for authorisation. Compilation of training needs starts off with the Individual Development Plans (IDP) for each staff member and then finalised with performance appraisals. Management also encourages and analyses all staff to improve their levels of skills and qualifications in their relevant field of expertise on an ongoing basis.

The park currently has 19 permanent staff, one contract position and 10 EPWP contract positions. Additional management functions especially in tourism management as outlined in this plan will make it necessary to grow the staff establishment.

This programme links with objective 5 and sub-objective 5.4 on page 15.

HUMAN CAPITAL DEVELOPMENT PROGRAMME					
High level objective: To ensure a harmonious and productive work environment with a developed and capacitated workforce in TKNP.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To ensure the park attracts and retains the most suitable human capital.	Recruit staff according to corporate selection and recruitment policy.	PM	Procedures followed for appointments, EE plan	Year 1, ongoing	SANParks recruitment policy
To implement performance management system.	Ensure that all C bands and higher have signed KPA's.	PM	KPA's available	Year 1, ongoing	
To implement plans and skills development strategies to meet the strategic goals of the organisation.	Conduct skills audit.	Manager: Regional human resources	Plan available	Year 1, ongoing	
	Develop skills plan.	Manager: Regional human resources	Skills plan available	Year 1, ongoing	Training plan
	Arrange training interventions.	PM	% of budget for training	Year 1, ongoing	

Objectives	Actions	Responsibility	Indicators	Timeframe	References
To implement plans and skills development strategies to meet the strategic goals of the organisation.	Develop human capital in the fields of conservation, P&C and ecotourism through the internship programme.	Manager: Regional human resources	Implementation of internship programme	Year 1, ongoing	
	Develop human capital in the field of ecotourism by introducing learners to tourism experiences and FET.	Manager: Regional human resources	Learner and FET groups addressed	Year 1, ongoing	
	Enable staff to keep abreast of trends to positively influence the practises within the park.	PM		Year 1, ongoing	
To implement the Employment Equity Act.	Establish employment equity forum, design employment equity plan, fill vacancies as per employment equity targets.	Manager: Regional human resources, PM	Vacancies filled	Year 1, ongoing	EE report submitted
Implement workplace health care programmes which focus on preventative physical and mental health care.	Conduct Aids awareness workshops.	Manager: Regional human resources	Workshops, attendance	Year 1, ongoing	
	Ensure staff have access to ICAS.	PM	Facilities, reports	Year 1, ongoing	
	Invite professionals to the park to promote awareness on OHS and mental health issues.	PM	Attendance registers	Year 1, ongoing	
	Commemorate all events related to Wellness (e.g. Aids day, World blood donor day, days of activism on non-violence against women).	Manager: Regional human resources, PM	Attendance registers, invitations	Calendar days	
To implement and ensure compliance with all human resources policies.	Ensure that staff are up to date with human resources policies.	PM	Policies up to date	Year 1, ongoing	

10.5.5 Information management programme

The purpose of the programme is to establish and then maintain a database of park information.

Management of the park requires that the appropriate data and information are collected, maintained and made readily accessible to staff responsible for all aspects of management. Such data are not only essential for formulating effective long-term management objectives, plans, programs and systems, but also for educating and informing residents associations, user groups, local authorities, provincial and national decision and policy makers, international organisations and aid / donor agencies.

The priorities for research will be developed through a priority needs analysis which will be articulated through the development of an overarching science plan. This plan will determine the suitable park indicators (including Thresholds of Potential Concern) to monitor, as well the varying mechanisms to collect the data (e.g. internal research, universities, commissioned studies, etc.).

This programme links with objective 5 and sub-objective 5.5 on page 15.

INFORMATION MANAGEMENT PROGRAMME					
High level objective: To implement best practices in the field of records and information management.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To develop and implement a records management and file plan for TKNP in accordance with SANParks policies and procedures.	Review the existing records management and file plans within the various areas of the TKNP, and implement a single file plan.	PM	Records management plan	Year 1	(Act no. 43 of 1996 as amended)
	Implement the TKNP records management and file plan.	PM	Records and documents filed	Year 1, ongoing	Corporate file plan and policy
	Ensure appropriate access to park files and records in accordance to corporate records management policy and guidelines.	PM	Access procedures	Year 1, ongoing	Corporate file plan and records management policy



10.5.6 Infrastructure programme

The purpose of this programme is to provide guidance for upgrading and maintenance (day to day and scheduled) of existing infrastructure. Infrastructure in the park consists of facilities in support of conservation (such as management roads and tracks, office facilities, staff housing, fences, bulk services, workshops and stores) and tourism (such as tourist roads and tracks, walking trails, office facilities, staff housing, bulk services, public viewing points bird hides picnic sites and tourist accommodation). These facilities enable staff to execute the respective duties towards achieving the park's objectives and providing a tourism product at the best possible standard.

The product development strategy, applicable legislation and limitations of the zoning shall guide new infrastructure development such that:

- Infrastructure must be developed and maintained in accordance with all applicable legislation, policies, standards and codes
- Maintenance must be undertaken in a cost effective manner
- New developments and infrastructure maintenance must:
 - As far as practicable incorporate good, cost effective environmental design;
 - As far as practicable use low maintenance designs and material;
 - As far as possible utilise existing roads and tracks and disturbed sites and to limit green field developments.

This programme links with objective 5 and sub-objective 5.6 on page 15.

INFRASTRUCTURE PROGRAMME					
High level objective: To maintain and upgrade existing infrastructure and develop new infrastructure in support of conservation and tourism in TKNP.					
Objectives	Actions	Responsibility	Indicators	Timeframe	References
To ensure that infrastructure in the park is maintained to a desired state.	Compile an inventory of all infrastructure in the park, assess construction types and determine extent of maintenance needed.	PM	Inventory	Year 1	
	Document the scope of maintenance needs in accordance with relevant specifications.	PM	Reports	Year 1	Building and Electrical regulations
	Prioritise maintenance needs and develop a 10-year maintenance plan for the park.	PM	Maintenance plan, schedules	Year 1, ongoing	
	Implement the 10-year maintenance plan according to the annual maintenance schedules.	PM	Monthly and annual reports	Ongoing	
	Assess progress, revise annual maintenance schedules and evaluate standard of work.	PM	Annual report	Ongoing	
To ensure that all mechanical and electrical equipment is maintained to a desirable state.	Compile an inventory of all mechanical and electrical equipment in the park, determine maintenance schedules of each and list service providers.	PM	Inventory	Year 1	
	Develop an annual maintenance schedule for all equipment.	PM	Schedule	Ongoing	
	Implement the annual maintenance schedule.	PM	Schedule	Ongoing	

Objectives	Actions	Responsibility	Indicators	Timeframe	References
To regulate all unwanted structures and facilities.	Identify and list all such structures.	PM	List	Year 1	
	To regulate or remove relevant structures.	PM, Legal services	Reports, notices	Year 2	

10.5.7 Security and safety programme

The purpose is to provide a safe and secure environment for both visitors and staff and to ensure that the area integrity of the natural and cultural resources of the park is maintained in a sustainable manner.

At a broader level, the plan must ensure that tourist perceptions are maintained in order to protect the brand and reputation of SANParks and the SA Tourism industry at large. A designated safety and security person is responsible to facilitate the implementation of the safety and security plan. This person will act as the link between the park and relevant security institutions. All conservation staff are appointed as environmental management inspectors in terms of section 31D (1) of NEMA to exercise the powers and functions in respect to the enforcement of the provisions of the suite of NEMA's.

Area integrity planning includes a regular threat analysis of the park to ensure that the security measures implemented are current and in step with ever changing criminal threats. Information gathered through various sources will be verified and used to plan patrols and other safety measures. Documentation such as immediate action drills, standard operating procedures and emergency plans will be made available to staff to ensure they are fully informed, thereby ensuring decisive actions in times of emergencies. Vital safety information / instructions and contact details will also be made available to guests. All of the above documents will be updated on a regular basis.

Training is seen as an important tool to empower staff in the execution of their respective safety and security duties. Tailor-made training courses will focus on the following areas:

- Training and retraining of all staff with regards to tourist safety
- Constant training of relevant staff in dealing with conflict situations
- Proper and sufficient on-going training of tourism staff in terms of visitor gateway management, general awareness of criminal activity trends and the correct action in case of criminal activity taking place
- Specialised training for relevant staff to ensure all actions taken are in line with the Criminal Procedure Act, e.g. executing an arrest, controlling crime scenes and handling evidence.
- Environmental management inspector training for relevant staff.
- Ongoing training of security personnel and updating of site instructions at key points to address threats from the criminal environment.

Safety and security must be seen within the broader context of the region. The success of the safety and security programme lays in co-operation and stakeholder participation from various departments and parties both within SANParks and external entities.

Through combined operations with the various law enforcement bodies a cross pollination of ideas, techniques and information is achieved enabling a continually adaptive safety and security planning and implementation. The park will focus on:

- Raising awareness of tourism within local law enforcement structures to ensure support and quick reaction times when necessary
- Raising awareness of environmental crime with relevant judiciaries and law enforcement departments
- Raising awareness of safety and security at park management meetings

In order to ensure that the park stays focused on implementing this programme the following monitoring interventions will be implemented: participate in the state of area integrity management assessment (a tool in measuring the effectiveness of current safety situation), while heads of departments will undertake regular checks to manage all irregularities.

This programme links with objective 5 and sub-objective 5.7 on page 15.



SAFETY AND SECURITY PROGRAMME

High level objective: To provide a safe and secure environment for both our visitors and SANParks employees, and to ensure that the area integrity of the natural and cultural resources is maintained in a sustainable manner.

Objectives	Actions	Responsibility	Indicators	Timeframe	References
To provide a high level of safety and security in the park to staff, visitors and landowners.	Review relevant safety and security plans.	PM	Reviewed plans	Year 1	
	Develop and implement a radio communication system (hardware and procedure) for proper communication.	PM	Communication system in place	Year 2	ICASA regulations
	Train staff in area integrity management and readiness to react to emergency situations.	PM	Training records	Ongoing	Strategic safety and security plan
	Assess readiness of staff.	PM	Audits, drills	Ongoing	IDP's
	Report incidents as required.	PM	Monthly reports	Ongoing	
	Review current access control measures and improve or implement as indicated.	PM	Plans available	Year 1	
To Improve overall park safety through interactions with external role players.	Align the safety and security activities to accommodate collaborative operations with external partners, e.g. SAPS.	PM	Safety and security plan	Year 2 and ongoing	
	Participate in various external safety and security related forums.	PM	Minutes	Ongoing	Inter-agency agreements.

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Section 11: Costing

In line with the legal requirements, the programmes of implementation to achieve the desired state have been costed.

Guiding principles

- Responsibly manage the allocation of budget, revenue raising activities and expenditure;
- Ensure solid financial management support the achievement of the objectives of this plan;
- Compliance to the Public Finance Management Act as well as SANParks financial policy and procedures.

Using the zero based budgeting approach a funding estimate was derived based upon the activities in this management plan. When estimating the costing the following items were considered:

- Those costs and associated resources which could be allocated to specific activities and which were of a recurring nature;
- Those costs and associated resources which could be allocated to specific activities but which were of a once-off nature;
- Unallocated fixed costs (water, electricity, phones, bank fees *etc.*);
- Maintenance of infrastructure;
- Provision for replacement of minor assets, (furniture, electronic equipment, vehicles, *etc.*).

Recurring costs

The annual directly allocated cost (includes staff, travel and supplies and tools) is estimated at R10, 367, 572. These ongoing costs are split according to the programmes listed in Table 12.

Table 12: Estimated annual operational costs for 2014 / 2015

Programmes	Estimated budget	Percentage of total
Alien and invasive species	R 3, 538, 868	34.13%
Tourism	R 2, 094, 327	20.20%
Habitat rehabilitation	R 1, 352, 737	13.05%
Infrastructure management	R 832, 747	8.03%
Safety and security	R 448, 154	4.32%
Species of special concern	R 237, 565	2.29%
Mainstreaming biodiversity	R 224, 062	2.16%
Environmental education	R 199, 027	1.92%
Stakeholder beneficiation	R 183, 809	1.77%
Conservation partners	R 162, 952	1.57%
Human capital	R 151, 297	1.46%
Cultural heritage	R 147, 861	1.43%
Herbivory and predation	R 146, 478	1.41%
Environmental management	R 112, 185	1.08%
Risk management	R 110, 310	1.06%
Finance and administration	R 95, 669	0.92%
Water in the landscape	R 81, 377	0.78%

Fire management	R 81, 377	0.78%
Park expansion / consolidation	R 77, 711	0.75%
Information management	R 72, 783	0.70%
Climatic conditions	R 16, 275	0.16%
Total operations	R 10, 367, 572	100%

Once off development cost

In addition to the above there is a further once-off development cost estimated of R 85, 779, 960 over the next five years (see Table 13).

Table 13: Estimated once off cost of the various programs.

Activity	Estimated budget
Park expansion	R 70, 000, 000
New infrastructure and upgrades	R 15, 119, 960
Ecosystem services	R 335, 000
Stakeholder beneficiation	R 300, 000
Safety and security	R 25, 000
Total	R 85, 779, 960

Unallocated fixed costs

The unallocated fixed costs for 2014 / 2015 are R 1, 585, 189.

Maintenance

A breakdown of the infrastructure, both existing and new with their replacement value and an estimate of the ongoing annual maintenance for 2014 / 2015 is provided in Table 14. The projected maintenance for existing infrastructure is estimated at R1, 290, 285 in 2014 / 2015. If the new planned infrastructure is developed it will add a further R 219, 239 (at 2014 / 2015 rates) onto this annual maintenance budget, increasing it to R 1, 509, 524. The maintenance requirement was calculated as a percentage of the replacement value.

Table 14: Estimated replacement value of the existing infrastructure and any new infrastructure required with the estimated annual maintenance budget for the existing and new infrastructure.

	Estimated replacement value			Estimated maintenance		
	Existing (R)	New (R)	Total (R)	Existing (R)	New (R)	Total (R)
Buildings	68, 874, 000	15, 119, 960	83, 993, 960	991, 785	219, 239	1, 211, 024
Roads / tracks	2, 500, 000	0	2, 500, 000	52, 500	0	52, 500
Fencing	12, 000, 000	0	12, 000, 000	240, 000	0	240, 000
Water system	300, 000	0	300, 000	6, 000	0	6, 000
Total	83, 674, 000	15, 119, 960	98, 793, 960	1, 290, 285	219, 239	1, 509, 524

Replacement of minor assets

With many of the vehicles being leased along with the computers, this will significantly reduce this requirement as these items are expensive and require frequent replacement. To calculate the replacement provision, the cost price of the assets was divided by the estimated useful life. SANParks applies certain standards in this regard. The estimated asset value for various categories based on their original purchase price and the estimated budget required annually to make provision for their replacement. Management should make provision for about R 389, 894 in 2014 / 2015, this figure is presented in Table 15.



Table 15. The total value based on the original purchase price of various categories of minor assets, to fully implement the activities in the management plan over the next five years.

Asset type	Asset value	Provision for replacement
Computer equipment	R 242 409	R 121 204
Firearms	R 39 123	R 2 739
Furniture	R 277 229	R 19 406
Machinery & equipment	R 1 304 226	R 91 296
Office equipment	R 148 415	R 10 389
Vehicles and watercraft	R 1 650 000	R 115 500
White goods	R 419 432	R 29 360
Total	R 4 080 834	R 389 894

Summary

It is estimated that the park will require an annual operating budget of R 13, 852, 179 for 2014 / 2015, increasing to R 17, 488, 057 in 2018 / 2019. In addition to this amount the park will also require R 85, 779, 960 for once off costs. As mentioned, the infrastructure development is subject to receiving expanded public infrastructure programme funding. A summary is presented in Table 16.

Table 16. A summary of the annual and once off costs (based on actual expenditure) that is required to fully implement the activities in the management plan over the next five years.

	2014 / 2015	2015 / 2016	2016 / 2017	2017 / 2018	2018 / 2019
Management costs to implement the plan	R 13, 852, 179	R 14, 683, 310	R 15, 564, 309	R 16, 498, 167	R 17, 488, 057
Once off development costs	R 85, 779, 960				
SANParks budget for TKNP	R 7, 078, 317	R 7, 503, 016	R 7, 953, 197	R 8, 430, 389	R 8, 936, 212
External funding (WoL, WfW, CSD etc.)	R 5, 038, 091	R 5, 340, 376	R 5, 660, 799	R 6, 000, 447	R 6, 360, 474
Budget Total	R 12, 116, 408	R 12, 843, 392	R 13, 613, 996	R 14, 430, 836	R 15, 296, 686
Deficit	R 1, 735, 711	R 1, 839, 918	R 1, 950, 313	R 2, 067, 332	R 2, 191, 371

The deficit of R 1, 735, 711 can be broken down as follows:

- An amount of R 614, 911 to cover the current maintenance shortfall.
- An amount of R 320, 000 to cover a shortage in vehicles.
- An amount of R 800, 800 is made up of additional personnel to be appointed:
 - Two rangers to assist with area integrity and safety and security.
 - Four hut attendants to assist with the increase in tourism facilities.
 - Two general Workers (Technical department) to assist in infrastructure maintenance.
 - One P&C Officer.

Implications:

Should the park be unsuccessful in securing the shortfall, the following programmes will be affected.

- Infrastructure: The park will not be able to maintain the current infrastructure to a high standard.
- Tourism: The park would not be able to appoint additional hut attendants. This will affect the management of the tourist facilities.
- The P&C related programmes cannot be implemented successfully.



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Appendix 1: Declarations

Government Notice 1934 / Government Gazette 10442 of 19 September 1986 declared the following land to be the Tankwa Karoo National Park in terms of the National Parks Act (Act 57 of 1976)

1. Farm Grasberg North 1084, in extent 3, 806.3269;
2. Farm Varsch Fontein 1085, in extent 3, 226.6345;
3. Potklys Berg South 1095, in extent 4, 126.3269;
4. Springbokfontein 1096, in extent 3, 078.5887;
5. Folmoesfontein 1097, in extent 3, 333.8866;
6. Springbok Vlakte 1098, in extent 3, 453.8368;
7. Luipers Kop 1099, in extent 3, 998.8696;
8. Luipers Kop South 1100, in extent 2, 038.7503

Government Notice 1492 / Government Gazette 25562 of 17 October 2003 declared the following land to be part of the Tankwa Karoo National Park in terms of the National Parks Act (Act 57 of 1976)

1. Farm Blinkvley Vlakte 1087, Calvinia registration division, Northern Cape Province, in extent 6, 270.0169, held under Title Deed number T71340/1999;
2. Farm Biesjes Fontein 1086, Calvinia registration division, Northern Cape Province, in extent 3, 993.6490, held under Title Deed number T625/2000;
3. Farm Pramberg River 1092, Calvinia registration division, Northern Cape Province, in extent 3, 729.2575, held under Title Deed number T33134/2000;
4. Farm Potklys Berg Oos 1094, Calvinia registration division, Northern Cape Province, in extent 2, 841.6476, held under Title Deed number T33134/2000;
5. Farm Uintjes Bosch 7, Ceres registration division, Western Cape Province, in extent 4, 329.7407, held under Title Deed number T102362/2000;
6. Farm Pauls Hoek 5, Ceres registration division, Western Cape Province, in extent 4, 155.5421, held under Title Deed number T40708/2001;
7. Farm Waai Kop 6, Ceres registration division, Western Cape Province, in extent 2, 861.2766, held under Title Deed number T71559/2001;
8. Farm Manus Zyn Dam 1089, Calvinia registration division, Northern Cape Province, in extent 4, 556.1121, held under Title Deed number T32482/2002;
9. Farm Portion 1 of the farm Stompiesfontein 1197, Calvinia registration division, Northern Cape Province, in extent 6, 010.0298, held under Title Deed number T93881/2002;
10. Farm Elandsberg 1088, Calvinia registration division, Northern Cape Province, in extent 5, 276.1058, held under Title Deed number T48987/2003;

Government Notice 1181 / Government Gazette 31563 of 07 November 2008 declared the following land to be part of the Tankwa Karoo National Park in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003)

1. Farm Gannaga 1 028, Calvinia registration division, Northern Cape Province, in extent 1, 400.4182, held under Title Deed number T974561/2005;
2. Remaining extent of the farm Kleinfontein 1027, Calvinia registration division, Northern Cape Province, in extent 3, 527.0681 held under Title Deed number T73944/2005;
3. Portion 1 of the farm Brandewynsbank 1030, Calvinia registration division, Northern Cape Province, in extent 69.8502, held under Title Deed number T73944/2005;
4. Farm Roodewerf 1091, Calvinia registration division, Northern Cape Province, in extent 1, 490.7013, held under Title Deed number T100067/2005 (number swap in declaration, extent should be 4, 190.7013 ha);
5. Remainder of the farm Boezak 1090, Calvinia registration division, Northern Cape Province, in extent 3, 288.9187 held under Title Deed number T31010/2005;
6. Remaining extent of the farm Lange Kloof 60, Sutherland registration division, Northern Cape Province, in extent 1, 563.0271 held under Title Deed number T9280/2008:

7. The Farm Annex Klein Fontein 61, Sutherland registration division, Northern Cape Province, in extent 1, 238.5869, held under Title Deed number T3944/2005; (extra number in declaration, extent should be 128.5689 ha)
8. Farm Rooi Werf 2, Ceres registration division, Northern Cape Province, in extent 2, 522.8650, held under Title Deed number T92805/2006;
9. Farm De Zyfer 1, Ceres registration division, Northern Cape Province, in extent 3, 259.9608, held under Title Deed number T92805/2006;

Government Notice 398 / Government Gazette 32094 of 09 April 2009 declared the following land to be part of the Tankwa Karoo National Park in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003)

1. Portion 1 of the farm Kleinfontein 1027, Calvinia registration division, Northern Cape Province, in extent 176.8453, held under Title Deed number T85118/2007;
2. Remaining extent of the farm Middel Drift 12, Ceres registration division, Western Cape Province, in extent 3, 499.5016, held under Title Deed number T59814/2007;
3. Remaining extent of the farm Oudebaas Kraal 13, Ceres registration division, Western Cape Province, in extent 2, 364.9592, held under Title Deed number T59814/2007;
4. Portion 2 of the farm Middel Drift 12, Ceres registration division, Western Cape Province, in extent 771.5080, held under Title Deed number T59815/2007;
5. Portion 1 of the farm Oudebaas Kraal 13, Ceres registration division, Western Cape Province, in extent 1, 858.4074, held under Title Deed number T59815/2007;
6. Farm Annex Kleinfontein 59, Sutherland registration division, Northern Cape Province, in extent 278.8362, held under Title Deed number T85118/2007; (number swap in declaration, extent should be 278.8326 ha)
7. Portion 1 of the farm Klipfontein 55, Sutherland registration division, Northern Cape Province, in extent 1, 821.8436, held under Title Deed number T85118/2007;

Government Notice 155 / Government Gazette 35073 of 02 March 2012 declared the following land to be part of the Tankwa Karoo National Park in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003)

1. Farm Ymasqua 14, Ceres registration division, Northern Cape Province, in extent 5, 619.9819, held under Title Deed number T45319/2008;
2. Farm Onderste Wagendrift 15, Ceres registration division, Northern Cape Province, in extent 4, 715.2301, held under Title Deed number T45319/2008;
3. Remaining extent of the farm Drie Fontein 8, Ceres registration division, Northern Cape Province, in extent 3, 371.9627, held under Title Deed number T20386/2010;
4. Farm Plat Fontein 11, Ceres registration division, Northern Cape Province, in extent 3, 680.7792, held under Title Deed number T34245/2009;
5. Farm Mieries Fontein 1089, Calvinia registration division, Northern Cape Province, in extent 5, 113.4475, held under Title Deed number T34245/2009;

Government Notice 807 / Government Gazette 36951 of 25 October 2013 declared the following land to be part of the Tankwa Karoo National Park in terms of the National Environmental Management: Protected Areas Act (Act 57 of 2003)

1. Portion 1 of the farm Drie Fontein 8, Ceres registration division, Western Cape Province, in extent 1, 152.5277, held under Title Deed number T50438/2010;
2. Portion 1 of the farm Leeuw Kloof 114, Ceres registration division, Western Cape Province, in extent 83.9679, held under Title Deed number T50438/2010;
3. Remainder of the farm Mosquito Kolk 10, Ceres registration division, Western Cape Province, in extent 3, 671.3061 held under Title Deed number T54085/2010;
4. Portion 1 of the farm Lange Kloof 60, Sutherland registration division, Northern Cape Province, in extent 1, 563.1848, held under Title Deed number T30923/2004;
5. Portion 4 of the farm Kleinfontein 1027, Calvinia registration division, Northern Cape Province, in extent 934.6540, held under Title Deed number T30923/2004;
6. Portion 2 of the farm Leeuw Kloof 114, Ceres registration division, Western Cape Province, in extent 599.5724, held under Title Deed number T8922/2007;
7. Remainder of the farm Paarde Kloof 113, Sutherland registration division, Northern Cape Province, in extent 261.3679 held under Title Deed number T8922/2007;
8. Farm Paarde Kraal 4, Ceres registration division, Western Cape Province, in extent 2, 714.0573, held under Title Deed number T8922/2007;
9. Remainder of the farm Leeuw Kloof 114, Sutherland registration division, Northern Cape Province, in extent 3, 277.5760 held under Title Deed number T8922/2007;



Appendix 2: Zoning

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 minimising 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 Tankwa Karoo 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; an assessment of the park's current and planned infrastructure and tourist products; and an assessment of the expansion plan for the park and its implication for use zoning; all interpreted in the context of corporate values and 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.

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 socialise 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 of different users and different activities. Appropriate use zoning serves to minimising 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-utilisation.

Park use zonation 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 Tankwa Karoo National Park is shown Appendix 6, Map 4, and summarised in Table 17.

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 TKNP, though the long term objective is to have a full CDF for all parks.

The zoning for TKNP 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), special habitat value (the value of the area to rare and endangered species), 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 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.

The relationship between the use zoning and the summary products of the biodiversity and landscape sensitivity-value analysis is shown in Appendix 6, Map 5. This indicates that in this park 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. Table 18 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. A little over 75% of the park is covered by zones that are strongly conservation orientated in terms of their objectives (*i.e.* remote and primitive), with nearly 25% being in the most strongly conservation orientated zone (remote). The correlation between the spatial distribution of environmentally sensitive habitats and the conservation orientated zones is strong in this park, with the remote zone containing just under 63% of the highly sensitive habitats even though it covers nearly 25% of the surface area. Conversely, the tourist orientated low intensity leisure zone covers around 25% of the park yet contains only 12% of the most sensitive habitats. Overall, 88% of the sensitive habitats are contained within conservation orientated zones.

Table 17: Summary of use zone characteristics

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 (essentially no infrastructure), or capable of being restored to such.	Solitude and awe inspiring natural characteristics	None to very low	Controlled access, non-motorised	Hiking in small groups. Possibly mountain biking or horse riding.	Established footpaths where erosion may be a problem. Essentially undeveloped and roadless	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, or limited to 4x4 vehicles . 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 commercial facilities such as shops and restaurants.	Comfortable facilities in a relatively natural environment.	Moderate to high	Motorised self-drive access	Motorised self-drive game viewing, picnicking, walking, hiking, cycling; adventure activities.	Facilities limited to basic self-catering picnic sites; ablution facilities; information / education centres; parking areas. Small self-catering (incl. camping) rest camps with ablution facilities , but not shops or restaurants. Low spec access roads to provide a more wild experience.	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 commercial amenities , where more concentrated human activities are allowed.	Comfortable and sophisticated facilities while retaining a natural ambience	High	Accessible by motorised transport (car/bus) on high volume transport routes, including delivery vehicles .	As above. Additional sophisticated infrastructure. Larger, organised adventure activities. Dining at restaurants.	High density tourist camps with commercial amenities. Footpaths, transport systems, accommodation, restaurants, curio and refreshment stalls; information/education centres . High volume roads.	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.

*Wilderness areas need to be investigated and officially designated.



Table 18: 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 emphasis	Use zone	Zone as a % of park area	% of highly sensitive areas that are in a zone
Conservation orientated	Remote	24.99	62.97
	Primitive	50.30	25.29
Tourism orientated	LIL	24.56	11.64
	HIL	0.13	0.05

Remote zone

Characteristics:

This is an area retaining an intrinsically wild appearance and character, or is capable of being restored to such, and is undeveloped and roadless. There are no permanent improvements, or any form of human habitation. 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 non-motorised. 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. Activities may include hiking, traditional mountain climbing, and mountain biking. Specially arranged once off events such as an adventure race may involve higher visitor numbers for a brief limited period, but these events are not the norm.

Interaction with other users: There is no interaction between groups. The numbers of groups permitted 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 minimised, 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 permanent facilities are provided. Should “fixed” overnight facilities be required to serve this zone, such as along established hiking trails, these should be placed in the adjoining zones.

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-motorised. Vehicular access and parking is provided in the adjoining Primitive zone. Established footpaths may be provided where erosion risks occur.

Location in park:

In TKNP, remote areas were designated in the mountain and escarpment areas in the east of the park, and in the higher sections of the Elandsberg, as these areas have high environmental sensitivity and value as well as wilderness characteristics. Remote areas were also designated on some of the smaller koppies, such as the Leeuberg, Sterretjiesberg, Potkleiberg and Poukop due to their high sensitivity values. A remote area was also demarcated in the west to protect red data list plant species recently discovered there.

Primitive zone

Characteristics:

The prime characteristic of the primitive 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 wilderness areas and remote zones, but with the provision of basic self-catering facilities and access. 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, all tourists are in concession safari vehicles.
- 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 and viewing of game and scenery. 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.

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).

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

Audible equipment and communication structures: None.

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

**Location in park:**

In TKNP, primitive areas were designated to buffer remote areas and to protect most of the remaining sensitive areas not included in the remote zone (such as the low hills and special vegetation types) from high levels of tourism activity. Most of the plains were included in this zone to minimise potential for visual and aesthetic disturbance, even though they had lower environmental sensitivities and values overall. Primitive areas were also designated in the Langkloof and Perdekloof valleys, and on the escarpment at Quaggasfontein to allow access into the remote mountain areas.

Low intensity leisure zone**Characteristics:**

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. These camps are without modern commercial 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 provide a more wild experience. Facilities along roads are limited to basic self-catering picnic sites with toilet facilities. In smaller or developing parks, administrative or operational infrastructure may be found in this zone.

Visitor activities and experience:

Activities: Self drive motorised for viewing game and scenery, picnicking, walking, rock climbing, hiking and 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 minimised 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 it is inevitable that activities and facilities will impact on the wild appearance and reduce the wilderness characteristics of the area (solitude, remoteness, wildness *etc.*), 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, or other self-catering accommodation such as guest houses or cottages. Additional facilities could include swimming pools. Trails for 4x4 vehicles 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 commercial 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 are required to retain a relative level of solitude.

Access and roads: Motorised self drive sedan car access (traditional game viewing) on designated routes which are preferably gravel roads. Roads are secondary gravel tourist roads or minor game viewing roads.

Location in park:

In TKNP, low intensity leisure areas (LIL) were designated along selected current access routes in the plains areas and up the Gannaga Pass to the east. The low intensity leisure areas in the plains were designated to facilitate a network of self-drive tourist game / viewing loops. Oudebaaskraal Dam and surrounds was also designated LIL to facilitate planned tourist activities there, which may also attract higher visitor numbers to the dam. Proposed locations for picnic sites or education / interpretive centres may include Volmoesfontein, Uintjesbos or Onderwadriift. Low intensity leisure zones almost entirely avoid larger areas of high landscape sensitivity and value (see Figure 5).

High intensity leisure zone

Characteristics:

The main characteristic is that of a high density tourist development node with modern commercial 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 where possible. 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. It is accessible by motorised transport (car / bus) on high volume transport routes. More concentrated activities occur here than in than Low Intensity leisure.

Visitor activities and experience:

Activities: Traditional game viewing routes associated with more sophisticated infrastructure, sight-seeing at tourist destinations, picnicking, walking, cycling, hiking, adventure activities, activities associated with commercial amenities such as dining in restaurants and curio shopping.

Interaction with other users: High

Limits of acceptable change:

Biophysical environment: 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.

Aesthetics and recreational environment: 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 (solitude, remoteness, wildness *etc.*), 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 commercial 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 (education / entertainment centres) close to the periphery of the park. Additional facilities may include picnic sites, view sites, information centres, ablution facilities, parking areas, education centres *etc.* Where staff villages and administrative centres occur in this zone, these should be 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 commercial 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 motorised 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 minimise conflict between users.

**Location in park:**

In TKNP, two high intensity leisure (HIL) areas were designated. The first HIL zone was demarcated around the Roodewerf node, which includes the park tourist and management facilities, as well as WWF accommodation and ablution facilities. Future amenities may include a restaurant and curio shop. The HIL zone at Roodewerf has been designed to accommodate staff housing, which will be moved from Maansedam.

A second HIL zone was centred on the Tankwa guest house and airstrip, just under 6.5 km from the Oudebaaskraal dam. The purpose of this HIL zone is to provide a tourist node in the southwest of the park, where commercial amenities (for example tea garden, restaurant) could be provided to visitors, as well as act as a service point to facilitate and coordinate aquatic activities on the Oudebaaskraal dam.

THE PARK INTERFACE ZONE

The Park interface zones shows the areas within which landuse changes could affect a national park. The zones, in combination with guidelines, will serve as a basis for (i) identifying the focus areas in which park management and scientists should respond to EIA's, (ii) helping to identify the sort of impacts that would be important at a particular site, and most importantly (iii) 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 TKNP has two overlaying categories, namely priority natural areas, and a visual / aesthetic zone (Appendix 6, 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 agricultural 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 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.

CURRENT STATUS AND FUTURE IMPROVEMENTS:

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 full tourism market analysis and detailed investigation of development nodes are not fully incorporated into the current park use zonation. A CDF will be developed for TKNP once the park approaches its planned final extent. In the interim, as the park is rapidly expanding, it is anticipated that the zoning will need to be updated regularly. Remote areas will be investigated for possible formal declaration designated as wilderness areas in terms of section 22 of the PAA. Special management overlays which designate specific areas of the park that require special management interventions (e.g. areas requiring rehabilitation) will also be identified.



Appendix 3: Stakeholder participation report

STAKEHOLDER EVENTS AND ACTIVITIES

Stakeholder consultation

This table reflects the various organisations that were identified to participate in the park management plan process. The government departments are at national, provincial and local level. The intention is to show that, in terms of the spirit of co-operative governance SANParks has approached these parties.

Identified international stakeholders	Hantam Municipality, Karoo Hoogland Municipality, Namaqua District Municipality, Cape Winelands District Municipality
Local government	Cape Nature, Northern Cape Department of Tourism, Environment and Conservation
Provincial government	DEA, DWAF, DAC, SAPS, DOL, etc
Contractual partners	Gannaga Lodge
Park forum	No established park forum
Honorary rangers	Yes
Visitors to the park	Yes
Traversing rights	Telkom, SAPS, Provincial Roads
Local residents/ Neighbours	Suid Roggeveld Farmers Association, Karoo Farmers Association, Suid Roggeveld Farmers Association, Calvinia Agriculture Union
Land claimants	No
Community organisations	South Roggeveld Fire Protection Association
Local business	No
Business associations	Calvinia Chamber of Commerce
Media	Noordwester, Witzenberg Herald
Research	SANBI, UCT, US
Education	DoE local circuit offices
Conservation organisations	GCBC
Non-Governmental Organisations (NGOs)	No
Tourist associations	Ceres, Calvinia and Sutherland tourism offices
Tour operators	No
Other	No

Registration as an interested and affected party

Stakeholders had the following opportunities to register as interested and affected parties.

Mechanism to register	Description
1. Media advertisements	<p>An advertisement to inform all interested and affected parties of the Desired state workshop and request to register to participate was placed in the following newspaper:</p> <ul style="list-style-type: none"> · Die Noordwester on 12 and 19 July 2013. · Witzenberg Herald on 12 and 19 July 2013. <p>Advertisements to inform interested and affected parties of the public day and request to register to participate was placed in the following newspapers on 02 March 2014:</p> <ul style="list-style-type: none"> · Sunday Times; · Rapport.

Mechanism to register	Description
2. Registration at meetings	Participants were also able to register at the following meetings: <ul style="list-style-type: none"> Desired state workshop on 23 July 2013; Public meeting on 24 March 2014 in Ceres; Public meeting on 26 March 2014 in Sutherland; Public meeting on 27 March 2014 In Calvinia.

Desired state workshop

The Desired state workshop took place on 23 July 2013. A range of stakeholders and SANParks specialists participated in the development of the desired state which entails developing a vision for the park supported by higher level objectives which forms the basis of the management plan.

Activities	Description
Invitations	Park management, certain SANParks specialists and certain stakeholders <i>i.e.</i> the Park forum were invited. An open invitation was also send out via the local media.
Desired State Workshop	The workshop took place on 23 July at the Calvinia Hotel in Calvinia.
Attendance:	Twenty seven participants (20 stakeholders and seven SANParks staff members) partook, representing the following constituencies: <ul style="list-style-type: none"> Department of Basic Education; Local business; South African Police Service; Department of Water Affairs; Namakwa district municipality; SANParks Honorary rangers (Boland region); Local land owner; Nothern Cape Department of Environment and Nature Conservation; Ceres Tourism; Contractors working for SANParks; SANParks.

Focus group meetings

These are meetings called with constituencies to discuss critical issue raised during the park management plan revision process.

Group	Purpose	Attendants	Date
No focus group meetings took place.			

Public day to allow comment on the draft management plan

Public day meetings took place

Venue	Date	Number of stakeholders that attended
Ceres Valley Church Hall - Ceres	24 March 2014	6
Sutherland Hotel - Sutherland	26 March 2014	5
Calvinia Hotel - Calvinia	27 March 2014	11

Dissemination of documentation and feedback to stakeholders

Item	Action
Dissemination of comment and response document	Emailed, mailed, faxed and delivered by hand where no contact details were supplied.
Dissemination of finalised park management plan	<ul style="list-style-type: none"> The plan will be available on the SANParks website once approved by the Minister; The plan will be made available to registered stakeholders by email and post; Copies of the management plan will be available from the park on request;

Appendix 4: Tourism product development framework

The Product Development Framework provides park management with a guideline in order to inform the development potential of the park. Identified opportunities remain subject to comprehensive feasibility study prior to implementation, thus listing an activity does not automatically result in development.

Similarly, whilst specific products or activities may be developed within the park, they will be restricted to specific areas within the park or on the periphery (buffer zone), and may be further restricted to guided activities or events only.. The park is zoned into various Visitor use zones, based on its environmental sensitivity, as described in the legend below, and products are applicable to the various use zones accordingly.

LEGEND

Visitor Use Zones	Description
1. Wilderness/ Remote	Essentially undeveloped and road less. Controlled access - only on foot visitors. Could have footpaths where erosion is a problem
2. Primitive	Almost completely natural state to be maintained. Development footprints absolute minimum. Controlled access - 4x4's horse-riding. Small basic overnight facilities.
3. Quiet	General natural state to be maintained. Only non-motorised access. Access not specifically controlled. Ablution facilities can be allowed.
4. Low-Intensity Leisure	Motorised self-drive with basic facilities. Small - medium sized camps. Infra-structure should be minimised in order to maintain natural state.
5. High-Intensity Leisure	High density tourism development node with concentrated human activities. High volume roads, high density camps with modern amenities. Park Development Zone (PDZ).
6. Buffer	Land adjacent to national / contractual parks. Products indicated are those with which SANParks is comfortable to be associated with and will promote.

For the purposes of this management plan, the focus of the framework is to indicate which products already exist, which new products may be allowed, and in which visitor use zones these may occur.

Table 19: Product development framework for Tankwa Karoo National Park

PRODUCT CATEGORY		PRODUCT OR SERVICE	Is product currently available or under development?		Is product appropriate for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
							Within boundaries of national-/ contractual park					Out-side
							1	2	3	4	5	6
Over-nighting / Facilities	Self-catering - Limited service (Serviced prior to arrival and after departure only)	Accommodation (budget)		√	√					√	√	√
		Accommodation (economy)	√		√					√	√	√
		Accommodation (premium) / Guest house		√	√					√	√	√
		Accommodation backpacking / Youth hostels		√	√					√	√	√
		Dormitories / School groups / Educational facilities		√	√					√	√	√
		Game / Bird hide		√	√					√	√	√
		Tree houses / Platforms		√	√					√	√	√
	Self-catering - Serviced (Serviced daily)	Accommodation (budget)		√	√					√	√	√
		Accommodation (economy)		√	√					√	√	√
		Accommodation (premium) / Guest house		√	√					√	√	√
		Accommodation backpacking / Youth hostels		√	√					√	√	√
		Dormitories / School groups / Educational facilities		√	√					√	√	√
		Houseboat (economy)		√	√			√		√	√	√
	Camping	Houseboat (premium)		√		√		√		√	√	√
Camping (budget facilities) (power / no power)			√	√						√	√	
Camping (premium facilities) (power / no power)		√		√						√	√	

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is product currently available or under development?		Is product appropriate for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE						
		YES	NO	YES	NO	Within boundaries of national-/ contractual park					Out-side	
						1	2	3	4	5	6	
Full service (Generally some/all meals and activities included)	Camping bush rustic (protected) (budget facilities)		√		√		√		√	√	√	
	Camping bush rustic (protected) (premium facilities)		√		√		√		√	√	√	
	Camping bush rustic (unprotected) (self-sufficient)	√		√			√		√	√	√	
	Game / Bush lodge / Safari lodge - under 20 beds	√		√			√		√	√	√	
	Game / Bush Lodge / Safari Lodge - 20 beds plus		√	√			√		√	√	√	
	Conference lodge / hotel - 21 - 50 beds		√	√			√		√	√	√	
	Conference lodge / hotel - 50 beds plus		√		√		√		√	√	√	
	Houseboat		√		√		√		√	√	√	
	Luxury tented safaris		√	√			√		√	√	√	
	Remote camp / Fly camp / Platform / Sleep out		√	√			√		√	√	√	
	Overnight train rides		√		√		√		√	√	√	
	Additional Services	Cook and guide provided		√		√		√		√	√	√
		Cook, guide and OSV provided		√	√			√		√	√	√
		Meal packages e.g. Breakfast, Half board or Full board		√	√			√		√	√	√
	Leisure/ Recreational	4x4 Eco-trails (Multi-day, Self-drive, Basic facilities)		√	√			√		√	√	√
4x4 Eco-trails (Multi-day, Self-drive, No facilities)			√	√			√		√	√	√	
4x4 Trails (Full-day / Half-day / Guided or unguided)		√		√			√		√	√	√	
Abseiling / Rappelling			√	√		√	√	√	√	√	√	
Animal interaction activities (limited)			√	√			√		√	√	√	
Archery			√	√			√		√	√	√	
Base jumping			√	√		√	√	√	√	√	√	
Bird watching		√		√		√	√	√	√	√	√	
Boat cruises			√	√			√		√	√	√	
Botanical sightseeing			√	√		√	√	√	√	√	√	
Bouldering			√	√		√	√	√	√	√	√	
Bungee / Bungy jumping			√		√		√		√	√	√	
Cableway			√		√		√		√	√	√	
Canoe trails (Varying facilities)			√		√	√	√	√	√	√	√	
Canoeing			√	√		√	√	√	√	√	√	
Canopy tour (Boardwalk)			√		√	√	√	√	√	√	√	
Canopy tour / Flying fox (Tree top / Cliff to cliff)			√	√		√	√	√	√	√	√	
Caving / Spelunking / Potholing			√	√		√	√	√	√	√	√	
Clay-pigeon / Clay target shooting			√	√			√		√	√	√	
Cruise - Birding			√	√			√	√	√	√	√	
Cycling			√		√		√	√	√	√	√	
Diving (Scuba)			√		√	√	√	√	√	√	√	
Dog walking		√	√			√	√	√	√	√		
Elephant backed rides / Safaris		√		√		√		√	√	√		

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is product currently available or under development?		Is product appropriate for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
		YES	NO	YES	NO	Within boundaries of national-/ contractual park					Out-side
						1	2	3	4	5	6
	Fishing (catch and release)		√	√			√	√	√	√	√
	Funicular		√		√					√	√
	Game drives - Night drive		√	√			√		√	√	√
	Game drives - Night drive (Night vision aided)		√	√			√		√	√	√
	Game drives - Premium		√	√			√		√	√	√
	Game drives - Standard		√	√			√		√	√	√
	Game drives - Universal access		√	√			√		√	√	√
	Games facilities (e.g. table tennis, pool, etc.)		√	√						√	√
	Geocaching		√	√					√	√	√
	Golf		√		√					√	√
	Golf club membership		√		√					√	√
	Green hunting / Darting safaris		√		√		√				√
	Hang gliding		√	√			√		√	√	√
	Hiking		√	√		√	√	√	√	√	√
	Hiking trails - Wilderness (Full service)		√		√	√	√	√	√	√	√
	Hiking trails - Wilderness (No facilities) (Backpack)		√	√		√	√	√	√	√	√
	Hiking trails (Budget)		√	√		√	√	√	√	√	√
	Hiking trails (Premium)		√	√		√	√	√	√	√	√
	Horse riding		√	√			√	√	√	√	√
	Horse riding trails (Varying facilities)		√	√			√	√	√	√	√
	Jet skiing		√	√							√
	Jogging / Running		√	√			√	√	√	√	√
	Kayaking / Paddling		√	√		√	√	√	√	√	√
	Kayaking / Paddling trails		√	√		√	√	√	√	√	√
	Kayaking by night		√	√		√	√	√	√	√	√
	Kitesurfing / Kiteboarding / Fly surfing		√	√					√	√	√
	Kloofing (guided)		√	√		√	√	√	√	√	√
	Microlight flying / Ultra-light aviation		√		√						√
	Mini golf / Putt-Putt		√	√							√
	Model aircraft flying		√		√		√			√	√
	Motorcycle trails (Varying facilities)		√	√						√	√
	Motorcycling		√	√						√	√
	Motorised boating (SANParks operated)		√		√					√	√
	Mountain bike trails (Varying facilities)		√	√			√	√	√	√	√
	Mountain biking		√	√			√	√	√	√	√
	Mountaineering		√	√		√	√	√	√	√	√
	Paddle boats		√	√			√		√	√	√
	Paddle skiing		√	√			√		√	√	√
	Paragliding		√	√		√	√	√	√	√	√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is product currently available or under development?		Is product appropriate for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
		YES	NO	YES	NO	Within boundaries of national-/ contractual park					Out-side
						1	2	3	4	5	6
	Parasailing		√		√					√	√
	Park and ride		√	√					√	√	√
	Photography		√	√		√	√	√	√	√	√
	Picnicking (Basic facilities)		√	√					√	√	√
	Picnicking (Full facilities)		√	√					√	√	√
	Picnicking (No facilities)		√	√					√	√	√
	Quad biking		√	√							√
	Railway		√	√							√
	Rap jumping (Deepelling)		√		√		√	√	√	√	√
	River rafting		√	√			√	√	√	√	√
	Rock climbing		√	√		√	√	√	√	√	√
	Sailing		√		√			√	√	√	√
	Sandboarding		√	√			√		√	√	√
	Self-drive night drives		√		√				√	√	√
	Skydiving		√	√							√
	Snorkeling		√		√		√	√	√	√	√
	Spear Fishing		√		√		√	√	√	√	√
	Sports Facilities (e.g. tennis, squash, bowls, etc.)		√		√					√	√
	Stairway (via Ferrata / Ironway)		√	√		√	√	√	√	√	√
	Stargazing		√	√		√	√	√	√	√	√
	Sunset boat cruises (SANParks operated)		√	√					√	√	√
	Surf skiing		√	√						√	√
	Surfing		√	√				√	√	√	√
	Swimming		√	√		√	√	√	√	√	√
	Trail running		√	√			√		√	√	√
	Tubing		√	√			√	√	√	√	√
	Unicycling		√	√			√		√	√	√
	Walking		√	√		√	√	√	√	√	√
	Walks - Day		√	√		√	√	√	√	√	√
	Walks - Night		√		√						√
	Wildlife / Game viewing	√		√		√	√	√	√	√	√
Airborne (implications of CAA)	Flights over national parks		√		√						√
	Helicopter flips		√	√							√
	Hot-air ballooning		√	√			√		√	√	√
	Microlight flying / Ultra-light aviation		√		√						√
Interpretive	Archaeology		√	√			√	√	√	√	√
	Endangered species breeding centre		√	√							√
	Interpretive centres		√	√				√	√	√	√
	Palaeontology		√	√					√	√	√
	Theatre		√		√					√	√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is product currently available or under development?		Is product appropriate for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
		YES	NO	YES	NO	Within boundaries of national-/ contractual park					Out-side
						1	2	3	4	5	6
	Tours - Astronomy		√	√			√		√	√	√
	Tours - Birding		√	√					√	√	√
	Tours - Botanical		√	√			√		√	√	√
	Tours - Specialist (Fauna, flora or birds)		√	√			√		√	√	√
	Tours - Tree (Dendrology)		√	√			√		√	√	√
	Trails - Brail		√		√		√		√	√	√
	Trails - Sensory		√		√		√		√	√	√
Cultural/ Historical	Cleansing ceremonies (including baptism)		√	√			√		√	√	√
	Cultural dances		√	√					√	√	√
	Cultural points of interest		√	√			√		√	√	√
	Cultural village		√		√				√	√	√
	Gold panning (recreational)		√		√		√		√	√	√
	Historical points of interest		√	√			√		√	√	√
	Mountain worship		√	√			√		√	√	√
	Museums		√	√						√	√
	Religious facilities (Prayer or otherwise)		√	√						√	√
	Storytelling		√	√					√	√	√
	Tours - Battlefield		√	√					√	√	√
	Tours - Cultural		√	√					√	√	√
	Tours - Historical		√	√					√	√	√
	Tours - Medicinal plants		√	√			√		√	√	√
	Tours - Rock art		√	√			√		√	√	√
Tours - South African struggle		√		√				√	√	√	
Medical/ Health	Health spa		√	√					√	√	√
	Gymnasium		√	√					√	√	√
	Wellness centres		√	√						√	√
Developmental	Astronomy training		√	√			√		√	√	√
	Birding course		√	√			√		√	√	√
	Botany course		√	√			√		√	√	√
	Bush homeopathy		√	√			√		√	√	√
	Bush skills		√	√			√		√	√	√
	Field guide training		√	√			√		√	√	√
	Firearm skills		√		√				√	√	√
	First aid		√	√					√	√	√
	Game capture training		√	√			√		√	√	√
	Nature / Wildlife photography course		√	√			√		√	√	√
	Nature based hospitality training		√	√					√	√	√
	Offroad driving skills training		√	√			√		√	√	√
Orienteering		√	√			√		√	√	√	

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is product currently available or under development?		Is product appropriate for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
		YES	NO	YES	NO	Within boundaries of national-/ contractual park					Out-side
						1	2	3	4	5	6
	Rope skills course		√	√					√	√	√
	Scuba diving skills		√		√			√	√	√	√
	Specialised training / courses		√	√			√	√	√	√	√
	Survival skills		√	√			√	√	√	√	√
	Tracking skills		√	√			√	√	√	√	√
	Training - Ranger		√	√			√	√	√	√	√
	Volunteering		√	√					√	√	√
Children/ Youth	Babysitting		√		√				√	√	√
	Child care centres in camps		√		√					√	√
	Children activity centres (Jungle gym)		√	√						√	√
	Children encounter zone		√	√						√	√
	Children game drives		√		√		√		√	√	√
	Children holiday programmes in camps		√	√					√	√	√
	Children trails		√	√			√		√	√	√
	Learner programmes		√	√					√	√	√
	Paint ball		√	√						√	√
	Youth camps (Kamp Kwena, "summer" camps)		√	√					√	√	√
Business tourism & Events	Events – Any		√	√			√	√	√	√	√
	Events – Adventure		√	√			√	√	√	√	√
	Festivals		√	√						√	√
	Fundraising events e.g. WWF swim for nature		√	√			√		√	√	√
	Lapas / Bomas (to rent)		√	√					√	√	√
	MICE (Meetings, Incentives, Conventions and Exhibitions)		√	√					√	√	√
	Musical concerts		√	√			√		√	√	√
	Photographic shoots & filming		√	√			√	√	√	√	√
	Product launches		√	√						√	√
	Races / Competitions - Marathons / Trail running		√	√			√	√	√	√	√
	Races / Competitions - Mountain-biking		√	√			√		√	√	√
	Races / Competitions - Other		√	√			√		√	√	√
	Races / Competitions - Adventure / Expedition racing		√	√			√	√	√	√	√
	Scientific conferences		√		√					√	√
	Team building		√	√					√	√	√
Weddings		√	√					√	√	√	
Retail / Services	Apparel outlets		√	√						√	√
	Airport / Aerodrome / Airstrip		√	√						√	√
	Banking - Bank or ATM		√		√					√	√
	Rental – Bicycle		√	√						√	√
	Camping equipment rental		√	√						√	√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is product currently available or under development?		Is product appropriate for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
		YES	NO	YES	NO	Within boundaries of national-/ contractual park					Out-side
						1	2	3	4	5	6
	Rental - Car		√		√					√	√
	Car Wash		√		√					√	√
	Casinos		√	√							√
	First aid		√	√						√	√
	Essential commodities in camps (Ice, Wood, etc.)	√		√						√	√
	Fuel stations		√	√						√	√
	Gas equipment hire		√	√					√	√	√
	Hop-on guides		√		√					√	√
	Internet cafes		√	√						√	√
	Laundromats & laundry service	√		√					√	√	√
	Outlets - Community curios		√	√						√	√
	Outlets – Curios		√	√						√	√
	Pharmacies		√		√					√	√
	Postal services		√	√						√	√
	Proshop		√		√					√	√
	Road emergency services		√	√						√	√
	Shuttle services		√	√						√	√
	Vending machines		√	√					√	√	√
	Vendors		√	√						√	√
	Wifi facilities (Free or charged)		√	√					√	√	√
Food & Beverage	Bars		√	√					√	√	√
	Boma / Lapa meals		√	√					√	√	√
	Bush meals		√		√				√	√	√
	Coffee shops		√	√					√	√	√
	Fast food outlets		√		√					√	√
	Game drives picnic baskets		√	√					√	√	√
	Local cuisine		√		√				√	√	√
	MICE catering		√	√					√	√	√
	Picnic baskets		√	√					√	√	√
	Restaurants		√	√					√	√	√
	Room service		√		√				√	√	√
	Sports bar		√		√					√	√
	Tea rooms		√	√					√	√	√
NON TOURISM RELATED ACTIVITIES											
Mining/ Exploratory	Prospecting		√		√						√
	Mining		√		√						√
Consumptive / Subsistence	Fishing (Non release)		√	√				√	√	√	√
	Hunting (Lethal)		√	√							√
	Sustainable harvesting of resources		√	√			√		√	√	√

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Appendix 5: Park rules

The following park rules are applicable to TKNP:

1. No travelling is permitted within the park between the following times:

1 October to 31 March	19:00 – 05:30
1 April to 30 September	18:00 – 06:30

Exemption is granted to visitors arriving on a Friday by no later than 21:00, to travel by means of the most direct route to the reception and from the reception to their booked accommodation.

2. Speed Limit within the park:

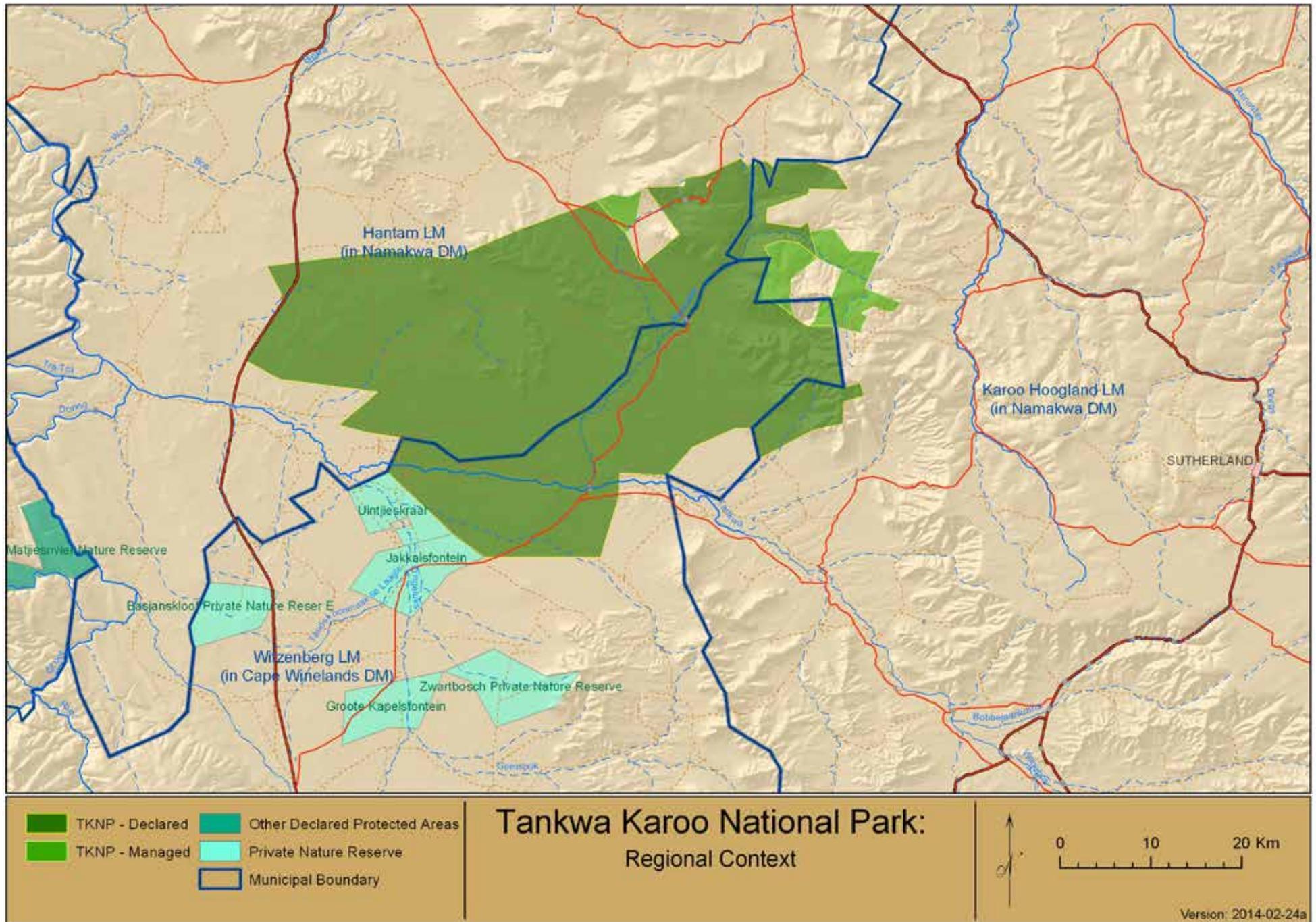
60 km/h on all main roads (P2250 from Ceres and Middelpos, P2267 from Calvinia)
40 km/h on all secondary roads

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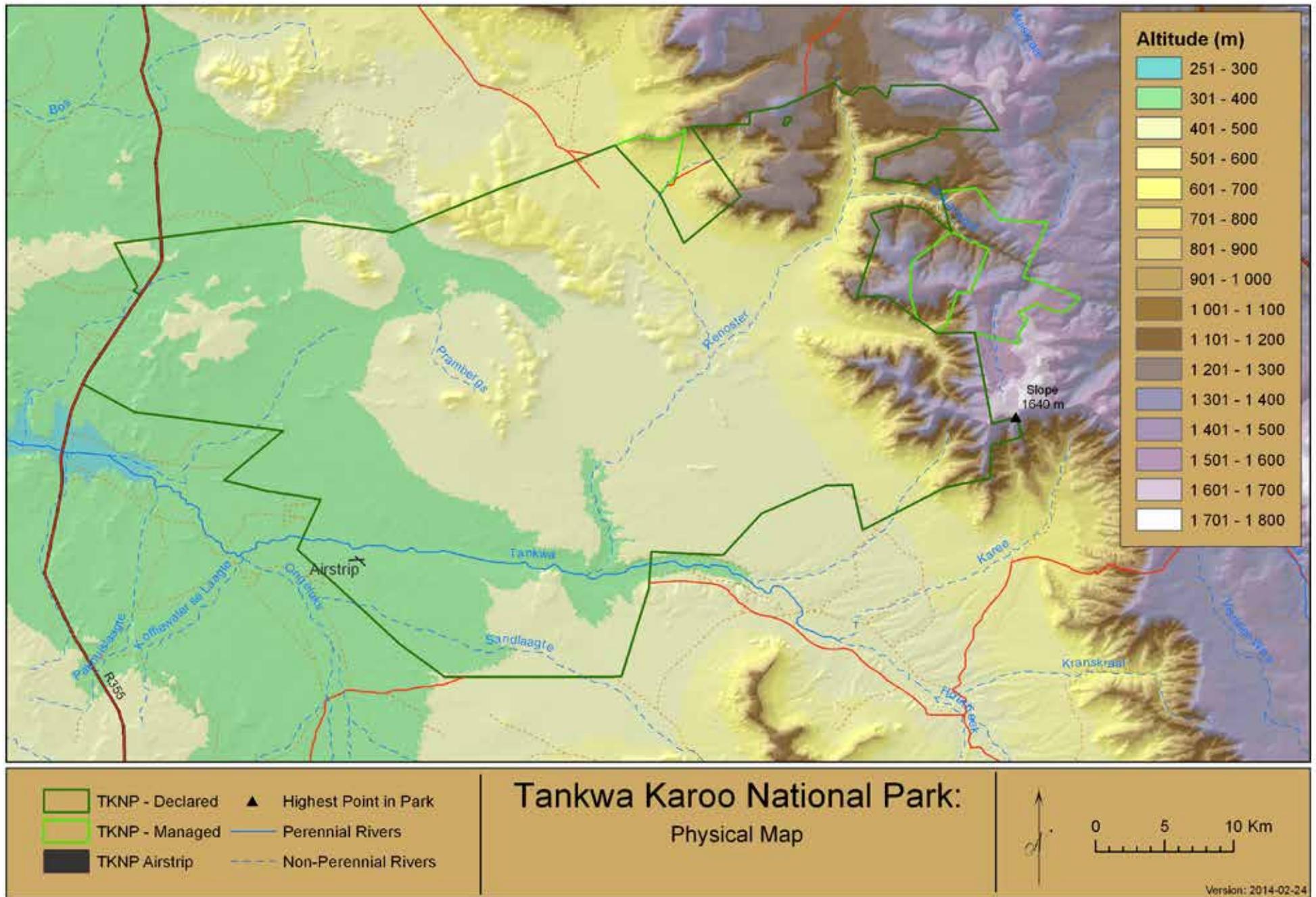


Appendix 6: Maps

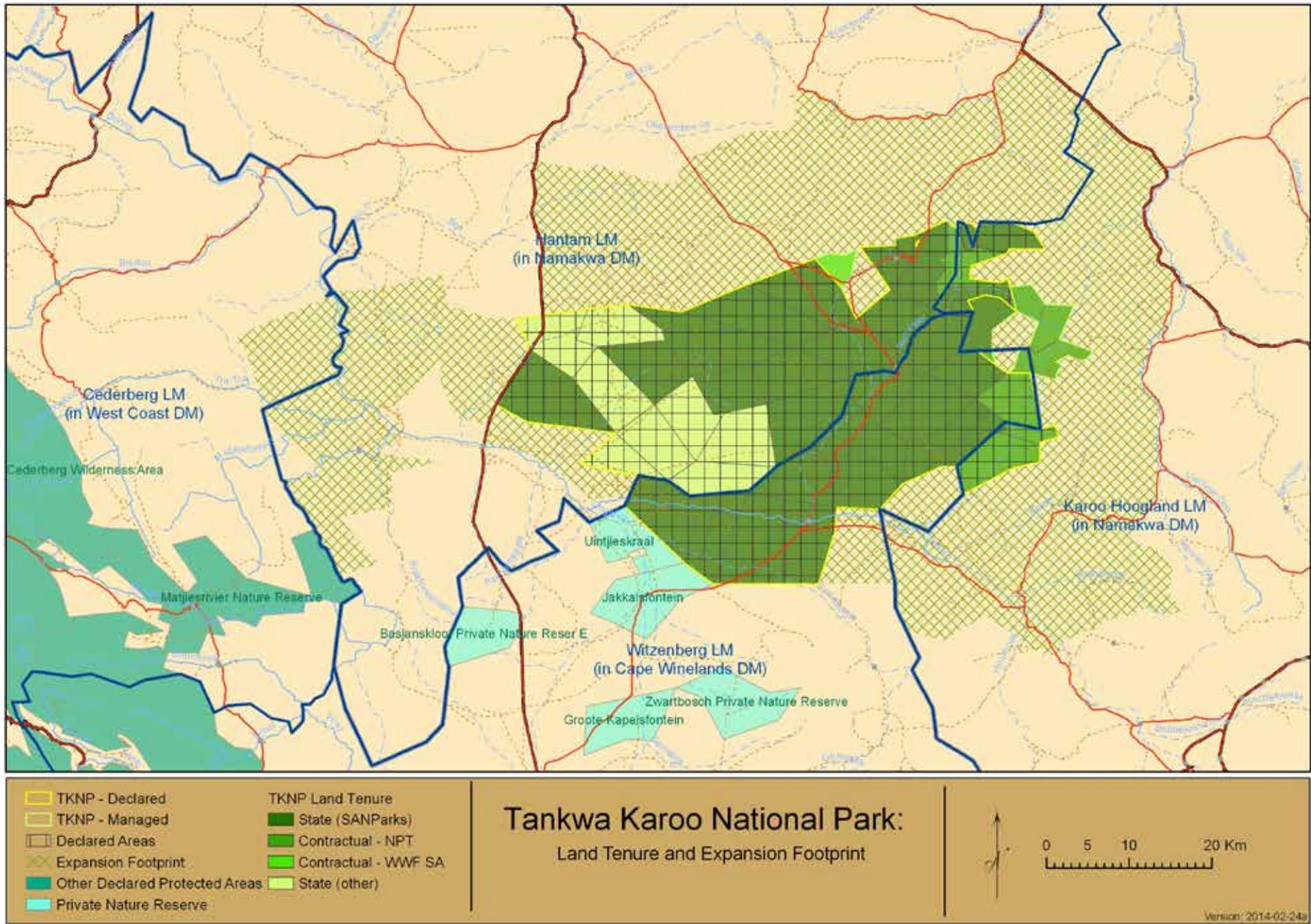
- Map 1: Regional context
- Map 2: Physical features
- Map 3: Land tenure and park expansion
- Map 4: Zoning
- Map 5: Zoning with sensitivity value
- Map 6: Buffer areas
- Map 7: Infrastructure and development
- Map 8: Vegetation



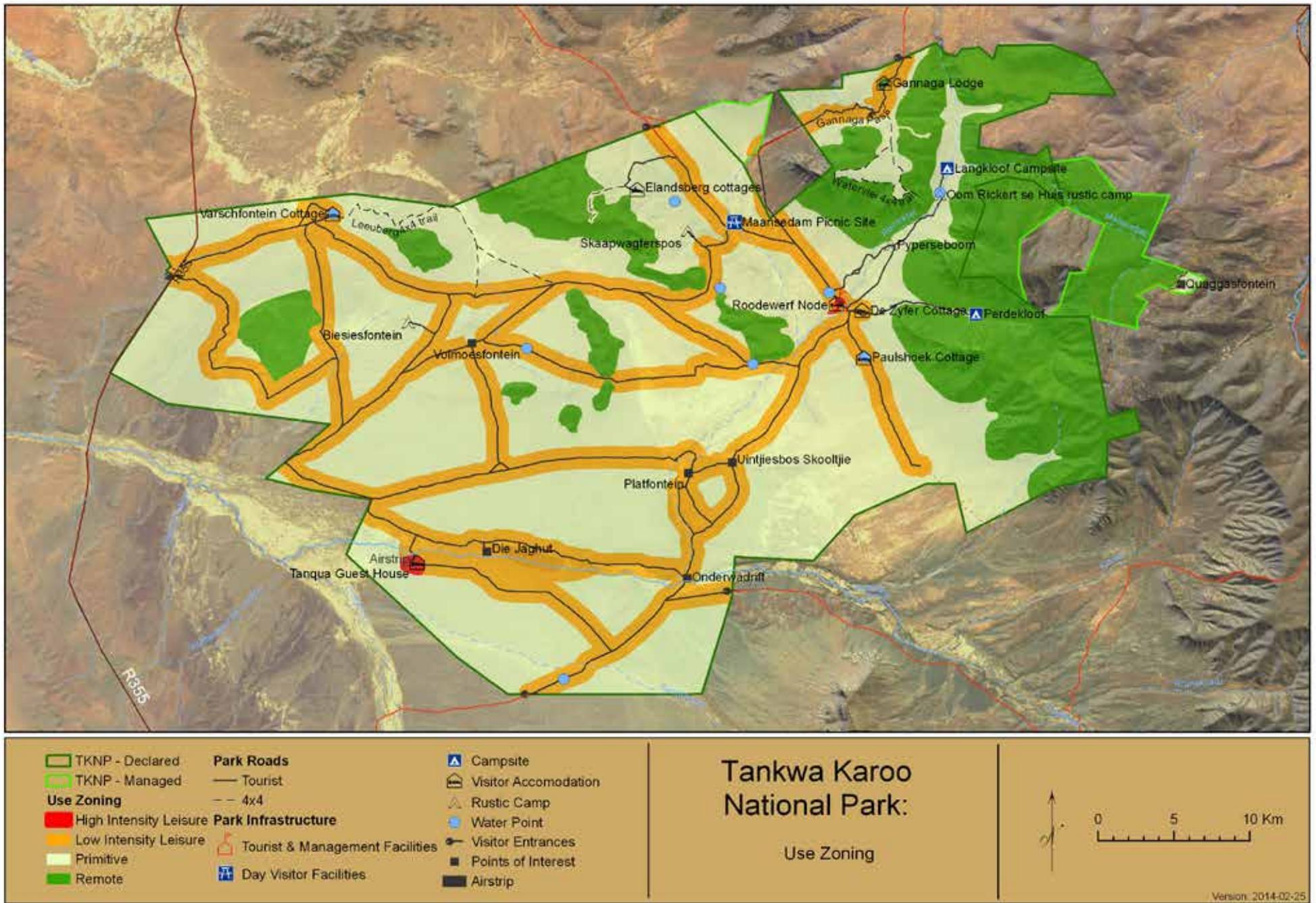
Map 1: Regional context



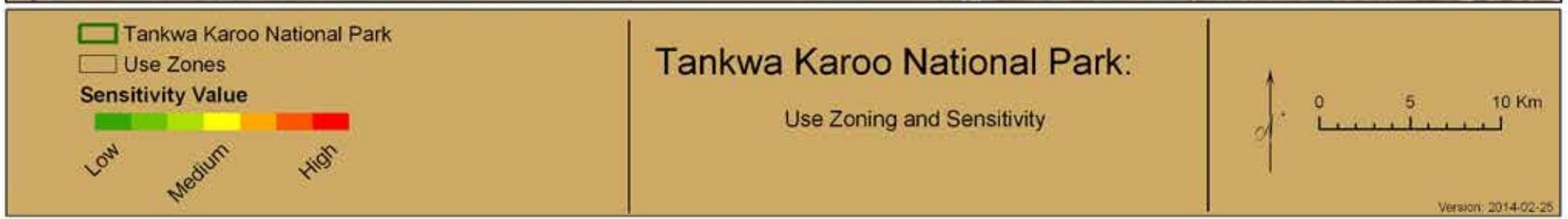
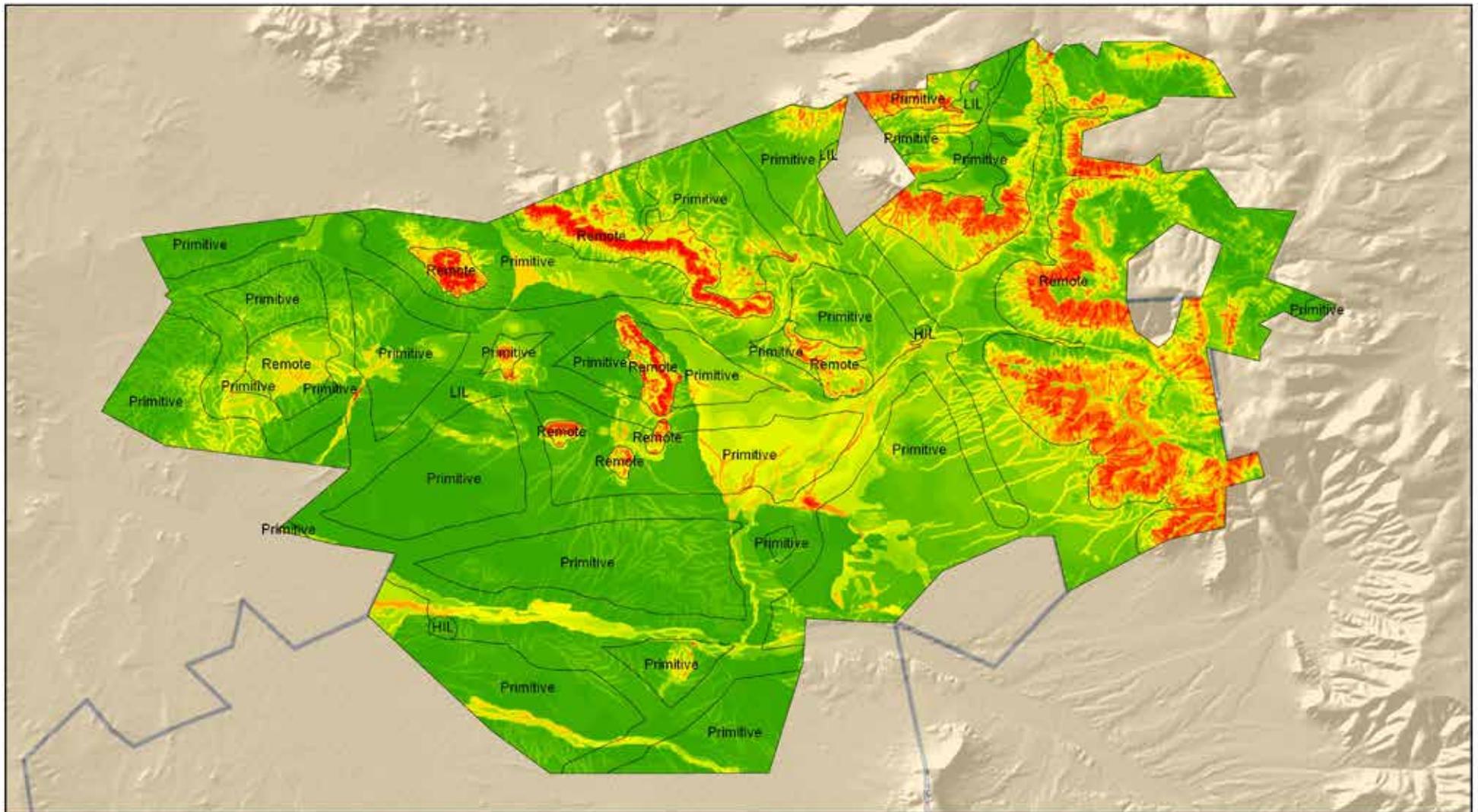
Map 2: Physical features



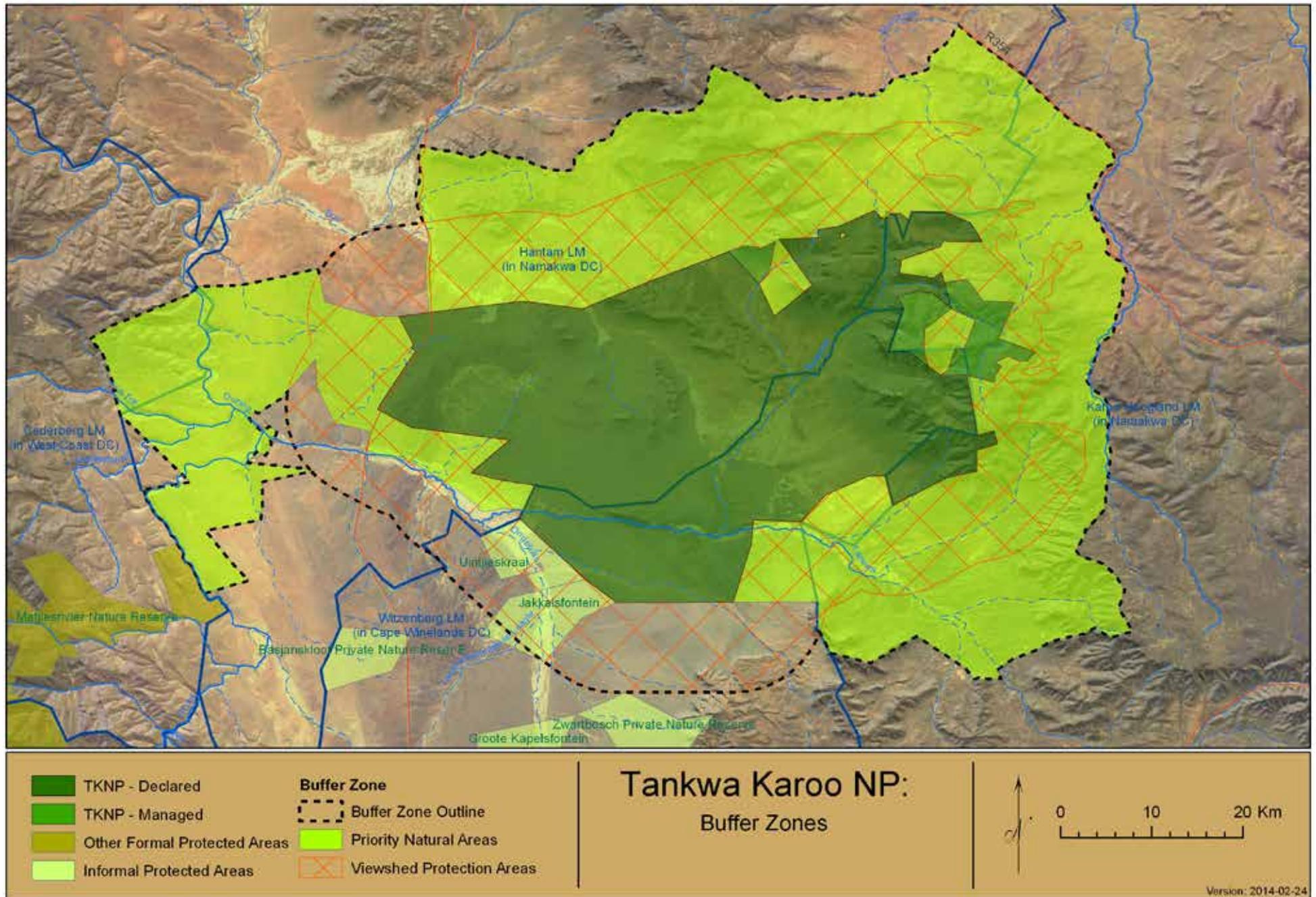
Map 3: Land tenure and expansion footprint



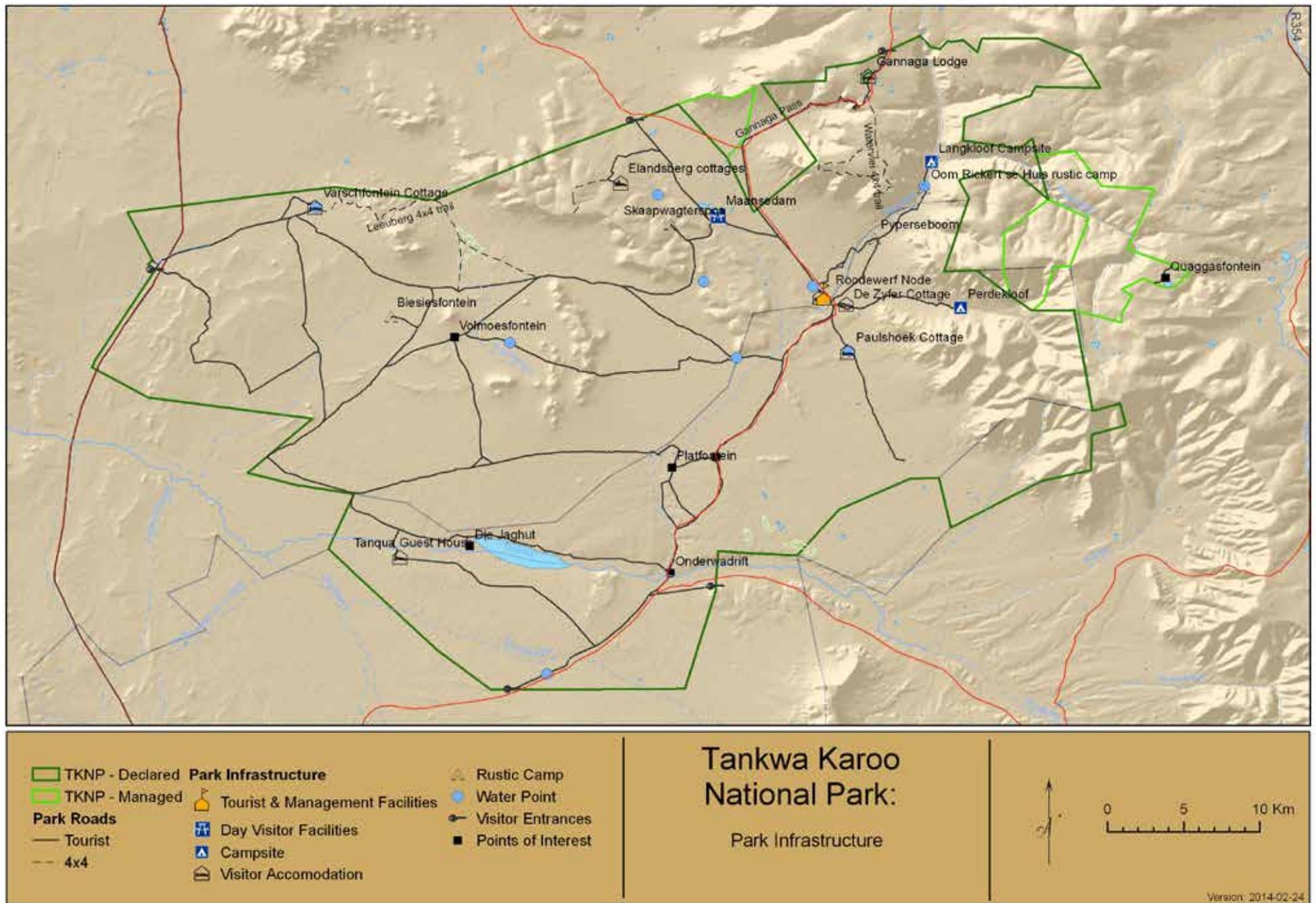
Map 4: Zoning



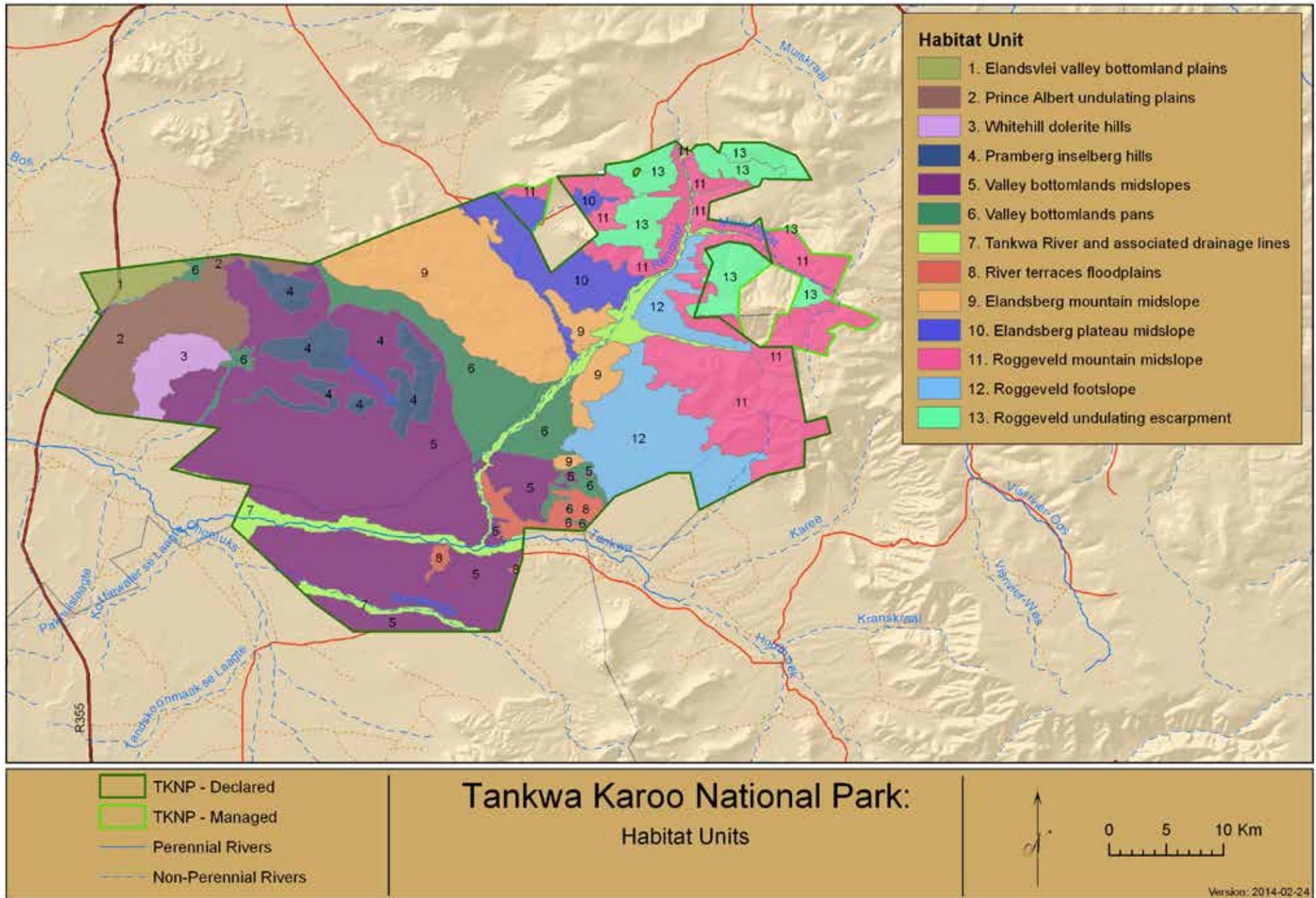
Map 5: Zoning and sensitivity



Map 6: Buffer zone



Map 7: Park infrastructure



Map 8: Vegetation