South African NATIONAL PARKS

United Nations Educational, Scientific and Cultural Organization

Cape Floral Region Protected Areas Inscribed on the World Heritage List in 2004

Garden Route National Park

Park Management Plan

For the period 2020 - 2029

Acknowledgement

This plan was prepared by Mr Len du Plessis and Mr André Spies, with significant input and help from Me Maretha Alant, Mr Clement Arendse, Mr Johan Baard, Me Marie Baard, Me Elzette Bester, Mr Nicholas Cole, Me Melanie de Morney, Mr Graham Durrheim, Dr Stef Freitag-Ronaldson, Me Jessica Hayes, Me Nobulumko Gantsho, Mr Derec Giles, Me Jayshree Govender, Mr Paddy Gordon, Mr Thabo Kgomommu, Me Nondumiso Mgwenya, Dr Mohlamatsane Mokhatla, Me Lizette Moolman, Mr Andile Namntu, Me Phumla Nyathikazi, Mr André Riley, Dr Dirk Roux, Dr Ian Russell, Me Thabang Sibiya, Mr Kyle Smith, Dr Sandra Taljaard, Me Megan Taplin and various stakeholders.

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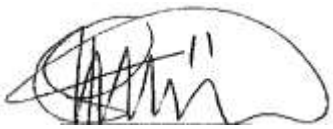
Photo by: Knysna Tourism

Section 1: Authorisation

This management plan is hereby internally accepted and authorised as required for managing the Garden Route National Park and World Heritage Site in terms of Sections 39, 40 and 41 of the National Environmental Management: Protected Areas Act [(Act No. 57 of 2003) (NEM: PAA)] and chapter 4 of the World Heritage Convention Act (Act No. 49 of 1999).

Mr P. Gordon
Park Manager: Garden Route National Park — Date: 01 June 2019

Mr A.H. Engelbrecht
General Manager: Frontier Region — Date: 01 June 2019

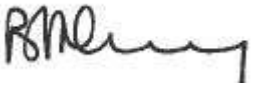


Mr. P.S. Mokoena
Managing Executive: Parks — Date: 01 June 2019

Mr F.G. Mketeni
Chief Executive: SANParks — Date: 20 November 2019

Ms J. Yawitch — Date: 28 November 2019
Chair: SANParks Board

Approved by the Minister of Environment, Forestry and Fisheries



Ms B.D. Creecy, MP — Date: 05 December 2019
Minister of Environment, Forestry and Fisheries

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Glossary

Aeolian	Relating to or arising from the action of the wind. Produced or carried by the wind.
Aircraft	Means an airborne craft of any type whatsoever, whether self-propelled or not, and includes hovercraft and drones.
Alien vegetation	Refers to plants brought to South Africa from other countries, both intentionally and unintentionally, which cause human, environmental or economic harm.
Anthropogenic	Describes changes in nature made by people.
Balanced scorecard	A balanced scorecard is a strategic management performance metric used to identify and improve various internal business functions and their resulting external outcomes.
Benthic fauna	Fauna that live on, in, or near the seabed, river, lake, or stream bottom, also known as the benthic zone. This fauna lives in or near marine or freshwater sedimentary environments, from tidal pools along the foreshore, out to the continental shelf, and then down to the abyssal depths.
Bergwinds	The South African name for fohn wind or mountain wind. It is a hot, dry wind that blows from the interior of South Africa to the coast and usually is blustery.
Biocontrol	The use of living organisms, such as insects or pathogens, to control pest populations.
Bio-mimicry	An approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time-tested patterns and strategies.
Biosprospecting	Is the process of discovery and commercialization of new products based on biological resources.
Buffer zone	It acts as an insulation layer between the protect area and the potentially negative influences outside the park, protects the purpose and values of the national park.
Cape Floristic Region	Is a biodiversity hotspot and one of the six floral kingdoms in the world and is located in the Western and Eastern Cape provinces.
Clear-fell	Is a forestry practice in which most or all trees in an area are uniformly cut down.
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.
Ecological infrastructure	Ecological infrastructure refers to naturally functioning ecosystems that deliver valuable services to people, such as water and climate regulation, soil formation and disaster risk reduction. It is the nature-based equivalent of built or hard infrastructure, and can be just as important for providing services and underpinning socio-economic development.
Ecosystem services	The direct and indirect contributions of *ecosystems* to human well-being.
Eco-therapy	Eco-therapy, also known as nature therapy or green therapy, is the applied practice of the emergent field of eco-psychology. Eco-therapy, in many cases, stems from the belief that people are part of the web of life and that our psyches are not isolated or separate from our environment.
Embayment	A recess in a coastline forming a bay.
Endemic	Native and restricted to a certain place.

Estuary	A body of surface water that is permanently or periodically open to the sea, in which a rise and fall of the water level as a result of the tides is measurable at spring tides when the water course is open to the sea, or in respect of which the salinity is higher than freshwater as a result of the influence of the sea, and where there is a salinity gradient between the tidal reach and the mouth of the body of surface water.
Extractive resource use	Operations that harvest natural resources from the earth.
Frilling	Frilling is the technique used to inject herbicide into a plant, a time effective way for treating large woody weeds
Fynbos	**I**s a small belt of a distinctive type of natural shrubland or heathland vegetation located in the Western Cape and Eastern Cape provinces of South Africa. It includes a very wide range of plant species, particularly small heather-like trees and shrubs.
Herpetofauna	Reptiles and amphibians of a particular region, habitat, or geological period.
Integrated fire management	Is a series of actions that includes fire awareness and prevention activities, prescribed burning, resource sharing and co-ordination, fire detection, fire suppression, fire damage rehabilitation and research in order to create a sustainable and well balanced environment, reduce unwanted wildfire damage, and to promote the beneficial use of fire.
Interglacial	Is a geological interval of warmer global average temperature lasting thousands of years that separates consecutive glacial periods within an ice age.
Interpretation	Interpretation is the communication of information about, or the explanation of, the nature, origin, and purpose of historical, natural, or cultural resources, objects, sites and phenomena using personal or non-personal methods.
Mean Annual Runoff	The average amount of water that flows down a particular river, per year, expressed either as a depth (in millimetres) of water spread evenly across the entire drainage basin, or as a volume (in cubic metres) of water flowing past a given point.
MICE	Meetings, Incentives, Conferences and Events. Used to refer to all function types available.
Midden	Is the archaeological term for a rubbish heap which may consist of animal bone, human waste material, botanical material, mollusc shells and other artefacts associated with past human occupation.
Mission	An articulation of the Vision that describes why the park exists and its overall philosophy on how to achieve its Vision.
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.
Orographic precipitation	Rain, snow, or other precipitation produced when moist air is lifted as it moves over a mountain range.
Perennial river	Has continuous flow in parts of its stream bed all year round during years of normal rainfall.

Red data species	The IUCN Red List of Threatened Species (also known as the IUCN Red List or Red Data List), founded in 1965, has evolved to become the world's most comprehensive inventory of the global conservation status of biological species.
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.
Sparid fish species	The Sparidae are a family of fish in the order *Perciformes* commonly called sea breams.
Servitude	A "servitude" shows a registered right that an entity / person has over the immovable property of another. It allows the holder of the servitude to do something with the other person's property, which may infringe upon the rights of the owner of that property.
Southern Afrotemperate forest	Tall, shady, multi-layered indigenous South African forest. This is the main forest-type in the south-western part of South Africa, naturally extending from the Cape Peninsula in the west, as far as Port Elizabeth in the east.
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 the National Environmental Management: Biodiversity Act No 10 of 2004 (NEM: BA).
Sub tidal area	Those marine ecosystems within substrate that is permanently flooded by tidal water.
Topography	Is the physical appearance of the natural features of an area of land, especially the shape of its surface.
Total Organic Carbon	Is the amount of carbon found in an organic compound and is often used as a non-specific indicator of water quality.
Trophic level	Refers to a level or a position in a food chain or ecological pyramid.
Universal access	Refers to the design of products, devices, services, or environments to cater for people with disabilities.
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, environment, economic, 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.
Wetland	Is a distinct ecosystem that is inundated by water, either permanently or seasonally, where oxygen-free processes prevail
Zoogeographic zone	Any of six or seven areas of the world defined by animal geographers on the basis of their distinctive animal life.

Acronyms and abbreviations

1	AMSL	Above Mean Sea Level
2	APO	Annual Plan of Operations
3	BAR	Basic Assessment Report
4	BSP	Biodiversity Social Projects
5	CAPS	Curriculum Assessment Policy Statement
6	CBO	Community Based Organisations
7	CDF	Conservation Development Framework
8	CMA	Catchment Management Agencies
9	CML	Coastal Management Line
10	CPF	Co-ordinated Policy Framework
11	CRMF	Corporate Risk Management Framework
12	CSD	Conservation Services Division
13	DEA	Department of Environmental Affairs
14	DEAT	Department of Environment Affairs and Tourism
15	DEADP	Department of Environmental Affairs and Development Planning
16	DWS	Department of Water and Sanitation
17	EIA	Environmental Impact Assessment
18	EMP	Environmental Management Plan
19	EPWP	Expanded Public Works Programme
20	GRNP	Garden Route National Park
21	FEPA	Freshwater Ecosystem Priority Area
22	FPA	Fire Protection Association
23	GEF	Global Environment Facility
24	BR	Biosphere Reserve
25	ha	Hectare
26	HIL	High Intensity Leisure
27	IAS	Invasive and Alien Species
28	IAP	Invasive and Alien Plants
29	IDP	Integrated Development Plan
30	ISO	International Organisation for Standardisation
31	IUCN	International Union for Conservation of Nature
32	LIL	Low Intensity Leisure
33	LLP	Lower Level Plan
34	LUM	Land Use Management
35	MEC	Member of the Executive Council
36	METT	Management Effectiveness Tracking Tool
37	MLRA	Marine living Resources Act (Act No. 80 of 1998)
38	MPA	Marine Protected Area
39	MTO	Mountains to Ocean
40	NEMA	National Environmental Management Act (Act no 107 of 1998)
41	NEM: BA	National Environmental Management: Biodiversity Act (Act no 10 of 2004)
42	NEM: PAA	National Environmental Management: Protected Areas Act (Act no 57 of 2003)
43	NGO	Non-governmental Organisation
44	NHRA	National Heritage Resources Act (Act no 25 of 1999)
45	nm	Nautical mile
46	NPAES	National Protected Areas Expansion Strategy
47	NPTSA	National Parks Trust of South Africa
48	OHS	Occupational Health and Safety
49	OSCAE	Outeniqua Sensitive Coastal Area Extension
50	PM	Park Management

51	PFMA	Public Finance Management Act (Act No. 01 of 1999)
52	PE	Protected Environment
53	RT	Responsible Tourism
54	SAHRA	South African Heritage Resources Agency
55	SAM	Strategic Adaptive Management
56	SANBI	South African National Biodiversity Institute
57	SANParks	South African National Parks
58	SANS	South African National Standard
59	SBFPA	Sarah Baartman Fire Protection Agency
60	SCFPA	Southern Cape Fire Protection Association
61	SCM	Supply Chain Management
62	SDF	Spatial Development Framework
63	SHEQ	Safety, Health, Environment and Quality
64	SOK	State of Knowledge
65	SMO	Special Management Overlay
66	SMME	Small, Medium and Micro Enterprise
67	SOP	Standard Operating Procedure
68	SPLUMA	Spatial Planning and Land Use Management Act
69	SSC	Species of Special Concern
70	TNP	Tsitsikamma National Park
71	TPC	Threshold of Potential Concern
72	UA	Universal access
73	UNDP	United Nations Development Programme
74	V-STEEP	Values - Social, Technological, Environment, Economic and Political
75	WfW	Working for Water
76	WNP	Wilderness National Park
77	WMC	Wildlife Management Committee

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Executive summary

In compliance with the NEM: PAA, South African National Parks (SANParks) is required to develop a management plan for each of its protected areas. This plan is the first revision of the management plan for the Garden Route National Park (GRNP) since the original plan was submitted and approved by the minister of the Department of Environment and Tourism in 2012. This revised plan has its origins in a collaboratively developed desired state which was workshopped with a variety of local communities across the Garden Route region.

The greater Garden Route region is characterised by its outstanding scenic quality and beauty. The unique coastal lake systems, indigenous forests and rugged coastline, comprise an extensive network of protected areas which include national parks, provincial nature reserves and private reserves, often interspersed with pockets of urban development, commercial plantations and agricultural activities. It is this feature which makes the area unique, representing a juxtaposition between urban development and conservation areas of local and international importance. The GRNP sits within the greater Garden Route region and encapsulates all of these unique characteristics of the region. It has also been included as part of the Cape Floristic Region Protected Areas World Heritage Site in 2014. It is SANParks' intention and obligation to protect these assets and enhance community beneficiation from them.

The desired state workshops were built on the vital attributes of the national park and identified the determinants, strengths, weakness, opportunities and threats to such desired state. In order to sustain and enhance the vital attributes, a set of high level objectives was developed, which in turn identified the management intervention programmes that make up the main thrust of this management plan. In this way, the plan remains true to the nuanced voices of diverse communities across the Tsitsikamma, Knysna and Wilderness regions. Management programmes to achieve the desired state fall within seven categories: natural heritage; cultural heritage; responsible tourism; equitable access and benefit sharing; participative engagement; learning, interpretation, research and monitoring; and good governance.

An important objective for SANParks is to promote responsible opportunities for visitors to appreciate and value national parks. Additional to the priority of biodiversity conservation, the park is recognised as a unique nature-based tourism destination of choice, thereby constituting an economically and culturally valuable asset to the region.

This first review builds on the foundation of the first plan. The layout of the plan follows the format provided in the guideline drawn up by the Department of Environmental Affairs (DEA) (Cowan and Mpongoma, 2010) while also incorporating the adaptive planning process adopted by SANParks. Diverse groups of stakeholders were consulted (including municipalities and other organs of state) as required (Appendix 2).

Introduction

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, programmes at strategic and operational levels and costing.

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

The plan contains the following sections**:**

- **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 and 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 declarations, stakeholder participation report, park development framework, internal rules and maps.

Section 2: Legal status

2.1 Name of the area

The GRNP was initially declared in March 2009 (Government Notice 248 / Government Gazette 31981 dated 06 March 2009). A full list of the declarations appears in Appendix 1.

2.2 Location

The GRNP extends over roughly 150 kilometres between Wilderness (west) and Tsitsikamma (east) and over 40 kilometres north to south between the Outeniqua and Tsitsikamma mountains, along the Indian ocean coastline (Appendix 5, Map 1). The park spans two provinces, two district and four local municipal boundaries, within a fragmented and multi-use landscape including urban, forestry, conservation and agricultural land uses.

2.3 History of establishment

The GRNP can be described as a complex of protected areas managed as a single entity. The GRNP includes the previously proclaimed Tsitsikamma National Park (TNP) and Wilderness National Park (WNP), state forests and mountain catchment areas, as well as the Knysna National Lake Area. The latter is managed as a Protected Environment (PE) (with promulgated regulations).

Extensive negotiations between the former National Parks Board, the then Secretary of the Department of Forestry and the responsible Minister, provided for the 1964 proclamation of the Tsitsikamma Coastal and Forest National Parks and the establishment of South Africa's first marine protected area as well as the conservation of the associated coastal forests of the region. The WNP was proclaimed in 1983 to protect the unique lakes system of the area, with subsequent additions made in 1986 (Swartvlei System), 1987 (state lands in the Wilderness National Lake Area), 1991 (Rondevlei and lands between Rondevlei and Swartvlei Lake), and 1997 (lower Duiwe River). The Knysna National Lake Area was proclaimed in 1985 to protect the Knysna estuary.

In March 2009, the GRNP was proclaimed (Government Notice 248 in Government Gazette 13981 dated 6 March 2009), which incorporated the 41,538 ha of State Forest land located to the north of coastal sections of the park that were previously administered by the Department of Water Affairs and Forestry (DWAF). The TNP and WNP were included into the GRNP on 11 February 2011 (Government Notice 95 in Government Gazette 34017).

2.4 Contractual agreements

Contractual agreements remain one of the options available for communities and private landowners to become part of the park and improve habitat connectivity, ecological functioning and ecosystem services. Contributions to other core functions such as responsible tourism, socio-economic benefits and management considerations e.g. safety and security, invasive alien species management and other risk factors are also considered. In the past, conservation strategies in South Africa were characterised by the fencing of protected areas (Gleuf, 1987). This curbed contact between animals and humans, and diminished the opportunities for local communities to participate in the management of natural assets (Hanekom & Liebenberg, 1994). The advantages of conservation, therefore, only reached a minority of the total population, resulting in historical clashes over natural resources (Fourie, 1994). The South African government proclaimed a policy of land restitution during the mid-1990s, enabling communities that were deprived of land to regain ownership of that land. This led to growing concern of the potential impact on protected areas (Bond, 1999). SANParks has recognised the need to integrate human needs and the national parks system as a prerequisite for effective nature conservation (Ledger, 1998). Table 1 below provides a summary of the privately-owned land that was contractually included into the park.

Table 1. Private land included, by declaration, into the park.

Title deed	Farm name	Portion No	Extent (Ha)	Owner	Government Gazette	Proclamation date	Period
T30991/1974	Matjies River No. 295	3	55.1871	Buitenverwachting Pty Ltd	16927	19 January 1996	25
T30991/1974	Farm No. 299	1	185.8228				
T11884/1998	Slaaps Bosch No. 15	0	3,497.9483	IND Zone Ltd	17728	17 January 1997	30
T11882/1998	Langbosch Rivier No. 16	0	2,598.9893				
T11880/1998	Keur River No. 18	0	1,595.4907				
T11883/1998	Zoetkraal No. 19	0	2,268.2109				
T11885/1998	Boven Palmiet Rivier No. 20	0	3,390.5249				
T11881/1998	Onder Palmiet Rivier No. 22	0	2,592.8366				
T11886/1998	Dwars River No. 23	0	3,026.4702				
T11879/1998	Adjoining Klipheuwel No. 296	0	1,097.4631				
T12411/1998	Adjoining Onbedacht No. 271	0	4,322.1319				

2.5 Co-management agreements

There are currently no co-management agreements in place.

2.6 Total area

The park currently comprises of 165,899 ha including contractual areas (as per Table 1 in Section 2.4) of which 47,382 ha is not proclaimed (mainly former DWAF areas and the Knysna estuary). Following the completion of the plantation exit in terms of the 2005-06 government-led Cape Conversion Process (exit areas handed over to SANParks), all encumbrances on the former DWAF land will be identified and resolved in order to proclaim these areas as national park.

2.7 Highest point

The highest point in the park is Peak Formosa, situated in the Tsitsikamma section of the park at 1,675 m above mean sea level (AMSL). The airspace above the park, up to 2,500 feet above the highest point, as per legislation, is also deemed national park (Appendix 5, Map 2). Thus, the park's airspace ranges from ground level up to 2,437 m (7,993 feet) AMSL.

2.8 Municipalities in which the park falls

The park straddles two provinces, namely the Western Cape and Eastern Cape, and is situated within the following district and local municipal boundaries:

- Garden Route District Municipality:
  - George Local Municipality;
  - Knysna Local Municipality; and
  - Bitou Local Municipality.
- Sarah Baartman District Municipality:
  - Koukamma Local Municipality.

2.9 Land claims

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

2.10 International, national and provincial listings

World Heritage Status

The Cape Floristic Region (CFR) is recognised as one of the globe's richest plant areas and a hotspot in terms of diversity, density and number of endemic species. The area is a highly distinctive phytogeographic unit which is regarded as one of the six Floral Kingdoms of the world and is by far the smallest and relatively most diverse kingdom. It is recognised for its diversity of endemic and threatened plants, and contains outstanding examples of significant ongoing ecological, biological and evolutionary processes. This extraordinary assemblage of plant life, its associated fauna and processes are represented by a series of 13 protected area clusters, including the GRNP, covering an area of more than one million ha.

The Cape Floristic Region Protected Areas (CFRPA) World Heritage Site was first included in the World Heritage List in 2004. The United Nations Education, Scientific and Cultural Organisation (UNESCO) approved the extension of the Cape Floristic Region Protected Areas World Heritage Site on 3 July 2014. This resulted in the Fynbos and indigenous forests located in the GRNP also being included as part of the Cape Floristic Region Protected Areas World Heritage Site.

The following criteria apply to the GRNP component of the CFRPA World Heritage Site:

- Criterion (ix): Ongoing biological and ecological processes: The CFR forms a centre of active speciation where interesting patterns of endemism and adaptive radiation are found in the flora. In addition to the natural processes of primary production, nutrient recycling, climatic extremes, predation and herbivory, competition, specialized pollination guilds and major natural episodic events such as severe floods and droughts, the Cape flora is dependent on natural fire regimes; and

- Criterion (x): Biological diversity and threatened species: The CFR has exceptionally high plant species richness and endemism. Some 68% of the estimated 9,000 plant species in the region are endemic, with 1,799 species identified as threatened and with 3,250 species of conservation concern. The Cape Floral Region has been identified as one of the world's 34 biodiversity hot spots.

Integrity

The CFRPA World Heritage Site currently comprises a serial property of eight protected areas covering a total area of some 557,584.19 ha, and included a buffer zone of 1,315,000 ha designed to facilitate functional connectivity and mitigate the effects of global climate change and other anthropogenic influences. At the time of inscription, six of the protected areas were surrounded by other conservation lands, while the Boland Mountain Complex was surrounded by mostly rural land uses. The area facing the greatest external pressures is Table Mountain National Park. Progress with increased protection through public awareness and social programmes to combat poverty, improved management of Mountain Catchment Areas and stewardship programmes is being made. The collection of eight inscribed protected areas, all of which have management plans, adds up in a synergistic manner to represent the biological richness and evolutionary story of the Cape Floral Region. The extended CFRPA World Heritage Site is made up entirely of 1,135,486.46 ha of protected areas with 810,697.94 ha of buffer zones, made up of declared Mountain Catchment Areas and other protected areas, further supported by a Stewardship Programme, Landscape Initiatives, Biosphere Reserves and Critical Biodiversity Areas that are together designed to facilitate functional connectivity and mitigate for the effects of Global Climate Change and other anthropogenic influences. All the protected areas, other than some of the privately owned Mountain Catchment Areas, have existing dedicated management plans, which have been revised, or are in the process of revision in terms of the NEM: PAA.

Protection and Management requirements
The NEM: PAA defines a 'protected area' (PA) as one of the following types: Special Nature Reserves; National Parks; Nature Reserves; Protected Environments; World Heritage Sites; Marine Protected Areas; Specially Protected Forest Areas; and Mountain Catchment Areas. The CFRPA World Heritage Site is legally protected and managed by the three authorities (SANParks, Western Cape Nature Conservation Board and Eastern Cape Parks and Tourism Agency) that, with the National Department of Environment, Forestry and Fisheries, make up the "CFRPA World Heritage Site Joint Management Committee". Knowledge management systems are being expanded, to advise improved planning and management decision-making, thus facilitating the efficient use of limited, but increasing, resources relating in particular to the management of fire and alien invasive plants.

Ramsar Site
The Ramsar Convention is an intergovernmental treaty that provides the framework for international cooperation for the conservation and wise use of wetland ecosystems. States that sign the convention (contracting parties) take on general obligations relating to the conservation and use of all wetlands in their territories and must designate at least one Wetland of International Importance or 'Ramsar Site' within their territory. South Africa currently has 23 sites designated Ramsar Sites, of which the Wilderness Lakes Ramsar Site (site no 524), designated on 28 June 1991, falls within the GRNP. The Wilderness Lakes Ramsar Site covers 1,300 ha and incorporates the estuarine lakes of Rondevlei, Langvlei and Eilandvlei, and the Serpentine channel as well as a dune system with associated thickets, woodlands, marshes, and reedbeds. Important locally-migrant resident birds as well as staging and breeding birds use the site, which supports at least 285 native plant species, 32 fish species (several of which use the site as a nursery area), and a diverse array of marine and estuarine invertebrate fauna.

2.11 Environmental authorisations

Artificial breaching of the Touw River and Swartvlei estuaries
Environmental authorisation was granted by DEA to artificially breach the Touw and Swartvlei estuaries. The authorisation was granted in 2010 with authorisation numbers 12/12/20/610/4/7 and DEAT/EIA/5652/2009. Breaching of the estuaries take place under certain conditions as described in this management plan.

Tourism infrastructure expansion: Tsitsikamma Big Tree
Due to the proximity of a watercourse, a Basic Assessment Report (BAR) was undertaken for the tourism infrastructure expansion project at the Tsitsikamma Big Tree. The expansion includes a ticket office; new ablutions; retail facility; as well as a refreshment shop. The environmental authorisation was granted by DEA in September 2016 (Auth. No: 14/16/12/3/3/1/1592) and it is envisaged that the development will be completed towards the end of 2019 or beginning of 2020.

2.12 Biophysical description

A State of Knowledge (SOK) report has been compiled for the park which gives a brief introduction to the extensive literature available. The primary objective of this report is to improve awareness of the information available from various published sources, all of which has relevance to park management, planning and research. The SOK report (South African National Parks, 2017) may be consulted for more detail on the following topics.

2.12.1 Climate

2.12.1.1 Historic climate

The GRNP extends over roughly 150 kilometres east-west and 40 kilometres north-south. This area is large enough to show variability in climate in both directions. In a north-south direction, the altitude varies from 0 m AMSL to 1,675 m AMSL (Peak Formosa). The Outeniqua and Tsitsikamma mountain ranges influence the climate significantly by acting as a barrier to the inland penetration of weather systems and give rise to orographic precipitation (Kruger, 2004).

The climate of the Southern Cape is often referred to as moderate. The weather pattern is mainly influenced by a succession of east moving subtropical low-pressure cyclones interacting with subtropical high-pressure anti-cyclones lying over the oceans (Heydorn and Tinley in Scriba, 1984). The Tsitsikamma area has a higher rainfall in spring, with September and October being the wettest months. In the George area the months from September to March have above average rainfall and the late autumn to winter months are

relatively dry. Annual average rainfall is between 600 and 700 mm (Schafer, 1992) with little seasonal variation (Whitfield *et al.,* 1983), but slight peaks do occur from January to March, and again from August to November (Robinson & De Graaff, 1994; Fijen & Kapp, 1995d). Mean annual rainfall in the upper catchments is 900-1000 mm y^{-1} (Adamson, 1975; Fijen & Kapp, 1995d), and mean monthly rainfall varies between 11 and 244 mm.

Temperature in the park is moderate. In the rare event of snow or frost, temperatures can decrease to around freezing. Topography influences temperature over the north-south gradient. The effect of altitude on air temperature is a drop of about 0.6°C for each 100 m rise. This can lead to a 10°C difference in temperature over this gradient. As the sea on the southern boundary of the park has a moderating effect on temperature, especially during the day when cool breezes from the sea will cool down the land temperature, this 10°C change may not always be apparent.

In the Wilderness area, mean daily minimum and maximum air temperatures are 15 – 25 °C (summer) and 7 – 19 °C (winter). The average yearly temperature for Knysna is 16.9°C, with the maxima averaging 25.0°C in January, and 18.8°C in July. At Storms River Mouth, the mean monthly maximum and minimum air temperatures recorded over a 12-year period (1992 - 2003) ranged from 19.0 - 24,8°C and 9.9 - 17.8°C respectively (Hanekom, 2005).

Wind is an important climatic driver in the Southern Cape. A year-round feature of the south coast is the prevailing westerly winds (Stone *et al.* 1998), while onshore easterly winds are prevalent during summer (Schumann *et al*. 1982). Generally, the south-westerly winds are associated with rain while the south-easterly winds are associated with fair weather. Scriba (1984) describes the winter months as overall windy with northerly (bergwinds), and westerly winds dominating. The desiccating north-westerly bergwinds are caused by dry subsiding air moving off the interior plateau in response to strong coastward pressure gradients (Bond, 1981). These strong winds drive the fire patterns in the fynbos and thus the distribution of natural vegetation (forest and fynbos) on the landscape. Rain often follows bergwind conditions.

2.12.1.2 Future climate

Although no temperature data of a sufficiently long period is available for analysis, future predictions indicate that the temperature in the Garden Route region will increase by between 1.1 ^{o}C (best case) and 2 ^{o}C (worst case) by 2050. While these variations seem small, they can have a dramatic effect on temperature extremes. An increase in the number of very hot days will in turn affect the number of days with a high fire danger index, as well as the ability of fire fighters to control wild fires.

While no significant changes were detected at most rainfall stations in the park, a significant decrease in annual rainfall has been detected over 110 years at the Bloukrans station. The decrease in rainfall was also associated with an increase in dry days and rainfall variability (*i.e.* larger differences in rainfall totals between years). Although the accuracy of data collected in the early part of the century is uncertain, similar decreases in rainfall were also seen at Alexandriabos in Addo Elephant National Park as well as Swellendam, and the possible impacts of a drier future must be considered.

Future predictions for rainfall in the Garden Route area range from an increase of roughly 6 % to a decrease of 16 % under the driest scenario for 2050 (DEA, 2013; Driver *et al*., 2012; Holness & Bradshaw, 2010 pers. comm.). The intermediate scenario predicts a decline in annual average rainfall of 3 %. Although it is not yet clear which of the future scenarios are the most likely, more erratic rainfall can be expected (high in some years, low in others, or more infrequent but heavier rainfall downpours in place of lighter steadier rain events with an increase in floods and droughts). Unpredictable rainfall could have negative biodiversity consequences in the future even if, on average (across years), rainfall increases or does not change (van Wilgen & Herbst,

2017). In the face of changing climates, there will be significant ecological and associated socio-economic changes expected, requiring appropriate response and adaptation.

Because the Forest biome is comparatively small in South Africa, it is difficult to predict the impact of climate change on this biome. However, under the hottest and driest scenario, it is likely that large portions of the park would have climatic conditions that are more suitable to thicket than Fynbos or Forest (DEA, 2013; van Wilgen & Herbst, 2017). In general, the eastern portion of the Fynbos biome, in which the park is located, is predicted to be less stable under a changing climate than the western part of the biome. The impact of drought on species communities and climate change-sensitive species, needs to be investigated. In order to adapt and to mitigate the impact of climate change, it is essential to engage with external stakeholders to control alien species and reduce fuel loads in areas surrounding the park to minimise the risk posed by wildfires. It may also be important to redesign and relocate infrastructure in relation to flood-prone or storm-susceptible areas.

2.12.2 Geology, topography and soils

The main features that characterise the topography of the park are the Outeniqua and Tsitsikamma mountain ranges to the north of the park, the foothills and the coastal plain. Peak Formosa at 1,675 m is the highest point in the park. On the higher portions, angles of declination are often 70 - 90 degrees (Phillips, 1931).

Rocks of the Cape Supergroup underlie most of the area, while Pre-Cape and Cretaceous rocks and unconsolidated deposits of recent age, occupy smaller areas. The Pre-Cape rocks comprise the Maalgaten Granite to the west and east of George (including the Woodville - Beervlei area), separated by a variety of sedimentary and metamorphic rocks of the Kaaimans Formation that include phyllite, quartzite, grit, hornfels and schist (Saasveld and Karatara areas). Strata of the pre-Cretaceous Table Mountain Group, which consists mainly of supermature quartz sandstones with subordinate shales, were subjected to severe north-south orientated compressive stresses. This produced the Cape Fold Belt with the more resistant strata, the Peninsula and Kouga Formations, forming the prominent east-west trending mountain ranges. The softer sandstones of the Tchando Formation and the shales of the Cedarberg and Baviaanskloof Formations have weathered to form the intermontane and platform valleys (Rust, 1989). The Bokkeveld Group is represented mainly by shales, mudstone and sandy sandstone of the Gydo Formation, which is found in a narrow strip parallel to the Tsitsikamma coastline through to Nature's Valley. A second strip runs westwards from Keurboomstrand to form the edge of the plateau. These rocks are generally weathered to a considerable depth and outcrops occur only sporadically.

Cretaceous conglomerates of the Enon Formation crop out on the coastal plain at Mossel Bay, Knysna and Plettenberg Bay. Aeolian sands deposited during the Quaternary, cover the coastal plateau between Knysna and Plettenberg Bay (including the Harkerville area). A narrow coastal strip of migrating and vegetation-settled dunes occur on the coastal lowlands.

The Wilderness embayment contains a system of shore-parallel barriers, one underwater at sea, and three on land reaching up to 200 m above modern sea level (Rust 1989). The preserved barriers, or dune cordons, have been constructed within at least the last two glacial-interglacial cycles with notable phases between 241-221 ka, 159-143 ka, 130-120 ka, 92-87 ka and post 6 ka. Multiple phases of dune cordon construction occurred during sea-level highstands, with sediment deposition on each individual cordon occurring over at least two interglacials. (Bateman *et al*. 2011). Local variation in the topography of the continental shelf at Wilderness has generated spatial and temporal complexity within the sedimentary records of individual dune cordons as well as having a significant influence on their preservation (Bateman *et al*. 2011). The Wilderness lakes formed as a result of the cutting off of the rivers by these dune cordons, thus preventing them from flowing directly into the sea.

2.12.3 Freshwater and estuarine ecosystems

Touw system

The catchment area of the Touw system comprises three rivers – Touw River (96.2 km^2), Duiwe River (42.1 km^2) and the Langvlei Spruit (8.2 km^2) (Hughes & Filmalter, 1993; Fijen & Kapp, 1995). Virgin mean annual runoff (MAR) into the Touw system has been estimated by Fijen (1995a) as 24.6 x 10^6 m^3. Modelling of flood events emphasised the short residency time of flood waters and hence potential for rapid increases in water level in the lower lakes, particularly the Touw estuary (Görgens, 1979). CSIR (1981 and 1982) concluded that maintaining the height of the sand sill at the estuary mouth at between 2.1 m and 2.4 m AMSL should prevent flooding of low-lying properties by floods with a return frequency of 1 in 50 years or lower. It was also concluded that although the dredging of the connecting channels would improve the circulation of water throughout the system, it would not significantly reduce the peak water levels.

Swartvlei system
Rivers draining into the Swartvlei System are the Diep River (98.3 km^2), Klein Wolwe River (17.2 km^2), Hoëkraal River (111.0 km^2), and Karatara River (101.6 km^2) (Whitfield *et al.,* 1983; Hughes & Filmalter, 1993). Severe floods in the Swartvlei system are infrequent. However, when river floods coincide with periods when the estuary mouth is closed, or with very high spring tides when the estuary mouth is open, flooding of adjacent land can be expected, especially in the Sedgefield Extension 1 area (Howard-Williams & Allanson, 1979). It has been recommended that for hydrological, ecological and social reasons Swartvlei estuary mouth be artificially breached at 2.0 m AMSL (CSIR, 1978; Howard-Williams & Allanson, 1979; Whitfield *et al.,* 1983).

Knysna system
The Knysna River runs mainly north south and has cut deep narrow incisions into the underlying Table Mountain Sandstone. The Knysna River is fed from two catchments, namely K50a and K50b. Rivers draining into the Knysna System include the Bobbejaan River (7 km), Kruis River (18.7 km), Lawnwood River (6 km), Rooi-Els River (13.9 km), Gouna River (21.8 km) and Steenbras River (9.4 km). A few rivers flow directly into the Knysna estuary. These rivers, namely the Bigai, Bongani and Salt Rivers, run through populated areas, industrial areas and informal settlements and the water is often of poor quality. The Knysna estuary is an S-shaped stretch of water, 1,633 ha in extent (Duvenhage, 1983); with a channel approximately 19 km long and up to 2 km wide. It has a tidal reach of about 17 km (Reddering & Esterhuysen, 1984).

Tsitsikamma systems
Thirteen perennial rivers flow southward through the Tsitsikamma region of the park. The largest of these systems are the Groot River (west), the Bloukrans-Vark, Storms-Witteklip and Elands-Kruis systems, which have calculated catchment areas of 87, 80, 98 and 82 km² respectively (Morant and Bickerton, 1983; Chief
Director of Surveys and Mapping, 1979; 1980; 1981). The delegation of State Forest land to SANParks in 2005, allows SANParks greater jurisdiction over the catchment of tributaries of the Elands-, Storms-, Elandsbos-, Bloukrans- and Groot (west) rivers. Soetkraal 'encompasses' the upper catchment of the Langbos-, Palmiet- and Diep rivers (Russell, 2002).

2.12.4 Marine and coastal processes

The Tsitsikamma Marine Protected Area (MPA) and the adjacent marine area off the De Vasselot coast are the only truly marine areas of the park, because the seaward boundary of the Wilderness section extends only to the high-water mark and excludes the marine component. The Tsitsikamma MPA is the oldest marine protected area in Africa (Robinson & De Graaff, 1994) conserving seven percent of the rocky shoreline of the Agulhas Biogeographical Region, as well as large populations of recreationally and commercially exploited reef fish (Buxton, 1987), which are vulnerable to exploitation (Buxton & Smale, 1989; Roberts & Polunin, 1991; Halpern, 2003). In 2000 the marine section, east of the Groot River (west), was proclaimed as the Tsitsikamma MPA, a Category 1 (or no-take) MPA (Government Notice 1429, Government Gazette 21948 of 29 December 2000). At the time of proclamation, the MPA included approximately 61 km of rocky shorelines and 5 km of sandy beaches, extended between 0.5 and 3 nautical miles offshore and had a surface area of some 340 km². The MPA was rezoned in 2016 and re-proclaimed as the Tsitsikamma National Park MPA under section 22A of the NEM: PAA (Anon, 2016a). Regulations were published along with the re-proclamation allowing fishing by local communities in approximately 20% of the former no-take MPA in three separate areas within a predefined area adjacent to the MPA (Anon, 2016b). Although the shoreline is primarily rocky, the subtidal area of the park consists chiefly of soft bottom sediments (c. 79%) and dispersed gravel platforms and rocky reefs (c. 21%) (Flemming et al., 1986).

The adjacent 9 km long De Vasselot section, which was excluded from the MPA, is open to extractive resource use by the public in accordance with the Marine Living Resources Act No. 80 of 1998.

The marine fauna of the MPA includes a variety of mammals (dolphins, whales & seals), birds (gulls, terns, gannets & penguins), fish (reef & migratory species) and invertebrate reef fauna (sponges, ascidians & crustaceans). However, the MPA is too small to provide permanent residence for most of the marine mammal and seabird species recorded in the park, but it is large enough to provide an important feeding ground and/or nursery area. Spawning grounds for commercially exploited chokka squid and all life stages of 17 fish species which are commercially and/or recreationally exploited, have been recorded in the park (Sauer, 1995; Wood *et al.,* 2000). In the marine environment extreme endemism is relatively rare (Hockey & Branch, 1994), and the ecological case for protection of an area is often based on the safeguarding of an important habitat for commercially or recreationally important species, or for the protection of a particularly good example of a habitat type and its associated communities (Robinson & De Graaff, 1994). The biggest threat to the marine environment in this region of the southern Cape, is extractive living marine resource use (Lombard *et al.,* 2005). Therefore, a key conservation function of the Tsitsikamma MPA is to provide a safe and pristine refuge for exploited fish and invertebrate species.

2.12.5 Flora

2.12.5.1 Diatoms, algae, submerged and emergent aquatic plants

Three major categories of phytoplankton have been recorded in Swartvlei Lake viz. diatoms, flagellates and dinoflagellates (Robarts, 1976) with the diatom *Coscinodiscus lineatus* the most abundant species. Submerged macrophytes are widespread in the Wilderness lake systems and consist predominantly of pure and mixed stands of *Potamogeton pectinatus, Charophyta* and filamentous algae (Howard-Williams & Liptrot, 1980; Weisser & Howard-Williams, 1982; Whitfield et al., 1983) with Ceratophyllum demersum (hornwort) having become widespread and abundant in several lakes during the 1990's. In the estuaries *Ruppia spirralis* and *Zostera capensis* predominate. Principal genera of epiphytic algae occurring in the Wilderness lakes include *Enteromorpha, Lyngbya, Cladophora, Percursaria, Cocconeis, Ectocarpus, Polysiphonia, Chondria* and *Hypnea* (Howard-Williams, 1980; Howard-Williams & Liptrot, 1980).

Korringa (1956) identified 39 phytoplankton species in the Knysna estuary. Phytoplankton biomass has never been investigated, though Day (1981) maintains that the clarity of the water in Knysna suggests that it is low. The rocky banks at the mouth of Knysna estuary are colonised by a wide variety of attached algal macrophytes (Day, 1981). Common species within the estuary include *Gelidium pristoides, Ulva lactuca, Enteromorpha* spp. *Chaetomorpha* spp. and *Zonaria tournefortii* (Day *et al*., 1952; Day, 1967; Day, 1981; Grindley, 1976; Grindley & Eagle, 1978; Grindley & Snow, 1983). The intertidal wetlands of the Knysna estuary cover an area of 1000 ha (Maree, 2000) extending landward of the mid-tide level. 54 plants species have been collected in Knysna saltmarshes, of which 27 occur exclusively in this habitat (Maree, 2000).

The Groot River (west) estuary is the largest and probably the only estuary in the Tsitsikamma region that has notable stands of submerged aquatic plants, with stands of *Ruppia maritima* and *R. spiralis* occurring in the creek west of "The Island" (Morant & Bickerton, 1983). Wetland species such as *Mariscus thunbergii*, *Juncus krausii* and *Phragmites australis* are found on the western bank, while *Samolus porosus* is abundant on the island and eastern bank (Morant & Bickerton, 1983). Based on aquatic and semi-aquatic vegetation, this estuary had an intermediate botanical importance rating compared to 31 other estuaries in the Cape Province, while that of the Salt River estuary was low (Coetzee *et al*., 1997).

As far as marine algae are concerned, a comprehensive survey recorded 211 seaweed species in the Tsitsikamma area, consisting of 22 green, 86 brown and 103 red algal species, including two previously undescribed species (Bolton and Stegenga, 2002; Stegenga *et al*. in lit., 2002; Stegenga *et al*., 2000; 2001). Two new species of red algae, namely *Scageliopsis tsitsikammae* nov. spec. and *Hypoglossum imperfectum* nov. spec. were recorded (Stegenga *et al*., 2000; 2001), while molecular evidence suggests that *Asparagopsis armata* is an introduced species (Bolton *et al*., 2011). Erect coralline algae of the genera *Arthrocardia and Coralina* are dominant in the lower intertidal zone of the sheltered shores (Hanekom, 2011).

Truly emergent aquatic plants are a rarity in the Fynbos and Forest biomes. Common, however, is *Aponogeton distachyos* that is commonly found in slow running rivers or river pools in the forest. *Marsilea schelpeana* and *Prionium serratum* occurs on the Red Data List for plants.

2.12.5.2 Terrestrial vegetation

The ten national vegetation types, including eight fynbos and two forest types, occurring in the park have been described by various authors (viz. Acocks, 1988; Low & Rebelo, 1996; Pierce, 2003; Mucina & Rutherford, 2006; Mucina et al., 2014).

A more detailed vegetation classification for fine-scale biodiversity planning for the Garden Route region was conducted by Vlok *et al*. (2008). This research identified more than 30 terrestrial habitat types, representing more than 50 forest and fynbos communities within the boundaries of the park. Most of the Fynbos biome, and the fynbos in the park, form part of the Cape Floristic, Kingdom, the smallest of the six Floral Kingdoms of the world. It is categorized by a high plant species richness and endemicity (Low & Rebelo, 1996).

Together with Southern Afrotemperate Forest, Sandstone Fynbos covers the largest terrestrial area of the park, comprising of a range of Dry, Mesic and Wet Mountain Fynbos types (vide Campbell 1985). Two types of Sand Fynbos as described by Mucina *et al.* (2014) have been recorded for the Park. Knysna Sand Fynbos is generally found on undulating hills and moderately undulating plains, and has been rated by Mucina & Rutherford (2006) as "endangered" and very poorly researched. Lombard *et al.* (2005) who consider it as almost totally transformed, close to extinction and urgently in need of protection. Southern Cape Dune Fynbos is generally found on stabilised old calcareous or neutral dunes, but has a limited distribution in the park (Mucina *et al.* 2014). Although the conservation status of the type has been describes as "least threatened" it hosts endemic species such as *Erica chloroloma, Lampranthus algoensis* and *Pentaschistis barbata subsp. orientalis.*

More than 140 patches of fragmented fynbos, collectively covering 7500 ha, occur within the GRNP (Kraaij & Vermeulen 2010). These fynbos fragments are largely associated with scarp and coastal platform forest, and include (i) degraded forest patches, (ii) fynbos islands which are completely isolated and cut off from mainland fynbos, and (iii) fynbos fragments which are partially isolated from mainland fynbos. Isolation or fragmentation in (ii) and (iii) could either have occurred naturally through expansion of indigenous forest, shaped by fire patterns (Geldenhuys 1994a), or artificially through anthropogenic transformation of the surrounding landscape (Cameron 1980; Bond *et al*. 1988). These natural fynbos islands or fragments are of unique conservation value, both from a biodiversity and ecosystem functioning perspective. Floristically they mostly consist of South Outeniqua Sandstone Fynbos and Tsitsikamma Sandstone Fynbos, as well as smaller areas of lowland fynbos, i.e. Knysna Sand Fynbos and Garden Route Shale Fynbos (Rebelo *et al*. 2006).

The natural forests in the Southern Cape and Tsitsikamma form the biggest forest complex in Southern Africa (Geldenhuys, 1991a), with the largest area located in the park. These forests are home to various old iconic yellowwoods, referred to as 'Big Trees', in the region. Forests occur in three distinct zones with distinct stand structure and species composition (Geldenhuys, 1982a). The mountain forests (mostly wet forests) are typical Afromontane forest. Dry forests or scrub forests occur on the coastal scarp or on the steep slopes of the river valleys (Phillips, 1931). These forests are species-rich and include many species of Indian Ocean Coastal Belt forests (Moll & White, 1978 in Geldenhuys, 1982a). The plateau forests are typically moist and medium-moist forests and include mainly species of Afromontane affinity. Western Cape milkwood forest occurs as small patches at altitudes between 20 and 340m along the southern coast between Nature's Valley and the Cape Peninsula (Mucina & Rutherford, 2006). In the GRNP, patches occur at Nature's Valley, Sedgefield and Wilderness. The forests are generally low, species-poor and often dominated by only one or a few canopy tree species with large stems and spreading crowns, usually *Sideroxylon inerme* and *Celtis africana* or *Apodytes dimidiata*.

Research results on forest dynamics have highlighted the importance of the Garden Route forest in a national and international context, and the importance of maintaining the long-term monitoring sites, also considering sustainable timber harvesting and climate change.

The current vegetation classification and descriptions provide a sound ecological basis at different scales for park management (Appendix 5, Maps 13a-c). The vegetation types facilitate management planning, inform management prescriptions, and were used in park zonation (particularly the identification of special conservation zones), assessment of resource use potential, prioritising areas for fire management, identification and management of species of

special concern (SSC), and for assessing developments or ventures with potential negative impacts on the environment. The forest management system is directly informed by forest types.

Approximately 2,069 plant species, representing 727 genera and 185 families have been recorded for the park, including a number of listed Red Data species.

2.12.6 Fauna

2.12.6.1 Invertebrates

Freshwater aquatic invertebrates
The aquatic invertebrate fauna of the Southern Cape is unique when compared to the rest of Africa, being adapted to the cool, low nutrients, fast flowing acidic waters typical of this region. The distribution of most of these species and genera is restricted to the southern and southwestern Cape and they are considered to be endemic to that region (De Moor *et al*., 2004).

Surveys of aquatic invertebrates undertaken in in 2000 and 2004 in the Salt River in Tsitsikamma enabled identification of 16 previously undescribed species, and three new genera in the four orders of insects that were examined in detail (Plecoptera, Ephemeroptera, Trichoptera and Diptera). The Salt River also had the highest known diversity of mayfly (family Teloganodidae) for Africa. Further surveys undertaken in the larger rivers in the Tsitsikamma region between 2008 and 2010 revealed a further four undescribed genera and 33 undescribed species collectively from the Bobbejaan, Groot (West) Salt, Lottering, Bloukrans, Elandsbos, Elands, Buffels, Storms and Groot (East) rivers, with several rivers containing unique new species. The rivers across the region are characterized by high numbers of taxa, and large populations of regionally-endemic species (De Moor & Bellingan, 2010). The major threats to the conservation and health of all these rivers include reduction in flow due to water abstraction, increase in water temperature due to reduced flow volume and global warming, decline of water quality (increase in pH and nutrient loads), invasion of alien fish, sedimentation due to clear felling of plantations, land clearing and other anthropogenic developments, and possible poisoning of the rivers by pesticides and herbicides. (De Moor & Bellingan, 2010).

Estuarine aquatic invertebrates
Studies of the zooplankton of the lakes have been undertaken by Grindley & Wooldridge (1973), Grindley (1981) and Coetzee (1978; 1981a; 1983). Zooplankton communities consist primarily of estuarine species, with 45 forms recorded by Grindley & Wooldridge (1973).

The benthic macrofauna in the Knysna estuary includes approximately 310 species (Day, 1981). Aquatic invertebrate surveys in the Salt River showed that in the four orders of insects examined in detail (*Plecoptera, Ephemeroptera, Trichoptera* and *Diptera*) there were 13 undescribed species, as well as three possible new genera, and some remarkable range extension of certain species. The river also produced the richest known diversity of species in the mayfly family *Teloganodidae* for Africa (De Moor *et al.,* 2004).

Marine aquatic invertebrates
Some 28 % of the approximately 9,360 invertebrate species found along the South African coast are endemic to this subregion, with species richness tending to increase from west to east (Bustamante and Branch, 1996; Scott *et al*., 2012). Tietz and Robinson (1980) described the major marine invertebrates found on the Tsitsikamma coast. The structure of intertidal invertebrate communities is determined primarily by wave action (McQuaid & Branch, 1984; 1985). Filter feeders dominate the wave exposed shores, while herbivores reach their highest abundance on sheltered shores of the Tsitsikamma coast.

Terrestrial Invertebrates
Although insects are the most diverse group of organisms on earth (Picker *et al*., 2002) and the world's forest habitats house a high diversity of invertebrates (Geertsema, 1964; Cameron, 1982; Scholtz & Holme, 1985; Swain & Prinsloo, 1986; Van der Merwe, 2002), insect collections in the park, are not representative of the entire park's land cover and habitat types. Existing data consists largely of scattered records and species descriptions for individual taxa.

2.12.6.2 Fishes

Freshwater
According to Russell (2011) there are a few sites within national parks where freshwater fish species are not under threat due to habitat alteration or loss from changes in aquatic systems. Such sites in the park include the Palmiet River (*P. tenuis* Keurbooms–Bitou lineage) and the Groot (west) / Bobbejaan river system (*P. afer* Forest lineage) (Russell, 2011).

Russell (1999) recorded nine freshwater fish species in the Duiwe and Touw rivers within the Wilderness area. Three of the species recorded were alien. One further indigenous species, two translocated species and five estuarine species could potentially occur in these rivers (Russell, 1999). The invasion of the Wilderness lakes by four primarily freshwater fish species is described by Olds *et al*. (2011), with the most recent invasion of common carp *Cyprinus carpio*. Details on the distribution and biological characteristics of the alien mosquitofish (*Gambusia affinis*) within the Wilderness lakes is provided by Sloterdijk (2011; 2015).

Freshwater species recorded in the Knysna River include "*Barbus monodactylus*" (Note: probably *Pseudobarbus afer*) "*Sandelia* spp." (Note: probably *Sandelia capensis*) and "springer" (Note: probably *Myxus capensis*) (Le Roi Le Riche & Hey, 1947). The fresh water streams in the Tsitsikamma region are generally impoverished (Smith & Smith, 1966). Russell (2002) sampled six river systems in the Tsitsikamma area and recorded four indigenous freshwater species: Eastern Cape redfin (*Pseudobarbus afer)*, the endangered slender redfin (*Pseudobarbus tenuis)*, Cape Kurper *Sandelia capensis* and Longfin eel *Anguilla mossambica*) and one alien largemouth bass (*Micropterus salmoides)*. The River Health Programme (2007) rated the fish component of the lower portions of both the Salt - and Groot rivers as natural (excellent).

Estuarine

Records of fish in the Swartvlei system are given by Kok & Whitfield (1986) and Russell (1996a), and in the Touw system by Hall (1985a, 1985b), Hall *et al*. (1987), Russell (1996a) and Olds *et al*. (2016), demonstrating that communities are typically dominated by juvenile marine species. Hall (1985a), Russell (1996a) and Olds *et al.* (2016) found that the number of species in the Touw system declines the further removed a waterbody is from the sea.

The importance of the surf zone for estuarine associated fish species has been demonstrated by Whitfield (1989), with larvae and post larvae of 16 families identified from the surf zone off the Swartvlei estuary. The effect of prolonged closed phases on the sourcing of fishes in the Wilderness lakes was evaluated by Russell (1996a). The importance of also having a closed phase in the Wilderness Lakes estuaries to provide an ideal nursery habitat, in terms of nutrition for juvenile marine fish is emphasised by Kok & Whitfield (1986).

The Knysna seahorse (*Hippocampus capensis*), classified as endangered (Hilton-Taylor, 2000), is widespread in Swartvlei and Knysna estuaries though not abundant. More than 200 species of fish have been recorded in the Knysna estuary (Bulpin, 1978). A complete species list is given in Grindley (1976), with the more common species listed in Grindley (1985). The permanently open estuary enables free access to typical marine species, with the result that there are many records of species which do not normally occur in estuaries (Grindley, 1985).

Harrison *et al.* (1996) recorded 15 fish species in the major estuaries of the Tsitsikamma region. Three of the species were estuarine-dependent, the others were marine species, having various degrees of dependence upon estuaries during the juvenile phase of their life cycle.

Marine

A rich diversity of fish is found in the marine section of the park, with a total 202 fish species from 84 families recorded (Buxton and Smale, 1989; Burger, 1991; Wood *et al*., 2000). Fifteen of these species are listed on the IUCN red data list. The size and species composition of fish differ between shallow and deep reefs in the park (Buxton and Smale, 1989), and species diversity and richness tend to increase with depth. More recent work by Heyns-Veale (2016) confirmed a significant difference in fish assemblage composition between shallow and deep reefs, specifically juveniles and low trophic level species dominated the shallow reef, while deep reef assemblages were characterised by large, sexually mature and predatory fish.

Multiple studies have shown that in areas open to fishing (De Vasselot) there is a change in fish community with a decrease in abundance and average size of fish compared to the no-take marine protected area (Buxton, 1987; Buxton and Smale, 1989; King, 2005; Heyns-Veale *et al*.,

2019). Due to the collapse of multiple linefish species (Griffiths, 2000) the South African linefishery was declared to be in a state of emergency in 2000. Spatial closures, such as the Tsitsikamma Marine Protected Area, are a key component in fishery management and stock recovery of southern Cape Linefish species (Cowley *et al*., 2002) whilst concerns over the sustainability of the adjacent Plettenberg Bay shorebased linefishery have been expressed (Smith *et al.,* 2007; Schroeter, 2015).

2.12.6.3 Reptiles

The GRNP forms the eastern limit of a distinct zoogeographic zone, called the Cape Faunal Centre where the fauna gradually changes to include more Ethiopian elements characteristic of much of Africa. Knowledge of the reptiles of the GRNP is limited, consisting primarily of published (Whitfield et al. 1983, Jacobsen & Randall 2013) and unpublished records of occurrence of species. The park falls within one of the eight major centres of herpetofauna diversity in southern Africa (Branch, 1998) and forms part of the mountainous region, which stretches from the Cape in the south, northwards to tropical Africa. This forms a corridor along which various faunal taxa can move.

2.12.6.4 Amphibians

The park is home to 22 species, 10 genera and six families. The true species total is likely to be higher as the distribution ranges of a number of species that could possibly occur within the Park, end just short of Knysna. Ecological knowledge of the amphibians of the GRNP is limited, consisting primarily of published (Whitfield et al. 1983; Carruthers and Robinson (1977); Branch and Hanekom (1987).

2.12.6.5 Birds

The park with its combination of forest, fynbos, estuarine and marine habitats has diverse avifauna. A total of 262 bird species have been recorded in the former WNP (Randall *et al.,* 2007) and 257 in the former TNP (Skead & Liversidge, 1967; Crawford, 1983; Hanekom & McIlleron, pers. comm.). These comprehensive park accounts, together with avifaunal studies in the former State Forests, reveal that about 305 bird species have been recorded in what now comprises the park.
Species of special concern include representatives of most of the major habitat types in the GRNP: marine (Cape cormorant *Phalacrocorax capensis,* crowned cormorant *P. coronatus* & African black oystercatcher *Haematopus moquini),* wetlands (African marsh harrier *Circus ranivorus,* African finfoot *Podica senegalensis,* halfcollared kingfisher *Alcedo semitorquata* & African grass-owl *Tyto capensis),* forest (Knysna warbler *Bradypterus sylvaticus,* Knysna woodpecker *Campethera notata* & crowned eagle *Stephanoaetus coronatus)* and general (peregrine falcon *Falco peregrinus*).

The wetlands of the Touw and Swartvlei systems support one of South Africa's most significant water bird assemblages, which was the prime motivation for the listing of parts of the Touw system as a Ramsar wetland. About 110 bird species, over 35% of all species in the park, are dependent upon, or primarily associated with wetlands. Rondevlei and Langvlei support the most diverse and abundant water bird communities (Boshoff & Piper, 1992), with surveys on Langvlei indicating that at times water bird numbers can exceed 7,000 individuals comprising 65 species (Boshoff & Palmer, 1981). This abundance of water birds, and in particular *Anatidae* (ducks and geese), which on Langvlei alone at times exceeds 2,000 individuals of nine species, represents the largest concentration of species and individuals along the southern and eastern Cape coasts (Underhill *et al*., 1980).

Important Bird and Biodiversity Areas (IBAs) constitute a global network of over 13,500 sites, of which more than 100 sites are found in South Africa. IBAs are sites of global significance for bird conservation, identified nationally through multi-stakeholder processes using globally standardized, quantitative criteria. Three national IBAs occur either wholly or in part in the park namely (1) Tsitsikamma-Plettenberg Bay, encompassing the costal portions of the Tsitsikamma section, (2) Outeniqua Mountains, encompassing this mountain range from Mossel Bay to Knysna, and (3) Wilderness-Sedgefield Lakes Complex, encompassing the Wilderness lakes, Swartvlei, Groenvlei and Goukamma reserve.

2.12.6.6 Mammals

Various species checklists (Robinson, 1976; Pretorius *et al*., 1980; Crawford, 1982; Whitfield *et al*., 1983; Hanekom *et al*., 1987) and distribution patterns (Von Breytenbach, 1974; Grindley, 1985) have been determined for mammals over the years in the park. These findings show that 87 species of mammals comprising fourteen orders and 32 families occur within the park, of which 18 species (21 %) are restricted to the marine ecosystem. Sixty-nine species (79 %) have been formally recorded. From these species lists, it is calculated that, of the 290 mammal species that occur in South Africa (Lloyd, 2007), 30 % are present in the park. Only 52 % of the species occurring in the Western Cape are found in the park.

Species that probably occurred in the GRNP historically, but are now locally extinct include Lion *Panthera leo*, Black rhinoceros *Diceros bicornis*, Hippopotamus *Hippopotamus amphibius*, Buffalo *Syncerus caffer*, Eland *Taurotragus* oryx, Red hartebeest *Alcelaphus buselaphus* and Cape mountain zebra *Equus zebra zebra* (Lloyd, 2002; Skead, 2011).

Even though the Western Cape's forest and fynbos environments do not exhibit high levels of mammalian biodiversity, there are a few mammalian species and subspecies that are nearly endemic to the forests (Lloyd, 2002). The blue duiker *Philantomba monticola* and the bushpig *Potamochoerus porcus* are species whose major strongholds are within the forests but both species are also found in adjacent thicket or coastal scrub environments (Lloyd, 2002).

According to the IUCN (2001) categories that were used to evaluate the threat status of the South African mammals (Friedmann & Daly, 2004), the park protects populations of twenty-eight red data book species. In the Threatened categories, 7.1% of the Parks mammals are listed as Endangered (EN) and 14% as Vulnerable (VU).

The population sizes and local conservation status of most of the mammal species are largely unknown however detailed studies of some species have been done. This includes work on blue duiker, bushbuck, bushpig, honey badger, African clawless otter, Cape grey mongoose, small-spotted genet, leopard, caracal and elephant. The Knysna elephant and its chances for survival have been a topic of concern and debate for over a century. Based on an estimated 3,000 elephants that may have roamed the Cape Floristic Region in pre-colonial times (Kerley *et al*., 2003), it is assumed that about 1,000 elephants occupied the Outeniqua-Tsitsikamma area (Boshoff *et al*., 2002). Research on the elephant population status was undertaken in 2016 and 2017 with one elephant cow being photographed using camara traps more than 140 times, across the entire elephant range.

The GRNP is predominantly made up of open access areas, which by its very design leads to potential for human wildlife conflicts. Most common perpetrators include monkeys, caracal, baboons, bushpigs and porcupines. Baboons and vervet monkeys often frequent rest camps and picnic sites in the park. They are primarily attracted by food and refuse bins. On occasions these animals do lose their fear of humans, resulting in "food grabbing" and raiding of chalets and tents. Park staff have embarked on a programme to raise awareness levels among park visitors about the problems experienced in these conflict areas. The park is also modifying all refuse bins so that they are animal proof.

With regards to marine mammals, three species of seal have been recorded along the beaches of the park with a large breeding colony of cape fur seal being found outside the boundary of the park on Robberg peninsular. A wide variety of dolphins and whales have been recorded on the south coast, but many are seasonal visitors. The Endangered Indian humpback dolphin *Sousa plumbea* forms small schools (c. 7 individuals), feed on inshore reef fish and invertebrates and remained in the area throughout the year (Saayman *et al*., 1972). More recent research has indicates that although long term site fidelity for this species is evident dolphins ranging along the south coast seem to form one single population at the western end of the species distribution (Vermeulen et al. 2017). Social organisation research along the southern Cape coastline has highlighted four distinctive social clusters with strong atypical social bonds probably resulting from behavioural responses following a decline in group size and abundance (Bouveroux *et al*., 2019). Further offshore the Vulnerable Indian Ocean bottlenose dolphin *Tursiops aduncus* swims in intermediate size schools (c. 60 individuals). It is abundant during spring and summer, while pelagic dolphins, *Delphinus capensis (delphis)* and *Stenella coeruleoalba*, are found in large schools (>100 individuals) far offshore (Saayman *et al*., 1972). The more common whale species found off the Tsitsikamma – Plettenberg Bay coast are the southern right whale *Eubalaena australis*, Near-threatened humpback whale *Megaptera novaeangliae* and Vulnerable Bryde's whale *Balaenoptera edeni*. Southern right whales' numbers off the Tsitsikamma coast are low compared to that of the south-western Cape (Best, 2000). Humpback whales visit the Tsitsikamma area from June to November during their migration to feeding grounds in the

Antarctic. Although resident throughout the year sightings of Bryde's whales in the Plettenberg Bay area are highest in summer and autumn (Penry *et al*., 2011). Two eco-types of this species are known to occur off South Africa, an inshore and an offshore form. However recent genetic work combined with morphological and ecological evidence from previous studies, support subspecific classification of both South African forms under *Balaenoptera brydei* as opposed to *Balaenoptera edeni* (Penry *et al*. 2018).

2.13 Cultural heritage

The GRNP incorporate more than 200 known cultural heritage sites. Research into archaeological sites such as caves, dating back to the Early Stone Age, provide evidence of the earliest people living along the Garden Route coast dating back to about one million years ago. The numerous shell middens found in caves along the coast are an indication of middle stone age diets, about 125,000 years ago, when the sea level was higher and shell fish were first included in the hominid's diet (*e.g.* Dumbleton Cave in the Ebb and Flow North rest camp in Wilderness). There are many Later Stone Age sites along the current coastline that date to approximately 12,000 years ago, when the ancestors of Khoisan lived along the Garden Route.

The Khoisan people inhabited the area from about 10,000 years ago. Many artefacts can be seen in the local museums and numerous rock art paintings have been found in caves throughout the region, including at Storms River Mouth. Place names along the Garden Route, such as Knysna (ferns) and Tsitsikamma (place of much water), originated from the language of the Khoekhoen who were herders who visited the coastal areas on a seasonal basis from about 2,000 years ago.

The forests of the Garden Route lay virtually untouched until the late 1700s when Dutch Settlers arrived in the Cape and explorers made their way to the Garden Route soon after. In order to supply wood to the developing country, woodcutter posts were first established at George and Plettenberg Bay and later a steam sawmill and small shipyard was established on Paarden Island, today known as Thesen's Island and home to the SANParks offices in Knysna. Storms River Mouth in Tsitsikamma was also once a busy sea harbour used to transport indigenous wood that was harvested in the region between 1868 and 1939.

Large parts of the area of the Garden Route consisted of almost impenetrable forests and impassable gorges until Thomas Bain built a series of passes through the region during the 1870s and 1880s. Bain followed, in many places, the old elephant trails that traversed centuries a way across the numerous hills and gorges centuries earlier. A good example of these extraordinary engineering marvels is the Old Storms River Pass in the Tsitsikamma, where remnants of the elephant trail are still visible in a few places.

Millwood, between Knysna and Wilderness, was the first goldfield declared in South Africa after the discovery of gold in 1878. Soon, fortune hunters from all over the world arrived at the Millwood forest in search of gold, and Millwood grew into a bustling town. One of the houses, known as Millwood House, now functions as a museum and mine tours are offered in the surrounding area.

2.14 Socio-economic context

George

George has the largest population in the Garden Route District which, according to the forecasts of the Western Cape Department of Social Development, was estimated to be 209,581 in 2017. This total is expected to reach 224,000 by 2023, representing a growth of approximately 6.9 % from the 2017 baseline estimate. The manufacturing industry (14.2 % of GDP) and commercial services like the wholesale and retail trade, catering and accommodation, real estate and business services (60.2 % of GDP) provide the most employment opportunities (George Municipality Integrated Development Plan, 2017- 2022).

Knysna

The population of the Greater Knysna Municipal Area was estimated to be 73,835 in 2016, with an average annual population growth of 1.9 % since 2007. The unemployment rate was estimated at between 24.6 % and 26.5 % during the last quarter of 2016. The finance, insurance, real estate and business sector contributed 28 % of GDP in 2015 and recorded sluggish growth of 1 % per annum over the period 2011 to 2015. The wholesale and retail sector and catering and accommodation sector contributed 18 % to local GDP, with a mere 1% growth over the past 5 years. The growth in the catering and accommodation subsector is mainly attributed to the tourism industry which has benefited from the weaker exchange rate. It is expected that the exchange rate will further depreciate due to South Africa's inflation profile, lack of investor confidence due to threats of further credit rating downgrades and sluggish growth. The tourism industry is expected to support local economic growth. The retail and accommodation industries are supported by local festivals such as the Knysna Oyster Festival and the Simola Hill Climb. It is estimated that around R120 million is spent in the greater Knysna area during the hosting of the Knysna Oyster Festival Event (Knysna Municipality Integrated Development Plan, 2017 – 2022).

Bitou

The census results of 2011 indicate that Bitou Municipality has the fourth fastest growing population in the country and the second fastest growing population in the Western Cape, with an annual growth rate of 5.4 %. The population was estimated at 49,162 in 2011. The official unemployment rate in Bitou Municipality is 31 % according to census data, which is the highest of the seven local municipalities in Garden Route district. The wholesale and retail sector employed the largest proportion of people in 2007 (20.5 %), followed by construction (17.3 %) (Bitou Local Municipality Revised Integrated Development Plan, 2016/17).

Koukamma

Koukamma Municipality is a sparsely populated region compared to the rest of the Eastern Cape Province. The population of Koukamma Local Municipality was estimated at approximately 43,689 in 2016 (STATS SA, 2016). The municipality is characterised by poverty, high unemployment and low levels of literacy. Settlements tend to be scattered. Despite the challenging economic environment, a considerable number of jobs were created in construction, manufacturing, agriculture and agro-processing over the last four years (approximately 20,000) (Final Integrated Development Plan of Koukamma local Municipality, 2018/19).

2.15 Tourism

The Garden Route is a well-established international brand and destination and is regarded as a paradise for eco-tourists, bird watchers and solitude seekers. The Garden Route is a popular holiday destination during summer and a tranquil hideaway during the winter months. Both seasons are equally beautiful and attractive due to the largely Mediterranean climate.

The park has well-established tourism nodes in Wilderness and Tsitsikamma. Table 2 summarises the overnight facilities available as well as the unit occupancy for previous two years. The park has developed a reputation as an adventure destination and future product development and offerings will endeavour to strengthen this image.

Table 2. Overnight facilities and unit / room occupancy figures.

Accommodation Summary as at 31 March 2019						
Camp	**Description**	**Number of**			**Category**	**Unit Occupancy (2018 / 2019 financial year – 2017 / 2018 in brackets)**
		Units	**Beds**	**Total beds / camping person capacity**		
Ebb and Flow North	Camp Sites	65	6	390	Camping	20.7% (17.1%)
	Rondavel (no facilities)	5	2	10	Budget	31.7% (26.8%)
	Rondavel (with facilities)	10	2	20	Economy	53.8% (54.5%)
Ebb and Flow South	Camp Sites	79	6	474	Camping	24.7% (20.4%)
	Forest Cabin	10	2	20	Economy	49.7% (48.3%)
		10	4	40		46.3% (62.3%)
	Log Cabin	9	4	36	Economy	48.1% (51.3%)
	Family Cottage	5	4	20	Economy	58.8% (49.7%)

Camp	Description	Number of			Category	Unit Occupancy (2018 / 2019 financial year – 2017 / 2018 in brackets)
		Units	Beds	Total beds / camping person capacity		
Nature's Valley	Camp Sites	65	6	390	Camping	13.3% (17.3%)
	Forest Huts	10	2	20	Budget	38.0% (35.3%)
	Chalets	2	2	4	Economy	55.1% (59.3%)
Storms River Mouth	Camp Sites	112	6	672	Camping	25.7% (27.2%)
	Forest Huts (no facilities)	8	2	16	Budget	37.9% (49.3%)
	Forest Huts (with facilities)	12	2	24	Economy	64.2% (74.1%)
	Forest Cabins	6	2	12	Economy	73.9% (82.2%)
	Chalets	3	2	6	Economy	
		12	3	36		
		5	4	20		
	Cottages	5	2	10	Economy	78.9% (82.3%)
	Oceanettes	15	2	30	Economy	46.8% (66.4%)
		2	4	8		
	Family Cottages	15	4	60	Economy	65.6% (48.6%)
	Guest Cottages	2	8	16	Premium	
Total inventory	Units Acc.	160	Beds	456		
	Camp Sites	327	Persons	1950		
Overall occupancy		Accommodation				54.1% (62.3%)
		Camping				22.2% (23.8%)

During the 2018/19 financial year, the park achieved a unit occupancy of 54.1 % which is significantly lower than SANParks average of 72.5 %. Campsite occupancy achieved was 22.2 %. Activities showed a growth of 1.2 % from the previous year, with a total of 15,470 activities sold. There was a total of 490,992 visitors in 2018/19, of whom 414,996 were day and 75,996 overnight visitors. Of these, 50.37 % were international visitors, 2.38 % from SADC countries and 47.25 % local. Of the South African visitors most originate from Western Cape, Eastern Cape and Gauteng, and only 16.41 % South African visitors were black. Of the 247,301 international visitors, most were from Germany, The Netherlands and the United Kingdom.

Section 3: Policy framework

3.1 Introduction

SANParks, like all protected area management authorities, is subject to the Constitution, international agreements, legislation, national policies and government priorities. Section 41 of the NEM: PAA requires that management plans be nested within the context of a Co-ordinated Policy Framework (CPF). The CPF can be downloaded from the SANParks website using the following link http://www.sanparks.org/conservation/park_man/.

The CPF provides the organisational guidance required by the DEA guideline for management plans (Cowan & Mpongoma, 2010). This document will summarise the institutional, ecological, economic and social environment for park management and includes:

- 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;
- 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; and
- Policies and guiding principles:
    - Finances and commercialisation;
    - Responsible tourism;
    - Zoning system in parks;
    - Stakeholder relationships;
    - Management to maintain biodiversity and ecosystem processes;
    - Risk management;
    - Safety and security;
    - Cultural heritage resources;
    - Resource use; and
    - Research.

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. As such, this policy framework is available to stakeholders.

The relationship between the park-specific adaptive management planning cycles and the SANParks CPF is outlined in Figure 1, where the planning cycle for management plans in SANParks is 10 years. The programmes and costing could be revised at shorter time intervals, as required.

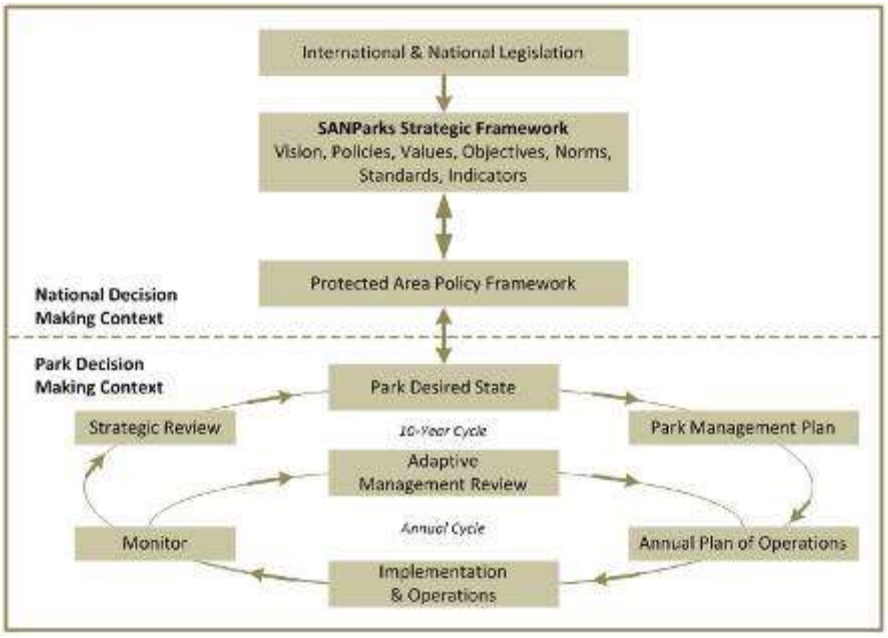

Figure 1. SANParks protected area planning framework.

3.2 Strategic adaptive management

Protected areas are increasingly viewed as complex social-ecological systems. The social-ecological coupling acknowledges multiple interactions that take place between people and natural landscapes – even fenced-off protected areas are influenced by external social issues. These systems are regarded as complex because the results of interactions between the social and ecological components, as well as between components within each of these sub-systems, are often unpredictable. A further challenge in the management of protected areas is that the suite of stakeholders may have widely varying or even conflicting expectations, based on different worldviews and values. Under these conditions of divergent stakeholder interests and limited predictability, it might be impossible to agree on an optimal approach and similarly it may be unrealistic to expect certainty in terms of management outcomes. Strategic Adaptive Management (SAM) has emerged as the SANParks approach of choice to deal with the complexity and multi-stakeholder tensions that characterise park management decisions (Figure 2). SAM is designed to be strategic (facilitate action with foresight and purpose), adaptive (facilitate learning whilst we are doing) and participatory (facilitate engagement and co-learning with stakeholders) (Grant *et al*., 2008).

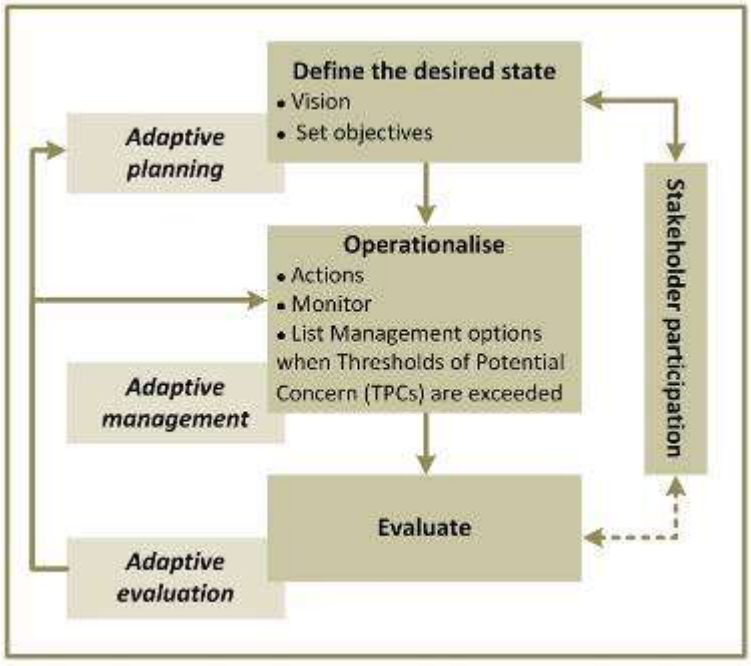

Figure 2. Steps in the adaptive management cycle as used by SANParks.

SAM begins with determining the desired future state of a particular social-ecological system (Figure 3). The aim of this step is to build a sense of common purpose among all relevant stakeholders and to develop a collective roadmap for moving from a current reality to a more desirable social-ecological system. This desired state or vision needs to be described within the context of associated stakeholders and their respective values, as well as social, technological, environmental, economic and political (V-STEEP) influences. Description of the future state is further enriched by deliberating the distinctive and special features (called vital attributes) of the park.

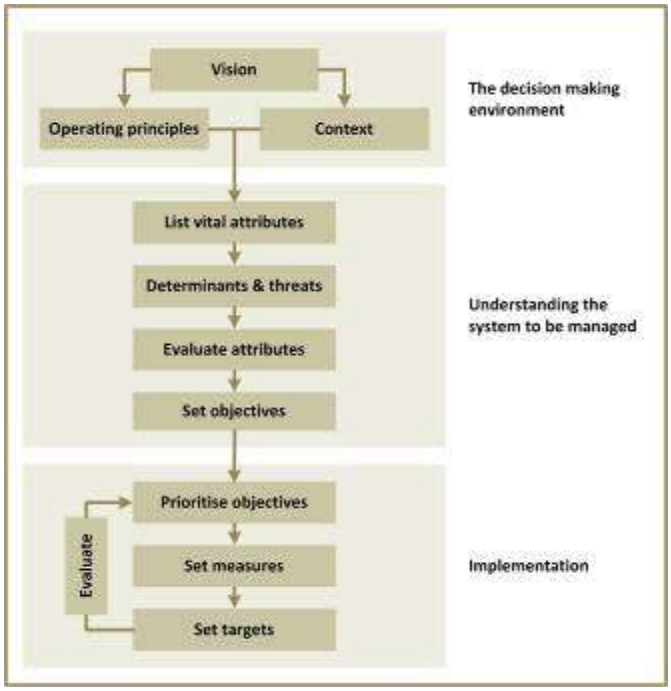

Figure 3. The adaptive planning process as used by SANParks.

The mission, together with the vital attributes of the system to be managed, informs the setting of objectives. A nested hierarchy of objectives starts with high-level objectives that are deconstructed into a series of lower-level objectives and, ultimately, management approaches for achieving those objectives. Alternative management options are considered by looking at resources, constraints, potential threats and risks associated with a particular management option, while anticipating likely results. From these options, the most appropriate is selected, followed by a planning stage and implementation.

A critical component of SAM is to monitor and evaluate the consequences of management decisions. Constant scrutiny of emerging results and evaluation against objectives is essential to allow strategy and methodology to be adjusted as new understanding and knowledge emerges (see section 10.9). Of critical importance is the participation and engagement of all relevant stakeholders.

3.3 Park-specific framework

All park managers (except for Kruger National Park) report to the Managing Executive: Parks through a Regional General Manager. In the case of GRNP, reporting is done via the Regional General Manager for the Frontier Cluster. The park's summarised organogram (Figure 4) sets out the reporting structure in the park.

3.4 Park regulations and internal rules

In addition to the regulations for the proper administration of special nature reserves, national parks and world heritage sites, as gazetted on 28 October 2005 in GG 28181, the park has also drafted applicable internal rules in terms of Section 52 of the NEM: PAA, (Appendix 4).

3.5 Support to the park

Park management is primarily supported by head office, providing human resource, financial, marketing, review and auditing services. The regional operations office assists the park with line management support. The park also receives support from cross cutting functions such as park planning and development, veterinary wildlife service, scientific services *etc.*

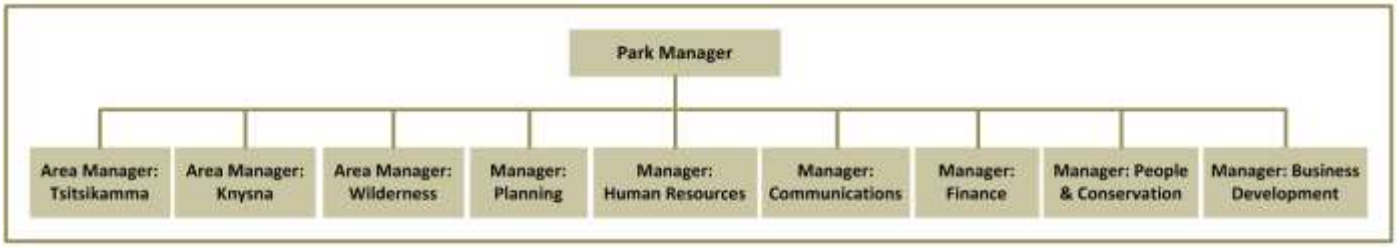

Figure 4. Garden Route National Park organogram.

Section 4: Consultation

SANParks recognises that national parks must serve societal values and that parks 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 stakeholder concerns and aspirations are consistently understood and considered (Spies & Symonds, 2011). Therefore, affected and interested stakeholders 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 aim to recognise all knowledge forms, 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 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 (i) help stakeholders express opinions and values in a structured way, (ii) to use the opinions and expressed values to formulate a vision for the park, (iii) to translate the vision into management objectives that reflect the values as expressed by stakeholders. In addition, stakeholders are invited to comment on the draft park management plan.

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 parties;
- Provide the opportunity for stakeholders to give meaningful input into the visioning 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);
- The National Environmental Management Act (Act No. 107 of 1998 (NEMA));
- The NEM: PAA (Act No 57 of 2003) as amended; and
- World Heritage Convention Act (Act No. 49 of 1999).

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

The stakeholder participation process followed during the revision process of this management plan is depicted in Figure 5 below.

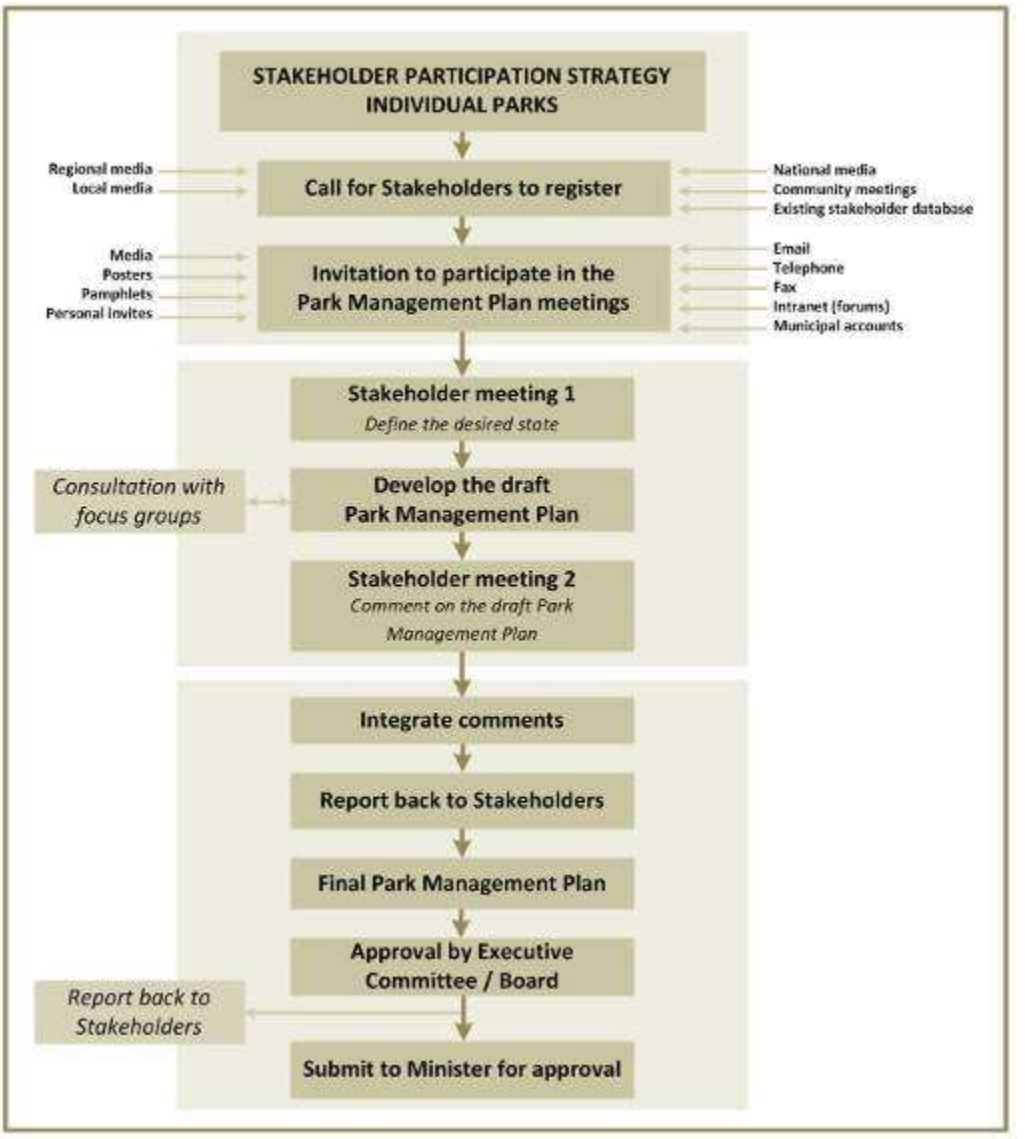

Figure 5. SANParks stakeholder participation process as applied in the GRNP management plan revision process.

Details regarding the stakeholder process that was followed are outlined in Appendix 2.

Section 5: Purpose and vision

5.1 Purpose of the park

The NEM: PAA requires that the national park be managed in accordance with the purpose for which it was declared. The original purpose of the Garden Route National Park was not officially specified, in neither the first gazetted declaration nor any subsequent addition. The park is a composite of protected areas. It incorporates the previously proclaimed Tsitsikamma National Park (TNP) and Wilderness National Park (WNP), the Knysna Protected Environment (Knysna estuary) as well as the Outeniqua and Tsitsikamma mountain catchment areas and the indigenous forest and associated fynbos areas formerly managed by Department of Agriculture, Forestry and Fisheries (DAFF). The purpose of the park is to conserve the diverse ecosystems of the Garden Route on a landscape level, including marine areas, estuaries; freshwater systems, indigenous forests and fynbos. SANParks will manage the park in accordance with its organisational vision and with the mission and objectives hierarchy that were derived from consultation with stakeholders, as set out in this section.

5.2 Desired state for the park

Reconciling the need for participatory planning and governance and enabling ongoing adaptation, the Adaptive Planning Process is an essential early component of strategic adaptive management. It is an easy and effective tool for enabling real stakeholder participation in producing an effective shared rationale or overall big picture 'desired state' for a national park. It requires expression of the various stakeholders' value systems and then builds on the shared values to consider all possible system drivers (social, technological, economic, environmental and political). The process enables stakeholders to consider opportunities to strengthen the vital attributes of the park and to counter and constrain threats to these. These opportunities are formulated as the high-level objectives of the park management plan. In this way the desired state of the park, its vision and mission, and high-level objectives are co-constructed with stakeholders. This strategic-level guidance obtained through stakeholder consultation is then unpacked into further detail and articulated as sub-objectives, either in-house or with relevant experts.

For more than a decade SANParks has been using the adaptive planning process with stakeholders. This often requires dealing with individual and / or group values, prejudices and sensitivities. Nevertheless, the process provides all participants with a space to express their own views and understand other's views. This ensures mutual understanding and commitment to both the process and the end product, namely the park management plan.

The purpose of the adaptive planning process is to source and incorporate stakeholder input into a more technical planning process. However, this purpose is situated within a broader context of forming and sustaining relationships with the public to secure mutual understanding and ongoing support and legitimacy. The desired state process reported on here, is therefore an event in an ongoing, dynamic public engagement process.

5.2.1 Vision and mission

SANParks' corporate vision for all national parks including GRNP, revised in 2019, is as follows:

SANParks' Vision

"A world class system of national parks re-connecting and inspiring society".

Complimentary to the corporate vision, the mission of a national park defines its fundamental purpose, succinctly describing why it exists and what it hopes to achieve (i.e. the collective dream). The following mission was developed after consultation and co-creation with stakeholders during a series of seven workshops held in 2018.

Mission of Garden Route National Park

An innovative and accessible national park, spanning mountains to marine, conserving the natural and cultural heritage of the Garden Route collaboratively for the benefit of people and the environment.

5.2.2 SANParks strategic plan

The SANParks Strategic Plan is focused on all aspects of management of the organisation from the core areas of the mandate to corporate governance and business operational support management. The Balanced Scorecard performance management approach has been followed to ensure consistent, effective and efficient execution of the organisational strategy and performance management regime. The strategic plan sets out the organisation's key strategic objectives necessary for the effective and efficient delivery of the organisation's mandate. Park management must ensure an integrated approach is followed regarding the implementation of the SANParks Strategic Plan and the Park Management Plan.

5.2.3 SANParks corporate vision of the desired state

Examined from the perspective of the entire system of national parks, SANParks has identified a broad vision and strategic direction for the organisation. This is intended to complement the role of parks in adding overall value to South Africa's national park system in terms of biodiversity conservation, recreational opportunities and regional socio-economic contribution.

The following strategic direction for the park has also informed the programmes of implementation (Section 10) of this management plan:

The park has high scenic value, a high overall biodiversity value as well as a rich cultural heritage. It is an important bank of marine organisms, with the Tsitsikamma MPA acting as a source for replenishment of exploited stocks. The biodiversity value of the Knysna Estuary is high. The socio-economic value is high in part due to benefits of the marine and estuarine systems to the fishing industry and local users. Tsitsikamma has a high income generation value, whilst the other areas of park have potential to grow in terms of income generation through various interventions. There is scope for diversification of tourism products. The park has the potential to set an example through the development of sustainable living practices. The biodiversity value is predicted to remain stable over the next 20 years. Although there are numerous biodiversity risks including: alien species, illegal use, diminished quantity and quality of water, fire and development threats in the buffer zone.

5.2.4 Operating principles or values

SANParks has adopted eleven corporate values that serve as guiding principles which shape and govern all employee behaviour and actions. The SANParks corporate and conservation values as outlined in the corporate policy framework are the following:

1. Show **leadership** in all we do.
2. Be guided by **environmental ethics** in all we do.
3. Promote **transformation** within, and outside of the organisation.
4. Strive for **scientific** and **service excellence** at all times.
5. Act with **professionalism** at all times.
6. Adopt, and encourage **initiative** and innovation by all.
7. Treat all our stakeholders with equity and **justice**
8. Exercise **discipline** at all times.
9. Show **respect** to all.
10. Act with **honesty** and **integrity.**
11. Strive for **transparency** and open **communication** at all times.

In addition to the above, SANParks has also adopted the following biodiversity values:

1. We adopt a **complex systems view** of the world while striving to ensure the **natural functioning** and **long-term persistence** of the **ecosystems** under our care.
2. We aim at persistent achievement of **biodiversity representivity** and **complementarity** to promote **resilience** and ensure **ecosystem integrity**.
3. We can **intervene in ecosystems responsibly and sustainably**, but we focus management on **complementing natural processes** under a **"minimum interference"** philosophy.

4. We accept with humility the **mandate of custodianship** of biodiversity **for future generations** while recognising that both natural and social systems change over time.

Garden Route National Park specific values and principles as co-defined with stakeholders:

Values are the principles we use to evaluate the consequences of actions (or inaction) and to decide on options and decisions. Values may be held by individuals, communities, organisations or even society. During the various stakeholder workshops (on 9, 10, 11, 12 April and 15, 17, 21 May 2018), values and principles for the management of the greater Garden Route, and its embedded national park, were articulated. This was either in smaller group discussions, with feedback to plenary, or directly in the plenary session itself.

The consolidated values and operating principles across the seven workshops, that stakeholders and SANParks want to see expressed and lived in the Garden Route, are:

How we act and our ethics:

1. We act with integrity, professionalism, consistency and honesty in all that we do;
2. We wish to act with kindness and mindfulness;
3. We strive to remain creative, positive and adaptable in our approaches (*e.g.* in the face of climate change, new markets, stakeholder needs and technology), employing fact-based decision-making and innovation based on scientific principles;
4. We aim to maintain continuity in a highly competent, skilled and professional human capacity, ensuring staff well-being; and
5. We aim to achieve accountability and good corporate governance through discipline and leadership.

How we engage and deal with each other:

6. We aim for transparency, including commitment to and ongoing communication with all stakeholders;
7. We strive for equality (recognising and valuing the voice of all communities), fairness, respect and humility (between people and people, and people and the environment);
8. We strive for inclusivity, accessibility (including fair access to opportunities, affordability), approachability for all people, user groups, ages, families and the disabled;
9. We maintain open-mindedness, a willingness to listen to others, and mutual respect during our interactions, fostering collaboration, toleration and understanding of others' challenges; and
10. We are committed to and strive for responsive, professional and personalised engagement and two-way communication with all stakeholder groups.

Governance and management:

11. We have a sense of pride, custodianship, shared ownership and responsibility (recognising the efforts of others to protect and conserve and seeing residents as stewards), with a sense of interdependence (what can each contribute rather than just what each can get out of it; a privilege not just a responsibility) and strive for integration, collaboration, co-operation and coherence across landownership and authorities' boundaries;
12. We aim to navigate divergent expectations, balancing people and nature objectives together across the broader landscape, across institutional boundaries and interest groups, through co-operative, integrated and sensitive management of trade-offs, recognising the environment and its biodiversity as a key asset;

13. We value the uniqueness (including fragmentation and, in places, open access) and embrace the unique juxtaposition of the park in the human landscape, striving to integrate sustainable / resilient living; connectedness with nature; residents as stewards and; transformative change to reflect this;
14. We recognise the complexity of the region, uncertainty, reality of trade-offs and the need for holistic and systems thinking approaches; and
15. We strive for a learning and knowledge-sharing orientation: generation of awareness around the park and what it represents ('like hallowed ground'); decision-making is informed by reliable information (good learning and research principles); community communication and inclusion in environmental education and / or training opportunities, and a broad education focus (the youth).

Sustainable outcomes:

16. We seek to sustain the park's high heritage value (in its broadest sense from archaeological, to cultural and natural) for all South Africans and future generations;
17. We view the park as contributing to regional socio-economic well-being, together striving for ecological and financial sustainability, requiring wise use of income, responsible and sustainable tourism, and leadership in good environmental practice; and
18. We strive for congruence between values and actions and continuity of values throughout implementation, i.e. to really strive to live the values.

5.2.5 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. During the workshops, stakeholders were asked to reflect on current and emerging context in the Garden Route that is considered important to the development of the park management plan. All 5 STEEP categories were considered, namely social, technological, environmental, economic and political.

5.2.6 Vital attributes

The vital attributes of the park are the important characteristics and/or properties of the park that describe the key features of the park, or "what makes the park special?". Vital attributes are in turn informed or strengthened by determinants and offset by constraints and / or threats. This information helps focus the exact formulation of park objectives, which must strengthen positive determinants and reduce or mitigate threats, so that objectives are appropriate to the uniqueness and special nature of this national park. In this way, the Management Plan is customised in its fullest local extent, without detracting from some of its more generic functions.

At each stakeholder meeting, a list of consolidated vital attributes was derived from answers of stakeholders to the "what makes the area and park special?" question. From this, an overall consolidated list of ten vital attributes was compiled:

1. Diverse, interconnected ecosystems of both local and international importance;
2. A park embedded in a multifaceted area interspersed with diverse land uses, enabling a diversity of economic opportunities;
3. Scenic landscapes, from mountains to coast;
4. Largely open, easily accessible and unfenced park;
5. Rich and diverse cultural heritage and history;
6. Diverse and unique ecotourism / adventure offerings, activities and experiences that are a defining characteristic of the region, linked to conservation and natural heritage, as a key driver of the local and regional economy and recognised as an international brand;
7. Temperate climate conducive to enjoyment of the area;
8. Well established local and regional infrastructure enabling easy access;
9. Strong sense of place / space and belonging; and
10. Diverse and enthusiastic stakeholder groups in support of the park.

5.2.7 Determinants and risks to the vital attributes

A major component of 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. Stakeholders were asked to identify determinants (what makes them possible or supports them) and threats for each vital attribute. In conjunction with an internal follow-up meeting, the boxes below provide a consolidated summary of the determinants or "drivers" of the vital attributes and associated risks or threats to the attributes:

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

1. Diverse, interconnected ecosystems of both local and international importance.	
Determinants: Geology and topography, climate, endemic and endangered species, high abundance of water birds, local marine currents, rugged and isolated coastline, all five estuarine types represented, high national conservation priority of estuaries, incorporation of (virtually) entire catchments and free-flowing rivers, Gondwanaland relic aquatic invertebrates, largest continuous indigenous forest area in the country, long history of conservation of forest, oldest Marine Protected Area (MPA) in country, relatively large protected area with diverse habitat types.	
Threats	
• Alien species invasions, particularly plants, fish and invertebrates (in the marine environment) • Climate change (water level changes, increased storm surges, changes in pH, temperature and rainfall patterns, shift of ecosystems, increased erosion and floods, *etc.*) • Uncontrolled fires • Lack of implementation of appropriate fire plan • Stakeholder fear and lack of understanding of fire • Mining priority on national agenda • Global trend in species vulnerability and change • Flow reductions in aquatic systems • Artificial breaching of estuaries • Global impacts on migratory species	• Lack of use of green technology by SANParks (as a leader in conservation) • Lack of proper waste management • Inappropriate development in the buffer zone, boundary effects and loss of ecosystem services • Commercial forestry impact on alien invasive plants and flow reduction • Water pollution (point and diffuse sources) • Light and noise pollution • Inadequate law enforcement • Growing population and demand for resources • Increased human-wildlife conflict and unauthorised resource use • Understanding of sustainability of resources • Lack of co-operation with landowners in the buffer zone to ensure landscape continuity and corridors

2. A park embedded in a multifaceted area interspersed with diverse land uses, enabling a diversity of economic opportunities.	
Determinants: History (*e.g.* timber); diversity of land forms (forest, mountains, lakes); diversity of land uses enabling economic resilience; proximity to sea (more livelihood opportunities); ecological corridors; opportunistic park expansion; significant number of non-resident land owners.	
Threats	
• Global economic trends might affect key land uses *e.g.* dairy farming, international tourism • Landscape homogenisation, e.g. all plantation • High edge effect (boundary effects) impacts on biodiversity conservation	• Potential conflict associated with political differences across administrative boundaries • Breakdown in relationships • Conflicting (versus coherent) policy / legislation • Pollution *e.g.* estuary

3. Scenic landscapes, from mountains to coast.	
Determinants: Natural topography; steep altitudinal gradient; diversity along a "compressed" strip of land; many water features; deep gorges; rural or low-density landscape; relatively un-industrialised; mountain range and forests give impression of wilderness; climate results in all-year green appearance; mystic feel of the forest; scenic and dramatic viewsheds, steep rocky shoreline interspersed with open beaches.	
Threats	
• Inappropriate development • Further landscape fragmentation • Alien plants • Visual clutter incl. light pollution • Influx of people – population increase • Litter, illegal dumping and ineffective waste management	• Industrialisation – land and sea (e.g. offshore oil and gas explorations) • Clear-felling of plantations (scars in the landscape) • Natural disturbances such as fires • Built infrastructure e.g. power lines, road network (including forestry)

4. Largely open, easily accessible and unfenced park.	
Determinants: No dangerous animals limiting (out-of-car) experiences; malaria-free area, rural atmosphere, tranquillity, mystique, appealing lifestyle, residents feel they live within the park, relatively safe with of the lowest crime statistics in SA, fragmented park with urban interface, well-developed and established infrastructure (e.g. roads, airports), easily accessible facilities.	
Threats	
• Visitor non-compliance with rules • Poaching • Deterioration of infrastructure • Fragmentation of park affects accessibility as well as animal movement between sections of the park • Highway through the park channels tourists, reducing exposure to park's more remote areas • Communities economically excluded from park	• Inadequately funded mandate (must rely on tourism to generate income, reducing free offerings) • Poor marketing and communication efforts • Encroachment into the park by surrounding landowners (who then exclude access) • Deteriorating safety and security • High unemployment rate leading to increase in crime in surrounding areas and increased dependence on resources in park • Restrictive or inappropriate zonation

5. Rich and diverse cultural heritage and history.	
Determinants: History, strong sense of belonging, support / tolerance for diversity.	
Threats	
• Lack of appreciation of the past / history • Lack of documentation • Lack of communication, interpretation and access to information • Urbanisation and loss of inter-generational knowledge transfer • Commercialisation replacing traditional practices	• Lack of tolerance / respect for diversity • Globalisation / westernisation impacts on unique identities • Lack of access to continue cultural practices • Misrepresentation of history, including bias and power inequalities • Loss of institutional and public memory

6. Diverse and unique ecotourism / adventure offerings, activities and experiences that are a defining characteristic of the region, linked to conservation and natural heritage, as a key driver of the local and regional economy and recognised as an international brand.	
Determinants: Part of established tourism route (e.g. passes), malaria-free area, diversity of ecological infrastructure, diversity of ecosystems and landscapes, Garden Route brand, diversity of cultural heritage and history, urban-park interface creates diverse facilities and experiences in the region, multi-cultural society in region, mild climate.	
Threats	
• Deteriorating safety & security • Poor marketing efforts • Deterioration of infrastructure • One of the fastest growing areas in the country, influx of people, putting pressure on infrastructure & resources and sense of tranquillity • Poor visitor management	• Lack of integration with neighbouring dependent tourism businesses • Inadequate funding for maintenance of infrastructure and new product development • Technological environment which leads to fake news and experiences • Inappropriate zonation of the park and lack of adherence to zonation scheme

7. Temperate climate conducive to enjoyment of the area.	
Determinants: Mild weather conditions, the ocean, altitudinal gradient of the park, water temperature of the aquatic systems, vegetation types (micro-climates).	
Threats	
• Climate change including increase in extreme weather events (storm surges, increased wind), and changes in sea temperature (increased upwelling events)	• Land use changes affecting micro climates • Changing sea temperatures

8. Well established local and regional infrastructure enabling easy access.	
Determinants: Regional and local airports, well maintained road network, port of entry, good telecommunication connectivity (cell coverage), variety of accommodation establishments, diversity of leisure offerings.	
Threats	
• Lack of signage • Stressed international and national economy • Lack of technical capacity in parks. • Barriers to experimentation and implementation of green infrastructure.	• Degrading infrastructure (incl. SANParks) • Lack of co-operative governance • Lack of budget for SANParks infrastructure.

9. Strong sense of place / space and belonging.	
Determinants: Largely open system, scenic, proximity of settlements to the park, viewsheds, some remoteness, mystique; allows dispersal of visitors so that the experience is mostly low density in certain areas, providing opportunities for solitude, historical / sentimental association of the inhabitants / visitors with the park, zonation to enhance visitor / user experience.	
Threats	
• Inappropriate development • Invasive alien vegetation • Natural disasters • Pollution • Limited local access due to unaffordability • Changing expectations and desires of visitors	• Exceeding tourism carrying capacity • Influx of human inhabitants and increase of settlements • Lack of interpretation / information • Incompatible activities of the different user groups • Degrading infrastructure

10. Diverse and enthusiastic stakeholder groups in support of the park.	
Determinants: People sharing in a common interest, large number of professionals willing to share their expertise, volunteer groups; number of active environmental non-governmental organisations (NGOs), number of park dependant businesses.	
Threats	
• Strained relationships • Poor communication • High level of poverty and unemployment	• Lack of youth involvement • Poor public perceptions of SANParks – professional conduct in public

5.2.8 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 (Figure 6), starting with the park's mission statement, then broad, high-level objectives (this Section) and then to more detailed levels, 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:

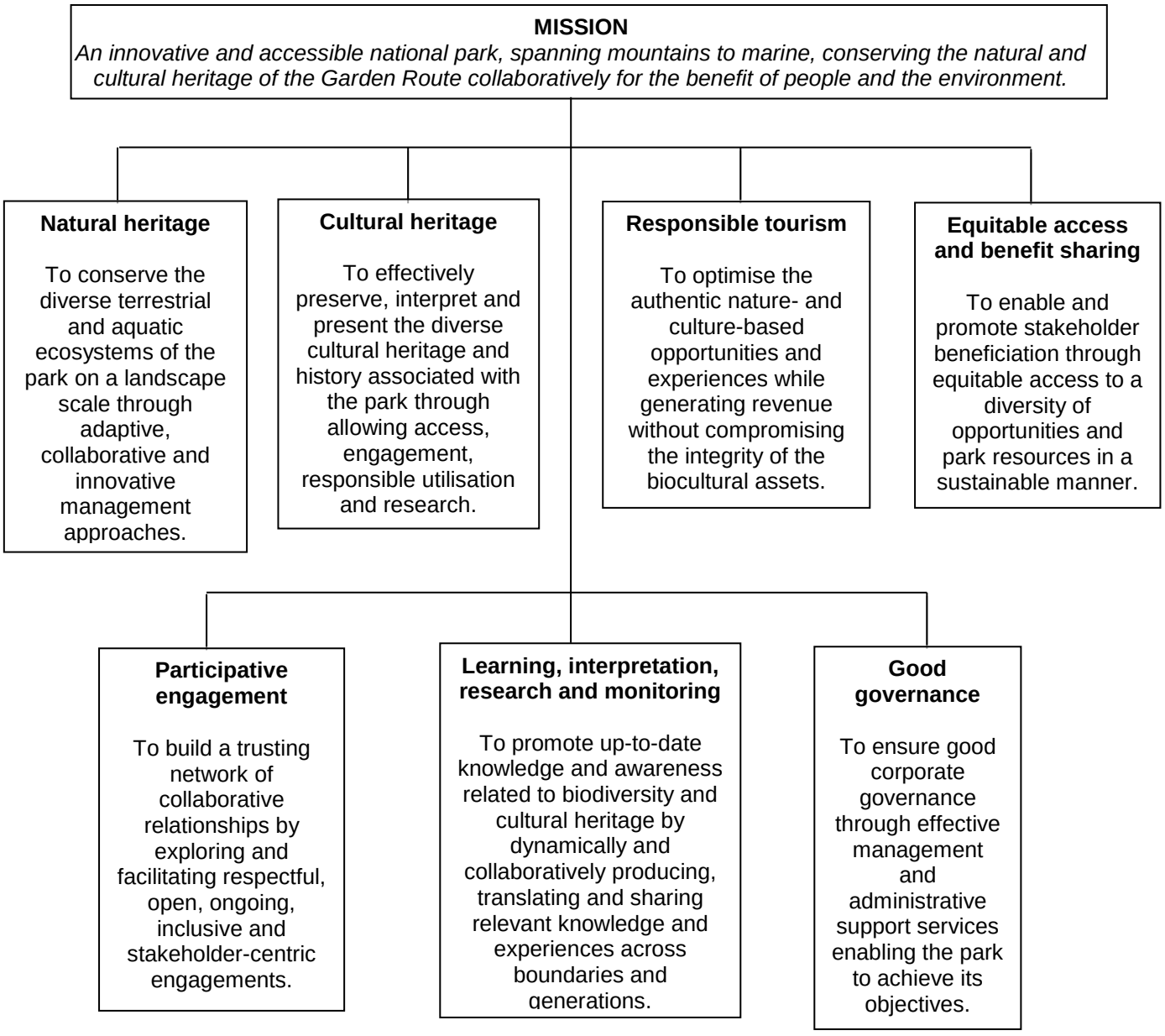

Figure 6. Park high-level objectives.

5.2.9 Unpacking the high-level objectives

The high-level objectives listed above are progressively disaggregated through a series of sub-objectives of increasing focus. These are set out in Figures 7 – 12 below.

1. Natural heritage high-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the park on a landscape scale through adaptive, collaborative and innovative management approaches.

- **1.1 Integrated fire management objective:** To maintain and / or simulate natural patterns and processes through the implementation of appropriate fire regimes by applying integrated fire management practices.
- **1.2 Alien invasive species objective:** To control and eliminate, alien biota to maintain and/or facilitate the re-establishment of natural biodiversity.
- **1.3 Aquatic ecosystem management objective:** To maintain functionality and diversity of freshwater, estuarine and marine ecosystems by minimising impacts on natural processes and by appropriately responding to change.
- **1.4 Terrestrial ecosystem management objective:** To maintain functionality and diversity of terrestrial ecosystems by minimizing impacts on natural processes and appropriately responding to change.
- **1.5 Landscape functionality objective:** To promote landscape connectivity associated with the park and maintain the park's environmental integrity through various collaborative interventions.

Figure 7. Natural heritage high-level objective and supporting objectives.

2. Cultural heritage high-level objective: To effectively preserve, interpret and present the diverse cultural heritage and history associated with the park through allowing access, engagement, responsible utilisation and research.

- **2.1 Heritage site accessibility objective:** To provide access to people to their heritage sites and facilitate sensitive and appropriate use of sites for tourism.
- **2.2 Site management objective:** To identify and effectively manage cultural heritage sites by developing and implementing a cultural heritage management plan for the park.
- **2.3 Collection management objective:** To effectively manage the park's heritage objects through identification, documentation, preservation, conservation, protection and appropriate presentation.
- **2.4 Intangible heritage objective:** To preserve intangible heritage through identification, documentation, presentation and enabling access for cultural practices.
- **2.5 Research objective:** To improve and diversify the cultural heritage knowledge of the park through quality and inclusive research partnerships with communities, universities and researchers**.**

Figure 8. Cultural heritage high-level objective and supporting objectives.

3. Responsible tourism high-level objective: To optimise the authentic nature- and culture-based opportunities and experiences while generating revenue without compromising the integrity of the bio-cultural assets.

- **3.1 Responsible Tourism performance objective:** To establish, maintain and continuously improve the park's responsible tourism performance, by implementing SANS1162 and meeting minimum requirements.
- **3.2 Visitor experiences objective:** To continually enhance the authentic visitor experience within the park, by effective visitor management, interpretation and quality of facilities offered.
- **3.3 Service excellence objective:** To provide excellent service to customers at all times by innovative approaches and enhancing staff motivation and competency.
- **3.4 Grow tourism revenue objective:** To sustainably grow income through tourism by optimising the range of authentic nature- and culture-based opportunities and experiences, products and services.
- **3.5 Diversified access objective:** To appeal to and attract a broader market by understanding changing visitor needs, expectations or preferences and adapting tourism operations.
- **3.6 Marketing objective:** To contribute to multi-level marketing efforts promoting the park's opportunities by developing and implementing a variety of sales, marketing and communication initiatives.
- **3.7 Universal access objective:** To enable appropriate access for differently abled visitors by providing adequate infrastructure and services, and access to experiences.
- **3.8 Mitigating impacts objective:** To minimise the impact of tourism infrastructure and activities, and balance various visitor expectations and demands across stakeholder groups by applying appropriate zonation and visitor management tools.

Figure 9. Responsible tourism high-level objective and supporting objectives.

4. Equitable access and benefit sharing high-level objective: To enable and promote stakeholder beneficiation through equitable access to a diversity of opportunities and park resources in a sustainable manner.

- **4.1 Consumptive resource use objective:** To accommodate user needs by providing access to specific resources for sustainable and adaptive utilisation, recognising complexities, trade-offs and uncertainties.
- **4.2 Ecosystem services objective:** To generate awareness of the benefits to society gained from a range of ecosystem services emanating from the park, through promoting meaningful nature experiences, fostering explicit connections to the range of services and implementing innovative and collaborative projects.
- **4.3 Engaged environmental awareness, education and capacity development objective:** To share appreciation, promote environmental education (especially for the youth) and improve awareness of the value of the park to local communities by creatively designed, group-specific and innovatively implemented outreach activities and awareness programmes offering meaningful nature experiences**.**
- **4.4 Equitable access objective:** To improve community access by exploring the range of accessibility opportunities for economically excluded local communities.
- **4.5 Local economic development objective:** To enhance local economic development by developing and enabling local SMME's to benefit from park-based opportunities.

Figure 10. Equitable access and benefit sharing high-level objective and supporting objectives.

5. Participative engagement high-level objective: To build a trusting network of collaborative relationships by exploring and facilitating respectful, open, ongoing, inclusive and stakeholder-centric engagements.

- **5.1 Communication objective:** To effectively share and communicate SANParks messages through the use of multiple platforms (*e.g.* printed and social media).
- **5.2 Stakeholder and public engagement objective:** To maintain and enhance relationships with specific interest groups by contributing to public discussions, dialogue sessions, giving regular feedback, and participation in existing forums.

Figure 11. Participative engagement high-level objective and supporting objectives.

6. Learning, interpretation and research and monitoring high-level objective: To promote up-to-date knowledge and awareness related to biodiversity and cultural heritage by dynamically and collaboratively producing, translating and sharing relevant knowledge and experiences across boundaries and generations**.**

- **6.1 Research objective:** To constantly update knowledge by enabling and encouraging a diverse range of relevant internal and external research of a high standard across habitats, species and research disciplines, promoting both multi and transdisciplinary research work with an emphasis on collaboration.
- **6.2 Monitoring objective:** To allow adaptive management and reflective learning through maintaining key monitoring programmes (both biophysical and cultural/social).
- **6.3 Mutual learning objective:** To promote collective understanding about natural and cultural assets through facilitating targeted mutual learning events.

Figure 12. Learning, interpretation and research and monitoring high-level objective and supporting objectives.

7. Good governance and effective park management high-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.

- **7.1 Environmental management objective:** To strive for best practise and ensure compliance with environmental legislation through improved governance and environmental risk management.
- **7.2 Risk management objective:** To establish and maintain effective, efficient and transparent risk management systems by creating an enabling environment for the management of risk.
- **7.3 Financial management and administration objective:** To ensure sound financial management and administration through proficient budget management, effective internal controls and compliance to corporate governance prescripts.
- **7.4 Human capital development objective:** To ensure sufficient and effective staff capacity to achieve management objectives by adhering to legislation, corporate human resource policies and guidelines.
- **7.5 Information and records management objective:** To achieve best practice in the field of information and records management by complying with the Records Management Legislative framework and policies, thereby ensuring care of all vital records in SANParks.
- **7.6 Infrastructure objective:** To maintain, upgrade and develop new park infrastructure through proper planning and efficient management.
- **7.7 Safety and security objective:** To provide a safe and secure environment for both visitors and SANParks employees and to ensure that the integrity of the natural and cultural resources and assets are secured.
- **7.8 Safety health, environment and quality objective:** To continuously reduce the disabling injury frequency rate through the implementation of an efficient and effective Occupational Health and Safety management system.
- **7.9 Climate change objective:** To respond adaptively, and where appropriate innovatively, in managing the bio-cultural assets and tourism infrastructure and operations in the park by recognising and better understanding the impacts of climate change effects.

Figure 13. Good governance high-level objective and supporting objectives.

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Section 6: Zoning

6.1 Introduction

The primary objective of a park zonation plan is to establish a coherent spatial framework in and around a park to guide and co-ordinate conservation, tourism and visitor experience initiatives, and minimise conflict between these sometimes, differing activities. A zoning plan is also a legislated requirement of the National Environmental Management: Protected Areas Act No 57 of 2003 (NEM: PAA), 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 park and the conservation objectives of those sections".

The zoning of the Garden Route National Park (GRNP) was based on an analysis and mapping of the sensitivity and value of the park's biophysical, heritage and scenic resources (SANParks, 2005a), 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 the park objectives. The zoning for the Garden Route National Park needs to be seen in the context of the ongoing consolidation process of this park. This was undertaken in an iterative and consultative process. This section, which is guided by the Conservation Development Framework (CDF) planning manual (SANParks, 2005b), sets out the rationale for use zones, describes the zones and provides management guidelines for each of the zones. The use zoning of the park is shown in Appendix 5, Maps 4a-c and 5a-c, and summarised in Table 3 below.

6.2 Synopsis of updates to the 2012 zonation

In general, very few changes were required to the previous zonation scheme. The five "use zone" classification categories (1) remote, (2) primitive, (3) quiet, (4) low intensity leisure and (5) high intensity leisure, were applied to marine and terrestrial use zones. The zoning categories prescribe the activities and infrastructure permitted within a particular area.

Changes included the updating of place names, roads, incorporation of new infrastructure and zoning sections of the park that were not previously zoned.

For the Knysna section of the GRNP, there were significant changes undertaken in terms of the zoning of the Knysna Estuary. In the previous zonation scheme, the Knysna estuary was largely zoned as low intensity leisure, with a high intensity leisure zone in the main channel. Three datasets were used to re-assess sensitivity of the estuary. This resulted in areas of high sensitivity, such as eel-grass beds and saltmarshes, being zoned as quiet.

The changes to Knysna's terrestrial section of the GRNP essentially entailed three areas that were changed from primitive to remote zone. These areas are located along the Harkerville coast, in the eastern section of Fisantehoek and a section to the north of Buffelsnek up to the Knysna River. The reason for these zonation changes is due to the application of additional sensitivity data relating to soil properties and to wildlife occurrence and migration.

For the Wilderness section of the GRNP, the Touw and Swartvlei estuary systems were zoned at a finer scale compared to the previous zoning. These changes were made in order to protect sensitive habitats. The shallow areas zone was changed from low intensity leisure to quiet. A section of the Wilderness coast was changed from quiet to remote.

The changes to the terrestrial section of Wilderness section of the GRNP mainly involved small areas that were zoned previously as quiet and are now zoned as primitive in the Goudveld area. These changes are in response to recent wildlife monitoring results.

For the Tsitsikamma section of the GRNP, three sections located in the Tsitsikamma Marine Protected Area (MPA) were changed from remote to quiet in line with the rezoning of the MPA.

These are areas where fishing and bait collecting is permitted with certain limitations for local community members in terms of Section 48A (1) of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) and the Regulations for the Management of the Tsitsikamma National Park Marine Protected Area. A section around the Storms River mouth precinct (including the Storms River gorge) was also changed to low intensity leisure.

The only change to the terrestrial section of Tsitsikamma is the zonation of the Tsitsikamma Big Tree precinct. The existing low intensity leisure zone was extended into the previous quiet zone to make provision for possible future tourism development. This change was done taking the various sensitivity layers into account.

6.3 Guiding principles underpinning the zonation

The principles underpinning park zonation, as listed below, were informed by the SANParks CDF planning manual, the Guidelines for Strategic Environmental Assessment in South Africa, Integrated Environmental Management and the National Environmental Management Act (NEMA). Accordingly, the zonation:

- Is the foundation of all planning and development within a park, with the aim of ensuring its long-term sustainability;
- Accommodates strategic, flexible and iterative planning procedures;
- Is a "framework for planning" not a "plan for implementation" (i.e. implementation is dealt with through lower level plans and programmes);
- Is risk-averse and promotes a cautious approach, which considers the limits of current knowledge about the consequences of decisions and actions;
- Recognises that the mandate of SANParks is to conserve biodiversity and heritage resources of national and international significance, in terms of both the NEM: PAA and the National Heritage Resources Act;
- Ensures the integrity of the park's scenic quality by limiting human intrusions into the landscape;
- Accommodates a wide range of unique opportunities for experiences of solitude and nature based recreation which do not conflict with the desired social and environmental states;
- Confines development within the park to areas that are robust enough to tolerate transformation and without detracting from the "sense of place";
- Incorporates and gives effect to the demarcated Coastal Management Line/s (CMLs);
- Rationalises and channels access into the park and internal movement through it;
- Sets the limits of acceptable change; to minimise the loss of biodiversity and to reduce conflict between different park uses;
- Recognises that park boundaries are not static in time and that there are factors beyond the current or future boundaries that can positively or negatively influence the park; and
- Recognises that the park cannot exist in isolation and that planning needs to ensure that the park is integrated with the surrounding landscapes as well as the economic and social structures at local and regional scales.

6.4 Rationale for use zones

The primary 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 park, could potentially conflict with and compromise this primary function. Use zoning is the primary tool to ensure that visitors could have a wide range of quality experiences without comprising the integrity of the environment.

Furthermore, the expectations and recreational objectives of individuals that visit the park may differ. Some individuals visit the park purely to see the wildlife and natural landscapes. Other individuals wish to experience the intangible attributes such as (and not limited to) solitude, remoteness, wildness and serenity (which can be grouped as wilderness qualities), whilst some visit to engage in a range of nature-based recreational activities, or to socialise in a rest camp. Different people have different accommodation requirements ranging from basic self-catering to luxury catered accommodation. There is often conflict between the requirements of different users and different activities. Appropriate use zoning serves to minimise 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 negatively impact on the park's vital attributes 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.

6.5 The zoning system

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

- Visitor use zones encompassing the entire park;
- Special management overlays; and
- A buffer zone surrounding the park.

6.5.1 The zoning process and its linkage to the underlying environmental analysis

The zoning for the park was underpinned by an analysis and mapping of the sensitivity and value of a park's biophysical, heritage and scenic resources. This analysis examined the parks' biophysical characteristics including: vegetation value (in particular the contribution to national conservation objectives) and vegetation resilience to physical disturbance; 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), red list sensitivity, estuary sensitivity, marine sensitivity and animal sensitivity. In addition, the heritage value and sensitivity of the sites were examined (mostly archaeological and cultural aspects). The visual sensitivity of the landscape was also surveyed in order to identify sites where infrastructure development could have a strong aesthetic impact. This analysis was used to inform users of the appropriate use of the different areas of the park as well as assisted in defining 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 park). 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's objectives and undertaken in an iterative and consultative process.

Table 3. Use zones and use zone characteristics for the park.

	Remote: marine and estuarine	Remote: terrestrial	Primitive: terrestrial
General characteristics	Conservation orientated zone - Retains an intrinsically wild appearance and character (essentially no infrastructure), or capable of being restored to such.	Conservation orientated zone - Retains an intrinsically wild appearance and character (essentially no infrastructure), or capable of being restored to such.	Generally, retains wilderness qualities, but with basic self-catering facilities. Access is controlled or limited to off-road vehicles. Provides access to the remote zone and can serve as a buffer.
Experiential qualities	Solitude and awe inspiring natural characteristics.	Solitude and awe inspiring natural characteristics.	Experience wilderness qualities.
Interaction between user groups	None to very low	None to very low	Low
Types of access	Marine: exclusion zone where access is strictly regulated. Lakes: access is strictly prohibited.	Controlled access, non-motorised.	Controlled access. Accompanied or unaccompanied. Foot; off-road vehicles.
Type of activities	No recreational activities allowed. Catching or any disturbance of fish prohibited.	Hiking and trail running in small groups. Mountain biking as designated.	Hiking; 4x4 drives; possibly horse riding.
Type of facilities	No infrastructure	Established footpaths where erosion may be a problem. Essentially undeveloped and roadless.	Small, basic, self-catering, distributed to avoid contact between users or limited concessions with limited numbers, 4x4 trails, hiking trails.
Limits of acceptable change: Biophysical	Deviation from a natural/pristine state should be minimised and existing impacts must be reduced.	Deviation from a natural/pristine state should be minimised, and existing impacts must be reduced.	Deviation from a natural/pristine state should be small and limited to restricted impact footprints. Existing impacts should be reduced.
Limits of acceptable change: Aesthetics and recreational	Activities which impact on the intrinsically wild appearance and character of the area are not allowed.	Activities which impact on the intrinsically wild appearance and character of the area are not allowed.	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.
Guidelines for management infrastructure	Ideally there should be no management infrastructure, but temporary infrastructure may be present to limit biodiversity loss.	Ideally there should be no management infrastructure, but temporary infrastructure may be present to limit biodiversity loss.	Small, isolated permanent but low spec (usually dirt road) infrastructure may be present. This may be to help manage biodiversity, or service tourist facilities.

	Quiet: marine and estuarine	Quiet: terrestrial	Low intensity leisure: marine and estuarine
General characteristics	This zone allows unaccompanied non-motorised access to areas which generally retain a natural appearance and character. Access is controlled.	This zone allows unaccompanied non-motorised access to areas which generally retain a natural appearance and character. Access is not specifically controlled.	The underlying characteristic of this zone is motorised and non-motorised access with basic self-catering facilities. Numbers of visitors are higher in the low intensity leisure zone as compared to the remote, primitive and quiet zones. Camps are without large commercial facilities such as shops and restaurants.
Experiential qualities	Limited activities; relaxation in a natural environment.	Wide range of activities, relaxation in a natural environment.	A range of activities permitted per area.
Interaction between user groups	Infrequent	Frequent	Moderate to high
Types of access	Access by non-motorised/sailing vessels/boats only. No anchoring or overnighting is permitted by sailing vessels/boats. In the MPA access from land only.	Unaccompanied non-motorised access. Mainly on foot. Motorised access to specific facilities.	Motorised and non-motorised vessel access. Access via designated launch sites.
Type of activities	Only non-motorised activities (canoeing, sailing, etc.) is permitted. The catching of linefish in Tsitsikamma MPA is regulated by both community access and fishing permits.	Hiking, walking, bird watching, mountain biking, possibly horse riding and non-motorised activities.	Recreational activities such as swimming, canoeing and sailing allowed in designated areas. The catching of linefish and bait harvesting in terms of a recreational fishing permit conditions is permitted excluding the Knysna bait reserves (in the relevant zone).
Type of facilities	No infrastructure in the marine areas, only zone demarcations.	Hiking trails, footpaths, management tracks, bird hides. Ablution facilities may be provided in high use areas. Heritage structures may be used for recreation. No accommodation and no tourist access by vehicle.	Water-based accommodation facilities in designated areas of Knysna estuary can be considered. Activities within zone will be regulated through special management overlays. Regulated slipway, mooring and jetty infrastructure.
Limits of acceptable change: Biophysical	Some deviation from a natural/pristine state is allowed, but care should be taken to restrict impacts on the environment by managing non-motorised users and vessel numbers and resource use etc.	Some deviation from a natural/pristine state is allowed, but care should be taken to restrict the development footprint. Infrastructure, especially paths and viewpoints should be designed to limit the impacts of large numbers of visitors on the biophysical environment.	Deviation from natural/pristine state is comprised by existing infrastructure and user activities, but impacts 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.
Limits of acceptable change: Aesthetics and	Activities which impact on the relative natural appearance and character of the area should be restricted.	Activities which impact on the relatively natural appearance and character of the area should be restricted, though the presence of larger numbers of visitors and the facilities they require, may impact on the feeling of wildness found in this zone.	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.
Guidelines for management infrastructure	Limited infrastructure to service tourist and management needs.	Management infrastructure might be more sophisticated and abundant here to service tourist infrastructure. Care should be taken that management activities do not impact on tourism products.	Infrastructure caters for tourism, legal and safety requirements. It is appropriately placed to limit impact on the environment.

	Low intensity leisure: terrestrial	High intensity leisure: marine and estuarine	High intensity leisure: terrestrial
General characteristics	The underlying characteristic of this zone is motorised and non-motorised self-drive access with basic self-catering facilities. Numbers of visitors are higher in the low intensity leisure zone as compared to the remote, primitive and quiet zones. Camps are without large commercial facilities such as shops and restaurants.	The main characteristic is that of a high-density tourist use node, with commercial amenities, where more concentrated human activities are allowed.	The main characteristic is that of a high-density tourist development node, with commercial amenities, where more concentrated human activities are allowed.
Experiential qualities	Comfortable facilities in a relatively natural environment.	A range of activities permitted.	Comfortable and sophisticated facilities while retaining a natural ambiance.
Interaction between user groups	Moderate to high	High	High
Types of access	Motorised self-drive access.	Accessible by a wide variety of vessels including high volume tourism and commercial operations.	Accessible by motorised transport (car/bus) on high volume transport routes, including delivery vehicles.
Type of activities	Motorised self-drive game viewing, picnicking, walking, hiking, cycling; adventure activities.	A variety of recreational and commercial tourism activities are permitted.	A variety of recreational and commercial tourism activities are permitted. Additional sophisticated infrastructure. Organised adventure activities. Dining at restaurants.
Type of facilities	Facilities limited to basic self-catering picnic sites; ablution facilities; information/education centres; parking areas. Small self-catering (incl. camping and caravanning) rest camps with ablution facilities. May contain small or seasonal convenience stores or tea gardens. Gravel access roads to provide a more wild experience.	Jetties, slipways, moorings, small boat harbours and associated management infrastructure.	High density tourist camps with commercial amenities. Footpaths, transport systems, accommodation, restaurants, curio and refreshment stalls, information/education centres. High volume roads.
Limits of acceptable change: Biophysical	Deviation from natural/pristine state is comprised by existing infrastructure and user activities, but impacts 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.	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.	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.
Limits of acceptable change: Aesthetics and recreational	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	Although it is inevitable that the high visitor numbers, activities and facilities will impact on the characteristics of the area, efforts are made to ensure that the area still provides a relatively natural outdoor experience appropriate for a national park.	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.
Guidelines for management infrastructure	Management infrastructure should be concentrated here or in High Intensity Leisure zone as far as is feasible, allowing management to efficiently make use of existing high volume infrastructure. To limit impacts, management infrastructure should be placed close to the park boundary.	Infrastructure for tourism, legal and safety requirements, is appropriately placed to limit impact on the environment.	Where this is the highest usage zone in a park, management infrastructure should be concentrated here as far as is feasible, allowing management to efficiently make use of existing high-volume infrastructure. To limit impacts, management infrastructure should be placed close to the park boundary.

The sensitivity maps (Appendix 5, Maps 6a-c and 7a-c) shows the relationship between the use zoning and the summary of the biodiversity and landscape sensitivity-value analysis. This indicates that in general it was possible to include most of the environmentally sensitive and valuable areas into zones that are strongly orientated towards conservation rather than tourist use. Also, in numerous cases the boundaries between zones are based on changes in environmental sensitivity. Table 4 summarises the terrestrial percentage area of the park covered by each zone, as well as the percentage of the highly environmentally sensitive and valuable terrestrial areas (defined as areas with values in the top quartile of the sensitivity-value analysis) that are within each terrestrial zone. This indicates that nearly 89.19 % of the park is covered by zones that are strongly conservation orientated in terms of their objectives (i.e. remote and primitive). The table demonstrates a good correlation between the spatial distribution of environmentally-sensitive areas and conservation-orientated zones, with 88.99 % of highly sensitive areas in the conservation-orientated zones. The most conservation-orientated remote zone covers about 52.74 % of the park and contains 57.25 % of the highly valuable and sensitive areas. Conversely, the tourism-orientated zones cover 10.81 % of the park and contain 11.01 % of sensitive areas.

Table 4. Terrestrial park percentage area covered by each terrestrial zone, as well as the percentages of the highly environmentally-sensitive and valuable terrestrial areas (defined as areas with values in the top quartile of the sensitivity value analysis) that are within each terrestrial zone.

Zone emphasis	Use zone	Zone as a % of park area	% of highly sensitive areas that are in a zone
Conservation orientated	Remote	52.74	57.25
	Primitive	36.45	31.74
Tourism orientated	Quiet	8.85	10.76
	Low intensity leisure	1.91	0.13
	High intensity leisure	0.05	0.12

Table 5 summarises the estuaries 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 within each zone. This indicates that 18.08 % of the park is covered by the remote zone that is conservation-orientated in terms of its objectives. The table demonstrates a good correlation between the spatial distribution of environmentally-sensitive areas and conservation-orientated zone, with 18.98% of highly sensitive areas in the conservation-orientated zone. The most conservation-orientated remote zone covers 18.08% of the park and contains 18.98% of the highly valuable and sensitive areas. The tourism-orientated zones cover 81.92% of the park and contain 81.02% of sensitive areas.

Table 5. Estuaries park percentage area summary covered by each estuarine zone, as well as the percentages of the highly environmentally-sensitive and valuable estuarine areas (defined as areas with values in the top quartile of the sensitivity value analysis) that are within each estuarine zone.

Zone emphasis	Use zone	Zone as a % of park area	% of highly sensitive areas that are in a zone
Conservation orientated	Remote	18.08	18.98
Tourism orientated	Quiet	44.17	53.90
	Low intensity leisure	32.13	23.72
	High intensity leisure	5.62	3.40

Table 6 summarises the marine 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 within each zone. This indicates that nearly 93.98 % of the marine section of the park, i.e. Marine Protected Area is covered by the remote zone that is strongly conservation-orientated in terms of its objectives. The table demonstrates a good correlation between the spatial distribution of marine environmentally sensitive areas and the marine conservation-orientated zone, with 94.40% of highly sensitive areas in the marine conservation-orientated zone. The most conservation-orientated remote zone covers 93.98% of the marine section of the park and contains 94.40% of the highly valuable and sensitive areas. Conversely, the tourism-orientated zones cover 6.01% of the park and contain only 5.60% of sensitive areas.

Table 6. Marine park percentage area summary covered by each marine zone, as well as the percentages of the highly environmentally-sensitive and valuable marine areas (defined as areas with values in the top quartile of the sensitivity value-analysis) that are within each marine zone.

Zone emphasis	Use zone	Zone as a % of park area	% of highly sensitive areas that are in a zone
Conservation orientated	Remote	93.98	94.40
Tourism orientated	Quiet	0.49	0.21
	Low intensity leisure	5.52	5.39

6.5.2 Remote zone

Objective

The objective of this conservation-orientated zone, which comprises both remote marine and terrestrial components, is to protect sensitive environments from development impacts and tourism pressures.

Characteristics

Conservation orientated zone – This is an area retaining an intrinsically wild appearance and character (essentially no infrastructure), or capable of being restored to such and which is essentially undeveloped and roadless. There are no permanent improvements or any form of human habitation. Remote zone provides outstanding opportunities for solitude with awe inspiring natural characteristics. Sight and sound of human habitation and activities are barely discernible and at a far distance.

Marine and estuarine visitor activities and experience

Activities: Exclusion zone of estuary. Access is strictly prohibited. Remote access is strictly regulated. No recreational activities allowed. Catching or any disturbance of fish prohibited.

Terrestrial 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 an area at the same time, but if necessary, densities and routes must be defined so that groups are unaware of each other. The principle of "pack it in pack it out" must be applied. 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. Activities such as hiking in small groups and possibly mountain biking or horse riding can take place within this zone.

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

Limits of acceptable change

Biophysical environment: Deviation from a natural/pristine state should be avoided, else minimised and where unavoidable, existing impacts must 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.*) is not allowed.

Marine and estuarine facilities

Type and size: There is no infrastructure and no facilities are provided. Should overnight facilities be required to serve this zone, these must be placed in the adjoining zones.

Sophistication of facilities: None.

Audible equipment and communication structures: None.

Access: No access and no activities allowed in the exclusion zone of estuary. Access is strictly prohibited. Remote access is strictly regulated.

Terrestrial facilities

Type and size: No facilities are provided. Should overnight facilities be required to serve this zone, these must be placed in the adjoining zones. Established footpaths where erosion may be a problem. Essentially undeveloped and roadless.

Sophistication of facilities: Except for self-carried portable tents, no other facilities are permitted. Guidelines for washing, ablution and cooking must be defined according to the "pack it in pack it out" principles. Camping is allowed only at designated sites.

Audible equipment and communication structures: None.

Access and roads: Public access is controlled and non-motorised. Vehicular access and parking are provided in the adjoining zones. Established footpaths may be provided where erosion risks occur. Limited low specification management tracks (*i.e.* not built up roads) are acceptable within this zone, though these tracks should be rationalised, and eventually removed. This zone is essentially undeveloped, controlled access, non-motorised and roadless.

Location in park

Both the remote marine and terrestrial areas were designated in coastal, estuaries, wetland, Marine Protected Area (MPA) and dune areas of the park. These areas include the exclusion zone of the lakes where entry, use of vessels and catching or disturbance of fish being strictly prohibited; as well as inshore areas of the MPA section and estuaries where vessels are permitted. In the park's terrestrial areas, the remote areas were designated in the mountainous areas of the park, such as Soetkraal, as these areas are both logistically difficult for development and sensitive to development pressures (in particular disruption of catchment areas). Remote areas were also designated to protect sensitive coastline east of the Dolphin Trail. Although this area is adjacent to pine plantations, it is below the coastal escarpment and is visually and aesthetically isolated from these transformed landscapes. Consolidation of the coastal buffer in

this section is important in order to maintain the remote characteristics of this zone. This section of the remote zone extends into the marine areas of the park.

Guidelines on management infrastructure and utilisation

Ideally there should be no management infrastructure, and natural processes must be allowed to function without management intervention. However, in reality, most parks are too small to allow ecological processes (fire, fecundity – particularly of large predators) to continue without management intervention, which would eventually impact biodiversity negatively. Furthermore, in young or expanding parks, farm management infrastructure might still be apparent. For this reason, concessions are made on management infrastructure in this zone, principally to prevent loss of biodiversity or restoration. Infrastructure might include footpaths where erosion might be a problem or identified (barely) traversable management 4x4 routes for fire management or ensuring area integrity. Temporary management infrastructure, as might be used for game capture or anti-poaching activities, such as temporary bomas or helicopter landing sites would be permissible, as would vehicular access by staff for specific management interventions, although this must be exercised circumspectly.

6.5.3 Primitive zone

Objective

The objective of this conservation-orientated zone is to protect sensitive environments from development impacts by limiting the size, number and sophistication of infrastructure, and by reducing tourism pressure through controlled access and visitor numbers.

Characteristics

The primary characteristic of this zone is the experience of wilderness qualities with the emphasis on controlled access. Access is controlled in terms of numbers, frequency and group sizes. The zone shares the wilderness qualities of wilderness areas and the remote zone, but with the provision of small basic self-catering facilities with controlled access. It also provides access to areas zoned as remote or wilderness. Views of human activities and development outside of the park may be visible from this zone.

This zone serves to protect sensitive environments from high levels of development, and acts as a buffer between conservation-orientated and tourist-orientated zones, e.g. remote (or wilderness areas) and low intensity leisure respectively. The primitive zone may contain concession sites and other facilities where impacts are managed through strict control of the movement and numbers of tourists, for example if all tourists are in concession safari vehicles.

Visitor activities and experience

Activities: Access is controlled in terms of the number, frequency and group sizes. Activities could include hiking, 4x4 drives, game viewing and possibly horse riding. In the park, access control is mostly passive, with 4x4 trails marked as restricted to 4x4 vehicles only, thus limiting visitor numbers on these routes. Access may also be 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 in more sensitive areas. Several groups may be in the area at the same time, but access should be managed to minimise interaction between groups if necessary.

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

Limits of acceptable change

Biophysical environment: Deviation from a natural/pristine state must be small and limited to restricted impact footprints. Existing impacts must 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 must 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.*) must be restricted and impacts limited to the site of the facility. Ideally visitors must only be aware of the facility or infrastructure that they are utilising, and this infrastructure/facility must 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, or limited concessions with limited numbers, 4x4 trails and hiking trails. To achieve this, camp development must be limited to 15 beds, alternatively facilities can be designed for high levels of luxury, but with limited visitor numbers (e.g. controlled access camps or concession sites).

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

Audible equipment and communication structures: None.

Access and roads: Vehicular accesses to facilities are mostly limited to low-spec roads, often 4x4 only. Access is controlled and can be accompanied or unaccompanied. Tourist and game viewing roads are usually 4x4. Established footpaths and hiking trails are provided to avoid erosion and braiding.

Location in park

Primitive areas were designated to protect the high conservation value and Ramsar-listed Rondevlei, Bo-Langvlei and surrounding areas from tourist and infrastructure impacts. The areas previously managed by DWAF and the plantation exit areas provide far more scope for the designation of primitive areas in order to both protect sensitive environments and to provide the scope for appropriate controlled tourist use and resource utilisation of these areas. Most forest and fynbos areas identified as environmentally sensitive, that were not included in the remote zones or subject to existing infrastructure impacts, were include in the primitive zone. This included the bulk of the indigenous Harkerville forest as well as forest and fynbos areas north of Knysna.

In the Tsitsikamma section, the controlled access Otter and Dolphin trails are in this zone. Primitive areas were also designated in valleys in the Soetkraal section to allow management and controlled tourist 4x4 access into the remote zone. Primitive areas were designated at both ends of the coastal remote zones to buffer them from higher use tourist areas and external impacts from outside the park. In areas where remote zones border on the park boundary, a 100m wide primitive zone was designated to allow park management access to boundaries.

Guidelines on management infrastructure and utilisation

Permanent management infrastructure is permissible in this zone, but these should be relatively small and isolated. Park operations staff may need to service tourist facilities in this zone. Examples may include “twee spoor” management tracks, permanent bomas for wildlife, ranger camps and outposts. The responsibility is on park management to coordinate the tourist road network usage in such a way that tourists do not encounter management infrastructure in this zone, such as by using of no entry signs. Low volume access gates or entrances to access 4x4 routes could be accommodated in this zone.

6.5.4 Quiet zone

Objective

The main objective of the tourist-orientated zone which comprises of both quiet marine and terrestrial components is to provide non-motorised medium to high volume visitor access to areas whilst limiting impacts by not providing both infrastructure for motorised access and accommodation facilities.

Characteristics

This zone is characterised by unaccompanied non-motorised access to areas which generally retain a natural appearance and character. Access is controlled. Visitors are allowed accompanied or unaccompanied access, mainly on foot, for a wide range of experiences. A larger number of visitors are allowed within the quiet zone, permitting more frequent visitor contact as compared to the primitive zone. For the quiet marine and estuarine zone, unaccompanied, non-motorised activities are allowed in the area but only for canoeing, sailing or non-motorised vessels / boats. Anchoring and/or overnighting by sailing vessels/boats is not allowed. Within this zone, more sensitive areas must be protected by precinct level planning, which should direct development and utilisation to more robust areas. This zone can also provide non-motorised access within low and high intensity leisure zones away from vehicular access roads.

Marine and estuarine visitor activities and experience

Activities: Marine and estuarine activities limited; relaxation in a natural environment. Access by non-motorised/sailing vessels/boats only. No anchoring or overnighting is permitted by sailing vessels/boats. In the MPA access from land only. Only non-motorised activities (canoeing, sailing, etc.) is permitted. Only non-motorised activities (canoeing, sailing, etc.) are permitted. The catching of linefish in Tsitsikamma MPA is regulated by both community access and fishing permits
Interaction with other users: Infrequent interaction between user groups. Limited activities; relaxation in a natural environment.

Terrestrial visitor activities and experience

Activities: Unaccompanied non-motorised access. Mainly on foot and non-motorised access. Motorised access to specific facilities. Hiking; walking; bird watching, mountain biking; possibly horse riding and non-motorised water based activities.

Interaction with other users: Frequent interaction between user groups. Wide range of activities; relaxation in a natural environment.

Marine and estuarine limits of acceptable change

Biophysical environment: Some deviation from a natural/pristine state is allowed, but care should be taken to restrict impacts on the environment by managing non-motorised users and vessel numbers and resource use etc.

Aesthetics and recreational environment: Activities which impact on the relative natural appearance and character of the area should be restricted, as the presence of larger visitor numbers and the facilities required may impact on the feeling of “wildness” experienced within this zone.

Terrestrial limits of acceptable change

Biophysical environment: Some deviation from a natural/pristine state is allowed, but care should be taken to restrict the development footprint. Infrastructure, especially paths and viewpoints should be designed to limit the impacts of large numbers of visitors on the biophysical environment.

Aesthetics and recreational environment: Activities which impact on the relatively natural appearance and character of the area should be restricted, though the presence of larger numbers of visitors and the facilities they require, may impact on the feeling of wildness found in this zone.

Marine and estuarine facilities

Type and size: Access by non-motorised/sailing vessels/boats only. No anchoring or overnighting is permitted by sailing vessels/boats. In the MPA access from land only. No infrastructure in the marine areas, only zone demarcations.

Sophistication of facilities: No infrastructure in the marine areas, only zone demarcations.

Audible equipment and communication structures: None. Allowed, but must be managed to retain a relative level of solitude.
Access: Access by non-motorised/sailing vessels/boats only. No anchoring or overnighting is permitted by sailing vessels/boats. In the MPA access from land only.

Terrestrial facilities
Type and size: Unaccompanied non-motorised access. Mainly on foot, non-motorised access to specific facilities. Hiking trails; footpaths; management tracks; bird hides. Ablution facilities may be provided in high use areas. Heritage structures may be used for recreation. No accommodation; and no tourist access by vehicle.

Sophistication of facilities: Where provided these must be basic.

Audible equipment and communication structures: Allowed but must be managed to retain a relative level of solitude.

Access and roads: Unaccompanied non-motorised access. Mainly on foot, non-motorised access to specific facilities.

Location in park

In Garden Route National Park, quiet zones were designated to allow visitors access on foot to hiking trails around the higher use low intensity leisure areas and the major access nodes such as Nature's Valley and Storms River. Sections of beach away from major access points (such as west of Gerickes Point) were also zoned quiet. River areas limited to non-motorised access such as the Touw River above the railway bridge were zoned as quiet. In the forest areas previously managed by DWAF, quiet zones were designated around the access points and development nodes at Goudveld, Gouna, Diepwalle and Harkerville to encourage non-motorised tourist access to these areas. Sensitive estuary areas such as the Salt River and the Groot River were included in this zone to preclude infrastructure development. As far as possible, the sensitive sections of the park which were not included into the primitive zone were zoned quiet to protect them from infrastructure development and excessive tourist impacts.

Guidelines on marine and estuarine management infrastructure and utilisation

Limited permanent management infrastructure is permissible in this zone, to service tourist and management needs. Given the potentially high volume tourist usage of the zone, park operations staff may need to service tourist facilities in this zone.

Guidelines on terrestrial management infrastructure and utilisation

Permanent management infrastructure is permissible in this zone. Management infrastructure might be more sophisticated and abundant here, to service tourist infrastructure. Care should be taken that management activities do not impact on tourism products. Operational vehicular access must be minimised as far as possible in keeping with the pedestrian nature of the zone. Given the potentially high volume tourist usage of the zone, park operations staff may need to service tourist facilities in this zone. Infrastructure in terrestrial areas may include hard surfaces (paved or tarred roads) as long as vehicle usage is restricted to operational staff. If possible, efforts must be made to reduce noise and air pollution from operational vehicles in this zone during tourist usage, so as not to impact too negatively on visitor experiences. Measures can include restricting operational usage to off-peak periods or using electric vehicles.

6.5.5 Low intensity leisure zone

Objective

The objective of this tourist-orientated zone, which comprises of both marine and terrestrial components, is to provide infrastructure for day and overnight visitors in a natural environment. While scenic areas may be zoned low intensity leisure (LIL) to allow for flexibility of the road

network, in reality, development footprints must be localised, with some areas having more of a primitive or even remote zone "feel." Impacts must be mitigated by using infrastructure to direct and manage the movement of park visitors away from the more sensitive areas that may occur within this zone.

Characteristics

The underlying characteristic of this zone is motorised and non-motorised self-drive access, with basic self-catering facilities. Numbers of visitors are higher in the low intensity leisure zone as compared to the remote, primitive and quiet zones. Camps are without large commercial facilities such as shops and restaurants. Small or seasonal commercial or catered facilities can be accommodated, however, these facilities must be small and aligned to the general ambiance of the zone. Relatively comfortable facilities are positioned in the landscape retaining an inherent natural and visual quality, which enhances the visitor experience of a more natural and mostly self-providing experience. Access roads are low key, preferably gravel roads and/or tracks to provide a more natural experience, however higher volume roads may be tarred. Facilities along roads are generally limited to basic self-catering picnic sites with toilet facilities. Large busses and open safari vehicles may be permitted subject to certain conditions.

Marine and estuarine visitor activities and experience

Activities: Motorised and non-motorised vessel access. Access through designated launch sites. Motorised and non-motorised access by vessels/boats is permitted. Recreational activities such as swimming, canoeing, sailing allowed in designated areas. The catching of linefish and bait harvesting in terms of a recreational fishing permit conditions is permitted excluding the Knysna bait reserves (in the relevant zone).

Terrestrial visitor activities and experience

Activities: Motorised self-drive access for scenic drives, picnicking, walking, hiking, cycling and adventure activities.

Marine and terrestrial interaction with other users: Moderate to high.

Limits of acceptable change

Biophysical environment: Deviation from natural/pristine state is comprised by existing infrastructure and user activities, but impacts 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, these should be managed and limited to ensure that the area still provides a relatively natural outdoor experience.

Marine and estuarine facilities

Type and size: Water-based accommodation facilities in designated areas of Knysna estuary can be considered. Zone demarcation and activities' boundary demarcations. Regulated slipway and jetty infrastructure.

Sophistication of facilities: Higher-end, low-volume water-based accommodation. Basic level of marine and estuarine access infrastructure (jetties and slipways).

Audible equipment and communication structures: No equipment and structures allowed. Limited cell phone coverage in the zone. Code of use for cell phones and radios required to retain relative level of solitude.

Access: Motorised and non-motorised vessel access. Access through designated launch sites. Motorised and non-motorised access by vessels/boats is permitted.

Terrestrial facilities

Type and size: High density tourist camps with commercial amenities. High volume roads. Facilities limited to basic self-catering picnic sites; view sites, ablution facilities; information/education centres; parking areas, footpaths, transport systems, accommodation, restaurants, curio and refreshment stalls, etc. Small self-catering camps (including camping and caravanning) of low to medium density (up to 50 beds) rest camps

with ablution facilities. Additional facilities can include swimming pools. Trails for 4x4 vehicles can also be provided. Gravel access roads to provide a more wild experience. Small or seasonal (facilities are only open as required or during peak season) commercial facilities can be provided; such as kiosks, small tourist convenience stores, or tea gardens. However, these facilities must still fall within the general ambiance of the zone– and as such may make use of converted or restored farm houses. Day visitor site are not placed within the camps. Day visitor sites should generally be compliant with the general self-catering characteristic of the zone but may include limited catered facilities and kiosks.

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

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

Access and roads: Accessible by motorised transport (car/bus) on high volume transport routes, including delivery vehicles. Motorised self-drive sedan car access (traditional game viewing) on designated routes, which are preferably gravel roads. Roads may be tarred, secondary gravel tourist roads, or minor game viewing roads. Large busses and open safari vehicles may be permitted subject to certain conditions. When busses are permitted some roads should be designated as accessible to self-drive only. Roads are secondary gravel tourist roads or minor game viewing roads. In lake and estuary areas, low intensity leisure implies that motorised vessels are generally allowed, but they may be excluded from certain sections either to minimise environmental impacts or to reduce conflict with other recreational water users. Low intensity leisure does not imply motorised access to beaches.

Location in park

Low intensity leisure areas were designated in the landscape areas, around current accommodation and other associated infrastructure outside of the main administrative/staff centre, around recreational areas associated with contractual arrangements, along existing minor provincial roads, and along current access routes. Low intensity leisure areas were designated in most of the high use beach areas of the park (except around the Touw River mouth), in the area between the Touw River mouth and the Ebb and Flow Rest camp, Eilandvlei, Swartvlei, Sedgefield estuary, and large portions of Knysna estuary. Park infrastructure at Rondevlei is accommodated within this zone. In lake and estuary areas, low intensity leisure implies that motorised vessels are generally allowed, but they may be excluded from certain sections either to minimise environmental impacts or to reduce conflict with other recreational water users. In the areas previously managed by DWAF, low intensity leisure areas were designated along the access routes to Diepwalle (including Kom se Pad), the Diepwalle tourism facilities, Gouna, Goudveld and its access, a section of the Harkerville forest near the N2 identified for potential development, the “Big Tree” boardwalk area which allows high numbers of visitors easy access to forested areas, as well as the access routes to Krantzkloof. Most of the low intensity leisure areas represent existing development nodes and access routes to the major forest stations.

Marine and estuarine guidelines on management infrastructure and utilisation

Infrastructure caters for tourism, legal and safety requirements. It is appropriately placed to limit impact on the environment.

Terrestrial guidelines on management infrastructure and utilisation

Management infrastructure should be concentrated here or in high intensity leisure zone as far as is feasible; allowing management to efficiently make use of existing high volume

infrastructure. To limit impacts, management infrastructure should be placed close to the park boundary.

6.5.6 High intensity leisure zone

Objective

The main objective of this tourist-orientated zone is the concentration and containment of commercial, tourism, managerial, operational and industrial park activities within a restricted and designated area, which is robust enough to tolerate development, and where these diverse activities can share multi-use infrastructure (roads, plumbing, power), thus reducing their overall footprint. As impacts and particularly cumulative impacts are higher, where possible the high intensity leisure (HIL) zone must be placed in areas that have low sensitivity values and are sufficiently robust to tolerate development, and ideally be close to the periphery of the park. Staff not directly associated with tourism facilities must be accommodated outside of the park if and where possible. When inside a park, all industrial type facilities such as laundries, abattoirs, maintenance depots and workshops, must be ideally located nearby to the park boundary or, if and where possible, outside of the park but within municipally suitably zoned adjoining urban or rural areas.

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. High intensity leisure is accessible by motorised transport (car/bus) on high volume transport routes. More concentrated and commercialised (including concessional) activities occur here than in than LIL areas.

Marine and estuarine visitor activities and experience

Activities: Accessible by a wide variety of vessels including high volume tourism and commercial operations. A variety of recreational and commercial tourism activities are permitted.

Terrestrial visitor activities and experience

Activities: Accessible by motorised transport (car/bus) on high volume transport routes, including delivery vehicles. A variety of recreational and commercial tourism activities are permitted. Additional sophisticated infrastructure. Larger, organised adventure activities. Dining at restaurants.

Marine and estuarine interaction with other users: High

Marine and estuarine visitor limits of acceptable change

Biophysical environment: The greatest level of deviation from a natural/pristine state is allowed in this zone, and it is accepted that damage to the biophysical environment associated with tourist activities and facilities will be inevitable.

Aesthetics and recreational environment: Although it is inevitable that the high visitor numbers, activities and facilities will impact on the characteristics of the area, efforts are made to ensure that the area still provides a relatively natural outdoor experience appropriate for a national park.

Terrestrial visitor limits of acceptable change

Biophysical environment: The greatest level of deviation from a natural/pristine state is allowed in this zone, and it is accepted that damage to the biophysical environment associated with tourist activities and facilities will be inevitable.

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, these should be managed and limited to ensure that the area generally still provides a relatively natural outdoor experience appropriate for a national park.

Marine and estuarine facilities

Type and size: Jetties, slipways, moorings, small boat harbours and associated management infrastructure.

Sophistication of facilities: Moderate to high density facilities.

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: Accessible by a wide variety of vessels including high volume tourism and commercial operations.

Terrestrial facilities

Type and size: High density camps providing tourist accommodation with diverse commercial amenities. High volume roads. Facilities limited to basic self-catering picnic sites; view sites, ablution facilities; information/education centres; parking areas, footpaths, transport systems, accommodation, restaurants, shops, curio and refreshment stalls, etc. Day visitor sites are provided outside of rest camps. Day visitor sites or picnic sites may provide catered facilities and kiosks. Where it may be necessary to provide high density recreational sites with a wide range of intensive activities, an attempt must be made to concentrate these sites close to the periphery of the park. Staff villages and administrative centres must be restricted to core staff. Non-essential staff housing, administration and industrial infrastructure must be positioned outside of or close to the periphery of the park were possible.

Sophistication of facilities: Moderate to high density facilities. Self-catering and catered. Camps often have diverse modern facilities such as shops and restaurants, which may be concessional.

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: This zone is accessible by motorised transport (car/bus) on high volume transport routes, including delivery vehicles, 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

Limited High Intensity Leisure areas designated in GRNP are the Thesen Islands commercial development node, Storms River Mouth Camp (including the staff and administrative areas), Ebb and Flow Camp and the Touw River Mouth. Note that the public access roads that cut through the park (*e.g.* the N2) are outside the park and are excluded from its zoning scheme. The placement of permanent management infrastructure is encouraged in this zone, particularly when it is the highest level use zone within the park. Where HIL already exists, attempts must be made to concentrate the development of park management and operational infrastructure in the highest usage zone of the park, where feasible, and especially when this is situated close to the boundary of the park. Where it may be preferable to include non-industrial components of management infrastructure on the periphery of the park, these can be accommodated in LIL. Examples may include moderate to high volume access or main entrance gates, park reception, or park management/administration offices (which may wish to be close to park reception facilities). This will allow management and operations to make use of high volume access routes, which will be built to accommodate high traffic volume, and if positioned close to the boundary of the park, will involve shorter commuting distances, limiting disturbance to both wildlife and tourists, and limiting wear and tear to roads.

Marine and estuarine guidelines on management infrastructure and utilisation

Management guidelines that apply to LIL apply to HIL zone as well. Generally, the presence of HIL in a park indicates higher or more intense utilisation or development, with a higher diversity and concentration of facilities, and thus may require additional management or operational facilities. As HIL is by definition a high use area and must be located in an area of low

sensitivity, the development of management and operations infrastructure in this zone must be favoured. In the park, most operations and administration infrastructure are situated in existing and well established HIL zones. This includes infrastructure for tourism, legal and safety requirements, which is appropriately placed to limit impact on the environment.

Terrestrial guidelines on management infrastructure and utilisation

Management guidelines that apply to LIL apply to the HIL zone as well. Generally, the presence of HIL in a park indicates higher or more intense utilisation or development, with a higher diversity and concentration of facilities, and thus may require additional management or operational facilities. As HIL is by definition a high use area and must be located in an area of low sensitivity, the development of management and operations infrastructure in this zone must be favoured. In the park, most operations and administration infrastructure are situated in existing and well established HIL zones. Where this is the highest usage zone in a park, management infrastructure should be concentrated here as far as is feasible; allowing management to efficiently make use of existing high-volume infrastructure. To limit impacts, management infrastructure should be placed close to the park boundary.

6.6 Overview of the special management overlays

Special management overlays, which designate specific areas of the park that require special management interventions, were identified (Appendix 5, Maps 8a-c and 10a-c). Three overlay types were designated: special conservation areas; resource use management areas and aquatic access and activity control areas. Numerous specific areas are currently designated in each of these categories within the park, and others may be designated by park management when required.

KNYSNA

Resource use management areas – Estuaries – Knysna - Bait exclusion
An area demarcated by pole markers and signage prohibiting the harvesting/collecting of bait by any means at any given time. Only angling and other boating activities as allowed in the special management overlays are permitted. This is an area where bait harvesting is prohibited by law. The area protects bait species as well as other estuarine fauna and flora on the intertidal mudflats and sandbanks.

Resource use management areas – Estuaries – Knysna – Harbour
A deep water area demarcated by harbour walls providing sheltered floating/fixed jetty mooring facilities and slipways for use either by members or public.

Resource use management areas – Estuaries – Knysna – Jetski and waterskiing areas
An area of deep water designated for safe use and manoeuvring of jet propelled personal watercraft and water skiing. Jetski use in the estuary is restricted to this zone as this is an area of deeper water. This area was specifically designated for jetski and water skiing as uses in other channel / open water areas could have safety implications (i.e. on other estuary users). Additionally, restricting use to this zone will reduce the risk of e.g. collision with sandbanks in shallow areas as well as potential damage to the environment caused by vessel activity in shallow waters.

Resource use management areas – Estuaries – Knysna - No motorised vessels
Due to environmental sensitivity of the area, only non-motorised vessels allowed to use the area unless specific permission is granted by SANParks. The areas where this overlay is applied are generally shallow and / or the use of motorised vessels can cause erosion / damage to sensitive intertidal areas, mudflats, eelgrass beds and / or salt marsh vegetation due to e.g. wake of the vessel / traversing over shallow sandbanks /mudflats.

Resource use management areas – Estuaries – Knysna - No wake channels
An area where all vessels must reduce speed in order to not create a wake which is damaging to environment, moored vessels or infrastructure. Note: no wake. This overlay generally applies to shallow channels adjacent to sensitive estuarine habitat (mudflats / eelgrass beds that may be subject to erosion or damage due to boating activity) or in areas where there are potential safety issues.

Resource use management areas – Estuaries – Knysna – Idle speed zone, intertidal areas
Environmentally sensitive areas which are only accessible during high tides and are subject to vessels traversing at reduced speeds in order to not create a wake which is damaging to the environment. This overlay generally applies to shallow intertidal areas over sensitive estuarine habitat (mudflats / sandbanks / eelgrass beds) that may be subject to erosion or damage due to boating activity. These areas may be exposed during low tides, resulting in increased risk to vessels.

Resource use management areas – Estuaries - Knysna - Open water, no wake
Areas outside of the preferred channel which should not be traversed at high speeds due to risk of sediment movement and possible damage to adjacent infrastructure and vessels. Although this channel is deeper than the other no wake channels, no wake is prescribed as a safety precaution due to jetties and embankments occurring in this area.

Resource use management areas – Estuaries – Knysna - Preferred channel
The channel which is the preferred line to follow when traversing the estuary from north to south or south to north. Vessels may travel at speed, provided it is safe to do so, taking into account other water users and hazards. Deeper portions of the estuary channel deemed to have lowest risk of potential environmental damage and safety risk if used in accordance with relevant regulations and safety guidelines.

Resource use management areas – Estuaries – Knysna - Proposed reserve no bait
Areas which have been identified to contain key habitats which are sensitive to disturbance and are thus designated as no bait collection zones in order to conserve habitats and organisms. These zones will ensure protection of three reaches of the estuary including sandbanks, mud flats and eel grass (appendix 5, Map 9a).

Resource use management areas – Terrestrial – Knysna – Fern harvesting
Forest areas designated for the harvesting of seven week ferns. These areas are relatively easily accessible and where seven week ferns occur in quantities viable for commercial harvesting.

Resource use management areas – Terrestrial – Knysna – Timber harvesting
Forest areas designated for the harvesting of timber. These areas are relatively easily accessible and are located in the least sensitive areas.

Terrestrial – Knysna – Special forest
These areas represent the forest types occurring in the park and is afforded additional protection where no resource harvesting is allowed. These areas also host long-term monitoring plots.

(It is important to note that the last category is only proposed and cannot be gazetted as part of the special management overlays until we have been through the process of applying for this through the ICMA legislation and this will involve a public participation process. Therefore the map must be separate from the other overlays).

TSITSIKAMMA

Resource use management areas – Marine – Tsitsikamma - Fishing, bait collecting, non-motorised boats
This area applies to the Groot estuary (West) where fishing, bait collecting and non-motorised boats (rowing boats, kayaks, SUP's) are allowed. No motorised vessels are allowed on the estuary due to the general shallow depth (average depth of 1 meter) and potential disruption to birdlife, the overall quietness of the area and sense of place this induces.

Resource use management areas – Marine – Tsitsikamma - Fishing, bait collecting, non-motorised boats, motorised boats, scuba diving, jet skis
The marine area adjacent to the De Vasselot section (coastline to 0.5Nm) between Grootbank in the West and the Point in the East in which fishing, bait collecting, non-motorised boats, motorised boats, scuba diving and jet skis are allowed to operate. This area is not designated as part of the marine protected area and regulations found within the marine living resources act are applicable in terms of resource use. Recreational, charter and commercial operators from Plettenberg Bay make use of the area for fishing, diving, whale watching and general boating activities.

Resource use management areas – Marine – Tsitsikamma - Guided boats
The area between the Storms River mouth and the Knoll extending westwards along the coastline to the Waterfall where the guided tourist boat may operate. The guided boat tour operating from Storms River Mouth forms part of the tourism opportunities offered by the park and enables visitors to experience the Tsitsikamma coastline from the sea.

Resource use management areas – Marine – Tsitsikamma - Guided scuba diving
The area immediately around Storms River mouth and the Storms River slipway where guided shore entry scuba diving may be undertaken. Shore entry, guided scuba diving is offered as a tourist activity and provides an opportunity for tourists to see the marine life found within the marine protected area. The slipway and adjacent area provide a reasonably safe diving experience.

Resource use management areas – Marine – Tsitsikamma – No take, restricted zone
The no-take or restricted zone means an area within the Marine Protected Area where no fishing may take place, but where any other activity in terms of section 48A(1) of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) may take place if authorised in terms of these regulations as contemplated in terms of section 48A(2) of the Act. The no-take status of the MPA aims to aid fishery management through protection of over-exploited species to assist in rebuilding fish stocks whilst also addressing the biodiversity conservation and habitat protection objectives of the MPA.

Resource use management areas – Marine - Tsitsikamma – Coastal control zone
The Tsitsikamma coastal control zones relates to three area's within the marine protected area where fishing and bait collecting is permitted for local community members in terms of section 48A(1) of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) and under certain limitations as described in the Regulations for the Management of the Tsitsikamma National Park Marine Protected Area. Zonation of the MPA to enable local community fishing increases direct community benefits from the park whilst addressing economic and social considerations, as well as the matter of equity or fairness. Areas designated for local community fishing were derived from extensive consultation between DEA, SANParks and community representatives.

Resource use management areas – Terrestrial – Tsitsikamma – Fern harvesting
Forest areas designated for the harvesting of seven week ferns. These areas are relatively easily accessible and where seven week ferns occur in quantities viable for commercial harvesting.

Resource use management areas – Terrestrial – Tsitsikamma – Timber harvesting
Forest areas designated for the harvesting of timber. These areas are relatively easily accessible and are located in the least sensitive areas.

Terrestrial – Tsitsikamma – Special forest
These areas represent the forest types occurring in the park and is afforded additional protection where no resource use is allowed. These areas also host long-term monitoring plots.

WILDERNESS

Resource use management areas – Estuaries – Wilderness – Fishing, bait collecting
Areas that are zoned primarily for fishing and bait collection where there is no reasonable access to the water for vessel. Fishing from the shoreline of the Indian Ocean and collection of marine invertebrates in the intertidal zone in line with MLRA regulations is permitted along the Wilderness coastline.

Resource use management areas – Estuaries – Wilderness – Fishing, bait collecting, non – motorised boats
Fishing and bait collection is permitted and only non-motorised boats and vessels are permitted. There are three areas with this zonation i.e. the shallow littoral of Swartvlei Lake, Karatara Lake and Swartvlei estuary mouth. Power boats are not desirable in the shallow portions of Swartvlei Lake because this is where the majority of submerged aquatic plants, and waterbirds occur, Karatara lake is very shallow and power boats will resuspend fine organic rich sediments, and Swartvlei estuary mouth is used extensively by swimmers, particularly families with children, and restricting the use of powerboats in this area is a safety consideration.

Resource use management areas – Estuaries – Wilderness – Fishing, bait collecting, non – motorised boats, motorised boats
Fish and bait collecting is permitted as well as a wide variety of recreational boating. The deeper (3-17m) portions of Swartvlei Lake do not support rooted aquatic plants and can accommodate a variety of boating types used for recreation.

Resource use management areas – Estuaries – Wilderness – Fishing, bait collecting, non – motorised boats, motorised boats, no jet skis-
Fish and bait collecting is permitted as well as a wide variety of recreational boating, excluding jet skis
The deeper portions of Swartvlei estuary which is popular with skiers and can accommodate this sport (e.g. public slipway) though the channel is relatively narrow and cannot accommodate a large number of craft so jetski's confined to far larger Swartvlei Lake. Eilandvlei is intensively utilised for yachting, and at times skiing. Jetski's are accommodated elsewhere (Swartvlei lake) to reduce boating congestion, and minimise disturbance on this portion of the Ramsar site which still supports high bird abundance.

Resource use management areas – Estuaries – Wilderness – Fishing, bait collecting, non – motorised boats, motorised boats, no jet skis, no skis, no wake and idle speed
Fish and bait collecting is permitted as well as a wide variety of recreational boating, excluding jet skis.
Narrow, and in places very shallow portions of Swartvlei estuary. No wake and Idle speed is in place to lower the impact of river bank erosion as well as improve safety and enjoyment by non-motorised watercraft users.

Resource use management areas – Estuaries – Wilderness – Closed, research and management
These areas are closed for public and recreational use as they are important areas for ecological processes to continue without minimal human impact. Access is only permitted is for operational and research requirements Rondevlei and Langvlei waterbodies. This is where the highest abundances of waterbirds occur, which characterise the Wilderness Ramsar site. Disturbance is minimised by restricting access other than to bird hides located on the lake shores.

Resource use management areas – Estuaries – Wilderness – Proposed bait reserves
No collection of bait proposed. Increasing pressure on bait collection requires a reserve where no bait collection is permitted to facilities regeneration of bait stocks in the Estuaries to ensure the sustainability of bait populations (Appendix 5, Map 9b).

Resource use management areas – Terrestrial – Wilderness – Fern harvesting
Forest areas designated for the harvesting of seven week ferns. These areas are relatively easily accessible and where seven week ferns occur in quantities viable for commercial harvesting.

Resource use management areas – Terrestrial – Wilderness – Timber harvesting
Forest areas designated for the harvesting of timber. These areas are relatively easily accessible and are located in the least sensitive areas.

Terrestrial – Wilderness – Special forest
These areas represent the forest types occurring in the park and is afforded additional protection where no resource use is allowed. These areas also host long-term monitoring plots.

6.7 The park buffer zone

The buffer zone shows areas outside the park within which functional ecological corridors can enhance the ecological integrity of the park or where activities i.e. transformation resulting from land use change, inappropriate development, invasive alien species, pollution and unmanaged fuel loads, can affect the ecological integrity of the park negatively (Appendix 5, Map 11).

This section of the management plan is aligned with the 2012 NEM: PAA: Biodiversity Policy and Strategy for South Africa: Strategy on Buffer Zones for National Parks. This strategy states that the purpose of a buffer zone is to: protect the purpose and values of the national park as defined in the management plan; protect important areas of high value for biodiversity and/or to society

where these extend beyond the boundary of the national park; assist adjacent and affected communities to secure appropriate and sustainable benefits from the park and buffer zone area itself by promoting a conservation economy and ecotourism. In addition, compliance with the National Veld and Forest Fire Act (Act No. 101 of 1998 as amended), the Conservation of Agricultural Resources Act (Act No. 43 of 1983) ("CARA") and the Alien and Invasive Species Regulations, NEM: BA (2014) is supported and promoted in the buffer zone. The Guidelines for SANParks' buffer zone operations (2017) and the DEA Biodiversity Stewardship Guideline (2018) were observed.

The buffer zone in combination with guidelines will serve as a basis for: i) Conserving areas of national or regional biodiversity importance that could be managed for conservation purposes to contribute to biodiversity targets and to enhance the landscape functionality of the park; ii) Integrating long-term protection of the park into the SDFs of municipalities and other planning processes to guide decision-making in an environment where housing backlogs and the need for additional services infrastructure is a reality; The park will interact with all spheres of government, whether local, provincial, or national, as required, to achieve a positive conservation outcome in the buffer zone; iii) Identifying focus areas in which park management and scientists must respond to Basic Assessment Reports (BARs), Environmental Impacts Assessments (EIAs) and Land Use Planning By-Law Applications (LUPA) to maintain or enhance biodiversity, landscape connectivity and functional ecological infrastructure (EI); and (iv) Highlighting focus areas where alien clearing, rehabilitation and integrated fire management can take place on private land to support landscape functionality and restoration of EI (depending on availability of funding).

The GRNP is a fragmented, open access park with high development pressure and climate change effects already noticeable. Invasive alien vegetation, high fire risk areas on the urban-wildland (natural and transformed) interface, historic poorly placed infrastructure, pollution of rivers and infilling of wetlands adds to the management challenges. The next 10-year focus will be a proactive landscape functionality approach that contributes to a climate resilient community and connectivity rather than on a site specific re-active approach. There are six key categories in the park buffer zone i.e. priority natural areas, catchment protection areas, priority alien vegetation clearing areas; fire management areas; marine buffer areas and viewshed protection areas. There can be overlap between categories.

6.7.1 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.*).

Priority natural areas consists of:

- Areas identified for future incorporation into the park or where conservation agreements are supported to expand the regional conservation estate via biodiversity stewardship. Biodiversity stewardship sites do not necessarily need to be managed by SANParks or included into the park. Third Parties (NGOs or NPOs) or Landowners' Associations can drive the process.
- Critical Biodiversity Areas (CBA) identified in the Western Cape Biodiversity Spatial Plan Handbook (2017) or revisions and CBAs identified in the Eastern Cape Biodiversity Conservation Plan Handbook. CBAs are areas required to meet biodiversity targets for ecosystems, species and ecological processes. There are 5 categories, i.e. terrestrial, forest, river, estuary and wetland.

Development guidelines: Maintain in a natural or near-natural state with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact biodiversity-sensitive land uses are approximate. Promote ecosystem processes such as wildlife movement corridors for seed dispersal and metapopulation persistence.

6.7.2 Catchment protection areas

These are areas important for maintaining or enhancing key hydrological processes (surface and groundwater) and water yield and to promote estuary health. Catchment protection areas follows the rivers and flood plains of rivers originating in the GRNP or draining into the park.

Development guidelines: Transformation and inappropriate development, loss of riparian vegetation and excessive aquifer exploitation must be opposed. The control of alien vegetation, control of soil erosion, adherence to coastal management lines and appropriate land care (e.g. appropriate stocking rates) must be promoted.

6.7.3 Priority alien vegetation clearing areas

This zone aims to support the clearing of invasive alien plants that pose a threat to biodiversity conservation or to reduce potentially hazardous fuel loads. In terms of the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) ("CARA") landowners must prevent the spread of alien invasive plants on their property. In addition to CARA, in terms of the Alien and Invasive Species Regulations, NEM: BA, 2014, specific alien plant species (e.g. *Acacia mearnsii*) are either prohibited or listed as requiring a permit.

Development guidelines: Invasive alien plant control plans should be developed and implemented to promote biodiversity conservation and to reduce fuel loads as required by legislation.

6.7.4 Fire management areas

This zone aims to promote integrated fire management in areas where wild fires are likely to spread into the park or vice versa. In these areas, membership of the Sarah Baartman Fire Protection Association (SBFPA) and Southern Cape Fire Protection Association (SCFPA) is encouraged and compliance with the National Veld and Forest Fire Act, 1998 (Act No. 101 of 1998 as amended) promoted. According to the Act, every owner of land has a duty to prevent a fire that originates on his or her land from spreading to any other property. Section 12(1) of the Act requires, amongst others, that landowners prepare and maintain firebreaks on the boundary of his / her land and any adjoining land. Section 12(7) of the Act however makes provision for situations where the optimal firebreak position may not be along a common boundary but rather at a position that is agreed to by the respective adjoining landowners. Active and functional Fire Management Units (FMU) are supported. A fire management area was demarcated to the north of the mountain catchment areas in the park and includes the protected natural areas and priority alien vegetation clearing areas.

Development guidelines: Appropriate fuel load reduction, fire wise gardening and compliance with legislation.

6.7.5 Marine buffer areas

This zone aims to buffer the existing MPA and other areas where no MPA exists to maintain functionality and diversity of coastal and marine ecosystems by minimising impacts on natural processes and appropriately responding to climate change. Pollution from land-based sources (agriculture runoff, plastics, sewerage) are current pressures whilst increased interest in offshore oil and gas exploration raises the threat of potential new sources of pollution.

The marine buffer area can cover activities below the high water mark (marine) as well as the shoreline immediately above the high water mark (coastal). Equitable access to and sustainable benefit sharing from coastal and marine ecosystem services are supported.

Development guidelines: Support only climate-resilient development. Engage with stakeholders to prevent pollution of coastal and marine resources. Allow marine resource use within constraints of relevant legislation.

6.7.6 Viewshed protection areas

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

Development guidelines: Screen development proposals to ensure that they do not impact excessively on the aesthetics of the park (day and night) or on key tourism routes. Development on ridges and skylines should be discouraged and low lighting should be promoted. Inappropriate sound pollution should be avoided or mitigated. Viewshed protection areas were not spatially included on the buffer zone map and will be dealt with on a case-by-case basis.

6.8 Future improvements

6.8.1 Coastal management lines

Legislative requirements

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008), as amended by the National Environmental Management: Integrated Coastal Management Amendment Act, 2014 (Act No. 36 of 2014) (hereafter jointly referred to as the ICM Act) was promulgated to, *inter alia*, promote the conservation of the coastal environment, maintain the natural attributes of coastal landscapes and seascapes, to ensure that development and the use of natural resources within the coastal zone is socially and economically justifiable and ecologically sustainable and to define rights and duties in relation to coastal areas.

One of the mechanisms the ICM Act provides for is the establishment of coastal management lines (CMLs). Section 25(1) of the ICM Act states that CMLs must be established or changed *"(a) to protect coastal public property, private property and public safety; (b) to protect the coastal protection zone; (c) to preserve the aesthetic values of the coastal zone; or (d) for any other reason consistent with the objectives of this Act"*. Additionally, regulations may be established to prohibit or restrict the building, erection, alteration or extension of structures that are wholly or partially seaward of a CML and such a CML may be situated wholly or partially outside the coastal zone.

The power to determine CMLs is assigned to the MEC of the relevant province in the ICM Act unless, *inter alia*, the exercise of such power relates to any part of an area that is a national protected area as defined in the NEM:PAA in which case such powers must be exercised by the Minister responsible for Environmental Affairs.

Establishment and implementation of coastal management lines in the GRNP

The Garden Route National Park (GRNP) is a national protected area under NEM:PAA, therefore the National Minister responsible for Environmental Affairs must establish CMLs that fall within the park boundary. As the designated management authority of the GRNP, SANParks reports to and acts on behalf of the DEA and the National Minister responsible for Environmental Affairs on issues relating to management of the GRNP. SANParks will therefore provide recommendations to the Minister responsible for Environmental Affairs for consideration and adoption when establishing CMLs. Such CMLs must, *inter alia*, align with the approved protected area management plan of the GRNP. Given that the establishment of CMLs by the Minister responsible for Environmental Affairs only applies within national protected areas and that SANParks only has management authority over national protected areas; the responsibility for designating CMLs adjacent to protected areas *e.g.* where an estuarine body is a declared protected area but the terrestrial sections adjacent to it are not, SANParks will engage with the MEC of the relevant province and provide comment on the CMLs, as CMLs for these areas must be developed by the relevant provincial MEC.

Although CMLs are the primary mechanisms used to guide use and development of the coastal zone in the ICM Act, NEM:PAA provides for additional measures to ensure sustainable coastal development within the boundaries of protected areas, including the use of zonation. Section 41 (2) (g) of the NEM:PAA states that "*A management plan must contain at least - a zoning of the area indicating what activities may take place in different sections of the area, and the conservation objectives of those sections*". Zonation in the GRNP management plan ensures that use and development within the Park are consistent with the function, objectives and desired state of the protected area.

As the use of zonation in the GRNP predates the need for CMLs and compliments the purpose of determining CMLs for most of the protected area and incorporating aspects such as environmental and heritage sensitivities in the GRNP, it will be used as the main determinant of appropriate development close to the coast by SANParks and CMLs will be used as informants (overlays) to the zonation, providing mainly information on coastal risk. Where there is a discrepancy between what the zonation and the CMLs allow in a specific area, the more stringent of the two will apply.

As section 25 (1) of the ICM Act requires the establishment of CMLs by notice in the *Gazette*, the establishment of CMLs fall outside the scope of the management plan review process and will follow a separate process in which, once the CMLs have been determined, they will be Gazetted and subjected to public scrutiny in terms of section 53 of the ICM Act before being adopted. Once the CMLs have been finalised, they will be incorporated as overlays in the zonation of the GRNP management plan.

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Section 7: Access and facilities

7.1 Public access and control

The park can be described as a predominantly open access park and is located along a relatively narrow strip from Wilderness to Kareedouw (approximately 150 km). A number of public roads that include national, provincial and regional roads, traverse the park (the park is located on both sides of the N2).

Controlled access points (manned) are located at the following sites:

Wilderness:

- Entrance to Ebb and Flow South camp leading off the N2
- Entrance to Ebb and Flow North camp
- Entrance to Island Lake (seasonal)
- Half collared kingfisher hiking trail
- Touw River mouth
- Collinshoek Big Tree
- Goudveld entrance

Knysna:

- King Edward VII Big Tree
- Kranshoek View Point
- Garden of Eden

Tsitsikamma:

- De Vasselot, Nature's Valley
- Tsitsikamma Big Tree
- Entrance to Storms River rest camp

There are several unmanned access points in the park. Access is regulated through signage and in some cases self-issuing permits. The unmanned access points are located at the following sites:

Wilderness:

- Access to Wilderness beach (Touw River mouth);
- Access via Touw River;
- Access via Serpentine River;
- Rondevlei trails and bird hide;
- Access to Wilderness beach via a number of boardwalks (public and private);
- Brown hooded kingfisher trail (Duiwe River);
- Malachite bird hide (Langvlei);
- Gallinule bird hide (Touw River); and
- Farleigh mountain bike routes.

Knysna:

- Various access points to the Knysna estuary;
- Gouna picnic site;
- Grootdraai picnic site (Kom se Pad);
- Ysterhoutrug picnic site (off the R339);
- Velbroeksdraai picnic site (off the R339);
- Spitskop view point;
- Valley of ferns;
- Perdekop trail (Harkerville); and
- Witels picnic site (Harkerville off the N2).

Tsitsikamma:

- Kosyn trail;
- Salt River trail;
- Nature's Valley beach dune area;
- Kalanderkloof, Nature's Valley;
- Nature's Valley picnic site;
- Keurpad picnic site and trail;
- Rugpad trail;
- Brak River trail;
- Stinkhoutkloof trail;
- Rugbos picnic site and trail;
- Katumba access road;
- Grootkloof trail;
- Goesa trail;
- Plaatbos trail;
- Plaatbos cycle route;
- Langbos picnic site;
- Wood packer trail and picnic site;
- Damant-se-kamp picnic site;
- Captain Harris trail; and
- Formosa trail.

7.2 Areas with restricted access

There are several restricted areas within the park. The reason for the restricted access is mainly for management purposes relating to safety and security issues, *i.e.* to prevent fires and poaching and access is restricted by a gate that is locked. Below is a list of the restricted areas in the park:

Wilderness:

- 2 x Student houses at Saasveld;
- Access gates to Tierkop / Mountains to Ocean (MTO) / CapeNature / George dam;
- Kaaimans River pump station;
- Groenkop indigenous forest;
- Groenkop east – access through Beyond Forest Edge;
- Touwsranten forest / Collinshoek – at Peter McKenzie;
- Woodville Big Tree;
- Woodville / Collinshoek demolished Bosdorp – Waterworks;
- Bajaansberg / Kloof;
- Access to Woodville indigenous forest;
- Ouboskop;
- Beervlei indigenous forest;
- Beervlei Hydro;
- Hoogekraal / Geelhoutvlei Commonage;
- Karatara at sewerage works;
- Karatara nursery – Ex MTO;
- Karatara Bosdorp – pump station in Karatara River;
- Farleigh Dormehl northern section of farm;
- Access to Brandrug;
- Access to Kraaibosch;
- Goudveld Forest Edge;
- Lawnwood Forest / Portland gate;
- Boer-se-pad;
- Pomp-se-pad;
- The Island;
- Krisjan-se-Nek – depot down to 'Die Kraal';
- Homtini Plaat / Hydro;
- Ratelkop;
- Nol-se-kop;
- Klein and Groot Grysbos / mining area;

Wilderness:

- Tien myl laan;
- Brydel-se-pad;
- Reservoir – Municipality;
- NSRI parking;
- Kleinkrans parking;
- Upper Duiwe River;
- Pine Dew;
- Servitude – Pied Kingfisher / Serpentine;
- Island lake;
- Langvlei dunes / Die vleie – Jeeptrack;
- Rondevlei;
- Wolwe River;
- Rhodes House;
- Swartvlei launch site;
- Sedgefield – Myoli beach; and
- Platbank.

Knysna:

- Geelstoot east;
- Geelstoot west;
- Markpad;
- Groot eiland;
- Kleineilandrivierpad;
- Sanddriffiespad;
- Langrugpad;
- Graspad;
- Waterpad;
- Akkerpad;
- Isak-se-bankpad;
- Stasiepad;
- Welkom-se-pad;
- Kleineilandpad;
- Grooteilandpad;
- Wyenekpad;
- Modderlyn south;
- Modderlyn north;
- Lelievleipad;
- Oudebrandpad;
- Poskassiepad;
- Besemgoedrugpad;
- Kransbospad;
- Ysterhoutrugpad;
- Spoortjiepad;
- Paddapad;
- Maraisbospad;
- Klaas-se-pad;
- Jonkersbergpad;
- Rondebossiepad; and
- Rooigraspad.

Tsitsikamma:

- Soetkraal (north and south entrances);
- Heuning bos;
- Bloukrans road to the hiking hut;
- “End of the road”;
- Whiskey Creek;
- Gate opposite Covie (trail);
- Bloukrans station and lookout point;
- Road leading to André huts (Otter trail);
- Road leading to Oakhurst huts (Otter trail);
- Road leading to Scott huts (Otter trail);
- Witteklip;
- Storms River lookout point;
- Storms River, Petrusville;
- Storms River village water works;
- Sleepkloof;
- Plaatbos;
- Old pass west and east;
- Langbos;
- Woodland; and
- Formosa road to the hiking trail.

7.3 Airfields and flight corridors

There are no airfields located in the park. No need has been identified to establish flight corridors through the park’s airspace as allowed for in section 47 of NEM: PAA.

7.4 Administration and other facilities

The facilities listed below in Table 7 are utilised for operational purposes enabling the park to fulfil its legal mandate. Maps 12a-c in Appendix 5 shows the majority of the infrastructure in the park.

Table 7. Current administrative infrastructure in the park.

Infrastructure	Current status	Zone
Knysna section		
Diepwalle administration complex	Operational	LIL
Diepwalle nursery		
Diepwalle rangers houses		
Diepwalle sewerage plant		
Diepwalle staff village		
Diepwalle store complex		
Harkerville administration office and reception		
Harkerville ranger’s house		
Harkerville sewerage plant		
Harkerville store complex		
Harkerville workers village		
Management roads 458 km		Various
Thesen Island Garden Route regional office		HIL
Thesen Island Knysna administration office and reception		

Infrastructure	Current status	Zone
Tsitsikamma section		
Bloukrans administration complex	Operational	LIL
Bloukrans rangers' houses		
Bloukrans stores complex		
Management roads 249 km		Various
Nature's Valley reception area		LIL
Storms River mouth boatshed / activities hub		HIL
Storms River mouth entrance gate / reception		
Storms River mouth administration complex		
Storms River mouth technical stores		
Storms River mouth staff villages		
Storms River village administration complex with reception		
Storms River village rangers houses		
Storms River village staff village		
Storms River village sewerage plant		
Wilderness section		
Beervlei ranger's house (Aartappelkop)	Operational	Primitive
Beervlei ranger's office		
Beervlei staff village		
Beervlei sewerage plant		
Ebb and Flow south administration building (finance and management staff)		LIL
Ebb and Flow south Loeries Nest conference facility		
Ebb and Flow south laundry		
Ebb and Flow south nursery		
Ebb and Flow south reception building		
Ebb and Flow south staff village		
Ebb and Flow south technical offices and stores		
Farleigh administration office		Primitive
Farleigh rangers houses		
Farleigh sewerage plant		
Farleigh staff village		
Farleigh store complex		
Goudveld ranger's house		
Goudveld ranger's office		
Goudveld staff village		
Goudveld store complex		
Management roads 584 km		Various

Table 8 shows the public launch sites for vessels that are situated in the park.

Table 8. Public launch sites.

Infrastructure	Location	Ownership	Zone
Knysna section			
Crabs Creek	34° 02′ 58.6″ S 23° 02′ 32.6″ E	SANParks	LIL
The Point	34° 02′ 21.3″ S 23° 00′ 45.4″ E	Municipality	
Small Boat Harbour Leisure Island	34° 03′ 40.8″ S 23° 03′ 19.2″ E	Leisure Isle Boat Club	
Knysna Angling and Diving Association	34° 02′ 21.1″ S 23° 00′ 24.0″ E	KADA	
Yacht Club 1	34° 02′ 32.3″ S 23° 00′ 37.9″ E	Yacht Club	
Yacht Club 2	34° 02′ 31.8″ S 23° 02′ 41.2″ E	Yacht Club	Quiet
PW jetty	33° 59′ 57.4″ S 22° 38′ 44.3″ E	SANParks	
Tsitsikamma section			
Storms River mouth	34˚ 02’ 81.0 S 23˚ 89’ 87.5 E	SANParks	HIL
Nature’s Valley	33˚ 98’ 49.3 S 23˚ 55’ 01.6 E	SANParks / Municipality	LIL
Wilderness section			
Lake Brenton	34° 03′ 31.2″ S 23° 02′ 00.9″ E	SANParks	Quiet
Sedgefield mouth	34° 01′ 29.9″ S 22° 48′ 11.7″ E	SANParks	Various
Sedgefield Ext 1 east	34° 01′ 16.4″ S 22° 46′ 54,6″ E	Municipal	
Sedgefield Ext 1 central	34° 01′ 07.6″ S 22° 46′ 27.3″ E	SANParks	
Sedgefield Ext 1 west	34° 01′ 59.3″ S 22° 46′ 21.9″ E	Municipal	LIL
Pine Lake 1	34° 00′ 05.9″ S 22° 44′ 42.2″ E	Private / Public	
Island Lake caravan park	33° 59′ 19.1″ S 22° 38′ 09.1″ E	Estate / Public	

7.5 Visitor facilities

Visitor facilities including all non-commercial facilities and points of interest available to visitors are set out in Table 9 below.

Table 9. Visitor facilities and points of interest in the park.

Infrastructure / visitor sites	Current status	Zone
Knysna section (Gouna and Diepwalle)		
Gouna picnic site	Operational	LIL
Elephant trails		Various
Grootdraai picnic site		LIL
King Edward VII Big Tree		Quiet
Kom se Pad scenic drive		LIL
Outeniqua hiking trail: Rondebossie hut		Quiet

Infrastructure / visitor sites	Current status	Zone
Knysna section (Gouna and Diepwalle)		
Outeniqua hiking trail: Diepwalle hut	Operational	LIL
Petrus-se-brand mountain bike trails		Various
Spitskop view point		Primitive
Terblans trail		Various
Valley of ferns picnic site		LIL
Velbroeksdraai picnic site		
Ysterhoutrug picnic site		
Knysna section (Knysna estuary)		
Public jetty at Crabs Creek	Operational	LIL
Public jetty at Brenton on Lake		
Public jetty on Thesen Island		HIL
Viewing deck at Bollard Bay, Knysna Heads		LIL
Knysna section (Harkerville)		
Garden of Eden picnic site and trail	Operational	LIL
Harkerville mountain bike trails		Various
Kranshoek picnic site		LIL
Kranshoek viewpoint and trail		
Outeniqua hiking trail: Fisantehoek hut		Primitive
Perdekop trail		Quiet
Sinclair hiking trail: Sinclair hut		Primitive
Witels picnic site		Quiet
Tsitsikamma section		
Brak River trail	Operational	Quiet
Captain Harris trail		
Formosa trail		Various
Goesa trail		Quiet
Grootkloof trail		Primitive
Kalanderkloof		
Keurpad picnic site		Quiet
Kosyn trail		Remote
Langbos picnic site		Quiet
Nature’s Valley beach		
Nature’s Valley picnic site		
Otter hiking trail		Primitive
Plaatbos trail		Quiet
Rugbos trail		
Rugbos picnic site		LIL
Salt River trail		Quiet
Stinkhoutkloof trail		Primitive
Wood Packers trail		

Infrastructure / visitor sites	Current status	Zone
Wilderness section (Beervlei and Farleigh)		
Collinshoek Big Tree picnic site and trail	Operational	LIL
Outeniqua trail: Windmeulnek hut		Remote
Outeniqua trail: Platbos hut		
Farleigh Mountain Bike trails		
Wilderness section (Ebb and Flow and Lakes)		
Brown hooded kingfisher trail	Operational	Quiet
Gallinule bird hide		
Half collared kingfisher trail		
Island Lake picnic site		Remote
Malachite bird hide		
Rondevlei trails and bird hide		Primitive
Tarentaal picnic site		LIL
Wilderness and Swartvlei beach		
Wilderness section (Goudveld)		
Bendigo mine	Operational	LIL
Drupkelders trail and picnic site		Quiet
Dalene Matthee Big Tree and circles in a forest trail		LIL
Jubilee Creek picnic site and trail		Quiet
Krisjan-se-nek picnic site		LIL
Materolli information centre		
Mining trails		Quiet
Outeniqua trail: Millwood hut		LIL
Woodcutters mountain bike trail		Quiet

7.6 Commercial activities

For the purposes of this management plan, commercial activities include all income-generating facilities, products and services offered.

7.6.1 Accommodation

Accommodation facilities in the park are currently limited. Existing facilities include those listed in Table 10, below.

Table 10. Accommodation facilities available in the park.

Infrastructure	No of units	Current status	Zone
Knysna section			
Diepwalle			
Camp site	6	Camping – budget accommodation – no power	LIL
Deck tent	4	Self-catering – serviced – economy accommodation	
Treetop chalet	1	Self-catering – serviced – economy accommodation	
Tsitsikamma section			
Nature's Valley			
Camp site	65	Camping – budget accommodation – no power	LIL
Forest hut	10	Self-catering – serviced – budget accommodation	
Chalet	2	Self-catering – serviced – economy accommodation	

Infrastructure	No of units	Current status	Zone
Tsitsikamma section			
Storms River			
Camp site	94	Camping – budget accommodation – power	HIL
Camp site	18	Camping – budget accommodation – no power	
Chalet	20	Self-catering – serviced – economy accommodation	
Cottage	5	Self-catering – serviced – economy accommodation	
Family cottage	15	Self-catering – serviced – economy accommodation	
Forest hut	20	Self-catering – serviced – budget accommodation	
Forest cabin	6	Self-catering – serviced – economy accommodation	
Guest cottage	1	Self-catering – serviced – premium accommodation	
Oceanette	17	Self-catering – serviced – economy accommodation	
Wilderness section			
Ebb and Flow – North			
Camp site	35	Camping – budget accommodation – power	HIL
Camp site	27	Camping – budget accommodation – no power	
Rondavel	15	Self-catering – serviced – budget accommodation	
Ebb and Flow – South			
Camp site	69	Camping – budget accommodation – power	HIL
Camp site	8	Camping – budget accommodation – no power	
Family cottage	5	Self-catering – serviced – economy accommodation	
Forest cabin	20	Self-catering – serviced – economy accommodation	
Log cottage	9	Self-catering – serviced – economy accommodation	

7.6.2 Public private partnerships

The PPPs agreements are listed in Table 11 below.

Table 11. The public private partnerships.

Description		
Knysna section	**Tsitsikamma section**	**Wilderness section**
4x4 guided tours	Hiking	Boat and ferries
2 Restaurant facilities	Guided horse trails	Canoeing
Fishing charter	Treetop canopy tours	-
6 Boat charters / cruises	Restaurant	-
Kayaking / canoeing	Retail	-
Water taxi	Segways	-
Stand up paddling	Kayaking / canoeing	-
Sailing charter	-	-

7.6.3 Retail and other facilities

The only existing retail facilities in the park are the retail shop and restaurant in Tsitsikamma. There are, however, plans in place to advertise for expression of interest for possible retail opportunities on Thesen Islands, Knysna. Upon completion of the Big Tree development in Tsitsikamma, retail space will be advertised. The type of retail still needs to be decided, but it would probably be in the form of a refreshment shop.

7.6.4 Activities

The park established itself as a very popular destination for adventure sport such as trail running and mountain biking. As a result, several well-established annual events take place in the park. These events are regulated through a permit system and an approved tariff document.

For the period 2015 to 2018, the park issued on average 43 permits per annum for events and functions.

7.7 Cultural heritage sites

Approximately 102 sites are accessible to visitors.

7.8 Community use

Several residents practice subsistence fishing in the coastal areas (Wilderness beach and Nature's Valley) as well as the Knysna estuary and Swartvlei. Certain areas along the Tsitsikamma MPA are also open for fishing by local residents that meet certain criteria.

Ad hoc requests from local communities to make use of the park for cultural practices, as well as medicinal harvesting are also considered on a case-by-case basis.

7.9 Mining

A number of smaller borrow pits (gravel pits) that were previously managed as part of commercial pine plantations, are located in areas that were handed over to SANParks. All these areas will be assessed and where needed, rehabilitation measures will be developed and implemented.

7.10 Servitudes

The various servitudes traverses the park and are listed in Table 12 below.

Table 12. Servitudes registered against the park.

Description	Servitude
Knysna section	
Eskom (permanent right for power line)	Harkerville- user J. Spamer
Eskom (permanent right for power line)	Harkerville- user R. Carstensen
Tsitsikamma section	
Eskom	Provide a 22kV power line and power cable over Storms River Forest Estate
Eskom	A 22kV powerline (branching from main powerline on Storms River Forest Estate
Susan Brenda Jaffe Trust	Access road
Wilderness section	
Eskom	Power line route on / or over SANParks land 66kV width 31 meter 3 ha
Eskom	Permanent Right – Power line – 200 m X 18 m
Leppan	Access Woodville
Farmer community	Access Karatara
Dormehl farms	Access Farleigh

Section 8: Expansion strategy

The expansion and consolidation of the park remains a strategic priority for SANParks, given its recognised biodiversity, landscape interface and regional socio-economic importance. Expansion and consolidation will protect the ecological integrity of the park more effectively, incorporate a more representative and resilient suite of areas that support biodiversity conservation (especially threatened species and ecosystems) that can contribute to national biodiversity targets, contribute to the protection of strategic water source areas and support resilience to climate change effects.

Park expansion addresses objective SO1.1 of South Africa's National Biodiversity Strategy and Action Plan 2015 – 2025. This outcome seeks to secure a representative sample of ecosystems and species (biodiversity assets) in a network of protected areas and conservation areas that may be managed by government, private or communal landowners (Appendix 5, Map 3). Expansion also contributes to the United Nations Convention on Biological Diversity Aichi Target 11. By 2020, at least 17 % of terrestrial and inland water areas and 10 % of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, should be conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, integrated into the wider landscape and seascape.

The park expansion and consolidation strategy is also aligned with the National Protected Areas Expansion Strategy (NPAES) (DEA, 2016); the Western Cape Protected Area Expansion Strategy: 2015 – 2020; the Western Cape Biodiversity Spatial Plan Handbook (2017); the Eastern Cape Protected Area System Expansion Strategy; the SANParks Co-ordinated Policy Framework for Park Management Plans dated 01 September 2018; the SANParks Land Inclusion Policy, dated 21 August 2017 especially regarding the principles, criteria and mechanism for land inclusion; and the DEA Biodiversity Stewardship Guideline (2018).

A challenge facing the park is to design and implement land-use strategies that will ensure the conservation of natural resources in the face of ever-growing and competing demands for land use. Besides the formal approach of land acquisition, a new approach to achieving conservation goals, in an arena where land prices continue to escalate, will need to ultimately involve more contractual agreements and more effective integration with private and communal landowners through the creation of protected corridors across the landscape.

The ultimate desired state for the park would include the consolidation of priority biodiversity areas in the buffer zone through a range of voluntary biodiversity stewardship partnerships where stewardship sites do not necessarily need to be managed by SANParks; and secondly, through contractual agreements, donations or land acquisition (willing-buyer-willing seller).

Park expansion and consolidation via Biodiversity Stewardship

Biodiversity stewardship is an approach to securing land in biodiversity priority areas through entering into agreements with private landowners, Community Property Associations and the occupiers of communal land, led by conservation authorities and supported by conservation NGOs. Biodiversity Stewardship offers a mechanism for achieving national imperatives at a fraction of the cost associated with establishing or expanding traditional state-owned protected areas. The objective of biodiversity stewardship is to conserve and manage biodiversity priority areas through voluntary agreements with landowners and communities. This may involve formal protection, management and restoration of terrestrial and aquatic ecosystems.

The park aims to encourage private landowners to enter into biodiversity stewardship agreements in the identified Priority Biodiversity Stewardship Areas and where applicable these sites may be incorporated into the park.

Importantly, biodiversity stewardship contributes to several broader conservation and development goals:

- Conserving a representative sample of biodiversity;
- Involving landowners and communities as stewards of biodiversity;
- Supporting the biodiversity economy, especially in rural areas;
- Rehabilitating and maintaining ecological infrastructure;
- Encouraging climate change adaptation and ecosystem-based mitigation; and
- Supporting sustainable development.

There are three different categories of biodiversity stewardship agreements, ranging from long-term formally declared protected areas to non-binding initiatives (Table 13). Each successive level of agreement provides greater legislative protection for biodiversity and involves more land-use restrictions. In line with this, increased support and beneficiation is provided to the landowner for higher levels of commitment.

Category 1. Protected Areas: National Park, Nature Reserve, Protected Environment

Category 2. Conservation Areas: Biodiversity Management Agreement, Biodiversity Agreement Conservation Servitude, Business / Industry and Biodiversity Initiatives, Conservation Agreements

Category 3. Biodiversity Partnership Area: Conservancies, Buffer Zones and Transition Zones of Biosphere Reserves, Sites of Conservation Significance / Natural Heritage Programme, Community conservation areas

Table 13. Hierarchy of biodiversity stewardship agreements (Biodiversity Stewardship Business Case, 2017)

Increasing biodiversity importance Increasing support from conservation authority Increasing commitment to conservation			
	BIODIVERSITY STEWARDSHIP CATEGORY 1: PROTECTED AREAS		
	TYPE OF AGREEMENT	**LEGAL MECHANISM**	**DESCRIPTION**
	Nature Reserve or National Park	National Environmental Management: Protected Areas Act (Act 57 of 2003)	• Suitable for sites with highest biodiversity importance • Binding on property: declaration of Nature Reserve, and a title deed restriction • Binding on landowner: contract with landowner usually for 99 years/in perpetuity** • Considered to be part of South Africa's protected area estate, and contributes to meeting protected area targets
	Protected Environment	National Environmental Management: Protected Areas Act (Act 57 of 2003)	• Suitable for declaration over multiple properties • Less restrictive land use than Nature Reserve or National Park • Binding on property: declaration of Protected Environment. Optional title deed restriction. • Binding on landowner Considered to be part of South Africa's protected area estate, and contributes to meeting protected area targets
	BIODIVERSITY STEWARDSHIP CATEGORY 2: CONSERVATION AREAS		
	Biodiversity Management Agreement	National Environmental Management: Biodiversity Act (Act 10 of 2004)	• Less restrictive than protected area declaration • Must have a Biodiversity Management Plan (in terms of Biodiversity Act) on all/part of the property • Binding on landowner: contract with landowner for a minimum of 5 years, or longer in 5 year increments
	Biodiversity Agreement	Contract law	• Less restrictive than protected area declaration • Binding on landowner: contract with landowner for a minimum of 5 years or longer
	Conservation Servitude	Property	• Less restrictive than protected area declaration • Binding on landowner: notarial deed registered at the Deeds Registry for a minimum of 99 years or in perpetuity • Binding on successor in title • Provides management conditions particular to the area in question
	Business, Industry and Biodiversity initiatives		• Examples: Conservation Champions Programme, Water Stewards, Sustainable Farming
	Conservation agreements		• Offers direct incentives for conservation through a negotiated benefit package in return for conservation actions by communities. • Signed for a 3-year duration (with the option for renewal)

Increasing biodiversity importance Increasing support from conservation authority Increasing commitment to conservation	**BIODIVERSITY STEWARDSHIP CATEGORY 3: BIODIVERSITY PARTNERSHIP AREAS** This is an informal category of biodiversity stewardship which involves a registration of a site within this category by the provincial conservation authority or conservation NGO. • No legal certainty, duration and intent • Involves collective action by landowners or communities • Biodiversity conservation management benefits without formal agreements or accountability • Registration of mechanisms is advised Examples of such include (but are not limited to): • Conservancies • Buffer Zones and Transition Zones of Biosphere Reserves • Sites of Conservation Significance • Community conservation areas
	** Eligibility for tax incentives requires a minimum of a 99 year or in perpetuity title deed restrictions

Park expansion and consolidation via acquisition or donation

Expansion of the park can be achieved through direct acquisition by means of own (SANParks) funding, government funding or donation from a private or Non-Governmental Organisation donor. In the case of SANParks or state funding the acquired land becomes state land and is declared as national park (Clause 20 (2) of the NEM: PAA). In some cases, a private entity may acquire the land for national park purposes, but retains ownership with the land declared as national park (Clause 20 (3) of the NEM: PAA). Land can also be included via contractual park agreements which refer to cases where private or communal land is incorporated voluntarily into the park (and declared under the same Clause 20 (3) of NEM: PAA) under agreement between the parties but they retain ownership.

Expansion opportunities in the park are limited and the focus is to consolidate identified priority areas through some form of partnership in order to achieve the Park's desired state.

Priority biodiversity stewardship areas in the GRNP buffer zone

1. Contribution to national biodiversity targets

Four ecosystems in the buffer zone are listed in terms of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004): National list of ecosystems that are threatened and in need of protection, gazetted in 2011. The ecosystem status statistics for Threatened Ecosystems of the Western Cape (2016) found that threat status has increased as follows:

- Knysna Sand Fynbos is critically endangered. The remaining natural extent is 1,478 ha;
- Garden Route Granite Fynbos is critically endangered. The remaining natural extent is 9,649 ha;
- Langkloof Shale Renosterveld is critically endangered. The remaining natural extent is 1,783 ha; and
- Garden Route Shale Fynbos is endangered. The remaining natural extent is 19,865 ha.

2. Priority river corridors

Eight river corridors were prioritised in the buffer zone in the NPAES (DEA, 2016). These rivers are all National Freshwater Ecosystem Priority Areas (NFEPA) and range from Class B: Largely Natural to Class C: Moderately Modified. The rivers are:

- Wilderness Section: Kaaimans River, Touw River, Diep River, Hoogekraal River and Karatara River;
- Knysna Section: Homtini-Goukamma Rivers, Knysna-Gouna Rivers; and
- Tsitsikamma Section: Bitou River.

There is potential to protect river corridors via biodiversity stewardship agreements. Landowners have expressed interest in formal conservation at Kaaimans, Touw and Knysna Rivers.

3. New and revised Regulations for Protected Environments

NEM: PAA and its Amendment (Act No. 31 of 2004) repealed the whole of the Lake Areas Development Act, 1975 (Act No. 39 of 1975). By default, the Lakes Areas became Protected Environments.

- Knysna Protected Environment. Regulations for the Proper Administration of the Knysna Protected Environment (GN 1175 of 2009) were gazetted to provide for the management and protection of the ecological integrity of the PE. SANParks is an authorisation authority in the water area and on state land in the PE and in the development control area. The Regulations need to be revised to promote biodiversity stewardship in the entire PE footprint.
- Wilderness Control Area / PE. Regulations for the Wilderness PE need to be developed.

4. Wilderness Lakes Coastal Corridor

Discussions with interested landowners linking the RAMSAR site with the Admiralty Reserve in the Wilderness-Sedgefield Lakes Complex Important Bird and Biodiversity Area (IBA) and Birdlife SA have started. This corridor is suitable for a Biodiversity Stewardship agreement.

5. Upper Keurbooms Corridor

Eden to Addo has worked with landowners in the Upper Keurbooms Corridor and a biodiversity assessment has been undertaken. This corridor is suitable for a biodiversity stewardship agreement.

6. Incorporate municipal and state land with biodiversity value adjacent to the park when available and suitable.

7. Individual properties in the park's priority biodiversity stewardship footprint that add to management effectiveness or consolidation may be considered for incorporation or biodiversity stewardship agreements. Criteria needs to be formalised

The approach that SANParks will follow can be found in section 10.2.5 on page 109.

Section 9: Concept development plan

9.1 Long term development

Development is not considered lightly and is only embarked on in order to fulfil a real operational need or tourism opportunity. The park is not financially sustainable, however, it has the potential to improve its occupancy and to offer additional products to visitors in future. The current development plan focuses on ways to attract additional visitors to the park. Caution will be exercised when considering any development. The zonation of the park will dictate the broad placement of any development and the implementation of projects is dependent on the availability of funds, whilst environmental assessments will inform site specific considerations.

9.2 Development nodes

Development nodes are identified in terms of park sensitivity and recreational use zones that allow for high impact and low impact activities in the park. These nodes are located in relation to services, including bulk services such as sewage, water and electricity. This will allow the appropriate development of visitor facilities and support facilities such as ablutions and suitable parking for large volumes of guests. It is also associated with nearby municipal infrastructure such as significant municipal roads to improve access to the park facilities.

The following development nodes were identified in the park:

Tsitsikamma

Big Tree development node

The Tsitsikamma Big Tree precinct is regarded as the eastern gateway to the park. It is ideally located off the N2 and has become a popular landmark and tourist stop. Extensive upgrades to the visitor reception areas are currently underway that include a booking office, a coffee shop, an interpretation centre and retail space. The next phase of the Big Tree development will entail the upgrade of the boardwalk leading from the visitor reception area to the Big Tree. It will be planned in such a way that it offers the visitor a unique forest experience.

Petrusville precinct development node

Petrusville is located north of the current Stormsriver rest camp and served as a staff village in the past. All bulk services are therefore already in place and the existing infrastructure has long been identified to be upgraded to offer a variety of tourist accommodation.

Knysna

Garden of Eden / Harkerville development node

Garden of Eden is located next to the N2, halfway between Knysna and Plettenberg Bay. It has been identified as an ideal tourist stop that can offer a unique forest experience. The current parking area to the north of the N2 restricts the number of visitors. A disturbed area directly south of the N2 has been identified that can be developed to serve as parking (including tourist busses). This area will also serve as the start of the well-established Harkerville mountain bike trails. A pedestrian bridge will connect the parking area south of the N2 with the visitor facilities north of the N2. The visitor facilities north of the N2 are proposed to include an elevated treetop canopy walkway as well as a refreshment shop.

There is one treetop chalet in Harkerville that was constructed in 1992. In terms of occupancy, the treetop chalet proved to be very popular and feasibility studies indicated that it will be viable to construct additional similar accommodation.

Thesen Islands development node

A master development plan was developed for the vacant land on Thesen Islands (SANParks land). The development includes retail spaces, a boutique hotel, and floating jetties. As part of a Private Public Partnership (PPP) request for proposals (RFP) was advertised in 2009. Due to a combination of reasons, no proposals were received and it was decided to put the process on hold.

The development plan is currently under review and it is envisaged that RFP will be re-advertised in the near future.

Wilderness

Goudveld development node

Due to its rich history in terms of gold mining and woodcutters, Goudveld has been identified as a possible themed development node. The area was also made famous by Dalene Matthee, an author of various historical novels set in the area.

Business opportunities beyond development nodes

Beyond the high-density development nodes referred to above, the park contains an array of biophysical vital attributes defined by rivers, lakes, mountains, beaches and forests. These unique natural features have the potential to unlock and enable an additional range of meaningful nature experiences and / or alternative low-impact business opportunities that can add exceptional park experiences while being appropriate to the values of the park as expressed through the desired state articulation with stakeholders.

During the various Desired State workshops held across the Garden Route communities, stakeholders requested that the park should be more accessible to small business opportunities and more relevant to local communities in addition to the inherent generic conservation role of national parks. The largely rural communities in the Garden Route are often heavily dependent on the tourism industry as a primary employer and mechanism to generate income and it is recognised that the national park contains and protects some of the finest natural assets in the region. These communities desire the national park to facilitate a wider range of ecotourism business opportunities that would be sustainable in the national park. This will be addressed through the equitable access and local economic development and co-development of products programmes in section 10.

The Desired State workshops also alerted park management to the growing need of people to re-connect with nature, both through educational and experiential programmes, enabling cultural practices as well as business ventures that expose people, and in a controlled manner, to a range of outdoor experiences. Various community members also raised the need for development and business ventures inside national parks to lead the field in innovations in sustainable practices and green architectural designs. Waste reduction and resource efficient designs and approaches should thus become important guiding principle considerations in all upgrade, redesigning and / or new activities and products whether by management or business partners.

Park management desires and welcomes ongoing engagement to explore and develop opportunities with stakeholders, to try and learn from these new and / or different approaches, products, experiences or events. In all cases, we strive to explicitly consider the inevitable trade-offs between competing interests and expectations, the prescripts of park sensitivity and zonation guidelines, environmental, social and economic sustainability, and the desire to deepen connections or strive to re-connect stakeholders with the park.

9.3 Communication routes

Due to its urban setting and well-established supporting infrastructure, communication in the park is of a good standard (telephone, cellular and data networks). There are some minor challenges in isolated areas that are currently being addressed.

9.4 Service supply routes

The main service routes to the park are on well-established and maintained national and provincial roads. The N2 transects the park from the east to the west with a number of provincial roads leading from it.

9.5 Infrastructure development proposals

All infrastructure development proposals, including activity development, are presented in Tables 12 - 14 below.

9.5.1 Commercial facilities and activities

There are a limited number of commercial activities and / or products that could be developed in the park, or ones currently in operation that could be expanded/upgraded, in order to improve the tourism experience. All proposed opportunities will be individually investigated and priority determined based on feasibility, income potential and ecological impact. There may be opportunities for 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 present an opportunity, products may be considered based on the agreed terms and locations, as per the park product development framework (Appendix 3).

9.5.1.1 Accommodation

The new accommodation infrastructure that is envisaged for the park is set out in Table 14 below.

Table 14. Proposed accommodation development opportunities in the park.

Infrastructure / visitor sites	Current status	Zone	Probability
Knysna section			
Accommodation, Thesen Islands	Forms part of the master development plan	HIL	Medium
Treetop accommodation	Additional units to be developed	Various	Medium
Tsitsikamma section			
Oceanettes – Storms River rest camp	Infrastructure to be re-modelled	HIL	High
Petrusville	Infrastructure exists. Formerly used as staff accommodation	HIL	Medium
Wilderness section			
Ebb and Flow north	Ageing infrastructure in place. Land being leased from Garden Route DM. If land is transferred, infrastructure to be upgraded	HIL	Medium
Goudveld	Some infrastructure exists. Additional themed accommodation to be developed	LIL	Medium
Outeniqua hiking trail	Seven-day hiking trail traversing the Knysna and Wilderness sections exists. Product offering and infrastructure outdated and should be re-modelled	Various	High

9.5.1.2 Public private partnerships

A number of PPPs exist in the park (see Section 7). When the PPP periods expire, new PPP agreements will be entered into, in accordance with the SANParks commercialisation strategy and PPP processes.

9.5.1.3 Retail and other facilities

The new retail and other facilities that are envisaged for the park are set out in Table 15 below.

Table 15. Proposed retail development in the park.

Activities	Current status	Zone	Probability
Knysna section			
Thesen Islands retail facilities	Bulk infrastructure developed to support a number of retail opportunities. Master development plan to be revised	HIL	High
Tsitsikamma section			
Stormsriver mouth rest camp restaurant and retail shop	Temporary facilities in place following the destruction of the restaurant during a fire in 2017	HIL	High
Big Tree coffee shop and retail facilities	Development currently underway	LIL	High

9.5.1.4 Activities

Leisure activities provide 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. The Garden Route region has established itself as an adventure activity destination. Although several adventure activities exist in the park, additional activities have been identified (Table 16) for development.

Table 16. Proposed activity development in the park.

Activities	Current status	Zone	Probability
Knysna section			
Garden of Eden (GoE) treetop canopy walkway	Boardwalk currently exists. As part of GoE development proposal, an elevated treetop canopy walkway will be constructed	Various	Medium
Tsitsikamma section			
Big Tree boardwalk	Current boardwalk exists. Need to be upgraded to offer a unique experience (possible elevation)	LIL	Medium

Section 10: Strategic plan

10.1 Introduction

Sections 3, 4 and 5 of this plan outlined the policy framework, the consultation process and the desired state, mission and high-level objectives for the park. In this section, the high-level objectives of the park are unpacked 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 back to the core values and inputs from stakeholders. This approach conforms to the requirements of the NEM: PAA and the NEM: BA, SANParks policy and ratified international conventions.

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

- Natural heritage;
- Cultural heritage;
- Responsible tourism;
- Equitable access and benefit sharing;
- Participative engagement;
- Learning, interpretation, research, and monitoring; and
- Good governance.

Each programme is presented as follows:

- **Programme name:** A name describing 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 based on the availability of resources. These tables have the following headings:
    - **Objectives** The various objectives derived from the hierarchy of 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;
    - **Portfolio of evidence (PoE)**: Proof whereby the achievement of the objective can be evaluated;
    - **Timeframe**: An indication of when the action is likely to be completed (indicated by year in the planning cycle); and
    - **References**: References to relevant programmes, lower level plans (LLPs) 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.

10.2 Natural heritage

The purpose of the natural heritage programmes is to conserve systems and processes within and around the park to ensure a positive conservation outcome in the park and broader buffer zone. The responsible utilisation and sustainable management of the unique natural resources was emphasised by stakeholders. To this end, a number of objectives have been developed in order to conserve the diverse terrestrial and aquatic ecosystems in the GRNP on a landscape scale through adaptive, collaborative and innovative management approaches.

10.2.1 Integrated fire management programme

The purpose of this programme is to provide guidance on fire management particular in fynbos. Fire is the most important disturbance agent in fynbos vegetation, and is essential for maintaining biodiversity and natural ecological processes. Of critical importance is fire frequency, fire season and fire intensity. The ideal fire regime for the maintenance of natural diversity in fynbos exhibits a natural range of variability in respect of fire frequency, fire intensity and fire season, creating numerous transient niches maintaining fynbos in a near-natural state, whilst specifically considering optimal biodiversity and ecosystem services and protection of human life and infrastructure.

The following acts are key references which support the fire programme: National Veld and Forest Fire Act No. 101 of 1998 and National Environmental Management: Biodiversity Act No. 10 of 2004. The SBFPA and SCFPA members includes park officials, forestry companies, conservation agencies and private landowners. Its primary objectives are to empower local communities in assisting them to become more aware of the risks of fire, capacitate them to act proactively to reduce the hazards and vulnerability of assets, and allow them to act as a first response to fire emergencies.

The minimum fire frequency is determined by time required for the vegetation to reach maturity and species to complete their life cycles. A general guide for fire frequency for Tsitsikamma and Outeniqua fynbos has been set at 15 years by Southwood and De Lange (1984), and a minimum threshold of nine years suggested by Kraaij *et al*. (2013a). However, age to maturity, fuel accumulation, and fire return periods vary substantially between mesic and drier sites, with fire return periods being shorter on southern slopes and sites with deep soils, and longer on northern slopes and shallow or rocky soils. An analysis of the fire history (1970-2006) in the Outeniqua Mountains east of the Touw River, determined that average fire return intervals have been in the order of 11 - 14 years (Kraaij, 2012).

The time of year at which fires occur naturally in fynbos is largely determined by climatic factors and can have a marked effect on species response to fire, especially in terms of regeneration patterns and the subsequent floristic composition of mature fynbos. Summer and early autumn fires seem to be beneficial for most fynbos plant species in terms of post-fire regeneration, which is also consistent with natural fire ignition patterns. However, fires in fynbos can occur in all months under suitable weather conditions. Recent work in the eastern Cape Floristic Region, with its less seasonal climate, indicates that natural fires are less seasonally constrained in these areas than in western and inland mountains, providing a bigger window of opportunity for prescribed burning (Kraaij *et al*., 2013d) with more variable recruitment conditions throughout the year (Heelemann *et al.,* 2008).

Post-fire regeneration and plant species composition after fire can be severely impacted on by fire intensity. For example, low intensity fires benefit sprouting species and species with shallow seed banks, while other species could benefit from high intensity fire. The fire intensity depends on the fuel load, the compactness and arrangement of fuels, fuel moisture content and the rate at which they burn, as influenced by climatic conditions. Compared to other parts of the Fynbos Biome, fire danger weather conditions in the park are low or moderate year-round, peaking in winter due to low rainfall and prevalence of bergwinds. Adverse local conditions can lead to extreme fire danger, as seen in the October-November 2018 fires that burnt more than 100,000 ha. Natural fires have the greatest likelihood of occurring during fairly extreme weather conditions and would be the more favourable conditions for prescribed burning to maintain biodiversity, but is constrained by practical management considerations around fire safety.

The programme entails developing and implementing a fire management system that would incorporate the different aspects of a natural fynbos fire regime to ensure the conservation of biodiversity and the maintenance of natural ecological processes, but within the constraints of fire protection considerations. The fire management system should also meet the requirements of the National Veld and Forest Fire Act and be cost-effective and implementable.

The park can, for fire management purposes, be divided into mountain catchment fynbos and 140 smaller, isolated or fragmented patches of fynbos covering roughly 7,500 ha.

Fire management system for mountain fynbos

Fire management options for the park's mountain fynbos include (a) scheduled block burning, (b) natural fire zone management and (c) adaptive interference fire management.

After completed handover of decommissioned plantations from MTO to SANParks, SANParks will manage consolidated stretches of mountain catchment areas comprising fynbos south of the mountain crest, the clear-felled plantations to be rehabilitated along the mid-slopes, and the natural forests along the footslopes. The natural forest patches largely serve as a buffer to protect areas south of the forests from fires originating in the fynbos catchments, unless in extreme adverse drought and windy conditions when fire may spread over to these forests. There may be instances where management intervention in the form of prescribed burning may be considered, *e.g.* in the case of excessive fuel build-up in high risk areas, in the case of senescent fynbos, or where fire may facilitate fynbos rehabilitation. The management system that was thus opted for is an Adaptive Interference Fire Management System. This is essentially a combination of Natural Fire Management and Prescribed Burning (Seydack, 1992). The system is flexible and, by definition, regular assessments are conducted to decide on the most appropriate, pro-active fire management measures.

Adaptive interference fire management system as implemented in the Outeniqua and Tsitsikamma Mountains

The Adaptive Interference Fire Management System is the most viable management option for the Outeniqua and Tsitsikamma Mountains, considering the extent of the catchment area and the presence of indigenous forest that can partly serve as a natural fire barrier between fynbos and assets that need to be protected. The system provides for the use of both natural (particularly lightning) and artificial sources of ignition. Fires will be controlled as demanded by the appropriate fire regime for the Outeniqua and Tsitsikamma Mountains' fynbos, fire risk to private property, veld age configuration, etc., following biannual assessments of fire risk and intervention required for biodiversity conservation. Particular attention was given to requirements and measures to protect commercial plantations against fire damage, without jeopardising the objectives of biodiversity conservation. The Adaptive Interference Management Approach would allow for a natural range of variability in respect of fire frequency, fire season and fire intensity in a cost-effective way, while also meeting responsibilities in terms of fire protection.

Considering the dual objectives of biodiversity conservation and fire protection, the extent and topography of the catchment areas, and the locality and distribution of assets such as commercial plantations in the landscape, two fire management zones were distinguished. This includes a Wildfire zone where lightning would be the primary source of ignition, and a Block Burn zone where fire protection would be the primary objective.

Wildfire zone

The wildfire zone comprises the largest part of the GRNP mountains. In this zone, man-made fires are limited with lightning fires being the main source of ignition. The extent of the area and the limited extent of transformation of the natural vegetation (apart from invader plants), should allow for a self-driven fire regime, based on natural climatic and topographic patterns in the area. As such, management intervention in this zone should be limited, and self-ignited fires should, as far as possible, be allowed to burn themselves out. This should ensure a fire regime for maintaining natural ecological processes and patterns, *i.e.* a fire regime characterised by natural spatio-temporal variability in terms of frequency, seasonality, intensity and size.

Although management intervention should be limited, fire management in the wildfire zone is flexible. An assessment would be conducted biannually to decide on the most appropriate, pro-active measures in anticipation of wildfires. The spatial control of fires is thus pragmatically determined according to local circumstances of veld age configuration, accessibility, hazard to

property, fire protection measures already in place, *etc*. This should lead to the delineation of three sub-zones within the wildfire zone: areas where fires should not burn, areas where fires may be allowed to burn unhindered and, areas where fires should preferably burn within the foreseeable future. Spatially, these sub-zones will be dynamic in time as determined at biannual assessments.

Thus, although fire management intervention should be limited in this zone, pro-active fire protection measures will be considered if required, and the fire regime may be supplemented with intentional fires when and where required. This approach should also afford sufficient flexibility to manage fire in relation to the dynamic plantation exit and rehabilitation process in the Southern Cape, as well as invader plant control. On the southern slopes of the Outeniqua- and Tsitsikamma Mountains where the catchment area borders commercial pine plantations, the need for block burns for fire protection and control is largely covered in the block burn zone. However, additional block burns could be a consideration to the north where the catchment area borders farmland, should the need be identified.

Block Burn zone
This zone in Tsitsikamma is largely confined to a portion of the first west-east running ridge in the catchment area, just north of the commercial plantations, and only where indigenous forest does not form a natural buffer between fynbos and plantations. The objective with this zone is to effectively reduce the risk of damage to plantations by fires originating in the catchment area, through block burns for fuel reduction, while retaining the biological integrity of the area as far as possible. The blocks were strategically placed following an assessment of natural fire distribution patterns in Tsitsikamma, and typically occur along the northern boundary of the plantations. The total extent of these blocks is approximately 2,300 ha. These blocks will be burnt on a rotational basis with scheduling and priorities determined during annual assessments. The block burn system is further supported by strategically placed fire belts, as formally agreed between SANParks and neighbours.

Fire management system for the fragmented fynbos patches
The more than 140 patches of fragmented fynbos are largely associated with scarp and coastal platform forest, and include (i) degraded forest patches, (ii) fynbos islands which are completely isolated and cut off from mainland fynbos, and (iii) fynbos fragments which are partially isolated from mainland fynbos. The primary objective is to manage the fynbos patches as close as possible to the natural fire regime. For fragmented fynbos patches associated with forests, the fire regime is largely determined by the topographic location of the fynbos patch in the landscape, in relation to natural fire patterns as influenced by prevailing wind conditions. The fire regime and management approach for small patches of fynbos integrated with forest, could thus differ from that of the mainland fynbos. Management objectives and prescriptions for fynbos patches are accordingly influenced by their bio-geographical features as well as practical management considerations

Fire management prescriptions: fire breaks, frequency, season, intensity
A system of fire breaks will be put in place where fynbos abuts plantations and other assets/infrastructure. The location and specifications (width, clearing method and rotation) of these fire breaks will be work shopped and formally agreed with adjacent landowners within the institutional framework of the SBFPA and SCFPA.

From a biodiversity conservation perspective, fynbos should not be burnt at post-fire ages of <9 years, while longer intervals may be required in drier habitat types (Kraaij *et al.,* 2013). In cases where conflict of interest arises between the needs for fuel reduction vs. biodiversity conservation, field assessments should establish the biodiversity value of those particular sites and the fire risk in the landscape and a compromise decision reached between stakeholders. Block burning may under no circumstances be undertaken in vegetation of less than nine years of age.

Rather than burn under cool, moist conditions for ease of fire control, more elaborate pre-burning precautions (*e.g.* wider tracer belts), should be considered to allow for more intense fires. From a risk and safety perspective, fire managers regard the periods September to November and March to May as the best windows of opportunity to undertake prescribed burning, but early summer may provide additional opportunity.

Given that most invasive alien plants in the area are adapted to, and proliferate after fires, it is imperative that fire management is aligned with invader plant control measures (Kraaij *et al*., 2011).

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high level objective 1 and objectives 1.1 and 1.2 on page 44. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

INTEGRATED FIRE MANAGEMENT PROGRAMME					
High-level Objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain and/or simulate natural patterns and processes through the implementation of appropriate fire regimes by applying integrated fire management practices.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To apply appropriate fire regime in fynbos areas.	Integrate the park fire management approaches with regional initiatives and plans.	PM, SS	Document	Year 3	Invasive alien species LLP
	Development of annual plan of operations (APOs) that reflect the fire management systems for the various sections of the park.	PM	APO's developed	Annually	
	Implement prescribed ecological burns and fire breaks.	PM	Fire reports and maps	Annually	
	Research and long-term monitoring to improve understanding of the natural fire regime including the review of spatio-temporal fire configuration to inform adaptive fire management and monitoring of the impacts of fire regime on the vegetation.	SS	Monitoring results	Ongoing	
To ensure effective wildfire suppression and prevention where appropriate, recognising increasing extreme weather occurrences.	Conduct fire risk assessment for the park and determine appropriate interventions in consultation with parties.	PM, SS	Assessment report and maps	Year 1	
	Actively participate in Fire Protection Associations and associated programmes such as fire awareness programmes in local communities..	PM	Minutes of meetings	Ongoing	
To ensure adequate level of fire management preparedness.	Conduct audit to ensure fire preparedness, and address findings.	PM	Audit report	Annual	Safety & Security LLP
	Conduct training including fire simulation exercises.	PM	Training register	Annual	

10.2.2 Invasive alien species management programme

The purpose of this programme is to protect the biodiversity and tourism experiences within the park through supressing and eradicating and preventing the re-infestation of invasive and alien species (IAS), within the park as well as the protected area buffer of the park, and to reduce the risk to the park from new and emerging species.

Climate change, invasive alien species (IAS), pollution and mining are the key threats to protected areas (Alers *et al*., 2007). Worldwide invasive alien plants are considered to be a major threat to biodiversity and ecosystem services with the threat deemed to be increasing. Invasive species can transform the structure and species composition of ecosystems by replacing indigenous species, either directly, by out-competing them for resources or by changing the way nutrients are cycled through the ecosystem. They also increase biomass, which in turn changes fire regimes and fire intensity (McNeely *et al.,* 2001). Foxcroft *et al.* (2013) identified biological invasions as one of the greatest threats to protected areas.

Several international conventions call for the management of IAS, including the Convention on Biodiversity. In South Africa, the management of IAS is mandatory under NEM:BA (National Environmental Management: Biodiversity Act No. 10 of 2004). SANParks Policy on the

Management of Invasive Species (17/P-CSD/Pol/AIS (09-17) v1) provides the context within which all management of IAS is implemented and the Standard Operating Procedures (SOPs) for the implementation of invasive alien plant projects governs the management thereof.

The park, embedded in a complex matrix of land use types, is susceptible to the threat of IAS. Much of the terrestrial vegetation of the Garden Route (primarily fynbos shrublands and Afrotemperate forest), has been transformed into farmland, commercial timber plantations and towns with a network of roads which surround and transect the park. These human-induced disturbances surrounding the park, and conduits between the park and disturbed areas, provide opportunities for continuous invasion of the protected area. Recent assessments have indicated that alien fish establishment in some estuarine systems is extensive and problematic.

The management of IAS must follow a pragmatic approach while operating within broader policy frameworks. The development of robust decision-making tools that are based on both invasive species traits as well as ecological principles, along with effective implementation, is key to the success of invasive species management programmes. The likelihood of protecting the park from the threats of IAS is strongly dependent on sound management strategies and effective implementation thereof, as well as adequate resources and constructive engagement with key stakeholders, effective legislation and policing of legislation.

The purpose of this programme is to safeguard ecosystem services provided by the park, as well as protect biodiversity and tourism experiences within the park. This can be achieved through the control and supressing and eradicating and preventing the re-infestation of invasive and alien species (IAS), within the park as well as the protected area buffer of the park. The protection of the park from new and emergent species through monitoring and rapid response is also key to the management strategy. The persistence of alien species in the park is inevitable however maintaining the gains of previous and current control efforts is vital.

List of invasive species occurring in the park

There are currently more than 300 alien species listed in the park, including 278 plants species, of which 13 are extralimital, and 31 animal species (5 fish, 1 amphibian, 5 birds, 2 bivalves, 12 insects, 6 other). The majority of these species are considered as not invasive or problematic.

Foxcroft *et al*. (2019) identified a subset of the invasive alien plant species occurring within SANParks estate as transformers, where transformer species are defined as plant species that potentially alter the functionality of ecosystems across a substantial percentage of the ecosystem within which they occur. Of the 278 invasive alien species that have been identified in the park; 108 have been identified. Of these, 58 are considered to be high priority species for management (priority 1), 19 as priority 2 species and 31 as priority 3 species.

Description of the land infested and assessment of the extent of infestation

The park can roughly be divided into mountain and lowland fynbos, rehabilitated clear-felled plantation areas (mostly fynbos) (together 84,000 ha), forest (43,700 ha), freshwater and estuarine systems (about 3,500 ha). Another c. 1,500 ha comprise various land uses such as transformed land, fire belts, pasture, forest villages, office terrain and roads, all of which increase the potential for invasive plants to be introduced and spread. A recent study (Kraaij *et al.,* 2018) has estimated that *Pinus* species occur over > 90 % of the park's fynbos vegetation at various densities, and additional invasions by Australian *Acacia* and *Eucalyptus* species over 29 % and 14 %, respectively.

The areas of lowland fynbos show lower levels of invasion, possibly due to the accessibility of these areas and previous management of invasive species. The areas previously under commercial forestry show good recovery back to natural fynbos. These areas are often badly invaded by *Pinus* seedlings, black wattle *Acacia mearnsii* and blackwood *Acacia melanoxylon*, all of which have extensive soil or tree borne seed banks. Old gum belts *Eucalyptus spp.*, now felled or ring-barked, are still coppicing and seedlings are common close to the old planted belts, partly due to poor control methods. Indigenous forest patches are seemingly more resilient to invasion, however, *A. melanoxylon* is well established in the forest but mostly at low densities, and along drainage lines running into forest areas, especially off disturbed areas. Pathways are prone to invasion by bugweed *Solanum mauritianum* and other emerging species that fit that niche.

The wider rivers with less steep gradients are often invaded by *A. mearnsii* and *A. melanoxylon.* In a river survey undertaken in 2016, most areas were found to be invaded at densities below 15 % and most often at

densities less than 3 %. Aquatic weeds were negligible in the survey and pines and gums in the rivers beds were found to be uncommon.

In the freshwater and estuarine systems, it is generally alien plants and fishes that have the greatest impact. Where in-stream plants, such as the alien giant reed *Arundo donax* and the indigenous common reed *Phragmites australis*, encroach, stream flows can be altered impacting natural flows and contributing to siltation of channels.

Kariba weed *Salvinia molesta* forms dense stands which block waterways, reduce dissolved oxygen levels and result in a decline in water quality. In the park, however, its distribution appears to be limited to relatively few pools in the lower reaches of two rivers, and it is unable to establish in the higher salinity lakes. Thus its overall impact in the park is likely to be small.

Alien invasive fish species are considered a major factor affecting biodiversity in freshwater systems, however, their impacts on estuarine communities are often poorly understood. The introduction of large- and small-mouth bass has been found to result in a decline, and in some cases local extinction, of indigenous fishes. The introduction of omnivorous carp *Cyprinus carpio* can also have a significant effect on the abundance and diversity of native fish communities. Their introduction frequently leads to increased water turbidity that, in turn, can result in reduced photosynthetic production, decreased macrophyte abundance and reduced visibility for visually feeding fish.

Populations of waterfowl have been observed to decline from vegetated waterbodies into which carp have been introduced. Mozambique tilapia *Oreochromis mossambicus* has caused considerable damage to indigenous fish population in many parts of the world and is internationally considered a pest. Its greatest impact on indigenous fishes is likely to be competition for food resources. Mosquito fish *Gambusia affinis* which is well established in vegetated areas of the Wilderness Lakes, has more recently been found in the Swartvlei, Noetzie and Groot Estuaries but seems to have little impact on indigenous species. However, the presence and impact of this species within the catchment area of these estuaries has not been established.

Status report on the efficacy of previous control and eradication measures

Within the GRNP, work on IAS is focussed almost exclusively on terrestrial plants. Funding has been received since 2000 through the Expanded Public Works Program (EPWP) via the DEA's Natural Resource Management Programme. A total of approximately R210 million has been utilised within and adjacent to the park. Some 50,000 ha have initially been cleared and 96,000 ha have been cleared accumulatively in follow-up initiatives. The focus of the BSP IAS management programme has been mostly on the fynbos mountain areas and associated forest margins and some river corridors. The key species have been primarily pines, *Hakea sericea*, black wattle and blackwood in the fynbos areas and blackwood and black wattle in the river corridors and rooikrans *Acacia cyclops* in the coastal / lowland areas.

Access to the mountain fynbos areas, due to a lack of road infrastructure, dangerously steep areas and old dense inaccessible high fynbos, has been challenging and has hindered the continuity of clearing in these areas. Fires in October and November 2018 reduced the impenetrable fynbos in the western part of the GRNP considerably, improving accessibility. The riverine corridors also present challenges due to deep steep ravines and pools that need specialised access methods.

The following are currently the most problematic aquatic plant species in the park: *Azolla* species, *Ludwigia palustris, Nasturtium officinale, Persicaria attenuata* and *Salvinia molesta*.

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

SANParks' IAS framework provides an integrated approach to IAS 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; and
- Restoration.

The spread of IAS into the park from areas immediately adjacent to the park as well as along rivers, roads and other potential pathways that intersect the park, remains a high risk area for management. Effective monitoring of these pathways entering the park as well as areas immediately adjacent to the park is critical. These areas will be monitored, assessed for risk of movement into the park, prioritised in terms of eradication and treated accordingly. A full assessment and risk analysis of IAS in the park will enable priority setting. Prioritisation will then allow resources to be directed into ecologically sensitive and economically feasible areas. A generic set of criteria has been developed to prioritise areas and species. Once species and associated areas have been prioritised for treatment, this will be fed into an APO, which will form the basis of the motivation for funding annually. The APO will set out clearing schedules for each site, personnel requirements and costing. A long-term strategy will be developed for the areas within the park and adjacent buffers, which will assist in compiling an inventory, priority listing and allocation of resources over a five to ten year time frame. This long-term strategy will inform funding motivation and operations on an annual basis. Working with the South African National Biodiversity Institute (SANBI) Early Detection and Rapid Response Programme, the park will aim to identify pathways into the park, so that new IAS introductions may be prevented, and to enable a rapid response to eradicate or contain infestation. Even though a new invasion may seem insignificant, it must be evaluated for risk and potentially prioritised for treatment to ensure the threat does not spread, which could potentially require exponentially more effort and resources to clear at a later stage.

Control methods, or an integrated combination thereof, are designed to suit the target species and environment in which they occur. The following methods are currently being used within the park, and in the park's buffer area:

1. Initial treatment (mechanical, chemical and biological).

    - Felling, cross cutting and stacking in riparian areas, by chain-saws;
    - Frilling or ring-barking with hand tools;
    - Herbicide application by foliar spraying, or combined with frill/ring-bark and spray or cut-stump application; and
    - Biocontrol on IAS species where bio-control is proven effective.

2. Follow-up treatment (manual, chemical and biological).

    - Loppers and hand saws;
    - Herbicide application by folia spraying, or combined with frill/ring-bark and spray or cut-stump application
    - Biocontrol release – agents supplied by national biocontrol initiatives

Ongoing monitoring of potential habitats for all listed plant species is critical. For the park to reach its IAS control goals, which entails clearing a minimum of about 21,500 ha per year.

A complete IAP survey of the GRNP was done in 2008 (GRI Alien Mapping, 2008). In all areas cleared by BSP/WfW, species age class and density are recorded in WIMS (Working for Water Information Management System) and form a baseline of IAP infestation. Selected terrestrial areas were surveyed from the air as well as 445 km of major rivers in the area, to form a baseline for planning and future monitoring. An IAP monitoring project started in 2019 in fynbos areas to determine IAP species diversity, abundance, age class, density and spread.

Wetland areas are inspected for *Azola spp* during routine patrols by conservation and other SANParks staff. During biannual waterbird surveys, the distribution and extent of floating aquatic plants are also assessed. Assessments of the occurrence of alien fish species in river systems on private properties in catchments of

river systems flowing through the park should be made to enable negotiation with landowners around remedial options, and particularly the reduction or removal of alien fish species in dams, in high priority systems to reduce or prevent new or continued invasion of aquatic systems by alien species.

Only selected alien plant species had biocontrol agents released in South Africa. Most of these are present for the relevant alien plants in the GRNP, except for *Solanum mauritianum* which should be urgently investigated. Variable success has been attained. "Gall formers" have been very successful in reducing or preventing seed set on *Acacia mearnsii* and *A. longifolia* but less so on *A. cyclops*. These species still have large seed banks that will survive for very long. Seed-eating weevils are present for *A. melanoxylon* and *A. mearnsii* but they are not reducing seed banks to significantly lower levels. *Salvinia molesta* had biocontrol introduced with variable success. Due to conflict with commercially propagated pine species, biocontrol for *Pinus pinaster* cannot be utilised, but is urgently needed.

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

Acacia baileyana	*Canna indica*	*Leptospermum laevigatum*	*Populus canescens*
Acacia cyclops	*Casuarina equisetifolia*	*Ligustrum japonicum*	*Psidium cattleianum*
Acacia dealbata	*Cestrum laevigatum*	*Melia azedarach*	*Psidium guajava*
Acacia decurrens	*Cinnamomum camphora*	*Morus alba*	*Robinia pseudoacacia*
Acacia elata	*Cortaderia selloana*	*Myoporum montanum*	*Rosa rubiginosa*
Acacia longifolia	*Cotoneaster franchetii*	*Myriophyllum spicatum*	*Rubus fruticosus*
Acacia mearnsii	*Datura stramonium*	*Nerium oleander*	*Salvinia adnata*
Acacia melanoxylon	*Eriobotrya japonica*	*Opuntia ficus-indica*	*Sambucus nigra*
Acacia podalyriifolia	*Eucalyptus camaldulensis*	*Opuntia monacantha*	*Schinus terebinthifolia*
Acacia saligna	*Eucalyptus diversicolor*	*Paraserianthes lophantha*	*Senna didymobotrya*
Acacia stricta	*Fraxinus angustifolia*	*Pennisetum clandestinum*	*Senna septemtrionalis*
Acer negundo	*Gleditsia triacanthos*	*Pennisetum setaceum*	*Sesbania punicea*
Ailanthus altissima	*Grevillea robusta*	*Pereskia aculeata*	*Solanum mauritianum*
Alpinia zerumbet	*Hakea drupacea*	*Pinus canariensis*	*Solanum pseudocapsicum*
Anredera cordifolia	*Hakea gibbosa*	*Pinus elliottii*	*Tamarix ramosissima*
Arundo donax	*Hakea salicifolia*	*Pinus halepensis*	*Tipuana tipu*
Azolla sp.	*Hakea sericea*	*Pinus pinaster*	*Verbena bonariensis*
Bryophyllum delagoense	*Homalanthus populifolius*	*Pinus radiata*	
Callistemon rigidus	*Ipomoea indica*	*Pinus taeda*	
Callistemon viminalis	*Lantana camara*	*Pittosporum undulatum*	

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

The fragmented nature an inaccessibility of the park, along with the extensive transformation of land adjacent to the park, and pathways that enter and exit the park through this transformed land, make the eradication of species established within the landscape unlikely. Limited funding and capacity constraints further hampers progress. The most desirable outcome is to maintain the park, or key areas of the park, in a state where IAS, specifically plants, have no negative impact on biodiversity or ecosystem function. This can best be achieved by identifying those species or populations that may have the greatest impact on biodiversity and ecosystem services, setting species- and area-specific management objectives and maintaining populations of IAS at or below acceptable thresholds where there is likely to be little impact.

Scientific services, in collaboration with park management and the BSP management and support teams, are responsible for the planning of IAS control in the park. BSP is primarily responsible for the implementation of IAS management, currently focusing on invasive alien plants (IAPs), within the park and critical areas adjacent to the park, as supported by park management. The implementation of these programmes is guided by the SOP for the management of invasive alien plant projects within SANParks.

The monitoring of the control programme is critical to its success, and adaptive learning needs to be applied across the management cycles. Monitoring of the IAS programme is guided by the management strategies set for both species and areas as required by the NEM: BA. A set of management guidelines with explicit objectives and outcomes has been developed for the management of IAP within the park and selected areas in its buffer zone.

This programme links with high-level objective 1 and objectives 1.2 and 1.3 on page 44. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

INVASIVE AND ALIEN SPECIES PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To control, and eliminate, alien biota to maintain and / or facilitate re-establishment of natural biodiversity.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To assess alien threats and plan appropriately for effective response.	Mapping the distribution of alien plants.	BSP, PM, SS	Database	Ongoing	
	Prioritisation and planning for alien control (including risk assessment and identifying pathways of invasion, including further research).	SS, BSP, PM	Annual plan operations	Annual	Fire and Rehabilitation LLPs
	Development of species-specific management action plans.	SS	*A. melanoxylon* species plan	Year 1	
	Development (including consultation) of ornamental and domestic biota protocol.	PM, SS	Document	Year 3	
To mitigate the threat of alien biota from sources external to the park and restore landscape functionality.	Interaction with neighbours and landowners in the broader region via forums and create awareness amongst neighbouring landowners of the threats of alien species in an effort to support preventative measures.	PM, BSP	Member of forums and other interactions as needed Interventions recorded in annual reports	Ongoing	Integrated land use programme
	Control alien plants in prioritised areas in buffer zone that pose a threat to the park.	BSP, PM	APO and quarterly reports	Ongoing	
To manage alien threats through implementation of control plans	Implement BSP APPs.	BSP, PM	Quarterly reports	Quarterly	
	Manage alien animal invasions or feral animals.	PM	Database of alien animal observation and management interventions	Ongoing	SANParks Alien and Invasive Species Management Policy (2017, draft)

10.2.3 Aquatic ecosystem

10.2.3.1 Fresh water management programme

The purpose of this programme is to promote / maintain the functionality and diversity of freshwater ecosystems in order to support healthy communities of biota and deliver important ecosystem services to people. The programme will aim to achieve a sustainable balance between biodiversity conservation and human well-being objectives, by minimising impacts on natural processes and by appropriately responding to change, and to do so in cooperation with relevant partner departments and agencies.

Freshwater ecosystems (rivers and wetlands) are a defining feature of the Garden Route landscape, and a key determinant of its scenic appeal (a vital attribute of the park), biodiversity (distribution of species and ecological processes), and potential for human well-being (providing water for various domestic, economic and recreational uses, and contributing to overall sense of place). More than 70% of the rivers flowing through the GRNP are assessed to be in a good ecological condition. These rivers represent seven of South Africa's 223 river ecosystem types. Almost 75% of the river length in the GRNP has been selected as national freshwater ecosystem priority areas (FEPAs), the highest proportion of river length in any of the national parks. The Groot River (west) in the GRNP is one of only three free-flowing rivers in the country that have their entire length fully protected, although there is abstraction from this river to provide water to Nature's Valley and a small portion of the catchment support plantation. It is also one of South Africa's 19 flagship free-flowing rivers. On the other hand, the wetlands of the GRNP are largely unmapped, and remain poorly understood. An exception is the wetlands in and around Knysna, which have been mapped at a fine scale. Furthermore, very little information is available about the groundwater aquifers that directly relate to the GRNP. However, approximately 60% of the GRNP (primarily Outeniqua and Tsitsikamma Mountains) overlaps spatially with South Africa's strategic water source areas, which are those areas that supply a disproportionately high volume of the country's water in relation to their surface area. As such, this park makes the biggest contribution to strategic water source areas protection of all the national parks, contributing significantly to water security in downstream areas.

Several challenges characterise the management of freshwater ecosystems. The first is that multiple pressures can have cumulative impacts on freshwater ecosystems. The main pressures responsible for the degradation of freshwater ecosystems are flow alteration, water pollution, destruction or degradation of natural habitat (especially riparian zones of rivers and wetlands), IAS and climate change. Furthermore, the fragmented nature of the GRNP, resulting in multiple land uses juxtaposed within the same catchment, poses significant challenges to the conservation of especially downstream river reaches, lakes and estuaries. As a result of human-induced changes to hydrodynamic processes (*e.g.* through water abstraction and damming), some river systems are on trajectories of change with a large degree of uncertainty about their future conditions. This, together with overlapping legislative mandates from several national, provincial and local authorities, some of which have limited capacity, add complexity to the management of freshwater ecosystems.

Considering the above, an important strategy for SANParks to conserve freshwater systems within the GRNP is through strategic relationships with Catchment Management Agencies (CMAs), other water management forums and stakeholder groups, such as farmers. Strategic relationships have the aim of facilitating cooperation, knowledge sharing and resource mobilisation to advance effective conservation of aquatic ecosystems. Prominent activities would include lobbying for and active participation in the determination and implementation of ecological reserves; facilitating assessment of ecosystem and river health; and provision of information and insight obtained through research and monitoring to facilitate informed decision-making and the successful implementation of catchment-scale adaptive management systems.

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high-level objective 1 and objectives 1.2 and 1.3 on page 44. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

FRESHWATER MANAGEMENT PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of freshwater, estuarine and marine ecosystems by minimising impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To develop and maintain strategic relationships with relevant implementation partners, including the Department of Water and Sanitation (DWS), CMAs and municipalities.	Contribute to relevant engagements.	PM, SS	Minutes of meetings	Ongoing, reflective evaluation year 3, 6, 9	Stakeholder engagement programme
To improve basic knowledge of rivers.	Develop survey programmes for selected rivers.	SS	Programme design	Year 3	Research and monitoring programme
	Implement surveys on selected rivers.	SS	Survey results	Year 3, ongoing	
To improve data layers for determining conservation priority and sensitivity of rivers.	Design and register research projects.	SS	Registered research project	Year 2	Research and monitoring programme
	Update data layers.	SS	Updated data layers	Year 5	
To make the link between freshwater ecosystem conservation and human well-being objectives more explicit.	Promote water-related ecosystem services research.	SS	Registered research projects	Ongoing	Research and monitoring programme

10.2.3.2 Estuarine management programme

The purpose of this programme is to identify, prioritise, and implement management actions for the conservation and sensible use of estuaries in the park, thereby minimising, mitigating and reversing deleterious changes and maintaining healthy, diverse and productive systems for the benefit and enjoyment of all.

The Ramsar Convention (Convention on Wetlands of International Importance especially as Waterfowl Habitat, 1971) is an intergovernmental treaty that provides the framework for local, regional and national actions, as well as international cooperation for the conservation and sensible use of all wetlands and their resources, as a contribution towards achieving sustainable development throughout the world. The convention covers swamps and marshes, lakes and rivers, wet grasslands and peatlands, oases, estuaries, deltas and tidal flats, near-shore marine areas, mangroves and coral reefs, and human-made sites such as fishponds, rice paddies, reservoirs, and salt pans. South Africa currently has 23 Ramsar wetlands of which three are under the jurisdiction of SANParks. The Wilderness Lakes System is a Ramsar wetland and is situated within the park. The Marine Living Resources Act, 1998 (Act No. 18 of 1998), provides for the conservation of the marine ecosystem (which includes estuaries), the long-term sustainable utilisation of marine-living resources and the orderly access to exploitation, utilisation and protection of certain marine-living resources; and for these purposes to provide for the exercise of control over marine-living resources in a fair and equitable manner to the benefit of all the citizens of South Africa. The fundamental principles of the National Water Act, 1998 (Act No. 36 of 1998) are the recognition of the basic human needs of present and future generations, the need to protect water resources, the need to share some water resources with other countries and the need to promote social and economic development through the use of water. To maintain the ecological integrity of estuaries, proper management of the freshwater inflow and knowledge of the ecological water requirements of the estuary are needed. Ongoing engagement between SANParks, DWS and both local and district municipalities is therefore crucial to ensure that the estuary maintains a healthy ecological state.

The park is a world-renowned conservation area and tourist destination, famous for the diversity and extent of its forest, fynbos, estuary and marine ecosystems. Of all of these ecosystems, estuaries are arguably the most intensively utilised, altered and endangered. There are eleven estuarine systems in the park representing all five different South African estuarine types, including an estuarine bay (Knysna), a

permanently open estuary (Salt), a temporarily open/closed estuary (Groot west), estuarine lakes (Wilderness; Swartvlei) and river mouths (Bloukrans, Lottering, Elandsbos, Storms, Elands, Groot east). A portion of the mouth of a twelfth estuary, Noetsie, at times falls within the park. Some estuaries may comprise more than one type, with the upper portion of the Knysna system functioning as a permanently open estuary, and two temporarily open/closed estuaries (Touw, Swartvlei) connecting the lake systems with the marine environment. Finally there are ten small river inlets, mostly along the Tsitsikamma coastline (Kranshoek, Brak, Helpmekaar, Klip, Witels, Geelhoutbos, Kleinbos, Bruglaagte, Langbos, Sanddrif), which, although unlikely to permanently support estuarine biota, will at times - like estuaries, discharge fresh water, land derived sediments, particulate matter and nutrients into the marine environment.

Several of the estuaries in the park, particularly the larger systems, are high conservation-value ecosystems assessed according to their physical and biological attributes, habitat importance and rarity, whereas the river mouths along the Tsitsikamma coastline are of lower conservation value (Turpie *et al.,* 2002). Out of South Africa's ±250 estuaries those in the park are ranked (from west to east): 24th (Wilderness), 6th (Swartvlei), 1st (Knysna), 223rd (Noetsie), 83rd (Salt), 81st (Groot west), 102nd (Bloukrans), 186th (Lottering), 210th (Elandsbos), 144th (Storms), 225th (Elands), and 215th (Groot east).

In addition many of the park estuaries have high economic value in terms of the services they provide for recreation and property value, subsistence utilisation, nursery function through providing habitat and nursery grounds for marine and estuarine organisms which can either be exploited directly in the estuary or later in life in coastal areas. Particularly valuable in monetary terms are the larger, extensively developed system of Knysna, Wilderness and Swartvlei, with several of the smaller systems being highly valued in terms of their scenic beauty and perceived high biodiversity.

The high value of several of the park estuaries comes at an environmental cost, with several being intensively utilised, developed and manipulated. The nature and extent of alteration and manipulation vary between systems and include changes in freshwater inflows, artificial breaching of Total Organic Carbon systems, shoreline developments, bank stabilisation, resource utilisation (particularly fishing and baiting), recreational use (particularly boating), disturbance of biota, introduction and establishment of alien biota, sedimentation, pollution and so forth. Particularly affected are the four larger systems of Knysna, Wilderness, Swartvlei and Groot (west), with the Salt and other river mouths relatively unaffected other than, in some cases, concern about freshwater deprivation and pollution.

A variety of management and management-informative actions are regularly undertaken in several estuaries in the GRNP, primarily to address threats posed and changes brought about by human manipulation and use of these ecosystems and the biota that they support. Activities undertaken to date in one or more system include estuary breaching, compliance and enforcement, regulation of commercial activities, pollution management, rehabilitation, disease management, alien biota control, research and monitoring, environmental education, inputs on land use change and development proposals.

The following operating principles apply to the breaching of estuaries in the Garden Route National Park:

Premature breaching of estuaries
The breaching level for the Swartvlei estuary will remain at 2.0 m amsl, for the Touw estuary at between 2.1 m and 2.4 m amsl, and Groot (West) estuary at 2.4 m amsl. However, premature breaching of these estuaries below these levels can be considered if one or more of the following conditions apply:

- The undertaking of emergency repair of essential services infrastructure;

- The health of public who may come into contact with the estuarine water is at risk, as indicated by accepted virological, bacteriological or chemical tests, and/or where there is the obvious introduction of matter that may pose a significant health risk as determined by SANParks personnel and where necessary as advised by an appropriate qualified and competent authority, and where the opportunity to prevent exposure of the public to physical contact with the water does not exist, and breaching of the estuary mouth can be demonstrated to have a high probability of significantly reducing the health risk;
- Facilitation of the dispersal, dilution or removal of chemical pollutants that have been accidentally introduced into the system, and which pose a significant threat to either public health, the survival of estuarine biota, or the ecological functioning of the estuarine system;
- There has been no time in a 20 month or longer period where the estuary has remained continually open for 14 days or longer, and where such an extended closed period is indicated by available scientific information to have, or likely to have, a long-term detrimental effect on estuarine biota, or result in salinity levels exceeding the range that would normally occur in the estuary. In such instances breaching should take place in periods of optimal recruitment;
- There is scientific evidence that the failure to open the estuary would result in significant direct or indirect threat to endangered, and/or restricted distribution estuarine dependant species, and where the breaching of the estuary would significantly reduce such threat;
- Significant change occurs in the distribution and abundance of estuarine biota, or substantial die-off of biota occurs, and where such changes will have a significant effect on estuarine biota or the ecological functioning of the estuary or adjacent marine ecosystem, and can be directly attributed to the estuary being closed;
- The estuary water level is at 1.8 m amsl or above, and thereafter 50 mm or more rain, as measured at a recognised meteorological station within the estuary catchments, falls within a period of 24 hours or less;
- The estuary water level is at 1.6 m amsl or above, and thereafter 100 mm or more rain, as measured at a recognised meteorological station within the estuary catchments, falls within a period of 24 hours or less; and
- The estuary water level is at 1.4 m amsl or above, and thereafter 150 mm or more rain, as measured at a recognised meteorological station within the estuary catchments, falls within a period of 24 hours or less.

In the case of the last three conditions above dealing with water levels relative to rainfall, the intention is to define circumstances where estuary water levels would likely achieve prescribed breaching heights (2.0m amsl Swartvlei, 2.1-2.4m amsl Touw, 2.4m amsl Groot (West)) in a short space of time, and breaching would thus not substantially reduce the volume of water exiting the estuary, and thereby not significantly further reduce sediment erosive capabilities. It is emphasized that the values provided in these three conditions are based on very preliminary assessments of low altitude rainfall vs. water height relationships, principally in the Swartvlei system. As such these conditions should be considered as tentative, and implementation should be the exception rather than the norm. Values may be altered depending on the availability of improved data and/or assessments. A range of factors would need to be considered before implementation, including recent rainfall patterns, obstructions to water movement between lakes, the extent to which rainfall levels are exceeded, and so forth. Occurrence of factors likely to reduce or retard the rate of flow of water into estuaries would obviously reduce the necessity for implementation, or delay the timing of implementation. Alternatively, occurrence of factors likely to accelerate the rate of flow of water into estuaries, for example like very recent heavy rains the full effect of which on water levels has not yet been realised, followed by conditions being met, are likely to increase the necessity of implementation. The time delay between the occurrence of rainfall, and the increase in water levels in estuaries, which is generally longer in Swartvlei as opposed the Touw system, also needs to be considered in respect of the timing of implementation. In all cases mature consideration and common sense needs to be applied. In all cases where implemented a detailed log must be kept of all information received and used in decision making, including estuary water level heights, local rainfall measurements, as well as the timing and nature of actions undertaken

Areas potentially requiring greater emphasis in the future, based on areas of concern expressed in public meetings, include the sustainability and secondary effects of resource utilisation, pollution control, research and monitoring, and information transfer. SANParks practices adaptive management, which incorporates flexibility in decision-making and management approach based on best available information, research and monitoring results and management outcomes relative to targets and objectives. For processes requiring a high level of precision and consistency, such as premature breaching of estuaries, action plans have been or will be produced detailing management actions.

Estuarine ecological and biogeochemical function is intimately connected to the catchment through the supply of freshwater, nutrients, organic matter and sediments. Anthropogenic activities within the catchment will alter these critical drivers of estuarine function. Estuaries can therefore not effectively be conserved or managed in isolation from their catchments and it is essential that catchment and freshwater management actions, as outlined in the Freshwater Lower Level Plan are undertaken in conjunction with management actions affecting estuaries.

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high-level objective 1 and objectives 1.2 and 1.3 on page 44. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

ESTUARINE MANAGEMENT PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of freshwater, estuarine and marine ecosystems by minimising impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To ensure that the exploitation of living resources is sustainable.	Demarcate living resource exploitation zones and critical habitats that may require no-take or no-disturbance zonation. (Touw*, Swartvlei*, Knysna*, Groot (West)*, Salt** Tsitsikamma river mouths**)	PM, SS	Park zonation and overlays	Year 1*, year 5**	Park zonation, safety & security LLP
	Information dissemination and law enforcement to facilitate compliance with zoning and regulations.	PM	Reports	Ongoing	Safety & security, environmental education LLPs
	Monitoring user activities, particularly with respect to consumptive utilisation of fish, shellfish, crustaceans and bait organisms.	SS, PM	Data on data portal, reports	Rotational cycle for Swartvlei, Touw and Knysna estuaries, remainder of activities ongoing	Resource utilisation LLP
To improve / maintain estuary at identified classification category (A, B or BAS).	Implementation of appropriate resource quality objectives.	PM	Resource quality objectives list / assessment (tracking sheet)	Ongoing	
To contain and reduce the spread and impact of invasive alien biota.	Document occurrence, distribution and abundance of alien plants in estuary and catchment.	PM, BSP, SS	Maps	Ongoing	
	Implement control and eradication measures where available, with an emphasis on biocontrol where available and effective.	PM, BSP	APO	Ongoing	
To manage estuary mouth breaching to balance social and ecological processes.	Artificial breaching of estuary mouth and preparations therefore as described in work plan for estuary breaching.	PM	Breaching reports	As required	

ESTUARINE MANAGEMENT PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of freshwater, estuarine and marine ecosystems by minimising impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To manage estuary mouth breaching to balance social and ecological processes.	In conjunction with disaster management, and other stakeholders work towards improving early warning systems and preparedness.	PM, SS	MMP with applicable SOP, MOU	Coincide with Estuary Management Plans	
	Obtain authorisation for artificial breaching of Groot (west) estuary.	PM, SS	Estuary Mouth Breaching Plan	Year 3	
To influence infrastructure development for improved sustainability and legal compliance	Define estuary functional zone and estuarine management lines.	PM, SS	Maps	Year 3	
	Participate in and where appropriate conduct strategic planning for future development.	PM, SS	Comments on SDFs and IDPs	As required	
	Provide input on relevant EIAs, land use change applications, development proposals, and Outeniqua Sensitive Coastal Area Extension (OSCAE) applications, and appropriate authorisations	PM, SS	Comments	As required	
To maintain infrastructure in the estuary so as to benefit other users, whilst not detrimentally impacting biodiversity and socio-economic values.	Maintain SANParks infrastructure in estuaries.	PM	Environmental Management Method Statements	As required	
	Document, and where appropriate strive to have illegal structures removed and site rehabilitation undertaken.	PM	Mas, Relevant correspondence	Year 5, as required	
To reinstate and maintain surface water movement between linked estuarine waterbodies, taking into consideration altered flooding risks	Removal of sediment that have artificially accumulated at point localities in interleading channels, where feasible and appropriate.	PM, SS	Contracts	As required	
	Regular cutting of emergent and submerged aquatic plants in interleading channels.	PM	Reports	Annual	
To strive to co-operatively reduce pollution and artificially elevated sediment inputs.	Participate in water quality monitoring.	SS, PM	Results	Annual	
	In conjunction with relevant authorities identify pollution sources and liaise with relevant agencies to remedy and prevent inflow of pollutants and sediments derived from anthropogenic activities.	PM, SS	Minutes of meetings, correspondence	As required	
To aid determination and implementation of the Ecological Reserve as minimum flow and water quality standards.	Liaise with responsible agencies to maintain minimum flows and water quality standards in influent rivers.	PM	Minutes of meetings	As required	
	Facilitate reserve assessments and revisions thereof.	SS, PM	Minutes of meetings	As required	

ESTUARINE MANAGEMENT PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of freshwater, estuarine and marine ecosystems by minimising impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To mitigate the increased threat of coastal dynamic processes (*e.g.* flooding, erosion) on coastal properties.	Adopt the appropriate management lines and implement strategies to reduce risks (*e.g.* flooding) and encourage climate resilient development.	PM, SS	Maps	As required	
	Engage with town planning and approval authorities to prevent further inappropriate developments in at risk areas.	PM, SS	Minutes of meetings, correspondence	As required	
To promote well informed, self-compliant and supportive estuary users and other stakeholders.	Constructive engagement in relevant estuary related fora.	PM, SS	Minutes of meetings, correspondence	Ongoing	
	Dissemination of information through various platforms.	PM, SS	Material, press articles, publications	Ongoing	
	Carry out estuary related monitoring programs and adapt to changing information needs and priorities.	SS	Reports, publications	Annually	
To reduce the number and frequency of illegal activities.	Monitor illegal fishing and bait collection and strive to improve compliance with regulations.	PM	Reports	Ongoing	
To develop and maintain Estuary Management Plans in line with relevant legislation.	Develop and revise Estuary Management Plans of all estuaries in the park in conjunction with authorities and stakeholders. Knysna*, Groot*, Sout*, Swartvlei**, Touw***, Tsitsikamma river mouths****	PM, SS	Documents	Years 3*, 4**, 5*** and 7****	
	Obtain clarity on responsibilities and procedures for the development of an estuary management plan for Noetsie estuary.	PM	Correspondence	Year 3	

10.2.3.3 Marine and coastal programme

The purpose of this programme is to provide a framework for the future management of marine and coastal areas in the GRNP.

The programme covers activities below the high-water mark (marine) as well as the shoreline immediately above the high-water mark (coastal) within the GRNP boundaries. Marine components within the GRNP include the Tsitsikamma Marine Protected Area (MPA) and the marine section (0.5 NM offshore) adjacent to De Vasselot. The coastal sections include the shoreline immediately above the high-water mark along the Tsitsikamma MPA, De Vasselot, Harkerville and the Wilderness sections of the park.

The Tsitsikamma MPA, extending from the Groot River (east) to Groot River (west), is the oldest marine national park in Africa (Robinson & De Graaff, 1994), and was a Category 1 (or no-take)

MPA until it was rezoned in December 2016 to allow for sustainable extractive resource use from the shore along 20% of its coastline. The re-zonation also extended the offshore section of the western portion of the MPA from 0.5 to 3 NM. The MPA extends approximately 5.56 km (or 3 NM) offshore and has a surface area of around 29,464 Ha. The MPA consists of approximately 61 km of rocky shores and 5 km of sandy beaches and protects seven percent of rocky shoreline of the Agulhas Biogeographical region (Lombard *et al*., 2005). The subtidal area consists of soft bottom sediments (c. 79 %) and dispersed rocky reefs and platforms (c. 21 %). In the adjacent De Vasselot section, which is comprised of 6 km of rocky shore and 2.5 km of sandy beaches and extends 0.9 km offshore, fishing and bait collecting are permitted in accordance with the legislation of the Marine Living Resources Act (Act 18 of 1998)(MLRA) for recreational and commercial fishing in open areas.

The dominant marine fauna of the MPA can be grouped into marine mammals (seals, dolphins, whales), birds (penguins, gannets, terns), fish (migratory and reef species) and highly diverse benthic fauna on the reefs. The MPA is too small to provide permanent residence for most of the marine mammals and seabirds recorded in the park, but it is large enough to provide an important feeding ground or nursery area. The subtidal reefs provide an important habitat for sparid fish species, many of which are particularly sensitive to over exploitation due to life history traits of longevity, late sexual maturity and residency. All life stages of 17 fish species that are exploited for commercial and recreational purposes have been recorded in the MPA (Wood *et al*., 2000). Spawning grounds for commercially exploited chokka squid have also been recorded in the MPA (Sauer, 1995), and a key role of the MPA is to protect these species.

In addition to the marine environment, the GRNP includes the shoreline immediately above the high-water mark along the Tsitsikamma MPA and the De Vasselot section, the Harkerville area and Wilderness sections of the park. Most of this shoreline is rocky and fairly resilient to anthropogenic activities. However, the sand dunes found at Nature's Valley, Sedgefield and Wilderness are vulnerable to destabilisation through human trampling and poor development planning. Seabirds, such as the oystercatchers, breed on the upper shore. Additionally, legislation governing the permitting of vehicle use in the coastal zone (2014 Off-road Vehicle Regulations) and the use of public launch sites (2014 Public Launch Site Regulations) apply to the shoreline managed by SANParks. Ensuring that vehicle use in the coastal area is not detrimental to the environment, is one of the management responsibilities of SANParks.

Although coastal and marine ecosystems contribute more than 60% of the total economic value of the biosphere (Martinez *et al*., 2007), data and methods to assess the provision of marine and coastal ecosystem services are still limited (Liquete *et a*l., 2013). New approaches to management are becoming increasingly necessary to ensure that social and ecological benefits continue to be derived from these systems, in particular due to the increasing number of threats and pressures exerted on these systems.

The major threats and pressures identified affecting the physical, ecological, social and cultural values of the marine and coastal sections of the park, include poor coastal development, pollution (from various land and sea-based sources), impacts on target and non-target species from various fishing sectors (recreational, subsistence, commercial), impacts from tourism, IAS and climate change (greater water temperature fluctuations and increased algal blooms). An additional threat is the increase in oil and gas exploration occurring off the southern Cape coast and subsequent potential production initiatives.

Equitable access to and benefit sharing from coastal and marine ecosystem services were highlighted multiple times during stakeholder engagements (Garden Route Desired State Report, 2018) whilst overharvesting of biological resources is recognised as a major global change agent and one of the greatest threats to marine biodiversity (Lombard *et al.,* 2005) in South Africa. In future SANParks will need to address equitable access to the park and its resources and the distribution of benefits that flow from the coastal and marine ecosystems within the GRNP. Extractive use will particularly need to be monitored, enforced and where required amendments made to permits and suitable access areas, as well as sensitive coastal environments identified and zoned accordingly.

The coastal and marine ecosystems of the park provide opportunities for a wide variety of research programmes. SANParks must therefore continue to liaise and collaborate with external research agencies in a proactive manner, to generate multi-and transdisciplinary research with a focus on addressing complex social-ecological challenges and questions.

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high-level objective 1 and objective 1.3 on page 44. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

MARINE AND COASTAL PROCESSES PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of freshwater, estuarine and marine ecosystems by minimising impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To promote effective governance and management of the coastal and marine areas of the park.	Engagement with relevant stakeholders through appropriate management structures.	PM	Minutes of meetings	Ongoing	Stakeholder engagement programme
	Effective law enforcement and information dissemination to improve compliance.	PM	Reports	Ongoing	Environmental education, safety & security programmes
	Train and capacitate staff for marine and coastal management, law enforcement and monitoring.	PM, SS	Attendance register	Ongoing	Environmental awareness, education and capacity development programmes
To promote equitable and sustainable access to marine and coastal ecosystem goods and services.	Manage the permitting process for vehicle use in the coastal zone.	PM, SS	Permit issued	Ongoing	Off-road Vehicle regulations
	Enable sustainable use of marine resources within constraints of zonation and relevant legislation.	PM, SS	Angler database, zonation map	Ongoing	Resource Use programme
	Investigate and assess measures to promote equitable access to ecosystem services.	PM	Reports	Year 5	
To undertake and promote strategic planning in regards to coastal development.	Provide input on relevant EIAs, development proposals, land use change applications, OSCAE applications regarding coastal development adjacent to the park.	PM, SS	Comments on EIA's and planning proposals	As required	Landscape functionality programme
To undertake and promote strategic planning in regard to coastal development.	Consider relevant coastal hazards when planning future park infrastructure or addressing existing at-risk infrastructure.	PM, SS	Infrastructure proposals, minutes	As required	Risk assessments, coastal management line, climate change adaptation strategy
To reduce negative impacts on the environment from damaging and polluting activities.	Undertake beach clean-ups, dune rehabilitation, trail maintenance.	PM, BSP	Reports	Ongoing	Environmental education and awareness programmes
To encourage problem focused and management orientated research whilst also providing opportunities for research which is of intrinsic benefit.	Facilitate research, monitoring and citizen science.	SS, PM	Project registration database	Ongoing	Learning, interpretation, research and monitoring programmes

MARINE AND COASTAL PROCESSES PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of freshwater, estuarine and marine ecosystems by minimising impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To promote collective understanding about natural and cultural assets.	Create opportunities for feedback and co-learning while supporting education and awareness programs that promote stewardship of the marine and coastal environment.	SS, PM	Reports, publications	Ongoing	Learning, interpretation, research and monitoring programmes

10.2.4 Terrestrial ecosystems management programme

The purpose of this programme is to to maintain ecosystems in as natural state possible and allow natural processes and patterns to take place, while minimising negative influences of invasive alien species, human activities, inappropriate resource use and unnatural fire regimes. This programme deals with terrestrial ecosystem management, rehabilitation and management of terrestrial SSC. Many aspects relevant to terrestrial ecosystem management are dealt with in lower level plans for other programmes, including integrated fire management, alien invasive species management and landscape functionality.

The terrestrial vegetation in the park covers two biomes viz. forest (c. 42,000 ha) and fynbos (c. 89,000 ha). The forests in the park form part of the biggest forest complex in Southern Africa, with many species having their most western distribution in the Garden Route, often as disjunct populations. It is fine-grained and large-scale disturbance could impact on the intactness of forest and forest patches. Fynbos is known for its high species diversity, and several threatened plant species are found in the park. Together with the forest, it forms part of the Cape Floristic Region World Heritage Site. Fynbos is a fire-driven ecosystem, which poses many challenges to meet conservation management objectives, related to issues such as fire protection, applying the appropriate fire regime, and integrated invader plant control.

Ten national vegetation types, including eight fynbos and two forest types occurring in the park, have been described. A regional classification of the vegetation in the greater Garden Route Region described more than 50 forest and fynbos types within the boundaries of the park. Further floristic and structural classifications and descriptions also exist for forests. These classifications are incorporated into the spatial database (GIS) for the park and can be used in park planning. Much progress has been made with the expansion of the plant species list for the park, now comprising of 2,069 species, with 1,932 plant specimens housed in the herbarium.

The current vegetation classification and descriptions provide a sound ecological basis at different scales for park management. The vegetation types facilitate management planning, inform management prescriptions, and were used in park zonation (particularly the identification of special conservation zones), assessment of resource use potential, prioritising areas for fire management, identification and management of SSC, and for assessing developments or ventures with potential negative impacts on the environment. The forest management system is directly informed by forest types.

Terrestrial ecosystems have been subdivided into management units, and management classes allocated that define the primary management objective for an area. Despite good planning and the development of appropriate management prescriptions, actual implementation is lacking in some programmes, particularly fire management, invader plant control, and the rehabilitation of plantation exit areas, as dealt with in the respective lower level plans.

Rehabilitation of degraded areas includes the re-establishment of natural biodiversity patterns and the restoration of key processes which support the long-term persistence of biodiversity. The bulk of rehabilitation efforts are directed towards managing plant invasions and their consequences. These issues are dealt with in the IAS programme.

Since 2012 more than 10,000 ha of a total 18,000 ha of plantation areas, have been transferred from Cape Pine to SANParks. The exit procedure concludes in 2020. The plantation exit landscape restoration plan is updated annually with assessments done of the areas exited. These plans and maps are made available to

park management for inclusion in an APO and for implementation. Erosion areas were identified and mapped in the exit areas, but an assessment of the required remedial actions still needs to be completed.

Monitoring of the recovery of fynbos vegetation in the exit areas commenced in 2017 in Goudveld in compartments of different ages after clear-felling, and a research project on the faunal component has commenced. The sites were burnt in the 2018 fires, presenting an opportunity to study the role of fire in the rehabilitation process. Natural rehabilitation of the exit areas is doing very well and plant biodiversity is acceptably moderate to high and most expected species are found in the rehabilitation areas.

Progress has been made on expanding knowledge of indigenous fauna through maintaining or expanding existing long-term monitoring projects focusing on selected species, while also undertaking new projects on taxa that are currently less well known in the park: blue duiker *Philantomba monticola*, elephant *Loxodonta africana*, crowned eagle *Stephanoaetus coronatus*, terrestrial invertebrates, small mammals, medium to large mammals and terrestrial birds. Limited in-house capacity has to some extent been supplemented by interest from outside expertise. However, baseline data related to fauna population sizes and trends on a spatiotemporal level is still incomplete.

The park is predominantly made up of open access areas, which by its very design leads to potential for human-wildlife conflicts. It is thus a priority of the park to minimise the potential of any economic losses or physical damage to the property of neighbours through human-wildlife interactions in the park. Most common perpetrators include vervet monkeys *Chlorocebus pygerythrus*, caracal *Caracal caracal*, baboons *Papio ursinus*, bush pigs *Potamochoerus larvatus* and porcupines *Hystrix africaeaustralis*. Park staff have embarked on a programme to raise awareness levels among park visitors about the problems experienced in these conflict areas. The park is also modifying all refuse bins so that they are animal proof. These two initiatives are focused on minimising the human-wildlife conflict.

The park's threatened species program has determined the Red Listed species occurring in the park and immediate surrounds. The park list consists of 120 species of which 20 are "Data Deficient or Critically Rare" (not IUCN categories but created by the South African National Biodiversity Institute (SANBI) as an indicator of imminent threat).

A register of SSC is available and management prescriptions have been formulated for selected species. The June 2017 and November 2018 fires impacted quite severely on forest and fynbos vegetation in certain areas in the park and require monitoring (assessment of natural recovery) to identify any need for management intervention. Locations where SCC may occur are examined for SCC. Some species may require more detailed monitoring, especially when the species' dynamics are poorly understood, the populations are very small or its Red List status is high, such as the orchids *Disa procera*, *Disa hallackii* and *Acrolophia lunata*. *Mimetes splendidus* (Proteaceae) is monitored to determine its success of regeneration after fire. Preliminary monitoring of *Prunus africana*, a forest tree species, has started to provide understanding of its steady decline in the park.

Research and monitoring plans are developed and implemented to meet identified needs and complement existing plans. Goal-orientated monitoring is essential to assess whether management objectives are met and to gain a better understanding of ecological processes that influence the system. The identification of research and monitoring needs is ongoing. These needs are informed by the current State of Knowledge for the GRNP (as captured in the State of Knowledge report), and through SANParks' adaptive management approach. This is especially important to facilitate engagement with universities and other research institutions to attract external scientists. To this effect, engagements took place with several national and foreign Universities and other research institutions.

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high-level objective 1 and objectives 1.2, 1.3 and 1.4 on page 44. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

TERRESTRIAL ECOSYSTEMS MANAGEMENT PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of terrestrial ecosystems by minimizing impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To maintain natural ecosystem patterns and processes through the development and implementation of appropriate management prescriptions and practices, to maintain biodiversity.	Identify habitats, areas and activities requiring specific management intervention and develop guidelines for their management.	SS, PM	Areas identified, management guidelines and APOs developed	Ongoing	
To control accelerated erosion in the park resulting from human activities.	Identify areas of priority unnatural and accelerated erosion.	PM, SS	Database	Year 2	
	Implement erosion control according to available resources.	PM, BSP	Reports	Ongoing	
To enhance the rehabilitation of plantation exit areas.	Prepare a plantation exit landscape restoration plan.	PM, SS	Document	Year 1	
	Identify key priorities or projects for ring fenced exit area funding.	PM, SS	Priority list	Year 1	
	Implement rehabilitation according to restoration plan.	PM	Reports	Year 2 and ongoing	
To ensure that floristic diversity of terrestrial vegetation is described and recorded, and populations of priority species are identified, located, monitored and managed.	Identify priority high conservation value areas.	SS	Maps, GIS databases	Ongoing	
	Compile, maintain and expand plant species lists and acquire specimens to house in herbarium.	SS, PM	Updated species lists and herbarium	Ongoing	
	To identify, locate, monitor and research populations of priority species.	SS, PM	Research and monitoring programmes developed and implemented	Ongoing	
	Maintain viable populations of rare / threatened plant species through development and application of appropriate management processes.	PM, SS	Reports	Ongoing	
To ensure the effective management and conservation of indigenous fauna.	Compile, maintain and expand fauna species lists.	SS, PM	Species list	Ongoing	
	Undertake surveys and monitoring programmes for selected fauna species.	SS, PM	Monitoring results	Ongoing	
	Develop and implement management prescriptions for fauna, where required.	SS, PM	Document	As required	

TERRESTRIAL ECOSYSTEMS MANAGEMENT PROGRAMME					
High-level objective: To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective: To maintain functionality and diversity of terrestrial ecosystems by minimizing impacts on natural processes and appropriately responding to change.					
Sub-objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To manage human-wildlife interface in and around the park.	Application of appropriate infrastructure designs, construction and maintenance to minimise human wildlife conflict.	PM	Appropriate infrastructure designs and effective waste disposal	Ongoing	
	Engage with relevant stakeholders regarding problem biota management and formulate joint management actions where appropriate.	PM, SS	Reports	Ongoing	
	Identify areas where domestic animals occur and regulate where needed.	PM, SS	Reports	Ongoing	
	Identify human activities that may impact wildlife and develop relevant mitigation measures.	SS, PM	Reports	Ongoing	
To re-establish or supplement indigenous wildlife populations within constraints of park size and setting.	Assess habitat suitability for locally extinct wildlife within park.	PM, SS	Evaluations	Year 3	
	Evaluate land and infrastructure requirements to enable reintroductions.	PM, SS	Plan	Year 4	
	Undertake reintroductions where feasible.	PM, SS	Report	As required	

10.2.5 Landscape functionality programme

The purpose of this programme is to promote landscape connectivity associated with the park and maintain the park's environmental integrity through various collaborative interventions in the buffer zone.

The park's buffer zone contains a mosaic of different land uses and multiple landowners in a fragmented landscape with high development pressure and climate change effects already noticeable. To achieve landscape functionality Multi Stakeholder Partnerships are required with municipalities, private landowners, government departments and NGOs / non-profit organisations. Good landscape scale governance is essential to achieve functional ecological corridors (terrestrial or coastal) in a fragmented landscape.

There are three focus areas for interventions in the park's buffer zone:

Park expansion and consolidation
Expanding the park will protect the ecological integrity of the park more effectively, incorporate a more representative and resilient suite of areas that support biodiversity and ecological infrastructure (especially threatened species and ecosystems, that remain as yet unprotected, that can contribute to national biodiversity targets) and support resilience to potential climate change effects. This will be achieved through contractual agreements, voluntary biodiversity stewardship agreements, donations or land acquisition (willing-buyer-willing seller) or expansion of the regional conservation estate via a range of voluntary biodiversity stewardship agreements

(Appendix 5, Map 3). Biodiversity stewardship sites do not necessarily need to be managed by SANParks. Refer to Section 8 for more information.

Mainstreaming biodiversity

Mainstreaming biodiversity involves incorporating biodiversity considerations into policies and planning documents to ensure that biodiversity considerations are taken into account when decisions are made. Municipalities have an increasingly significant role to play in biodiversity conservation as part of their mandate to provide a safe and healthy environment for its residents. In South Africa, the majority of municipalities are characterised by high levels of poverty, unemployment and limited service delivery. Biodiversity and ecological infrastructure management at a local level offers a vital basis for economic development, people's livelihoods and service delivery. The Biodiversity and Land Use Project, implemented by the SANBI together with its partners and funded by the GEF through the United Nations Development Programme (UNDP), was established to support municipalities.

Functional conservation corridors and conservation outcomes

In a fragmented landscape it is essential to achieve conservation outcomes on private, municipal and state land that promote landscape linkages, connectivity and biodiversity-friendly land management to ensure functional ecological infrastructure.

Environmental impacts and threats that SANParks often deal with in the buffer zone, include:

- Pollution of estuaries and rivers, especially by failing Municipal wastewater treatment works;
- Potential loss of threatened lowland fynbos, subtropical thicket, saltmarsh and forest, resulting from proposed developments;
- Alien vegetation encroachment, especially in river corridors, lowland fynbos and mountain catchments;
- Coastal erosion and possible loss of private and municipal infrastructure;
- Altered fire regimes and high fuel loads;
- Unlawful developments and infilling of wetlands; and
- Uncertain effects of blocking wildlife movement corridors.

To achieve conservation outcomes in the buffer zone the following key activities are undertaken:

- In accordance with the Regulations for the Proper Administration of the Knysna Protected Environment, SANParks is responsible for authorising any development (as defined in the regulations) in the Development Control Area.

- Comment on EIAs, Municipality Land Use Planning By-Law Applications and OSCAE applications to encourage: wise placement of infrastructure (setback lines and no development on slopes steeper than 1:4); control of invasive alien species, rehabilitation of degraded ecosystems; membership of SBFPA and SCFPA, maintenance or enhancement of connectivity to contribute to functional ecological infrastructure and conservation corridors.

- Encourage water quality monitoring and the implementation of corrective measures where pollution problems are observed. To ensure environmental integrity within the park it is necessary to monitor water quality and impacts external to the park as these impacts are often transferred into the park with potential consequences for visitors and ecosystem health. SANParks do not have the capacity to monitor water quality in the buffer zone but can report pollution events to the relevant authorities and motivate for NGOs or students to monitor water quality and to initiate corrective action.

This programme links with high-level objective 1 and objective 1.5 on page 44. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

LANDSCAPE FUNCTIONALITY PROGRAMME					
High Level Objective – To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective – To promote landscape connectivity associated with the park and maintain the park's environmental integrity through various collaborative interventions.					
Sub-objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To expand the conservation footprint (terrestrial and marine) using a range of mechanisms.	Incorporate priority biodiversity areas into the park.	PM, Planning, Legal	Declarations	As available	
	Support the expansion of the regional conservation estate via voluntary Biodiversity Stewardship agreements.	PM, Planning, Legal	Signed agreements	As available	
	Explore the establishment of Marine Buffer Areas or MPAs.	PM, Planning	Minutes of meetings	Year 8	
To consolidate legal status of Knysna PE and Wilderness Control Area.	Knysna PE: Regulations to be revised to include the entire PE footprint.	PM, Planning, Legal	Regulations gazetted	Year 5	
	Knysna PE: Standardise the Authorisations in the Development Control Area.	PM, Planning, Legal	Document	Year 5	
	Wilderness Control Area: Regulations to be promulgated for the entire Wilderness PE footprint.	PM, Planning, Legal	Regulations gazetted	Year 9	
	Wilderness PE: Standardise the Authorisations in the Development Control Area.	PM, Planning, Legal	Standardised application Form	Year 9	
To consolidate land parcels.	Identify unproclaimed land parcels and follow legal process to incorporate.	PM, Planning, Legal	Database	Ongoing	
	Manage encroachments according to the SANParks policy (to be drafted).	PM, Planning, Legal	Register	Ongoing	
To liaise and engage with conservation institutions and key partners on a landscape level for conservation outcomes.	Foster closer relationships with regional and local conservation authorities.	PM, Planning	Minutes of meetings	Ongoing	
	Participate in joint initiatives with key partners.	PM, Planning	Minutes of meetings or project reports	Ongoing	
To mainstream biodiversity into strategic land use planning and decision-making documents.	Participate in local and district SDF processes to ensure the park's buffer zone and expansion and consolidation footprint is included.	Planning, PM	Maps in SDFs	Year 5 & 10 with annual review	
	Include the park's expansion and consolidation footprint in the CapeNature and ECPTA protected area expansion plans.	Planning, PM	Map in Provincial Expansion Plans	Review cycle	
	Include the park's expansion and consolidation footprint in the Garden Route Biosphere Reserve map.	PM, Planning	Map submitted	Annually	

LANDSCAPE FUNCTIONALITY PROGRAMME					
High Level Objective – To conserve the diverse terrestrial and aquatic ecosystems of the Garden Route National Park on a landscape scale through adaptive, collaborative and innovative management approaches.					
Objective – To promote landscape connectivity associated with the park and maintain the park's environmental integrity through various collaborative interventions.					
Sub-objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To promote functional conservation corridors and conservation outcomes and to mitigate threats.	Comment on BAR, EIA, OSCAE and Land Use Planning By-Law applications in focus areas in the buffer zone.	Planning, PM	Comments submitted	Ongoing	
	Support DEA and DEADP Environmental Management Inspectors with non- compliance cases.	PM, Planning	Register	Ongoing	
	Encourage water quality monitoring and the implementation of corrective measures where pollution problems are observed.	PM	Register	Ongoing	

10.3 Cultural heritage programme

The purpose of this programme is to consolidate, sustain and manage the significance, authenticity and integrity of the tangible and intangible cultural heritage resources for which the park is responsible, for the enjoyment and benefit of all South Africans and of the world.

The management of the cultural heritage resources is guided by national legislation, policies and procedures within SANParks. The National Heritage Resources Act (NHRA) No. 25 of 1999 provides the framework for the maintenance and conservation of heritage resources in accordance with the standards and procedures set out by the South African Heritage Resources Agency (SAHRA). SANParks policies such as the Cultural Heritage Policy (2011), the Heritage Objects Collections Management Policy (2011), and Guidelines for Burials and Scattering of Ashes (2010) and the Development and Maintenance of Heritage Sites (2011) provides further guidance. Hence, SANParks complies with procedural requirements as set by SAHRA, for the implementation of heritage management in national parks. This includes the identification, documentation, curation, maintenance and reporting on heritage resources. The Site Management Plans will also specify the management and monitoring actions to be implemented.

The park safeguards various cultural heritage sites. Some sites are off the beaten track, whilst others are threatened by inappropriate development and impact from tourists, mining and animals. All the currently known and recorded sites are managed and protected according to respective policies and guidelines. Ongoing surveys will be conducted in order to update information generated by previous surveys. The results of such work will be entered into a geographic information system database to facilitate appropriate monitoring and management. The cultural heritage programme also includes oral history and the documentation of indigenous knowledge. The oral history collection project aims to build relationships between the park and communities by recovering and interpreting information relating to cultural heritage, specifically related to the areas incorporated within the park. The process of identification of cultural heritage sites resulting in cultural mapping,as well as the development of Site Management Plans will be conducted in conjunction with local community members and the organisations representing community interests, as well as relevant academic institutions and researchers.

The SANParks managed areas in the Garden Route incorporate more than 200 cultural heritage sites. These range from Khoekhoen and Bushman heritage sites such as caves, shell middens and rock art to more recent historical sites, such as the ruins of small fishing settlements, remnants of the past forestry and mining industries, railway lines, shipwrecks and grave sites. The conservation of these sites and their related oral history form an integral part of the conservation mission of SANParks.

The cultural heritage resource management programme is implemented to effectively manage tangible (sites and objects) and intangible (oral history and indigenous knowledge) heritage associated with the park. It further aims to strengthen the relationship between the park and the diverse representation of stakeholders by jointly developing and implementing initiatives towards the enhancement of this programme.

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high-level objective 2 and objectives 2.1 – 2.5 on page 45. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

CULTURAL HERITAGE PROGRAMME					
High-level objective: To effectively preserve, interpret and present the diverse cultural heritage and history associated with the GRNP through allowing access, engagement, responsible utilisation and research.					
Objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To provide appropriate access for people to heritage sites and facilitate sensitive and appropriate use of sites for tourism.	Solicit public involvement in the cultural heritage programme by sharing access to information and promoting SANParks activities to relevant stakeholder groups and at conferences.	SS, PM	Presentations, database and Registered research projects	Ongoing	
	Develop and implement interpretative resources and cultural tourism concepts for selected sites in collaboration with local communities, researchers and other stakeholders	PM, CSD	Proposals and Interpretive Materials / Activities	Year 3, ongoing	
	Promote appropriate access to selected heritage sites and activities through various communication platforms.	PM	Presentations and Promotional Articles	Year 4, ongoing	
To identify and effectively manage cultural heritage sites in accordance with a cultural heritage management plan.	Solicit the services of a professional heritage consultant to develop a Cultural Heritage management plan.	CSD, PM	Cultural Heritage Plan	Year 3	
	Update database and maps of Cultural Heritage within the areas managed by SANParks and report to NHRA.	PM	Database and site documentation	Year 4	
	Develop and/or review site specific management plans for selected sites.	PM	Site Plans	Year 5, ongoing	Cultural Heritage Management Policy
	Develop interpretation plans for identified sites.	PM	Document, reports	Year 5, ongoing	
	Implement monitoring plan and report annually.	PM	Reports	Ongoing	SAHRA Act
	Implement maintenance plan in accordance with SAHRA regulations.	PM	Reports	Ongoing	SAHRA Act
To effectively manage the park's heritage objects through identification, documentation, preservation, conservation, protection and appropriate presentation.	Update catalogue / asset register and monitor heritage objects and provide regular reports on cultural heritage assets register.	PM	Report	Year 1	

CULTURAL HERITAGE PROGRAMME					
High-level objective: To effectively preserve, interpret and present the diverse cultural heritage and history associated with the GRNP through allowing access, engagement, responsible utilisation and research.					
Objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To effectively manage the park's heritage objects through identification, documentation, preservation, conservation, protection and appropriate presentation.	Participate in the development and implementation of a national guideline for the curation of cultural heritage resources and assets, in accordance with the SANParks' Collections Management Policy.	PM	Document	Year 2	Collections Management Policy
To effectively manage the park's heritage objects through identification, documentation, preservation, conservation, protection and appropriate presentation.	Improve the cultural knowledge and awareness of local communities and visitors to the park through the appropriate display, interpretation and promotion of heritage resources and assets.	PM	Museums and displays	Ongoing	
To preserve intangible heritage through identification, documentation, presentation and enabling access for cultural practices.	Recover, record and interpret the oral history and information relating to cultural heritage, with local communities, researchers and other stakeholders.	PM, CSD	Documents and research	Year 4, ongoing	
	Manage living heritage practices in collaboration with local communities, and other relevant stakeholders.	PM, CSD	Documents and reports	Ongoing	
To improve and diversify the cultural heritage knowledge of the park through quality and inclusive research partnerships with communities, universities and researchers.	Identify, promote and support research of specific park related cultural heritage topics.	CSD, PM	Documents	Year 4	

10.4 Responsible Tourism programme

The purpose of the Responsible Tourism (RT) programme is to act as an enabler for conservation through enhancement of the financial sustainability of the park with optimal benefit to the local communities.

SANParks has adopted the national Responsible Tourism Standard, SANS1162:2011. The RT programme thus considers all aspects of the current and potential tourism product and service offering to ensure that the park meets the required standards for environmental and financial sustainability, local community beneficiation and customer service excellence. As a point of departure, the park's responsible tourism baseline will need to be established. Customer service excellence is measured by customer feedback, tourism quality standards, universal access (UA) standards, and visitor management aspects relating to the park, for example gate access efficiency. Implementation of RT enables operational efficiency and thus creates the environment for new product development, packaging and dynamic pricing in order to maximise yield, though dependencies such as the availability of advanced technologies exist.

Guidance is taken from the following guideline documents; the SANParks Responsible Tourism Strategy 2022, the SANParks Responsible Tourism Policy and the SANParks Responsible tourism Framework. The purpose of these documents is to define the 2022 strategy, objectives, guiding principles and values, as well as an implementation and monitoring plan for Nature-Based Responsible Tourism in national parks.

The Responsible Tourism Strategy 2022 states that in implementing this strategy, SANParks will base its planning and decision-making on the following guiding principles and values;

- Provide nature-based responsible, value for money tourism experiences, whilst promoting our biodiversity, cultural and where applicable, wilderness qualities, to our strategic advantage;
- Contribute to building a broad-based constituency for the long-term sustainability of conservation in a people-centred way; and
- Using appropriate nature-based RT as the best possible financial opportunity to support and supplement conservation funding. This financial driver should never become an end in itself and should never erode the core conservation values of the organisation. Viewed together with other financial sources, the overall outcome must effectively benefit SANParks.

For park management to ensure the effective implementation and measurement of the RT Standard, it is vitally important to establish a park responsible tourism baseline, from which to measure progress. The programme must seek to find ways to be minimising environment damage to counteract the possible, negative perceptions of the environmentally conscious travellers. Responsible tourism should maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourist, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them.

New products and activities have been identified and incorporated into the park management plan will then feed into the product development framework that will, via a specific process, ensure sustainable product development. In this regard all new developments will be considered very carefully within the approved zonation and will ensure that the sense of place in the park is maintained.

The park is considered to have a high scenic value with high biodiversity value. It has a wide range of revenue generating potential, encompassing the renowned Tsitsikamma, Storms River Mouth, the Big Tree, the Knysna estuary, the Wilderness Lakes area, vast mountainous fynbos areas, and a large representation of Southern Afro-temperate Forests. Currently, most of the tourism income is generated by accommodation offered in the different sections of the park, adventure activities and events, as well as concessionaires and conservation fees charged for park access. Whilst the park is not one of the key drivers of tourism income generation for SANParks, it is a growing park that presents opportunities for the expansion of the tourism product. A greater contribution can be achieved by diversifying existing and developing new products, while reviewing and adapting to the constantly changing market.

A detailed lower level plan supports this programme. This programme links with high-level objective 3 and objectives 3.1 – 3.8 on page 45.

RESPONSIBLE TOURISM PROGRAMME					
High-level objective: To optimise the authentic nature- and culture-based opportunities and experiences while generating revenue without compromising the integrity of the bio-cultural assets.					
Responsible Tourism performance objective: To establish, maintain and continuously improve the park's responsible tourism performance, by implementing SANS1162 and meeting minimum requirements set.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To apply the Responsible Tourism Strategy 2022.	Educate and motivate staff in the responsible tourism principles and enhance tourism capacity and skills base.	PM	Training registers Monthly reports	Ongoing	Responsible Tourism Policy, Responsible Tourism Strategy

RESPONSIBLE TOURISM PROGRAMME					
High-level objective: To optimise the authentic nature- and culture-based opportunities and experiences while generating revenue without compromising the integrity of the bio-cultural assets.					
Responsible Tourism performance objective: To establish, maintain and continuously improve the park's responsible tourism performance, by implementing SANS1162 and meeting minimum requirements set.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To apply the Responsible Tourism Strategy 2022.	Inform relevant stakeholders of the SANParks 2022 Responsible Tourism Strategy and potential impact on the park.	PM	Meeting minutes	Ongoing	Responsible Tourism Policy, Responsible Tourism Strategy
To continuously improve Responsible Tourism performance.	Conduct and establish a baseline (gap analysis) to identify current performance w.r.t. the Responsible Tourism Standard, SANS1162:2011.	Corporate Tourism, PM	Baseline report	Year 3	SANS1162 Responsible Tourism Strategy
	Engage in Responsible Tourism assessment, in order to measure performance improvement in relation to set Responsible Tourism targets.	Corporate Tourism, PM	Responsible Tourism assessment / audit report	Year 3, 6, 9	SANS1162 Responsible Tourism baseline targets
	Renovate, upgrade or adapt existing infrastructure as part of the infrastructure plan, to ensure responsible tourism practices are effectively implemented.	PM	Infrastructure plan	Annually	Infrastructure programme
	Engage in Tourism Quality Assurance assessments and grading, as appropriate.	Corporate Tourism, PM	Reports	Annually	Responsible Tourism strategy
	To apply more sustainable energy and water saving practices.	PM	Reports	Ongoing	
	To minimise waste and recycle.	PM	Audit results	Ongoing	
Visitor experiences objective: To continually enhance the authentic visitor experience within the park, by effective visitor management, interpretation and quality of facilities offered.					
To ensure effective visitor management in the park.	Develop a park visitor management (VM) plan, including priorities for implementation.	GM:VM	Visitor management plan	Year 1	Visitor management Plan
	Implement the visitor management plan actions according to the prioritised list.	PM	Visitor management plan	Year 3, ongoing	
	Effectively manage visitor numbers through seasonal peaks.	PM	Reports Visitor stats	Ongoing	
To establish and / or monitor, where relevant, Responsible Tourism requirements for commercial and Public Private Partnership (PPP) partners.	Engage with commercial and PPP operators regarding SANParks' commitment to Responsible Tourism principles and agree to targets and assessment with operators.	BDU	Updated agreements, assessment reports	As required per contact term	SANS1162, Individual PPP agreements
To enable a quality visitor experience through dynamic interpretation of biodiversity, cultural and heritage attributes of the park.	Develop a park interpretation plan, taking existing interpretation into account, and including priorities for implementation.	GM:VM, PM	Interpretation plan	Year 1	
	Implement the interpretation plan actions according to the prioritised list.	PM	Monthly reports	Ongoing	

RESPONSIBLE TOURISM PROGRAMME					
High-level objective: To optimise the authentic nature- and culture-based opportunities and experiences while generating revenue without compromising the integrity of the bio-cultural assets.					
Visitor experiences objective: To continually enhance the authentic visitor experience within the park, by effective visitor management, interpretation and quality of facilities offered.					
To enable a quality visitor experience through dynamic interpretation of biodiversity, cultural and heritage attributes of the park.	Implement programmes for visitors as required, with reference to Holiday Programmes and activities arranged for special interest groups.	PM, Tourism Manager	Programme Documents and Reports		
	Develop Interpretive materials to enhance Environmental Awareness.	PM, Tourism Manager	Up to date pamphlets and checklists, signage		
To ensure adequate, effective and accurate visitor communication.	Update and maintain the signage manual.	Regional Communication	Signage manual	Year 1	Corporate Identity Manual
	Review of all current signage within visitor areas and consolidate signs per facility.	PM, Communication	Report	Year 1, ongoing	Signage manual
	Tourism guide to be completed and maintained.	Regional Marketing Manager, PM	Document	Year 3	Interpretation plan, Sales and marketing strategy
	Ensure the availability of marketing material and accurate communication of park rules, rates and facilities on various platforms.	Regional Marketing Manager, PM	Park rules, park information on website, reservation attachments, interpretive signage	Ongoing	Visitor management policy and protocols
	To create a digital platform for people to access updated tourism information and maps	Regional Marketing Manager, PM	Digital platform, Website	Year 2, ongoing	
To ensure adequate, effective and accurate visitor communication.	Ensure relevant staff and tourism partners are adequately trained to communicate key park and tourism information to visitors.	PM	Training reports	Ongoing	Park rules, visitor information, Media & comms toolkit
Service excellence objective: To provide excellent service to customers at all times by innovative approaches and enhancing staff motivation and competency.					
To enhance gate efficiency.	Improve efficiency of access at key and specifically high-volume visitor sites.	PM	Visitor feedback	Ongoing	Tourism Plan
To enhance customer service standards.	Engage in regular staff training to ensure current high standards in customer service are maintained.	PM	Customer feedback received	Ongoing	Online feedback, park visitor book, emails
	Manage and resolve feedback received from the public.	PM	Customer feedback received	Ongoing	Online feedback, park visitor book, emails

RESPONSIBLE TOURISM PROGRAMME					
High-level objective: To optimise the authentic nature- and culture-based opportunities and experiences while generating revenue without compromising the integrity of the bio-cultural assets.					
Service excellence objective: To provide excellent service to customers at all times by innovative approaches and enhancing staff motivation and competency.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To enhance customer service standards.	Engage in regular staff training to ensure current high standards in customer service are maintained.	PM	Customer feedback received	Ongoing	Online feedback, park visitor book, emails
	Manage and resolve feedback received from the public.	PM	Customer feedback received	Ongoing	Online feedback, park visitor book, emails
	Regularly assess facilities to ensure operational procedures are carried out and facilities are maintained to SANParks' standards.	PM	Facilities Inspection checklists	Ongoing	SOPs Tourism grading standards
Grow Tourism revenue objective: To sustainably grow income through tourism by optimising the range of authentic nature- and culture-based opportunities and experiences, products and services.					
To promote appropriate and optimal pricing of tourism products and services	Provide input into the annual pricing of tourism products and services, in order to optimise financial returns.	PM	Annual price updates	Annual	Annual tariff review
	Implement yield management for high- and low- demand products.	Yield Manager, PM	Occupancy forecasts Promotional discounts	Ongoing	Annual tariff review Delegation framework
To ensure optimal development and maintenance priorities to enable revenue optimisation.	Identify all possible activities and facilities that may be considered for development within the park.	PM, BDU	Product development framework	Year 2	
	Conduct a feasibility study of priority opportunities in order of perceived value added and income generated.	Product Development Steering Committee	Site specific feasibility study	As required	
	Regular review of maintenance and replacement / refurbishment priorities	PM	Maintenance plans updated	Annually	Park maintenance plan
	Develop identified projects.	PM	Tourism development plan	Year 2 Ongoing	
	Prioritise upgrading and maintenance of the existing tourist road network.	PM	Infrastructure Plan	Ongoing	Prioritise upgrading and maintenance of the existing tourist road network.
	Support commercial operators in order to maximise revenue generation.	PM, BDU	Concession revenue	Ongoing	
To ensure equitable access to existing and new BEE tourism operators.	Arrange legal commercial analysis of the current PPP agreement and workshop with concessionaries and potential new concessionaires.	PM, SS	Minutes of meetings	Ongoing	Contract data base
To identify alternative tourism income generating opportunities.	Identify opportunities and implement where appropriate.	PM, BDU	Sales and marketing plan Stats	Annually	

RESPONSIBLE TOURISM PROGRAMME					
High-level objective: To optimise the authentic nature- and culture-based opportunities and experiences while generating revenue without compromising the integrity of the bio-cultural assets.					
Diversified access objective: To appeal to and attract a broader market by understanding changing visitor needs, expectations or preferences and adapting tourism operations.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To understand the broader user-group's expectations relating to park usage in.	Identify unexplored opportunities for visitation by broader markets within SANParks' value system and Responsible Tourism.	PM, Regional Marketing Manager, Manager Tourism Research	Market research	Ongoing	
	Create platforms / opportunities for communication with diverse user groups.	PM, Regional Marketing Manager	Research / survey results, Fora meeting minutes	Ongoing	Stakeholder engagement plan
Marketing objective: To contribute to multi-level marketing efforts promoting the park's opportunities by developing and implementing a variety of sales, marketing and communication initiatives.					
To promote the park to broader SANParks markets and park specific target markets.	Identify park specific markets, and devise strategies for expanding on these markets.	GM: Sales and Marketing, Regional Marketing Manager	Sales and marketing plan	Ongoing	Sales and marketing strategy
	Create opportunities to market the park to Black Middle Class and Previously Disadvantaged Individuals markets, with specific focus on local communities.	Regional Marketing Manager	Sales and marketing plan	Annually	Sales and marketing strategy
	Maintain marketing efforts targeting existing markets	GM: Sales and Marketing, Regional Marketing Manager	Events, brochures, promotions	Ongoing	Sales and marketing strategy
	Explore opportunities for promoting Park attractions in conjunction with tourism partners	PM	Minutes of meetings	Ongoing	
	Enable packaging and selling of key attractions and facilities in the region.	Regional Marketing Manager	Sales and marketing plan	Ongoing	
Universal access objective: To enable appropriate access for differently abled visitors by providing adequate infrastructure and services, and access to experiences					
To continually enhance customer service standards wrt infrastructure, access and visitor experience applicable to differently abled visitors and other travellers.	Identify mechanisms for improving the parks Universal Access (UA) facilities and services, with reference to existing and new facilities for persons with mobility impairments and access for the aged.	Tourism Standards	Universal access plan	Annually	Universal Access protocol

RESPONSIBLE TOURISM PROGRAMME					
High-level objective: To optimise the authentic nature- and culture-based opportunities and experiences while generating revenue without compromising the integrity of the bio-cultural assets.					
Mitigating impacts objective: To minimise the impact of tourism infrastructure and activities, and balance various visitor expectations and demands across stakeholder groups by applying appropriate zonation and visitor management tools.					
Sub-objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To ensure that the development and use of tourism infrastructure and activities do not have negative environmental and social impacts and are legally compliant.	Stringent implementation of the zonation plan of the park.	PM	Zonation Plan	Ongoing	Zonation Plan
	Share zonation information with applicable stakeholder groups.	PM	Zonation Plan	Ongoing	Zonation Plan
	Measures to reduce the probability of the introduction and spread of alien Biota *(e.g.* fungus spores, seeds, insects).	PM, SS	Compliance Regulations	Ongoing	Protocol
	To identify and where feasible implement measures to mitigate current and proposed tourism impacts.	PM, SS	Report		Mitigation measures
	To ensure that tourism activities are legally compliant.	PM, SS, Planning	Environmental authorisations	Ongoing	

10.5 Equitable access and benefit sharing

SANParks strives to build constituencies among people in support of the conservation of the natural and cultural heritage assets within national parks. This is achieved through strengthening relationships with neighbouring communities, contributing to local socio-economic development through job creation and skills development, environmental education programmes, awareness and interpretation programmes, provision of cultural and ecosystem services and through providing equitable access.

10.5.1 Consumptive resource use programme

The purpose of this programme is to accommodate user needs by providing access to specific resources for sustainable and adaptive utilisation, recognising complexities, trade-offs and uncertainties.

SANParks is committed to promoting fair and equitable access to, and sustainable extractive use of selected natural resources within national parks by multiple stakeholders under the guidance of national legislation. This philosophy is embedded in the SANParks mission statement "To develop, expand, manage and promote a system of sustainable national parks that represents biodiversity and heritage assets, through innovation and best practice for the just and equitable benefit of current and future generations" and within the SANParks Resource Use policy which "makes allowance for the sustainable use of renewable and non-renewable resources for the purpose of managing biodiversity and sharing socio-economic benefits from harvesting resources within national parks".

Extractive resource use from terrestrial ecosystems is an important component of the management of the park. While this is important from a historical perspective, it also needs to comply with policy directives to accommodate the need for access to resources to optimise socio-economic benefits to neighbouring communities and to generate income for the organisation. Extractive resource use from terrestrial systems mainly involves the harvesting of timber and non-timber forest products, as well as products from fynbos. These include, for example, timber for the furniture market, ferns for the flower market, and medicinal plants.

Non-consumptive use (ecotourism) is also of importance and involves activities such as hiking, mountain biking, abseiling and adventure sport.

Marine and estuarine resource use can be broken up into two categories: i) non-consumptive use (e.g. swimming, snorkelling, scuba diving, paddling, boating and other related water sports) and ii) consumptive use, which encompasses activities that remove or harvest organisms from the environment, including recreational and subsistence angling and associated invertebrate harvesting.

In December 2016, new regulations were gazetted for the Tsitsikamma MPA, providing access for the local community to three coastal control zones for fishing and bait collecting purposes. As the management agent, SANParks is responsible for implementing the regulations whilst also monitoring any consequent

social and ecological changes that may occur due to harvesting. As these zones occur within the MPA, additional restrictions apply, including a limit on the number of fishing trips made per angler per month, the time of day fishing is allowed and further restrictions on the species-specific daily bag and size limits. In addition, the extraction of all red data species listed as endangered is prohibited.

Research and monitoring of the socio-economic and ecological dimensions of resource use is a prerequisite to understand subsistence harvesting and resource needs and to ensure continued sustainability.

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high-level objective 4 and objective 4.1 on page 46.

CONSUMPTIVE RESOURCE USE PROGRAMME					
High-level objective: To enable and promote stakeholder beneficiation through equitable access to a diversity of opportunities and park resources in a sustainable manner.					
Objective: To accommodate user needs by providing access to specific resources for sustainable and adaptive utilisation, recognising complexities, trade-offs and uncertainties.					
Sub-objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To streamline the process for the assessment of applications and proposals for resource use.	Develop procedures and criteria for the assessment of resource use applications that are in line with SANParks policy.	CSD, PM	Documents	Year 2	Resource Use Policy
To manage resource use while ensuring compatibility with other park objectives.	Designate areas for resource use that are compatible with other park management objectives and use zones.	CSD, PM	Map with resource use zones	Year 1	GRNP zonation plan
To enhance sustainability of resource use.	Where feasible, promote alternative supply options for species that cannot be sustainably harvested in the park.	CSD, PM	Project proposals and promotion articles	Ongoing	
	Where required, research, develop and implement harvesting systems and regulatory practices for sustainable use.	CSD, PM	Reports and documents	Ongoing	
	Conduct selected monitoring projects to assess impact and adjust harvesting practices accordingly.	CSD, PM	Monitoring results	Ongoing	
To assess trends in resource use in terms of quantities harvested and, where applicable income generated.	Maintain database and report on quantities harvested and, where applicable, income generated for all species and products subjected to harvesting.	PM, CSD	Annual Resource Use Report and database	Ongoing	

10.5.2 Ecosystem services programme

The purpose of this programme is to highlight the relevance and potential of an ecosystem services approach to research and management related to the park. Ecosystem services or "nature's contributions to people" refer to all the positive contributions or benefits, and occasionally negative contributions, losses or detriments, which people obtain from nature.

The criteria for quality of life is context specific and vary greatly among cultures and groups within cultures. These criteria comprise aspects such as access to water and food, livelihood security, health, good social relationships, cultural identity and freedom of choice and action. Nature plays a critical role in all of these aspects by providing different types of "services", i.e. ecosystem services. Ecosystem services include material benefits such as water, food and materials, as well as non-material benefits such as appreciating nature's beauty, environmental education, and areas to recreate and experience inspiration, spiritual fulfilment and a sense of identity.

In many parts of the world, protected areas represent the last remaining ecosystems that are still ecologically intact. Because of their intact biodiversity and functioning, ecological processes, protected areas have high potential for delivering a variety of ecosystem services. As such most protected areas have the potential to make a significant contribution to the well-being of people that access these services. As an example, the benefits of some services are only realised beyond the borders of the protected areas, as is evident in fresh water that originates from wetlands in national parks. Other services are accessed or realised through people's interactions with nature inside protected areas, for example by hiking a nature trail, camping with friends or enjoying a wilderness experience. These activities mediate benefits such as relaxation, socialising with other people, education and recreation. Management attitudes, decisions and actions can enable or disable the realisation of these benefits.

The ecosystem services framework highlights the connections between people and nature and serves to identify stakeholders or beneficiaries linked to specific ecosystem components and their services. As such, the concept can be used to explore the interplay between achieving biodiversity conservation and societal well-being, and potentially how the management of protected areas influences the realisation of these dual objectives. For example, investing in built infrastructure to enhance delivery of certain ecosystem services may have a negative impact on the ecosystem and impair future potential to deliver the same or other ecosystem services. The ecosystem services framework represents a way for assessing trade-offs, complementarities and synergies between managing for biodiversity and managing for ecosystem services.

The diversity and relatively intact nature of ecosystems incorporated within the park (e.g. rivers, lakes, mountains, beaches and forests) provides potential for delivering ecosystem services. This potential is further enhanced by the non-fenced and largely non-gated nature of the park, offering opportunity for a diversity of direct human-nature interactions. As such, this statement of intent aims to advance the use of a conceptual model, set of principles and policy on ecosystem services delivery to stimulate related research and aid decision-making regarding social-ecological issues. Important future activities would be to improve understanding of: (a) stakeholders' perceptions of difference ecosystem services, (b) how management options may impact delivery/production of ecosystem services and associated human well-being, and (c) how decisions may result in a trade-off between different ecosystem services and between ecosystem service delivery and biodiversity conservation.

This statement links with high-level objective 4 and objective 4.2 on page 46.

10.5.3 Engaged environmental awareness, education and capacity development programme

The purpose of this programme is to develop and implement a comprehensive environmental education programme that will address the needs of multi stakeholder groups.

An integrated approach to environmental education and interpretation has been adopted in SANParks. A broad stakeholder base is targeted and relevant programmes addressing a variety of issues are presented. The park enhances biodiversity conservation by developing park-community relations that promote access to the park and strive to re-connect people with nature as well as build the capacity of local communities to find solutions for local environmental issues. To that end, the use of eco-therapy methods will be explored to enhance person-nature connectivity and narratives around concepts such as bio-mimicry and ecosystem services will be developed to complement existing themes and messages.

To achieve park goals and develop a healthy community custodianship for the park, most initiatives are developed and implemented in partnership with related NGOs, Community Based Organisations (CBOs)

and government departments, as well as the private sector and community liaison structures. This include formal and non-formal environmental programmes.

The formal programmes are designed in collaboration with the formal education sector and are developed for schools and communities adjacent to the park. Activities are conducted inside and outside the park and are enhanced with complementing learning materials and where possible, linked with the Curriculum and Assessment Policy Statement (CAPS) curriculum. Examples of formal programmes include the Kids in Parks Programme, the Scientist-for-a-Day Programme and Biomimicry Excursions.

Non-formal programmes are offered to park visitors and local community groups, especially youth and women. These include various environmental awareness campaigns, guided trails and edutainment programmes. The primary objective of the non-formal programmes is to build capacity within communities and focus on specific issues affecting the park and surrounding communities. The programme is supported with applicable resource materials to enhance understanding.

The park offers outreach programmes and opportunities for day and overnight programmes to a broad stakeholder base. Guided and self-guided experiences are offered and are complemented with various interpretive displays, signage and information resources.

Learning resources and materials such as interpretive displays, signage and modern information platforms need to be reviewed and updated where necessary to enable staff and tourism partners to offer activities that cater for a diverse range of interests and support meaningful, practice-based learning.

A detailed lower level plan outlining the rationale and operational approach is available. This programme links with high-level objective 4 and objective 4.3 on page 46. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

ENGAGED ENVIRONMENTAL AWARENESS, EDUCATION AND CAPACITY DEVELOPMENT PROGRAMME					
High-level objective: To enable and promote stakeholder beneficiation through equitable access to a diversity of opportunities and park resources in a sustainable manner.					
Objective: To share appreciation, promote environmental education (especially for the youth) and improve awareness of the value of the park to local communities by creatively designed group-specific and innovatively implemented outreach activities and awareness programmes offering meaningful nature experiences.					
Sub-objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To plan, develop and present formal education programmes for schools and other youth groups.	Design, develop and implement environmental education programmes offering meaningful learning opportunities.	PM, CSD	Documents and reports	Ongoing	CAPS
	Plan and implement youth development through experiential training programmes.	PM	Documents and reports	Ongoing	
	Facilitate and/or participate in educator support and development initiatives.	PM	Minutes of meetings and reports	Ongoing	
	Organise and conduct outreach programmes to capacitate youth and communities to address environmental issues in their own communities.	PM	Reports	Ongoing	

ENGAGED ENVIRONMENTAL AWARENESS, EDUCATION AND CAPACITY DEVELOPMENT PROGRAMME					
High-level objective: To enable and promote stakeholder beneficiation through equitable access to a diversity of opportunities and park resources in a sustainable manner.					
Objective: To share appreciation, promote environmental education (especially for the youth) and improve awareness of the value of the park to local communities by creatively designed group-specific and innovatively implemented outreach activities and awareness programmes offering meaningful nature experiences.					
Sub-objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To plan, develop and present informal education programmes for youth, local communities and staff.	Develop specially designed guided experiences to re-connect people with nature and enhance public environmental awareness.	PM	Reports	Year 1, ongoing	
Design and develop learning resources and capacity to deliver meaningful environmental learning opportunities.	Review and update learning materials and activities.	PM	Reports	As required	
	Develop the capacity of staff and partners to present activities and/or give talks on behalf of SANParks.	PM	Programme documents and reports	Year 2, ongoing	

10.5.4 Equitable access programme

The purpose of this programme is to improve community access by exploring the range of accessibility opportunities for economically excluded local communities.

During the public participation meetings to determine the desired state for the GRNP, the need for equitable access to the park by economically-disadvantaged local communities was strongly communicated. It is important that approaches are developed to enable these communities the opportunity to visit the park.

Currently, discounted rates can be provided to community groups at the discretion of individual Park Managers. Group applications are dealt with on a case-by-case basis and do not accommodate individuals from these communities who cannot afford to visit the park.

Mechanisms, such as community access cards or special rates for group accommodation, to facilitate discounted or free access for economically-disadvantaged local communities will be investigated.

This programme links with high-level objective 4 and objective 4.4 on page 44.

10.5.5 Local economic development programme

The purpose of this programme is to enhance local economic development by developing and enabling local small, medium and micro enterprises (SMMEs) to enable them to benefit from park-based opportunities.

Both the SANParks Enterprise Development Strategy and Socio-Economic Development Strategy take a long-term view and place primary emphasis on socio-economic transformation. SANParks will play an active role by creating opportunities where the poor can become involved in productive activities.

The SANParks SMME support programme aims to enable local SMMEs to benefit from participation in business opportunities in national parks. In the park, these initiatives have already been implemented and where possible, local SMMEs are favoured when sourcing contractors for maintenance and tourism-related services.

As a popular tourist destination, the Garden Route already offers a variety of experiences and products to visitors. SANParks provides support for the development of initiatives that relate to biodiversity conservation or eco-tourism. These initiatives have involved craft groups, catering businesses, indigenous plant nurseries, eco-guide services, *etc.* in the past. Some of the existing initiatives need revitalisation and further opportunities for innovation need to be explored.

Biodiversity and Marine Economy initiatives are implemented in accordance with the National Biodiversity Economy Strategy that was developed to optimise the total economic benefits of the wildlife and bio-prospecting industries. In the Garden Route, the following projects are currently being implemented:

- Medicinal Plant Nursery – Judah Square, Knysna;
- Honeybush Propagation – Covie, Tsitsikamma;
- Tsitsikamma Marine Protected Area (non-commercial fishing for locals only); and
- The timber harvesting taking place in the GRNP (Australian Blackwood and selected indigenous trees) is currently under review.

The Expanded Public Works Programme (EPWP) remains a significant SANParks focus area in order to effectively contribute to local socio-economic development. These programmes focus on poverty alleviation and are therefore labour-intensive projects that create temporary jobs in the short term (three-year cycles). The skills development component of these programmes is emphasised, with specific targets set for both hard and soft skills development. Sustainability is further supported by investigating and implementing exit strategies through the development of entrepreneurial opportunities for local communities.

The social legacy programme develops and supports sustainable programmes and projects that will have a long-lasting impact in local communities. At present the focus is on providing facilities which support education. The projects are approved annually by the executive management committee of SANParks which enters into agreements with departments or communities that might benefit, to ensure the implementation and maintenance of the facilities.

Only one land claim that of the Covie community, has thus far been settled in the Garden Route area. The park has supported the Covie community through the development of opportunities such as involvement in the Otter Run and the initiation of a honeybush tea propagation project. This project recently received its first funding. SANParks continues to engage in the post-settlement processes co-ordinated by the Department of Land and Rural Development and the Bitou Local Municipality.

The park enhances biodiversity conservation by developing park-community relations that promote access to the park, strive to re-connect people with nature and build capacity within local communities to find solutions for local environmental issues. In the tourism economy, signature community events are hosted inside and outside the park (such as the Otter Run and the Knysna Oyster Festival) where community involvement is promoted. Traditional community events, such as the Rasta Festival, are also supported by the park.

An important approach going forward will be the co-development of products together with local communities though participative engagement. This will require that park management engage with community liaison structures, regional and local government, the private sector and NGO initiatives and to enhance the value of conservation and improve socio-economic development.

This programme links with high-level objective 4 and objective 4.5 on page 46. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

LOCAL ECONOMIC DEVELOPMENT PROGRAMME					
High-level objective: To enable and promote stakeholder beneficiation through equitable access to a diversity of opportunities and park resources in a sustainable manner.					
Objective: To enhance local economic development by developing and enabling local SMME's that can benefit from park-based opportunities.					
Objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To implement the Biodiversity Economy programme.	Identify opportunities to contribute to local economic benefit through Biodiversity Economy initiatives with the inclusion of Wildlife Economy, Marine Economy and Bioprospecting, where appropriate.	PM, P&C	Project proposals, post settlement reports	Ongoing	Protocol on implementation of the wild life economy and bioprospecting programmes

LOCAL ECONOMIC DEVELOPMENT PROGRAMME					
High-level objective: To enable and promote stakeholder beneficiation through equitable access to a diversity of opportunities and park resources in a sustainable manner.					
Objective: To enhance local economic development by developing and enabling local SMME's that can benefit from park-based opportunities.					
Objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To implement the Biodiversity Economy programme.	Facilitate feasibility studies to assess viability of proposed biodiversity economy initiatives.	SED, PM, P&C	Reports	As required	
	Foster strategic partnerships for the implementation of the biodiversity economy projects.	SED, PM, P&C	MOUs signed	Ongoing	
	Implement biodiversity economy projects.	PM, P&C	Reports	Ongoing	
To enable local SMMEs to benefit from park-based opportunities.	Identify SMME opportunities, especially for youth and women.	PM, BSP	Report, minutes of meetings	Ongoing	
	Develop and implement a SMME support programme to facilitate access to business opportunities presented in and around the park.	PM, P&C	Documents, reports	Year 3	
To collaborate with regional and local municipalities, government departments and nongovernmental organisations on socio-economic opportunities in the region.	Participate in the development of an integrated socio-economic development programme.	SED, PM	Documents, reports	Ongoing	
	Collaborate on the implementation of initiatives to the benefit of communities.	PM, P&C	Documents, reports	As required	
To implement a social legacy project.	Annual submission of a legacy project for Executive Committee approval.	SED and PM	Document	Annually	
	Implement social legacy projects, as approved.	SED, BSP, PM	Reports	Ongoing	
To align and implement an integrated Expanded Public Works Programme.	Implement integrated EPWP programmes.	BSP, PM	Documents, reports	Annually	
	Provide employment and skills development through the implementation of the EPWP programmes.	BSP	Report	Annually	
	Procure goods and services locally, providing preference to local Broad Based Black Economic Empowerment-accredited suppliers.	EPWP, PM, SCM	Report	As required	

10.6 Participative engagement

Park management aims to improve collaboration with regional and local government, the private sector, NGO initiatives and community liaison structures, with the intention of enhancing conservation and effecting local socio-economic development. This will partially be achieved through interactive communication via a wide range of platforms such as media, social media, the SANParks' website and focused publications, in order to provide access to information on locally relevant environmental issues and related economic opportunities. SANParks has the means to co-develop opportunities that will enable local communities to play a greater part in conservation and the ecotourism industry. To this end, a diverse range of stakeholders are engaged at different levels according to their needs and interest.

10.6.1 Communication programme

The purpose of this programme is to create and maintain a positive image for the park to all its stakeholders. It aims to provide key stakeholders, the public and staff with relevant and accurate information pertaining to the park's operations, through media relations and events initiatives with the view to secure a good reputation for the park and SANParks as whole.

External communications will focus on media relations that will ensure that the park is adequately and well presented in the media, both electronic and print, in order to create and maintain a positive image for the organisation. This will be achieved by managing media coverage of contentious issues, educating the public about the park and emerging conservation issues and keeping conservation debates at the forefront of media coverage.

Internal communication facilitates an effective two-way communication process within the organisation. Employees as the internal stakeholders of the park have a right to information and internal communications is essential to ensure that staff members, management and businesses operating inside the park are well informed about the business activities, processes and new developments in the park at all times at all times.

The programme is intended to ensure transparency and ongoing stakeholder relationship building. In line with the preservation of SANParks corporate memory, it seeks to establish the park's database through information and records management, to promote accountability, transparency and good corporate governance. A future focus will be to build more capacity to engage on a meaningful basis on social media platforms.

This programme links with high-level objective 5 and objectives 5.1 on page 46. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

COMMUNICATION PROGRAMME					
High-level objective: To build a trusting network of collaborative relationships by exploring and facilitating respectful, open, ongoing, inclusive and stakeholder-centric engagements.					
Objective: To effectively share and communicate SANParks messages through use of multiple platforms.					
Sub-objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To maintain and enhance relationships with specific interest groups by contributing to public discussions, dialogue sessions, giving regular feedback and participation in existing forums.	Initiate programmes (including SANParks week) to attract free entrants.	Communications, PM	Gate statistics, event and activity registers	Ongoing	
	Support all relevant environmental calendar campaigns.	Communications, PM, SS	Media monitoring, posters, gate statistics	Ongoing	
	Create and contribute to interest-specific discussion platforms about broad conservation and tourism issued-based matters.	Communications, P&C, PM, SS	Forums, tourism boards, business chambers, associations, etc.	Ongoing	
	Feedback platforms to ensure stakeholders receive regular feedback on SANParks projects and programmes.	Communications, P&C, PM, SS	Media articles, panel discussions.	Ongoing	
To effectively share and communicate SANParks messages through the use of multiple platforms (*e.g.* printed and social media).	Initiate proactive media engagements (including articles, media events, filming, supplements, internal and external newsletters).	Communications, PM, SS	Media monitoring, registers, updated media database, statistics (twitter analytics)	Ongoing	

COMMUNICATION PROGRAMME					
High-level objective: To build a trusting network of collaborative relationships by exploring and facilitating respectful, open, ongoing, inclusive and stakeholder-centric engagements.					
Objective: To effectively share and communicate SANParks messages through use of multiple platforms.					
Sub-objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To effectively share and communicate SANParks messages through the use of multiple platforms (*e.g.* printed and social media).	Update digital platforms such as input to the GRNP website and link with partner / stakeholder websites.	Communications	Records	Ongoing	
	Increase and maintain social media followers.	Communications	Records	Ongoing	
To enhance relevance and novelty of products and benefits through participative development and hosting traditional and signature community events.	Support events that focus to benefit local communities such as the Walking Festival, the Film festival, the Oyster Festival, timber festival and others.	Communications, PM, SS	Number of forums held	Ongoing	
	Design community celebratory events to be hosted in the park for communities especially HDI communities.	Communications, PM	Number of events held	As required	

10.6.2 Stakeholder engagement programme

The purpose of this programme is to maintain and enhance relationships with specific interest groups by contributing to public discussions, through dialogue sessions, by giving regular feedback and through participation in existing forums.

Stakeholder engagement between SANParks and society targets a wide range of objectives at various scales, ranging from local to global. The NEM: PAA promotes the participation of local communities in the management of protected areas. It further contributes towards strengthening stakeholder-park relations by empowering stakeholders and local communities to participate in decision-making processes related to management and development issues in parks. SANParks has adopted an overarching park management approach to strengthen relationships with stakeholders in pursuit of the long-term "desired state" for the park. This requires continuous engagement with a range of stakeholders and sectors through various mechanisms. The park's engagement with external stakeholders needs be responsive to deal with issues beyond internal park operations, including the broader economic and integrated land-use role of the park.

Through the implementation of a multi-pronged approach to involve different groups, the park aims to embrace engagement beyond meetings, with flexible and dynamic stakeholder-centric processes. This includes the integration or amalgamation of some forums, to reduce duplication of efforts, and the efficient management of processes and structures led by SANParks. The multi-pronged approach will facilitate cross-pollination in a complex stakeholder system to encourage collaboration rather than working in silos.

The programme includes open days that are hosted to develop a healthy community custodianship for the park by bringing the community to the park. Community engagement initiatives that facilitate collaboration among different state departments and communities are also arranged. These initiatives focus on finding solutions for local environmental issues specific to the participating communities and on identifying priorities for social investment projects (also known as "legacy projects") that should have a long-lasting impact in local communities.

Collaborative relationships are initiated and nurtured with government, conservation entities, business partners, communities, NGOs, CBOs, the media, customers and employees through a multi-pronged stakeholder-centric approach. This includes co-operative governance with other agencies, interest groups, bioregional neighbours or partners and the general public.

This programme improves communication and increases the participation capacity of staff and stakeholders by developing skills, understanding and knowledge and by utilising multiple media. Roles and responsibilities of participants and expected programme outcomes are clear so that it can be monitored and evaluated in order to measure success and ensure accountability.

This programme links with high-level objective 5 and objective 5.2 on page 46. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

STAKEHOLDER ENGAGEMENT PROGRAMME					
High-level objective: To build a trusting network of collaborative relationships by exploring and facilitating respectful, open, ongoing, inclusive and stakeholder-centric engagements.					
Objective: To maintain and enhance relationships with specific interest groups by contributing to public discussions, dialogue sessions, giving regular feedback, and participation in existing forums.					
Objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To identify stakeholders that are likely to be affected by the activities and outcomes of SANParks initiatives.	Review and update stakeholder database.	PM	Reports, minutes of meetings	Year 2, 4, 6, 8, 10	Stakeholder Database and Analysis report
To ensure constructive engagement with a broad range of stakeholders.	Develop stakeholder-specific methods and processes of engagement that ensure regular feedback to stakeholders.	PM	Document	Year 2	SANParks Guidelines for Stakeholder Participation
To build capacity of staff and stakeholders to ensure effective engagement.	Develop staff capacity to spread responsibility of stakeholder liaison, with the inclusion of people skills and communication and presentation skills.	PM	Reports, minutes of meetings	Year 4	
	Development of stakeholders' capacity to meaningfully participate.	PM	Reports, minutes of meetings	Year 5	
To develop a communication guideline that will enhance SANParks participation in public forums.	Develop SOPs for representing SANParks in public forums that will clarify the roles and responsibilities of staff who represent SANParks on various platforms and forums.	PM, Communication	Documents	Year 3	SANParks' Communications Protocol, Media Policy & Procedures

10.7 Learning, interpretation and research and monitoring programme

The purpose of this programme is to contribute towards providing relevant and rigorous scientific information, enabling critical thinking and facilitating knowledge exchange and co-learning in support of increasingly difficult management and policy challenges and opportunities in the socio-ecological system of the Garden Route region and the park specifically.

Research and monitoring in the GRNP is guided by the SANParks Research Strategy (2019), which in itself is guided by several national commitments, imperatives and/or legislation, as well as various international and multilateral agreements that deal with multiple social-ecological facets of protected area management (*e.g.* National Biodiversity Strategy and Action Plan, the National Environmental Management Act No.107 of 1998, NEM: BA, NEM: PAA, the National Biodiversity Assessment, the South Africa Environment Outlook Report, numerous multilateral international agreements, the Intergovernmental Platform for Biodiversity and Ecosystem Services, the National Heritage Resources Act, No. 25 of 1999, the Tourism Act No. 3 of 2014 and the National Tourism Sector Strategy 2016 – 2026.

Ecosystems and the larger social-ecological systems within which they are nested, are known to be complex and dynamic. The appropriate management response for such systems therefore necessitates ongoing testing and learning to deal with change. SANParks uses strategic (or 'forward-looking') adaptive management to set clear and explicit management objectives for parks. These are designed to allow system variability and provide a platform to make informed management decisions under natural or unnatural disturbance scenarios, such as effects of global environmental change, economic crises, etc. The need for ongoing monitoring, research and learning, in conjunction with stakeholders is implied.

Effectively achieving the research mandate relies on collaboration with scientists, academics and research students from universities and research institutions in South Africa and abroad. SANParks is known for its management–science–academic partnerships in support of adaptive management which facilitates a learning-by-doing and co-learning attitude. A large amount of research in the park is conducted and funded by non-SANParks scientists, academics and students, with SANParks scientists acting as research coordinators, facilitators and integrators of the vast body of knowledge generated. The close partnership between park management, in-house research and academic science keeps SANParks' knowledge production both anchored in solving relevant problems and open to the best ideas and most rigorous review. SANParks provides research coordination, access to parks, long-term datasets, field experiments, and logistical support to academics and students who in turn contribute research funding, expertise, capacity, training and equipment. SANParks thus facilitates significant capacity development within the country and draws substantial international research expertise and funds into South Africa. Society's relationship with protected areas has evolved in the last century. Historically perceived as 'islands' protecting natural wonders, there is now an appreciation of porous boundaries, interdependencies and feedbacks between protected areas, surrounding landscapes and people. Scientific understanding has also shifted from a paradigm of 'nature-in-equilibrium' to accepting ecosystems as open systems which are often changing and regulated by natural disturbances.

Scientific Services has compiled a SOK report for the park. The primary objective of these reports is to improve awareness of the information available from various published sources which have relevance to park management, planning and research. The first consolidated SOK was produced in 2009 with the proclamation of the park. Due to the different historic administrations of these areas, research focus varies across the sections of the park, with greater focus in some areas of the park compared to others. The SOK for the park was extensively updated in 2017 (SANParks, 2017). The report gives a brief introduction to the extensive literature cited and does not purport to be an exhaustive summary of what is available.

The park has various facilities to help stimulate science, including short-term visiting researcher accommodation in Rondevlei, Storms River and Diepwalle, a small laboratory (Rondevlei) and herbarium (Knysna) as well as invaluable long-term datasets and field experiments. The main tasks of the scientific staff are to: (i) conduct independent research and critical monitoring actions in support of park management goals; (ii) attract and support external research projects, especially of applied nature and of value to the park; (iii) re-integrate the ensuing knowledge into park understanding, management and the policy environment (on multiple levels) and; (iv) curate, manage and communicate data, information and knowledge to various audiences in order to increase the impact and reach of science and foster co-learning. In the last decade, SANParks Scientific Services has attracted significant direct support funding from a variety of donors, including the Honorary Rangers and the AW Mellon Foundation. In addition, the donor-funded Junior Scientist programme aims to attract, fund and support young scientists from previously excluded backgrounds into SANParks.

Many long-term data sets are proving extremely important for and contextualisation of new scientific knowledge and provide an invaluable basis to understanding multi-scaled and multi-disciplined global and regional issues (such as climate and global change research across fynbos, forest, freshwater, estuarine, and marine biomes). These often form the basis of new or deepened collaborations with a diversity of world renowned and highly rated local, national and international scientists and institutions.

The indigenous forest research and monitoring programme in the park has produced long-term datasets that are unique within South Africa. Developed and maintained over more than four decades, this provides an understanding of natural processes as well as the impacts of management activities and other unnatural processes occurring within the Garden Route forests, leading to the development and implementation of sound management practices. Similarly, a long-term study site in the Tsitsikamma marine protected area has been the focus of SANParks – South African Environmental Observation Network collaborations to better understand and assess MPA efficiency in achieving conservation objectives, oceanographic and physico-chemical changes as well as inshore costal habitat changes. In addition, a wealth of new approaches, aided by newer and increasingly cost-efficient technologies, are supporting various short- and long-term monitoring projects directly or through collaborations. These enable new insights at scales and

detail not possible previously (e.g. camera trapping, baited remote underwater videography, LiDAR and e-DNA).

This programme links with high-level objective 6 and objectives 6.1 to 6.6 on page 47. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

LEARNING, INTERPRETATION AND RESEARCH AND MONITORING PROGRAMME					
High-level objective: To promote up-to-date knowledge and awareness related to biodiversity and cultural heritage by dynamically and collaboratively producing, translating and sharing relevant knowledge and experiences across boundaries and generations.					
Objective: To constantly update knowledge by enabling and encouraging a diverse range of relevant internal and external social-ecological research of a high standard across research disciplines, promoting both multi and transdisciplinary research work with an emphasis on collaboration.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To appropriately facilitate, enable, share, report on and archive data (in its widest sense) to preserve institutional memory and contribute to ongoing learning.	Conduct, solicit and facilitate research, also maintaining scientific credibility.	SS	Research project database, scientific publications	Ongoing	Natural heritage, cultural heritage, tourism programmes
	Provide research support for internal and external researchers.	SS, PM	Reports	Ongoing	
	Maintain an effective data repository (including back-up system) which ensures data sharing and access through uploading of monitoring data and metadata as well as historical and current reports or grey literature on the SANParks data repository.	SS	Uploaded data and grey literature on data repository	Monitoring data uploaded quarterly; research data uploaded as and when available	
To enhance and attract human capital, skills and science capacity through various approaches and strategic partnerships.	Enable staff to develop and grow their science skills and recognition.	SS	Appropriate training and/or further studies, visits to leaders in field, conferences	Ongoing	
	Participate in SANParks' Junior Scientist programme to mentor and facilitate development of science capacity (funding permitting).	SS, CSD, HCM	Report	Ongoing	
	Develop and/or foster strategic partnerships with common interests to enhance science capacity and effort in the park.	SS, PM	Report	Ongoing	

LEARNING, INTERPRETATION AND RESEARCH AND MONITORING PROGRAMME					
High-level objective: To promote up-to-date knowledge and awareness related to biodiversity and cultural heritage by dynamically and collaboratively producing, translating and sharing relevant knowledge and experiences across boundaries and generations.					
Objective: To constantly update knowledge by enabling and encouraging a diverse range of relevant internal and external social-ecological research of a high standard across research disciplines, promoting both multi and transdisciplinary research work with an emphasis on collaboration.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To ensure that science supports park decision-making and policy development through ongoing co-reflection, co-learning and communication.	Provide scientific input and structured thought processes to relevant park engagements and processes to inform decision-making and formulation of park-specific policies and protocols, and assist in structuring certain components of formal documentation and learning.	SS, PM, Planning	Minutes of meetings, inputs into policies, protocols and strategic documents	Ongoing	
	Participation in advisory groups and working groups, contributing to regional and (inter)national initiatives / programmes.	SS, PM, Planning	Inputs into regional and (inter)national initiatives / programmes	Ongoing	
To effectively communicate socio-ecological science in order to create awareness, educate and build constituency with a broad base of academic and non-academic stakeholders by making use of platforms appropriate for the various target audiences	Outreach to school children, student groups and/or stakeholder groups.	SS, PM	Reports	Ongoing	Environmental education programme
	Communication with general public.	SS, Communication, PM	Popular articles, radio & TV interviews, social media, public lectures, contributions to annual Research Report	Ongoing	
	Communication with scientific and specialist audiences.	SS, PM	Conferences, guest academic lectures and peer-reviewed publications	Ongoing	
Objective: To allow adaptive management and reflective learning through maintaining key monitoring programmes (both biophysical and cultural / social).					
	Implement annual Monitoring Plan and appropriately archive monitoring data.	SS	Reports	Ongoing	Knowledge management programme
Objective: To promote collective understanding about natural and cultural assets through facilitating targeted mutual learning events.					
	Host targeted mutual learning event(s) annually.	SS, PM	Report	Annual	Knowledge management programme
Objective: To share science through communication and interpretation to share knowledge, create awareness and facilitate a common understanding using various communication platforms.					
To effectively and humbly communicate the role of science as well as the importance and implications of research findings with a broad range of academic and non-academic stakeholders.	Outreach (may also include career days, job shadowing, *etc.*) to school children, student groups and/or stakeholder groups.	PM, SS	Presentations, lectures and/or practical field sessions with school and students groups or specialist stakeholder groups	Ongoing	Environmental education programme

LEARNING, INTERPRETATION AND RESEARCH AND MONITORING PROGRAMME					
High-level objective: To promote up-to-date knowledge and awareness related to biodiversity and cultural heritage by dynamically and collaboratively producing, translating and sharing relevant knowledge and experiences across boundaries and generations.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To effectively and humbly communicate the role of science as well as the importance and implications of research findings with a broad range of academic and non-academic stakeholders.	Communication with general public.	Communications, PM, SS	Popular articles, radio & TV interviews, social media, public lectures, contributions to annual Research Report	Ongoing	Participative engagement programmes
	Communication with scientific and specialist audiences.	SS, PM	Conferences, guest academic lectures and peer-reviewed publications	Annually	
To improve access to information through translation and quality interpretation (includes use of diverse technologies).	Packaging of information into relevant, relatable and understandable forms for a wider audience.	SS, PM	Popular media engagements, public presentations, inputs to interpretative materials (updates or new)	Ongoing	Participative engagement programmes, responsible tourism programme

10.8 Effective park management

Effective park management programmes (including daily, weekly, monthly quarterly and annual actions, reports and reviews) ensure 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.

10.8.1 Environmental management programme

The purpose of this programme is to minimise negative operational impacts on the environment and set clear guidelines for the management of environmental impacts.

The Minister of the DEA has, in terms of section 24(2) of the NEMA, identified activities that may not commence without authorisation from the competent authority. The NEMA is applicable throughout South Africa and relevant provisions therefore apply to the park.

Given the national importance of the park, it is vital to manage this park in accordance with the required environmental standards. Proper management of new developments and operational activities within the park can only be achieved through appropriate planning and effective controls. Various management tools are used to develop and manage the park in a manner

consistent with the relevant legislation and SANParks policy framework. These key tools and controls used by the park form the basis of an environmental management framework.

Further to the provisions of the NEMA, the park will implement best practice and adhere to all relevant legislation to guide operational activities that may have an impact on the environment. These activities will cover any new infrastructure development that is not listed under the NEMA, general maintenance *etc.* The development of best practice operating procedures will be guided by the precautionary principal. The precautionary principal states that if an action might cause harm to the environment, in the absence of a scientific consensus that harm would not ensue, the burden of proof falls on those who would advocate taking the action.

This programme links with high-level objective 7 and objective 7.1 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

ENVIRONMENTAL MANAGEMENT PROGRAMME					
High-level objective: To ensure effective management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To strive for best practise and ensure compliance with environmental legislation through improved governance and environmental risk management.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To manage and reduce the impacts of park activities on the vital attributes.	Make all environmental legislation available to relevant staff.	PM	Electronic / hard copy of applicable legislation	Ongoing	
	Ensure that EIAs and heritage impact assessments are completed for listed activities.	PM	Documents, reports	As required	
	Conduct internal scoping for all activities / developments that may potentially impact on the environment.	PM	Documents	As required	
	Provide an environmental management plan (EMP) to contractors / service providers when operating in the park.	PM	Document	As required	
	Enforce the requirements as set out in the EMP.	PM	Inspection checklist, report	As required	
	Develop and implement a set of best practice procedures for the identified activities.	PM	Documents	Year 2	
	Develop and implement emergency response plan/s for identified activities.	PM	Documents	Year 2	
	Implement the water and electricity savings programme.	PM	Green energy devices	Year 7	
To ensure responsible waste management in the park.	Review and assess current waste management practices in order to ensure that waste is being dealt with in a responsible manner (*i.e.* registered land fill sites).	PM	Recorded waste process flow	Year 1	
	Implement recycling where appropriate and feasible.	PM	Recycling systems	Year 1	

10.8.2 Risk management programme

The purpose of this programme is to update and maintain the park's risk profile and to manage risks accordingly. SANParks regards the management of business risks as an integral part of management across all operations.

In line with corporate governance best practices and as per Public Finance Management Act No. 01 of 1999 (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 follows 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 awareness and risk ownership as a joint responsibility. 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 all risks to remain within the risk appetite of the organisation.

Acknowledging that all activities occurring at different levels within the organisation are exposed to the various types of risks, the focus of this framework is to shift the attention of this 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 profile of the identified key strategic challenges it faces. This profile is communicated to the Board and is reviewed on an on-going basis. The risk profile reflects among others the risks identified as well as 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 in 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.

Similarly, the Park Manager needs to ensure that emerging issues of risk, that can jeopardise achievement of the 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 high-level objective 7 and objective 7.2 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

RISK MANAGEMENT PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To establish and maintain effective, efficient and transparent risk management systems by creating an enabling environment for the management of risk.	To identify and assess risks for all operations in the park.	PM	Register	Quarterly	CRMF
	To develop responses to address and prevent or mitigate issues of risk.	PM	Document	Annually	PFMA, OHS Act, NEM: PAA,
	To monitor effectiveness in terms of the risk response plan and improve as needed.	PM	Report	Quarterly	Park risk profile

10.8.3 Financial management and administration programme

The purpose of this programme is to ensure sound financial management and administration. As a public entity, SANParks manages the public funds entrusted to the organisation in accordance with the PFMA, and it is listed a Schedule 3 Part A: 25 public entity. Financial management and administration encompasses the following, revenue (conservation, concession, trade, tourism & other income), staff debtors, creditors, financial administration and supply chain management (SCM). Support is provided by three Financial and Administration offices, based in Tsitsikamma, Knysna and Wilderness. A Financial Manager with supporting finance staff and a SCM practitioner oversees and guides the financial processes in the park. Without incisive financial management of the park, there can be no realistic conservation effort.

The administration and finance units will verify and ensure that all transactions captured in the financial system correspond with the income received and expenditure incurred. The administration and finance units ensure capturing of invoices on the system to ensure payment of all suppliers and service providers and the follow-up of outstanding invoices and queries received from suppliers. The Park Manager, Finance, Human Resource and Administration Officers are responsible to supervise, guide and provide the necessary assistance with the budget process, asset management and related administration. SANParks budget policy dictates a zero-based approach, which implies that every category must be critically assessed, evaluated and supported by an approved business plan. Annual budgets should be compiled in accordance with budget guidelines and instructions issued by the Corporate Finance Division. The Park Manager, in collaboration with middle management will ensure sound and proper budget management.

Middle management is responsible for procuring goods and services, as well as ensuring compliance and managing contracts with the assistance of the Finance and Administration Officers and the SCM Practitioner. Middle management, with the support of the Finance and Administration Officers is responsible for asset control and manages a wide range of assets in support of the park. The park will ensure that all park operations and park projects are cost-effective and financially sound. In addition, attention will be given to developing a diverse income base and proactive financial networking to maintain and improve the financial sustainability of the park.

This programme links with high-level objective 7 and objective 7.3 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

FINANCIAL MANAGEMENT AND ADMINISTRATION PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To ensure sound financial management and administration through proficient budget management, effective internal controls and compliance to corporate governance prescripts.					
Sub-objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To attain effective financial management.	Ensure less than 1% variance on cost of operations.	PM	Statements with <1% variance	Ongoing	
	Ensure sound financial management of special projects – BSP.	BSP	Budget targets achieved	Ongoing	

FINANCIAL MANAGEMENT AND ADMINISTRATION PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To ensure sound financial management and administration through proficient budget management, effective internal controls and compliance to corporate governance prescripts.					
Sub-objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To attain effective financial management.	Participate in the independent audit of financial records.	PM	Report	As required	
	Address audit findings.	PM	Report	As required	
To grow revenue (Including alternative sources of revenue).	Identify new and align existing business opportunities within the commercialisation programme of SANParks.	PM	Opportunities identified in line with policy	Ongoing	
	Identify possible external funding to supplement current income streams.	PM	Funding proposals submitted	Ongoing	
To improve the management of financial resources.	Prepare accurate and realistic annual budgets in consultation with management team that are in line with the sound management plan objectives.	PM	Annual budgets prepared	Annually	
	Provide monthly financial reports timeously by cost centre.	PM	Reports	Monthly	
	Review the insurance schedule and submit to corporate.	PM	Documents submitted	Annually	
	Submit insurance claims as and when required	PM	Claims	As required	
To ensure proper asset and SCM.	Verify and manage assets registers.	PM	Register	Bi-annually	
	Assist with the procurement of goods and services.	PM	Reports	Ongoing	
	Manage and maintain existing contracts for the supply of goods and services.	PM	Register	Ongoing	
	Ensure sound management of vehicle fleet (*i.e.* logbooks, services, licencing and fuel management).	PM	Logbooks, service records, fuel card statements	Monthly	

10.8.4 Human capital development programme

The purpose of this programme is to ensure that the park has an adequate human capital function to render effective conservation, visitor and supporting services, whilst also ensuring that it provides human capital development support to surrounding communities as per SANParks policy framework.

SANParks has developed corporate human capital policies, guidelines and procedures to guide the park and its workforce in an effectively organised structure while delivering the outputs of the management plan. The park regards itself as an equal opportunity employer. This is achieved through non-discriminatory practices in the work environment, availability of equal opportunities for employees and prospective employees, respect for diversity and gender differences and its commitment to upholding and implementing the Employment Equity Act (Act No. 55 of 1998).

By adhering to corporate 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 capital management will comply with the relevant national legislation. Park human resource capacity is not only defined by the development of current staff, but it 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 making staff wellness programmes available to employees and their families. This will assist staff in dealing with the negative effects of lifestyle diseases and other lifestyle challenges (*i.e.* financial planning). The Human Capital and Administration Officers must report on new appointments, resignations, attendance registers, overtime claims, leave *etc.* A salary instruction is prepared from this for processing and preparation of monthly salaries. The park reviews training needs on an annual basis and submits the training need analysis and requirements for approval to Head Office. Compilation of training needs starts off with the Individual Development Plans for each staff member and is then followed by training, skills development and performance appraisals. Park management encourages all staff to improve their levels of skills and qualifications in their relevant field of expertise through study bursaries and training on an on-going basis.

The park currently (2020) has 311 permanent positions, 21 temporary, 93Environmental Monitors and 631 contract positions (including internships, temporary workers, BSP and EPWP workers).

This programme links with high-level objective 7 and objective 7.4 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

HUMAN CAPITAL DEVELOPMENT PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To ensure sufficient and effective staff capacity to achieve management objectives by adhering to legislation, corporate human resource policies and guidelines, and effectively training and enabling staff to perform.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To ensure the park attracts and retains the most suitable human capital.	Preparation and processing of monthly salaries and employee benefits and leave management.	PM	Salary instructions	Ongoing	
	Ensure implementation of the prescribed disciplinary code and procedures.	PM	Reports	As required	
	Conduct regular employment equity and skills development forum meetings.	PM	Minutes of meeting	Quarterly	EE report submitted
	Fill vacancies as per employment equity targets.	PM	EE statistics	Ongoing	
	Implement the succession plan.	PM	Reports	Ongoing	
	Ensure all post are evaluated and graded.	PM	Reports	Ongoing	
	Implement staff mentoring and coaching programme.	PM	Reports	Ongoing	
To ensure the park attracts and retains the most suitable human capital.	Develop human capital in the fields of tourism, conservation and administration through the internship programme.	PM	Contracts	Annually	
	Develop human capital in the field of people and conservation and ecotourism by introducing tourism and conservation experiences to learners and community groups.	PM	Learner and community groups addressed	Annually	
	Identify training needs and conduct training interventions within budget allocation.	PM	Document, reports	Annually	

HUMAN CAPITAL DEVELOPMENT PROGRAMME					
High-level objective: To strive for effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To ensure sufficient and effective staff capacity to achieve management objectives by adhering to corporate human resource policies and guidelines.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To implement plans and skills development strategies to meet the strategic goals of the organisation.	Implement ABET Programme for internal employees.		Training register	Reports	
	Assist employees with applications with regard to study bursaries, staff accommodation bookings, changes in medical status, banking changes and assist with queries to medical aid regarding unpaid medical accounts.	PM	Documents	Ongoing	
	Conduct workshops and Imbizos to ensure that staff is familiar with SANParks Policies.	PM	Training schedule / register	Ongoing	
	Participate in the internal and independent audit of human capital documentation.	PM	Report	As required	
	Address audit findings.	PM	Report	When required	
To implement workplace wellness programmes.	Conduct wellness awareness workshops.	PM	Workshops	Annually	Wellness policy
	Provide private facilities within the park to enable employee's access to the wellness programme.	PM	Facility	Ongoing	Wellness policy

10.8.5 Information and records management programme

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

Management of the park requires that appropriate data and information is collected, maintained and made readily accessible to staff responsible for all aspects of management. Data is 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.

This programme links with high-level objective 7 and objective 7.5 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

INFORMATION AND RECORDS MANAGEMENT PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To effectively manage and store information and records by complying with records management legislation and policies.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To develop and implement a records management and file plan for the park in accordance with SANParks policies and procedures.	Review the existing records management and file plan of the park and implement a single file plan.	PM	File plan	Year 2	National Archives and Records Services of SA Act
	Implement the records management and file plan.		Records and documents filed	Ongoing	Corporate file plan and policy
	Ensure appropriate access to park files and records in accordance to corporate records management policy and guidelines.		Access procedures recorded and implemented	Ongoing	Corporate file plan and records management policy

10.8.6 Infrastructure programme

The purpose of this programme is to provide guidance for the upgrading and maintenance (day-to-day and scheduled) of infrastructure. This is primarily to ensure that the park's infrastructure (buildings, roads, fences *etc.*) and services infrastructure (provision of water, electricity and waste management) is well maintained and its capacity is continually improved in order to provide safe, reliable, increasingly environmentally friendly and affordable products to its clients and visitors. The technical department's key responsibility is the delivery and implementation of departmental programmes and to ensure the realisation of set goals regarding the above.

Infrastructure in the park consists of facilities in support of conservation (such as management roads and tracks, office facilities, staff housing, fences, bulk services, airstrip, workshops and stores) and tourism (*i.e.* tourist roads and tracks, office facilities, staff housing, bulk services, public viewing points, bird hide, picnic sites, tourist accommodation and swimming pools). These facilities enable staff to execute their respective duties towards achieving the park's objectives and providing a tourism product at the best possible standard.

Management policies and procedures ensure that infrastructure is maintained, renovated, upgraded and replaced at the required intervals and specify design norms and standards, including national construction regulations, "green building" and "touch the earth lightly" principles as well as electricity, water saving measures and minimising waste. The 5-year rolling maintenance plan addresses issues related to securing funding for upgrading, renovation / maintenance and replacement. The technical department continues to periodically review and assess performance to align activities and allocate resources.

This programme links with high-level objective 7 and objective 7.6 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

INFRASTRUCTURE PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To maintain, upgrade and develop new park infrastructure through proper planning, effective management and best environmental practice.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
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 update as required.	PM	Inventory	Year 1, as required	

INFRASTRUCTURE PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To maintain, upgrade and develop new park infrastructure through proper planning, effective management and best environmental practice.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To ensure that infrastructure in the park is maintained to a desired state.	Document the scope of maintenance needs in accordance with relevant specifications.	GM:ISP, PM	Reports	Year 1	Building and Electrical regulations
	Document the scope of maintenance needs in accordance with relevant specifications to guide contractors.	PM, Parks technical office	Specification guideline	As required	Building and electrical regulations, civil engineering guideline / specifications
	Prioritise maintenance needs and develop a five-year rolling maintenance plan for the park.	PM	Maintenance plan	Annually	
	Implement the five-year rolling maintenance plan according to the annual maintenance schedules.	PM	Monthly reports	Ongoing	
	Identify possible development of infrastructure that can enhance visitor experience	PM	Reports	Ongoing	Reports / visitor feedback
	Assess progress, revise annual maintenance plan and evaluate standard of work.	PM	Monthly report	As required	Building / civil / electrical specifications
	Appoint contractors as needed to provide maintenance support.	PM	Purchasing order	As required	
	Ensure that all tourism infrastructure comply with tourism grading standards.	PM	Annual tourism grading report	As required	Tourism grading specifications
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 and update as required.	PM	Inventory	Year 1, as required	
	Develop and implement annual maintenance schedule for all equipment.	PM	Maintenance plan	Annually	OHS Act, electrical regulations, fire equipment, pressure vessels and lifting gear

INFRASTRUCTURE PROGRAMME					
High-level objective: To strive for effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To maintain, upgrade and develop new park infrastructure through proper planning and efficient management.					
Sub-objectives	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To assist with planning and provide support to developmental infrastructure projects.	Provide input / support to the parks technical section during the planning and development phases of new infrastructure projects.	PM	Minutes of meeting, monthly reports	As required	
To promote energy saving and the use other green technology devices.	Install energy saving devices in all new developments/facilities.	PM	Devices installed	As required	
	Replace unserviceable equipment (i.e. geysers) with green technology options.	PM	Devices installed	As required	

10.8.7 Safety and security programme

The purpose of this programme is to provide a safe and secure environment for both visitors and SANParks employees and to ensure area integrity.

Safety and security aspects impact on the effective management of national parks and influence stakeholder perceptions. It is widely perceived that national parks are safe and secure environments, free from crime prevalent in urban areas. Maintaining this perception is a crucial element in any safety and security strategy as it impacts directly on the quality of the visitor's experience and the reputation of the organisation. SANParks implement and enforce the requirements contained in legislation and organisational policies. The primary legislation and organisational policies include, amongst others:

- NEMA;
- NEM: PAA and regulations;
- SANParks Code of Conduct; and
- Internal rules.

Crime generally constitutes significant risk, and as such poses a major threat to an organisation such as SANParks' ability to deliver on its mandate. This includes the successful protection of all assets (including natural, cultural, information and physical) under its custodianship as well as the products and services delivered to its customers. Any perception that it is unsafe to visit a national park threatens SANParks' reputation of being recognised as the nature-based tourism destination of choice in South Africa.

While tourists may not actively express a response to an environment which is perceived to be safe and secure, the absence of security is immediately noted. Stakeholders expect the visible assurance of a secure environment and want confirmation that the natural resources are being protected. SANParks therefore has a direct responsibility to establish effective physical safety and security mechanisms and to monitor and ensure compliance to legislation in collaboration with the South African Police Services, South African National Defence Force any other appropriate security agency and all established alliance partnerships.

The safety and security plan comprehensively addresses both the strategic and operational aspects of visitor and staff safety as well as area integrity. A Strengths, Weaknesses, Opportunities and Threats analysis of issues affecting safety and security in the park has been developed and the outcome has been converted into achievable objectives and actions. Proactive consideration is given to issues such as working hours, law and order, high-risk areas, personnel, infrastructure, resources, equipment, staff training, reporting, data capture, record keeping, monitoring, information and intelligence. In addition to this, a number of reactive measures have been developed, including immediate action drills, emergency procedures and evacuation plans. All staff must be familiar with the above procedures and will receive regular relevant training.

The overall perceived poaching risk is medium. The security of the park's biodiversity is at risk due to the open nature of the park. The main threats are the illegal collection of plants or parts thereof, illegal fishing, abalone and Knysna seahorse collection, exceeding bait collection allocation and the international market

and trade in endangered species. Any compromise concerning safety and area integrity would negatively impact on tourism, biodiversity conservation and SANParks reputation.

Protected areas experience disasters from time to time. It is therefore important for park management to identify, prevent or reduce the incidence and impact thereof, and to mitigate the effect of disasters that cannot be prevented.

A detailed lower level plan supports this programme. This programme links with high-level objective 7 and objectives 7.7 and 7.11 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

SAFETY AND SECURITY PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To provide a safe and secure environment for both visitors and SANParks employees and to ensure that the integrity of the natural and cultural resources and assets is secured.					
Sub-objectives	**Actions**	**Responsibility**	**PoE**	**Timeframe**	**Reference**
To identify safety and security risks for individual sections of the park.	Conduct structured risk assessments in accordance with SANParks safety and security strategy.	PM	Risk assessments	Annually	
	Identify priority interventions to mitigate safety and security risks.	PM	Safety and Security plan	Annually	
To compile park specific safety and security plans.	Develop safety and security action plan as prescribed by SANParks safety and security strategy.	PM	Document	Annually	
	Develop Immediate Action Drills.	PM	Documents	Annually	
To monitor, evaluate, and review safety and security plans.	Identify and include new emerging risks during the annual review of safety and security plans.	PM	Document	Annually	
	Monitor safety and security actions regularly through self-assessments and independent oversight State of Area Integrity Management.	PM	Audit results	Annually	
To manage disasters in close collaboration with disaster management structures within Local and Regional Municipalities and Provincial Agencies.	Create enabling platforms for mutual engagement between the park and disaster management structures.	PM	Minutes of meetings	Ongoing	
	Develop disaster specific protocols and MoU's with relevant disaster management structures.	PM	Minutes of meetings	Ongoing	
	Develop a disaster management plan.	PM	Document	Year 1	

10.8.8 Safety, health, environment and quality programme

The purpose of the current occupational health and safety (OHS) programme is to prevent, minimise and manage occupational accidents and occupational illnesses and diseases. This programme is required by the Occupational Health and Safety Act (Act No 85 of 1993), to ensure that workplace hazards are managed and controlled in order to ensure a safe working environment at all times, including contractor activities on site. The OHS programme is guided by the SANParks SHEQ (Safety, Health, Environment and Quality) policy and framework and includes the elements required by the occupational health and safety legislation as a minimum and is based on the ISO 45001 Occupational Health and Safety management system standard.

SANParks has made the decision to move away from the generic OHS management model to an internationally recognised and best practice system called the ISO 45001 standard. Under this standard, the park is expected to align with and implement best practice processes and norms. The environment and quality components of the SHEQ programme will be developed over the next five to eight years.

The ISO 45001 standard consists of the following six elements:

- Identifying hazards and risks;
- Identifying legal and other requirements;
- Establishing objectives and programmes;
- Operational control;
- Emergency preparedness and response; and
- Internal audit.

The implementation of the ISO 45001 system will be done in a phased manner. The first phase (2020/21 – 2023/24) will focus on the first three bullets as listed above. Phase two (2023/24 – 2026/27), will focus on the last three bullets as listed above.

This programme links with high-level objective 8 and objective 8.8 on page 48. To achieve the purpose of this programme, the actions listed in the table below will be implemented.

SAFETY, HEALTH, ENVIORNMENT AND QUALITY PROGRAMME					
High-level objective: To ensure effective and efficient management and administrative support services through good corporate governance enabling the park to achieve its objectives.					
Objective: To continuously reduce the disabling injury frequency rate through the implementation of an efficient and effective Occupational Health and Safety management programme.					
Sub-objective	**Actions**	**Responsibility**	**POE**	**Timeframe**	**Reference**
To implement the ISO 45001 standard.	Identify hazards and risks.	OHS Manager, PM	Register	Year 2, ongoing	
	Identify legal and other requirements.	OHS Manager, PM	Register	Year 2, ongoing	
	Establish, implement and maintain programmes to mitigate identified hazards and risks.	PM, OHS manager	Register	Year 2, ongoing	
	Develop and implement standard operating procedures to manage identified hazards and risks.	PM, OHS Manager	Register, checklists, SOPs	Year 6, ongoing	
	Develop and implement emergency preparedness and response plans.	PM, OHS Manager	Documents	Year 6, ongoing	
	Conduct regular self-audits.	PM	Reports	Year 6, ongoing	
	Support internal audits.	OHS Manager, PM	Reports	Year 6, ongoing	
	Support external audits.	OHS Manager, PM	Reports	Year 7, 9	

10.8.9 Climate change programme

The purpose of this statement of intent is to acknowledge the importance of climate change as a driver of social and ecological change and that the park should actively contribute to better understanding the threats of climate change to species, ecosystems, cultural heritage and sustainable livelihoods, especially in the Garden Route region.

Climate change refers to a significant and long-lasting shift in normal weather conditions that affects average conditions as well as the occurrence of extremes. Current climate change is thought to be brought about by increased earth surface temperatures, often referred to as global warming, that are accelerated because of human-induced or anthropogenic activities that release greenhouse gases.

South Africa is actively involved in, and signatory to, major global drives to deal with climate change. These include the UN Framework Convention on Climate Change, the Intergovernmental Panel on Climate Change, Kyoto Protocol, Copenhagen Accord, the Cancun Agreement, and more recently the Paris Accord, which has solidified actions amongst members. Other conventions such as the United Nations Convention to Combat Desertification and the Convention on Biological Diversity also have relevance for addressing mitigation and adaptation to climate change. At a national level, the South African National Climate Change Response White Paper (gazetted in October 2011) includes an undertaking to conduct research and scenario planning on climate change adaptation for South Africa. According to the White Paper, South Africa's response to climate change aims to:

- Effectively manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity; and
- Make a fair contribution to the global effort to stabilize greenhouse gas concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.

An integrated approach to climate change adaptation is required, within the park and more broadly across the landscape. For the latter, landowners across cadastral boundaries should actively plan and work together to deal with extreme weather events, associated damage to property and alternative adaptive approaches. In addition, the park should be promoted as an outdoor laboratory for researching and learning about climate change, both in terms of societal adaptation strategies and ecological responses. Furthermore, long-term monitoring of key climatic variables and ecological indicators should be encouraged to enable tracking of changes.

Climate change adaptation and mitigation measures will be increasingly important to ensure a more sustainable future. One important component of this will be engagement with external stakeholders to control alien species and reduce fuel loads in areas surrounding the park to minimize the risk posed by wildfires. In addition, redesign and managed retreat of infrastructure in relation to flood prone or storm susceptible areas may also be important, particularly as rebuilding and maintenance may become cost inefficient. Climate change adaptation measures should include to (a) restrict new development below the 1:100 year flood line or in coastal hazard zones, and (b) plan for strategic expansion of the park and maintenance of ecological connectivity along environmental gradients to facilitate movement of species in response to changing climate.

In terms of coastal areas, deemed particularly vulnerable to climate change effects, SANParks will delineate coastal management lines (CMLs) in the GRNP using the approach outlined below. This is in line with national legislative requirements and follows a staggered approach where the best available information is used to indicate risk to coastal areas through hazards and extreme

events (where such information is not available, a suitable nationally or regionally accepted proxy will be used).

The GRNP recognises the role that it plays in being able to set an example for alternative greener infrastructure designs (as and where funding is available to address existing infrastructure and/or as new developments are conceptualised). However, importantly, it also has a role to play in developing a broader environmental consciousness in the region. In this context, encouraging stakeholders and residents of the region to think locally and consider and understand the impacts of our behaviours on the environment, scarce resources and overall well-being of all stakeholders is called for. This must however also recognise trade-offs, for example across geographic (*e.g.* global vs local) and time (short-term vs long-term) scales. Park management will strive to show greater leadership through embedding environmentally sensitive and innovative approaches into its planning and operations, while encouraging ongoing environmental education and connection to nature as a basis for co-learning with all stakeholder groups.

10.9 Evaluation and learning

10.9.1 Introduction

Section 5 has dealt with the jointly agreed desired state, and section 10 with all the specific programmes, which are necessary to achieve this. However, the desired state cannot be effectively maintained without explicit attention being given to prioritisation, integration, operationalisation, and above all, reflection and adaptation according to the principles in the SANParks biodiversity custodianship framework (Rogers, 2003).

The need for reflection and adaptation (*i.e.* adaptive learning) comes from acknowledging that the world of conservation is complex and that the existing knowledge base is imperfect. Complexity implies that feedbacks between components of the conservation system are likely to change in unpredictable ways and the only way to stay abreast of such changes is through ongoing learning and adaptation. Lack of effective feedback and reflection is the predominant underlying cause of failure of strategic adaptive management, and hence failure to realise the desired outcomes of the park. Evaluation should furthermore test the appropriateness of an intervention and monitor the predictive capacity, societal acceptability and accomplishment of broad goals (Kingsford & Biggs, 2012; Figure 14).

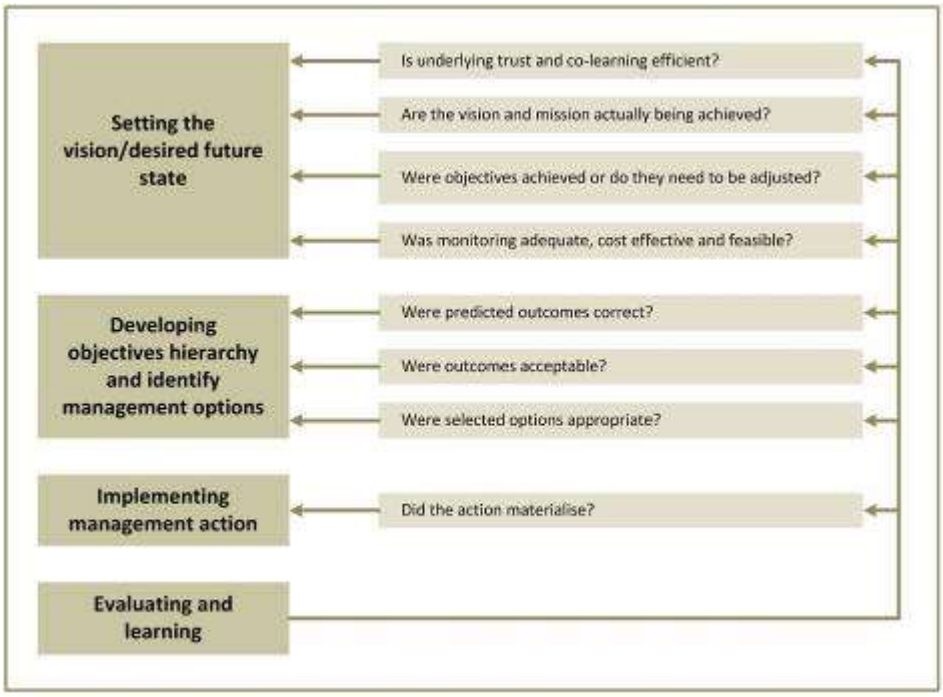

Figure 14. Feedback questions essential for adaptive learning (from Kingsford and Biggs, 2012).

10.9.2 Operationalisation

Given the desired state, and the programmes outlined in Section 10, specific action and operational plans need to inform the Key Performance Areas (KPAs) of staff members (applicable personnel working in the Parks, CSD and Tourism Divisions) to ensure that the outcomes are achieved. In addition, explicit reflection and co-learning opportunities need to be maintained and honoured to facilitate an ad96aptable, learning approach that can cope with unexpected events or surprises. An example is those opportunities provided by the science-management forum engagements at park or regional level.

A critical component of strategic adaptive management is to monitor and evaluate the consequences of management decisions and actions. This involves assessment of the outcome of management interventions, but also frequent evaluation of early warning signals (referred to in SANParks as thresholds of potential concern (TPCs) of whether the intervention is on an appropriate trajectory for achieving the particular objective. Ongoing evaluation of emerging results against objectives is essential to allow strategy and methodology to be adjusted as new understanding and knowledge emerge. Continuous evaluation and learning are facilitated by making time for reflecting on the following questions (Roux and Foxcroft, 2011):

- Has the intended plan of operation materialised?
- Were the selected options appropriate?
- Were the predicted consequences correct and, if not, why?
- Is the monitoring adequate, cost effective and feasible?
- Were the consequences actually acceptable?
- Even if the predicted consequences were correct and are acceptable, are the objectives and vision being met?

Science-Management Forum discussions are aimed at ensuring that feedbacks take place, best available knowledge and understanding is incorporated into decision-making and TPCs are flagged and considered timely. In addition, annual reflection workshops involving managers and scientists will evaluate what has been learnt in each programme, and what should be adjusted.

If this process is effectively honoured, it is believed that the park will be practicing strategic adaptive management, and in accordance with our overarching values around complex systems, will have the best chance of achieving the desired state in a sustainable way.

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Section 11: Costing

11.1 Introduction

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

The park will adhere to the guiding principles listed below:

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

A funding estimate of the activities in this management plan was derived, using the zero-based budgeting approach. 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.*).

11.2 Income

SANParks manages a number of national parks as part of the national park system, currently 21 in total. Not all of these parks are financially viable, currently only five national parks *i.e.* Addo Elephant National Park, Augrabies Falls National Park, Kalahari Gemsbok National Park, Kruger National Park and Table Mountain National Park make a surplus. SANParks receives an annual grant from the DEA to carry out its mandate, but this is not sufficient to cover the management costs. The organisation utilises its own revenue derived from commercial activities to subsidise the shortfall. The surplus generated by the aforementioned parks is used to fund management costs across all national parks. An organisation of this magnitude also has overhead costs relating to support services such as human resources, tourism and marketing, finance, conservation support *etc.* that is not allocated to individual parks and must be funded by the revenue generated in financially viable parks.

The income is categorised as follows; accommodation, conservation fees, concession fees, activities, other tourism income and wildlife sales. Total income for 2020 / 2021 is budgeted at -R 107,133,700 increasing to an estimated -R 135,253,828 in 2024 / 2025. A summary is presented in Table 17.

Table 17. A summary of the total estimated income budgeted for the park management plan over the next five years.

	2020 / 2021	2021 / 2022	2022 / 2023	2023 / 2024	2024 / 2025
Total income	-R 107,133,700	-R 113,561,722	-R 120,375,426	-R 127,597,951	-R 135,253,828

11.3 Expenditure

11.3.1 Recurring costs

The annual directly allocated cost (including staff, travel and supplies and tools) is estimated at R 194,139,178 for 2020 / 2021. These ongoing costs are split according to the programmes listed in Table 18.

Table 18. The estimated annual operational costs for the park for 2020 / 2021.

Programme	Amount	Percentage of total
Alien invasive species	R 84,709,709	43.82%
Responsible tourism	R 23,021,014	11.91%
Infrastructure	R 22,096,874	11.43%
Aquatic (fresh water, estuaries, marine)	R 17,933,789	9.28%
Terrestrial	R 7,883,495	4.08%
Financial management and administration	R 6,496,553	3.36%
Integrated fire management	R 6,451,722	3.34%
Learning, interpretation and research and monitoring	R 5,597,538	2.88%
Safety and security	R 5,225,505	2.70%
Human capital development	R 2,959,262	1.53%
Consumptive resource use	R 2,070,413	1.07%
Cultural heritage	R 1,617,623	0.84%
Safety, health, environment and quality	R 1,342,625	0.69%
Landscape functionality	R 1,091,170	0.56%
Communication	R 913,295	0.47%
Environmental management	R 797,518	0.41%
Stakeholder engagement	R 782,456	0.40%
Environmental awareness	R 701,896	0.36%
Information management	R 539,214	0.28%
Risk	R 500,124	0.26%
Local economic development	R 309,111	0.16%
Provisioning ecosystem services	R 265,000	0.14%
Total	**R 194,139,178**	**100 %**

11.3.2 Once-off costs

In addition to the above there is a further once-off cost estimated at R 154,700,000 over the period 2020 / 2021 – 2024 / 2025 as can be seen in Table 19 below.

Table 19. The estimated once-off cost of the various programmes.

Programme	Estimated budget
Park expansion	R 20,000,000
New infrastructure	R 134,700,000
Total	**R 154,700,000**

11.3.3 Unallocated fixed costs

The unallocated fixed costs applicable but not allocated in Table 18 above for 2020 / 2021 amounts to R 15,857,971.

11.3.4 Maintenance

A breakdown of the infrastructure, both existing and new with their replacement value and an estimate of the ongoing annual maintenance for 2020 / 2021 is provided in Table 20. The projected maintenance for existing infrastructure is estimated at R 15,984,690 in 2020 / 2021. If the new planned infrastructure is developed, it will add a further R 2,694,000 (at 2020 / 2021 rates) to this annual maintenance budget,

increasing it to R 18,678,690. The maintenance requirement was calculated as a percentage of the replacement value.

Table 20. The estimated replacement value of the existing infrastructure and any new infrastructure required with the estimated annual maintenance budget for the existing and new infrastructure in the park.

	Estimated replacement value			Estimated maintenance		
	Existing (R)	New (R)	Total (R)	Existing (R)	New (R)	Total (R)
Buildings	628,474,029	134,700,000	763,174,029	12,569,481	2,694,000	15,263,481
Roads and tracks	21,779,717	0	21,779,717	1,228,094	0	1,228,094
Trails	31,872,478	0	31,872,478	1,054,450	0	1,054,450
Fencing	2,340,981	0	2,340,981	81,740	0	81,740
Water system	29,450,113	0	29,450,113	679,002	0	679,002
Electricity	949,601	0	949,601	13,674	0	13,674
Sewerage	6,381,461	0	6,381,461	352,629	0	352,629
Other	281,010	0	281,010	5,620	0	5,620
Total	**721,529,390**	**134,700,000**	**856,229,390**	**15,984,690**	**2,694,000**	**18,678,690**

11.3.5 Replacement of minor assets

While many of the vehicles are leased along with the computers, it 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 is based on their original purchase price and the estimated budget required annually making provision for their replacement. Management should thus make provision for about R 7,967,500 in 2020 / 2021, this figure is presented in Table 21.

Table 21. The total value various categories of minor assets and replacement thereof (based on the original purchase price).

Asset type	Asset value	Provision for replacement
Air conditioners	R 677,198	R 96,743
Computer equipment	R 3,994,989	R 798,998
Firearms	R 24,109	R 2,411
Furniture	R 5,051,409	R 721,630
Mechanical equipment	R 10,967,232	R 1,566,747
Office equipment	R 4,484,692	R 640,670
Vehicles, trailers and watercraft	R 26,173,939	R 3,739,134
White goods (*e.g.* stove, fridge, microwave)	R 2,808,169	R 401,167
Total	**R 51,373,567**	**R 7,967,500**

11.4 Summary

It is estimated that the park will require an annual operating budget of R 237,408,837 for 2020 / 2021, increasing to R 299,723,187 in 2024 / 2025. In addition to this amount, the park will also require R 154,700,000 over the next five-year period for once-off costs. A summary is presented in Table 22.

Table 22. A summary of the annual and once-off costs that is required to fully implement the activities in the management plan over the next five years.

	2020 / 2021	2021 / 2022	2022 / 2023	2023/2024	2024/2025
Annual cost	R 237,408,837	R 251,653,367	R 266,752,569	R 282,757,723	R 299,723,187
Once-off costs over five years	R 154,700,000				
SANParks budget for GRNP	R 180,779,151	R 191,625,901	R 203,123,455	R 215,310,862	R 228,229,514
Shortfall	R 56,629,686	Subject to budget allocation			

The shortfall can be broken down as follows:

- An additional amount of R 39,732,442 is required for the alien invasive species programme;
- An additional amount of R 9,944,960 is required to cover the current maintenance shortfall; and
- An additional amount of R 6,952,283 is required to replace ageing assets.

11.5 Implications

Should the park be unsuccessful in securing the shortfall amount of R 56,629,686 then the following programmes will be affected:

- Alien and invasive species programme: The park will have to reprioritise and scale down the alien and invasive species clearing plan;
- Infrastructure programme: The park will be unable to maintain the current infrastructure to a high standard; and
- Assets: The park will be unable to replace assets that have reached the end of their life span, operations could be adversely affected and thereby increasing the risk profile.

11.6 Future

There are various ways in which the shortfall could be covered, options include:

- To request additional funding from Head Office;
- To approach donors; or
- To accept the shortfall and rationalise the programmes.

Depending on the priority and urgency of the various requirements, management will make a decision regarding the most appropriate action to take.

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Appendix 1: Declarations

1. Land declared

Government Notice 294 / Government Gazette 6216 of 17 November 1978 declared the following land to be part of the Tsitsikamma Forest and Coastal National Park in terms of the National Parks Act 1976 (Act No. 57 of 1976).

The farm No. 777, Humansdorp Registration Division, in extent of 234.6736 ha.

Government Notice 2509 / Government Gazette 11026 of 06 November 1987 declared the following land to be part of the Wilderness National Park in terms of the National Parks Act 1976 (Act No. 57 of 1976).

Portion 136 (a portion of portion 26) of the farm Klein Krantz No. 192, George Registration Division, in extent of 4.08 ha.
Portion 135 (a portion of portion 25) of the farm Klein Krantz No. 192, George Registration Division, in extent of 3.73 ha.
Portion 134 (a portion of portion 8) of the farm Klein Krantz No. 192, George Registration Division, in extent of 4.47 ha.
Portion 131 (a portion of portion 24) of the farm Klein Krantz No. 192, George Registration Division, in extent of 13.38 ha.
Portion 64 of the farm Klein Krantz No. 192, George Registration Division, in extent of 488.91 ha.
Portion 31 of the farm Klein Krantz No. 192, George Registration Division, in extent of 14 ha.
Portion 33 (a portion of portion 6) of the farm No. 191, George Registration Division, in extent of 4.95 ha.
Portion 32 (a portion of portion 5) of the farm No. 191, George Registration Division, in extent of 5.688 ha.
Portion 31 (a portion of portion 4) of the farm No. 191, George Registration Division, in extent of 5.87 ha.
Portion 30 (a portion of portion 3) of the farm No. 191, George Registration Division, in extent 5.77 ha.
Portion 29 (a portion of portion 2) of the farm No. 191, George Registration Division, in extent of 5.24 ha.
Portion 28 (a portion of portion 1) of the farm No. 191, George Registration Division, in extent of 3.50 ha.
Portion 38 of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 9.91 ha.
Portion 37 of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 27.27 ha.
Portion 36 (a portion of portion 28) of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 1.65 ha.
Portion 35 (a portion of portion 16) of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 10.43 ha.
Portion 34 (a portion of portion 15) of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 15.34 ha.
Portion 11 (a portion of portion 3) of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 5.35 ha.
Portion 32 (a portion of portion 7) of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 3.99 ha.
Portion 31 (a portion of portion 3) of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 5.95 ha.
Portion 26 of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 0.8009 ha.
Portion 4 of the farm Boven Lange Valley No. 189, George Registration Division, in extent of 9.74 ha.

Portion 22 (a portion of portion 13) of the farm Drie Valleyen No. 186, George Registration Division, in extent of 2.2232 ha.
Portion 21 (a portion of portion 10) of the farm Drie Valleyen No. 186, George Registration Division, in extent of 2.3299 ha.

Government Notice 2814 / Government Gazette 11068 of 18 December 1987 declared the following land to be part of the Tsitsikama Forest and Coastal National Park in terms of the National Parks Act 1976 (Act No. 57 of 1976).

The farm Salt River No. 241, Humansdorp Registration Division, in extent of 2,533 ha.

Government Notice 368 / Government Gazette 16293 of 10 March 1995 declared the following land to be part of the Tsitsikama Forest and Coastal National Park in terms of the National Parks Act 1976 (Act No. 57 of 1976).

Farm 382 of Natures Valleys No. 382, Knysna Registration Division, extent unknown
Farm 444 of Natures Valleys No. 444, Knysna Registration Division, extent unknown
Remainder of Farm 434 of Natures Valleys No. 434, Knysna Registration Division, extent unknown

Government Notice 1732 / Government Gazette 16804 of 10 November 1995 declared the following land to be part of the Wilderness National Park in terms of the National Parks Act 1976 (Act No. 57 of 1976).

Portion 10 of the farm Ronde Valley No. 187, George Registration Division, in extent of 208.14 ha.
Portion 11 of the farm Ronde Valley No. 187, George Registration Division, in extent of 56.8756 ha.
Portion 23 of the farm Ronde Valley No. 187, George Registration Division, in extent of 147.0419 ha.

Government Notice 30 / Government Gazette 16927 of 19 January 1996 declared the following land to be part of the Tsitsikama Forest and Coastal National Park in terms of the National Parks Act 1976 (Act No. 57 of 1976).

Portion 1 of the farm No. 299, Knysna Registration Division, in extent of 185.8228 ha.
Portion 3 of the farm Matjies River No. 295, Knysna Registration Division, extent unknown

Government Notice 379 / Government Gazette 17728 17 January of 1997 declared the following land to be part of the Wilderness and Tsitsikamma National Parks in terms of the National Parks Act 1976 (Act No. 57 of 1976).

Farm Slaaps Bosch No. 15, Knysna Registration Division, in extent of 3497.9483 ha.
Farm Langbosch No. 16, Knysna Registration Division, in extent of 2598.9893 ha.
Farm Keur River No. 18, Knysna Registration Division, in extent of 1595.4907 ha.
Farm Zoetkraal No. 19, Knysna Registration Division, in extent of 2268.2109 ha.
Farm Boven Palmiet River No. 20, Knysna Registration Division, in extent of 3390.5249 ha.
Farm Onder Palmiet River No. 22, Knysna Registration Division, in extent of 2592.8366 ha.
Farm Dwars River No. 23, Knysna Registration Division, in extent of 3026.4702 ha.
Farm Adjoining Klipheuwel No. 296, Knysna Registration Division, in extent of 31097.4631 ha.
Farm Hoekwil No. 108, George Registration Division, in extent of 72.1909 ha.

Government Notice 248 / Government Gazette 31981 of 06 March 2009 declared the following land to be part of the Garden Route National Park in terms of the National Environmental Management: Protected Areas Act 2003 (Act No. 57 of 2003).

Portion 1 of the farm Robbe Hoek Forest Reserve No. 583, Humansdorp Registration Division, in extent of 131.6838 ha.
Portion 1 of the farm Langebosch Forest Reserve No. 446, Humansdorp Registration Division, in extent 133.2781 ha.
Portion 1 of the farm Kwaibrand Forest Reserve No. 524, Humansdorp Registration Division, in extent of 440.3524 ha.
Portion 1 of the farm Koomans Bush Reserve No. 523, Humansdorp Registration Division, in extent of 380.14 ha.
Remainder of Portion 1 of the farm Palmiet River No. 584, Humansdorp Registration Division, in extent of 109.44 ha.
Portion 1 of No. 881, Humansdorp Registration Division, in extent of 139.85 ha.

Portion 3 of (Portion 1) of the farm Palmiet River No. 584, Humansdorp Registration Division, in extent of 58.8805 ha.
Portion 2 of the farm No. 880, Humansdorp Registration Division, in extent of 86.4151 ha.
Portion 1 of the farm No. 463, Humansdorp Registration Division, in extent of 61.64 ha.
The farm Tsitsikamabos Park B No. 465, Humansdorp Registration Division, in extent of 6.76 ha.
Remainder of the farm Tsitsikamabos Park A No. 464, Humansdorp Registration Division, in extent of 327.5140 ha.
Remainder of farm Gouna No. 89, Knysna Registration Division, extent unknown
Remainder of farm Blaauw Krantz No. 250, (Portion outside Tsitsikama National Park as declared by proclamation No. 61, Government Gazette No. 4237 dated 29 March 1974) Knysna Registration Division, extent unknown
Portion 1 of the farm No. 226, Knysna Registration Division, in extent of 292.18 ha.
Remainder of Portion 2 of the farm Saltrifor No. 241, Knysna Registration Division, in extent of 248.64 ha.
Remainder of farm Saltrifor No. 241, (Portion outside Tsitsikama National Park as declared by proclamation No. 2814, Government Gazette No. 11068 dated 01 December 1987) Knysna Registration Division, extent unknown
Portion 1 of the farm No. 225, Knysna Registration Division, in extent of 239.58 ha.
Remainder of farm Goudveld No. 515, Knysna Registration Division, in extent, 3,653.35 ha.
Portion 2 of the farm Keurbooms River Forest Reserve No. 522, Knysna Registration Division, in extent of 418.46 ha.
The farm Klein Palmiet River No. 14, Knysna Registration Division, in extent of 3,923.07 ha.
Remainder of farm Keurbooms River Forest Reserve No. 522, (Excluding the portion south west of the Whiskey Creek Forest Nature Reserve as declared by proclamation No. 2675, Government Gazette No. 9519 dated 7 December 1984) Knysna Registration Division, extent unknown
Remainder of farm No. 558, Knysna Registration Division, in extent, 4,672.63 ha.
Remainder of farm No. 556, Knysna Registration Division, in extent, 3,910.5064 ha.
Portion 2 of the farm Outeniquaberg No. 352, George Registration Division, in extent of 1,208.4537 ha.
Farm No. 291, George Registration Division, in extent of 28.35 ha.
Remainder of Portion 3 of the farm Roode Kraal No. 184, Knysna Registration Division, in extent of 227.91 ha.
The farm Katara No. 512, Knysna Registration Division, in extent of 4,079.96 ha.
Remainder of Portion 3 of the farm Lawn Wood No. 186, Knysna Registration Division, in extent of 1,019.26 ha.
Remainder of the farm Deep Wall No. 218, Knysna Registration Division, in extent of 4,139.36 ha.
Portion 117 (portion of portion 116) of the farm East Brook No. 183, Knysna Registration Division, in extent of 61.75 ha.
The farm Yzernek No. 527, knysna Registration Division, in extent of 1,620.0092 ha.
Remainder of the farm Buffelsnek No. 529, Knysna Registration Division, in extent of 3,270.80 ha.
Portion 1 of the farm Buffelsnek No. 529, Knysna Registration Division, in extent of 52.57 ha.
Remainder of portion 2 (Klein River Nek) of the farm Roode Muur No. 6, Knysna Registration Division, in extent of 641.69 ha.
Portion 3 of the farm Roode Muur No. 6, Knysna Registration Division, in extent of 93.85 ha.
Portion 25 (a portion of portion 3) of the farm Roode Kraal No. 184, Knysna Registration Division, in extent of 21.59 ha.
Remainder of the farm Van Der Wattsbos No. 513, Knysna Registration Division, in extent of 616.67 ha.
The farm Gouna North No. 530, knysna Registration Division, in extent of 2,339.95 ha.
The farm No. 173, knysna Registration Division, in extent of 8.93 ha.
The farm No. 174, knysna Registration Division, in extent of 10.50 ha.
The farm Taitskop No. 516, Knysna Registration Division, in extent of 265.51 ha.

The farm Church Millwood Bush No. 117, knysna Registration Division, in extent of 1,006.09 ha.
The farm No. 517, Knysna Registration Division, in extent of 731.22 ha.
Remainder of the farm Boven Diep River No. 5, Knysna Registration Division, in extent of 400.6 ha.
Portion 1 of the farm Boven Diep River No. 5, Knysna Registration Division, in extent of 433.69 ha.
The farm Farleigh No. 511, Knysna Registration Division, in extent of 4,353.11 ha.
The farm Millwood No. 519, Knysna Registration Division, in extent of 2,211.44 ha.
Barkhuis Berg Forest Reserve No. 2, Knysna Registration Division, in extent of 4,502.2538 ha.
Portion 5 of the farm Outeniquaberg No. 352, George Registration Division, in extent of 12.01 ha.

Government Notice 95 / Government Gazette 34017 of 11 February 2011 declared the Wilderness and Tsitsikamma National Parks to be part of the Garden Route National Park in terms of the National Environmental Management: Protected Areas Act 2003 (Act No. 57 of 2003).

Appendix 2: Stakeholder participation report

The stakeholder engagement process

The stakeholder engagement process took the form of a wide-reaching open process, spanning 16 months, where input and/or comments on the draft sections were collected, considered and responded to. Platforms used to reach organisations and members of the public included direct mail to all previously registered stakeholders on the database of consulted stakeholders during the review of the last GRNP Management plan and a regional stakeholder database. The call for participation in the development of the "desired state" at the start of the review process, as well as the "call for comments" to participate and comment on the draft Park Management Plan were published in local media and social media posts, supported by news about the workshops on the SANParks website, at local libraries and at community centres. At the 6 desired state workshops and the 14 external focus group meetings that followed, as well as the 6 public information sessions, stakeholders were given a chance to directly interact with park management.

Stakeholder identification and registration

Stakeholders were identified from the park's stakeholder database as well as the existing stakeholder registers from previous public participation processes. New and existing stakeholders were also able to register throughout the 16 month process at the six desired state workshops, the 6 public information sessions and via the internet on the SANParks Website. In total, 235 members of the public registered as stakeholders during this revision process.

Stakeholder Identification

The various organisations that were identified to participate in the Integrated Management Plan process included the following:

International	TFCA partners, UNESCO, African World Heritage Fund
National Government	Department Environmental Affairs, South African National Botanical Institute, Department Agriculture Forestry & Fisheries, SAPS
Provincial government	Western Cape Department of Environmental Affairs and Development Planning, Easter Cape Department of Economic Development Environmental Affairs and Tourism CapeNature, Western Cape Department of Water and Sanitation, Eastern Cape Parks & Tourism Agency, Western Cape Department of Social Development
Local government	Eden District Municipality, Bitou Municipality, Knysna Municipality, George Municipality, Koukamma Municipality
Local Resident / Neighbours	Knoetzie Home Owners, Pezula Golf Estate, MTO (Cape Pine), Pledge Nature Reserve, Knysna Basin Project, Mountain Club of S.A, Southern Cape FPA, Sedgefield Ratepayers and Voters Association, Wilderness Ratepayers Association, Sedgefield Island Conservancy, Wilderness Lakes Sub-Catchment Management Forum, Knysna Catchment Management Forum, Wilderness Lakes Catchment Management Forum, Steenbok Park Nature Reserve, Pledge Nature Reserve, Nature's Valley Trust, Plettenberg Bay Community Environment Forum, Stewardship Working Group, Eden to Addo, Tsitsikamma Conservation Forum, Conservancies: Middle Keurbooms, Indalo, Noetzie, Bibby's Hoek, Gouna, Phantom-Homtini, Redford, Kaaimans, Cola Beach, Western-Heads Goukamma, Sedgefield Island, Paradise Ridge, Touwriver Kaaimans, Crags.

Land claimants	Covie CPA (Land Claim)
Community organisations	Khoisan Village Trust, Tsitsikamma Angling Forum, Traditional Healers Knysna, Traditional Healers Plettenberg Bay, House of Judah Rastafarian Community, Traditional Circumcision Knysna, Traditional Circumcision Plettenberg Bay, Rastafarians Plettenberg Bay, Knysna Historical Society, Rotary, Edge of Africa, Knysna Drug and Alcohol Centre, Julia Early Childhood and Aftercare Centre, WALEAF
Business associations	Tsitsikamma Black Economic Empowerment Forum, Koukamma Business Development Forum, George Business Chamber, Oyster Rights Holder
Research	Nelson Mandela Metropolitan University, South Cape College, Botanical Society of South Africa
Conservation organisations	Nature's Valley Trust, WESSA, Fynbos Forum, Knysna Environmental Forum, Biowise, Knysna Museum, Lakes Bird Club, Garden Route Initiative, SC Weeds Forum, Custodians of Rare and Endangered Wild flowers
Tourist organisations	Thesen Island Blue Flag Committee, World Travellers, Eden Adventures, George Lakes Yacht Club, Lakes Bird Club, Dog Walkers Committee
Honorary Rangers	South Eastern Cluster (Wilderness, Knysna, Tsitsikamma)

Media platforms used to invite stakeholders to register and participate

The various media platforms used to inform stakeholders of the revision of the park management plan included the following:.

Media	Description
1. Direct e-mail	All the stakeholders that were registered during the 2009 management plan revision were informed about the revision process. (Refer list of 41 persons). In addition the Region's stakeholder database was used (refer e-mail trail of invitations) Key stakeholders were sent personal invites to attend any of the public sessions. Follow up calls were made to ensure stakeholders RSVP.
2. National print media advertisements	Advertisements to inform interested and affected parties to register as stakeholders for participation in the review of the park management plan and to attend the desired state workshops, were placed in the following local newspapers: • Knysna-Plett Herald (26 March & 05 April 2018) • CX Express (28 March, 04 April 2018) • George Herald (26 March & 05 April 2018) • Action Ads (26 March & 05 April 2018) • Kouga Express (05 April 2018) • The Edge (04 April 2018)
	Advertisements to inform interested and affected parties to attend information sessions on the draft park management plan and comment on the draft plan, were placed in the following national and local newspapers: • Sunday Times 30 June 2019; • Rapport 30 June 2019 • CX Express- 03rd July 2019. • The Edge 09th and 10th July 2019. • Group Editors 09th and 10th July 2019.
3. Media coverage of the 'desired state of the GRNP	https://www.georgeherald.com/News/Article/General/desired-state-of-garden-route-national-park-201804091250 https://www.thegremlin.co.za/2018/04/06/grnp-begins-the-review-of-its-management-plan-process-next-week/ http://www.tourismupdate.co.za/article/178920/SANParks-to-begin-review-of-GRNP/NaN

4. Internet	Stakeholders were able to access the SANParks website from 01 April 2018 to gain information regarding the revision process. https://www.sanparks.org/about/news/default.php?id=57461
5. Social media	Nandi Mgwadlamba Admin · April 4 at 6:08pm NOTICE TO GARDEN ROUTE NATIONAL PARK STAKEHOLDERS
6. Registration at meetings	Participants were also able to register at the following meetings: • Brenton-On-Sea Community Hall • Hornlee Civic Centre • Wilderness Hotel • Touwsranten Civic Centre • Stormsriver Village - Village Inn Hotel, Darnell Street • Nompumelelo Community Hall
7. Public information boards	Official notices were placed at the following public venues: • At the Kareedouw local municipal satellite office in Stormsriver Village • Notice board on stoep at shop in Stormsriver Village; • Nompumelelo Community Hall and Kareedouw local municipal satellite office in Nompumelelo; • Total Filling station next to ATM's • Notice board at shop in Nature's Valley Village; • Notice board in Covie • At the Knysna local municipality offices • Hornlee Community Hall; • Notice boards at shops in Sedgefield and Hoekville;

The "Desired State" Workshops

At the start of the review process, members of the public and stakeholder groups were invited to participate in the development of the "desired state" of the park. A total of 232 members of the public participated in 6 public and 1 internal staff "desired state" workshops. These workshops were facilitated by external facilitators and hosted for the public to develop a vision for the park and identify the high level objectives which form the basis of the park plan. Documentation relating to these workshops are available on request.

The public "Desired State" workshops held at the beginning of the revision process is listed below:

Venue	Date	Number of stakeholders that attended
Stormsriver Village - Village Inn Hotel, Darnell Street	9 April 10:00	49
Nompumelelo Community Hall	17 May 18:00	16
Brenton on Sea community Hall	10 April 10:00	57
Hornlee Civic Centre	16 May 18:00	22
Wilderness Hotel	11 April 10:00	53
Touwsranten Civic Centre	15 May 18:00	35
Internal workshop for all levels of SANParks Staff	12 April 2018	38

Focus Group meetings

During the process of drafting the lower level plans, 14 external and 5 internal focus group meetings were hosted. A total of 315 stakeholders with a direct interest, participated in the14 external focus group workshops. Documentation relating to these workshops are available on request.

Focus Group	Date(s)	Number of stakeholders that attended
Knysna Estuary Forum	23 May 2018	13
Environmental Interpretation and Education	19 July	27
Natural Resource Use (3 workshops, Tsitsikamma 1 and Knysna 2)	31 July, 23 August and 11 October 2018	48
Park Expansion, Buffer zone & Conservancy Focus Group Workshops (Knysna and Wilderness)	17 and 26 September 2018	60
Stakeholders Engagement Focus Group	4 September 2018	15
Recreational Users	6 September 2018	42
Commercial Users & Events Focus Group	11 October 2018	31
Cultural heritage Focus Group (2 workshops, Tsitsikamma and Knysna)	18 and 19 September 2018	12
Southern Cape Planning forum (Province and Municipalities)	28 September 2018	44
Knysna Estuary Zonation workshop	30 April 2019	23

Public information sessions on draft sections

Park management prepared a formal PowerPoint presentation addressing the draft park management plan at the six advertised public information sessions (Table 3) where all stakeholders had an opportunity to engage directly with park management. Stakeholders in attendance were also reminded that any further comments may be submitted until 9 August at any SANParks Office, by mail or electronically via the SANParks website.

The public information session held are listed below:

Venue	Date	Number of stakeholders that attended
SANParks Thesen's Island Office Boardroom	16 July at 10:00	33
Hornlee Civic Centre	16 July at 18:00	0
SANParks Wilderness; Ebb and Flow Rest Camp;	17 July at 10:00	36
Touwsranten Civic Centre	17 July at 18:00	29
Stormsriver Village - Village Inn Hotel, Darnell Street	18 July at 10:00	18
Nompumelelo Community Hall	18 July at 18:00	18

Documentation dissemination

Item	Action	Date
Draft document for comment placed in public venues.	• George Public Library; South Main Street • Sedgefield Public Library; Flamingo Street • Knysna Public Library; Main Road • Hornlee Public Library; Vigilance Road • Plettenberg Bay Public Library; Mellville Centre, Main Road • Stormsriver Village – SANParks offices; Darnell Street • Nompumelelo Village – Koukamma Satellite office next to Community Hall	30 June 2019
Draft document for comment placed on SANParks Website.	https://www.sanparks.org/conservation/park_man/draft_plans_public_comment.php	28 June 2019

Item	Action	Date
Revised Park Management Plan and Stakeholder Participation Report will be available to stakeholders.	The documents will be available on the SANParks Website once approved by SANParks Executive Committee. They will be made available to registered stakeholders by email and internet link.	N/A
Dissemination of approved Park Management Plan and Stakeholder Participation Report.	The documents will be available on the SANParks Website once approved by the Minister. They will be made available to registered stakeholders by email and internet link.	N/A

Stakeholder comments

All comments received on the draft park management plan are listed in Table 4 below. In total 130 comments were received. General, verbal responses were given to the commentators at the various meetings. SANParks has formulated responses to all the comments/input received, including comments received via email.

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Appendix 3: 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.

For any development to be supported within the delineated buffer zone, the permissible land use schemes as per SPLUMA, and relevant development application processes must be adhered to.

LEGEND

No.	Visitor use zones	Description
1	Wilderness / remote	Pristine natural environment, essentially undeveloped and roadless. Controlled non-motorised access - usually on foot visitors. Could have paths where erosion is a problem or for safety
2	Primitive	Almost completely natural state to be maintained. Development footprints absolute minimum. Controlled access - 4x4s, 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. Infrastructure 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.
6	Buffer / adjoining	Land in the delineated buffer zone or adjacent to national parks. Products indicated are those with which SANParks is comfortable to be associated with as long as it does not conflict with the LUMS.

For the purposes of this management plan, the focus of the framework listed in Table 23 is to indicate which products already exist, which new products may be allowed, and in which visitor use zones these may occur.

Table 23: Tourism product development framework for the park.

PRODUCT CATEGORY		PRODUCT OR SERVICE	Is Product currently AVAILABLE or under develop-ment?		Is Product APPROPRIATE for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
							Within boundaries of national- / contractual park					Buffer / adjoining
			YES	NO	YES	NO	1	2	3	4	5	6
Over-nigh 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	√		√			√		√	√	√
		Military bunker / fort / gun sites		√		√		√		√	√	√
		Tree houses / platforms		√	√							√
		Fly camp / platform / sleep out		√	√			√		√	√	√
	Self-catering - serviced (serviced daily)	Accommodation (budget)	√		√					√	√	√
		Accommodation (economy)	√		√			√		√	√	√
		Accommodation (premium) / guest house	√		√					√	√	√
		Accommodation backpacking / youth hostels		√	√					√	√	√
		Dormitories / school groups / educational facilities		√	√					√	√	√
		Houseboat (economy)	√		√			√		√	√	√
		Houseboat (premium)	√		√			√		√	√	√
	Camping	Camping (budget facilities) (power / no power)	√		√			√		√	√	√
		Camping (premium facilities) (power / no power)		√	√			√		√	√	√

PRODUCT CATEGORY		PRODUCT OR SERVICE	Is Product currently AVAILABLE or under develop-ment?		Is Product APPROPRIATE for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
							Within boundaries of national-/ contractual park					Buffer / adjoining
			YES	NO	YES	NO	1	2	3	4	5	6
Over-nigh facilities	Camping	Camping bush rustic (protected) (budget facilities)		√	√			√		√	√	√
		Camping bush rustic (protected) (premium facilities / self-sufficient)		√	√			√		√	√	√
		Camping bush rustic (unprotected) (self-sufficient)		√	√		√	√		√	√	√
	Full service (generally some/all meals and activities included)	Game / bush / safari / boutique lodge - under 20 beds		√	√			√		√	√	√
		Game / bush / safari / boutique 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)		√		√						√
		Animal tracking activities		√		√						√
		Archery		√		√						√
		Base jumping		√		√						√
		Bird watching	√		√		√	√	√	√	√	√
		Boat cruises	√		√			√	√	√	√	√
		Boat cruise - birding	√		√			√	√	√	√	√
		Boat cruises - sunset	√		√		√		√	√	√	√
		Botanical sightseeing	√		√		√	√	√	√	√	√
		Bouldering		√		√						√
		Bungee / bungee jumping		√	√			√		√	√	√
		Cableway		√	√					√	√	√
		Canoe trails (Varying facilities)		√	√			√	√	√	√	√
		Canoeing		√	√			√	√	√	√	√
		Canopy tour (acrobranch)		√	√			√	√	√	√	√
		Canopy tour (boardwalk)		√	√			√	√	√	√	√
		Canopy tour / flying fox (tree top / cliff to cliff)		√	√			√	√	√	√	√
		Caving / spelunking/ potholing		√		√						√
		Clay-pigeon / clay target shooting		√		√						√
		Coasteering		√	√			√		√	√	√
		Cruise - birding		√	√			√		√	√	√
		Cycling	√		√			√		√	√	√
		Cycling (downhill cycling)		√		√						√
		Cycling (BMX track area)		√	√			√		√	√	√
		Diving (scuba)	√		√			√	√	√	√	√
		Dog walking	√		√			√	√	√	√	√
		Elephant backed rides / safaris		√		√						√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is Product currently AVAILABLE or under develop-ment?		Is Product APPROPRIATE for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
						Within boundaries of national-/ contractual park					Buffer / adjoining
						1	2	3	4	5	6
		YES	NO	YES	NO						
Leisure / recreational	Fishing (catch and release)	√		√			√		√	√	√
	Funicular		√	√					√	√	√
	Game drives - night drive		√		√						√
	Game drives - night drive (Night Vision aided)		√		√						√
	Game drives - premium		√	√			√		√	√	√
	Game drives - standard		√	√			√		√	√	√
	Game drives - UA		√	√			√		√	√	√
	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		√	√		√	√		√	√	√
	Kitesurfing / kiteboarding / fly surfing		√	√		√	√	√	√	√	√
	Kloofing (guided)		√	√		√	√	√	√	√	√
	Mini golf / putt-putt		√	√					√	√	√
	Model aircraft flying		√		√						√
	Motorcycle trails (varying facilities)		√		√						√
	Motorcycling		√		√						√
	Motorcycling - off-road		√		√						√
	Motorised boating	√		√			√		√	√	√
	Mountain bike trails (varying facilities)	√		√			√	√	√	√	√
	Mountain biking	√		√			√	√	√	√	√
	Mountain biking - unicycling		√	√			√		√	√	√
	Mountaineering		√	√		√	√		√	√	√
	Paddle boards	√		√			√		√	√	√
	Paddle boats	√		√			√		√	√	√
	Paddle skiing	√		√			√		√	√	√
	Paragliding		√	√			√		√	√	√
	Parasailing		√		√						√
	Park and ride		√	√			√		√	√	√
	Photography	√		√		√	√	√	√	√	√
	Picnicking (basic facilities)	√		√			√		√	√	√
	Picnicking (full facilities)	√		√			√		√	√	√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is Product currently AVAILABLE or under develop-ment?		Is Product APPROPRIATE for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
						Within boundaries of national-/ contractual park					Buffer / adjoining
		YES	NO	YES	NO	1	2	3	4	5	6
Leisure / recreational	Picnicking (no facilities)	√		√			√		√	√	√
	Quad biking		√	√			√		√	√	√
	Railway		√	√			√		√	√	√
	Rap jumping (deepelling)		√		√						√
	River rafting	√		√		√	√		√	√	√
	Rock climbing		√	√		√	√	√	√	√	√
	Sailing	√		√			√		√	√	√
	Sandboarding		√		√						√
	Self-drive night drives		√		√						√
	Skate boarding / roller blading		√	√					√	√	√
	Skate boarding / roller blading (downhill)		√		√						√
	Skydiving		√		√						√
	Snorkelling	√		√		√	√	√	√	√	√
	Spear fishing	√		√					√	√	√
	Speed gliding		√		√						√
	Sports facilities (*e.g.* tennis, squash, bowls, *etc.*)		√		√						√
	Stairway (via ferrata / ironway)		√		√						√
	Stargazing	√		√		√	√	√	√	√	√
	Surf Skiing		√	√			√		√	√	√
	Surfing		√	√			√		√	√	√
	Swimming	√		√			√		√	√	√
	Trail running	√		√			√		√	√	√
	Trail running (night time)		√		√						√
	Tubing	√		√			√		√	√	√
	Vessels (cruise boats, yachts, river/paddle boats)	√		√			√		√	√	√
	Walking	√		√		√	√	√	√	√	√
	Walks - day	√		√		√	√	√	√	√	√
	Walks - night		√	√		√	√	√	√	√	√
	Wildlife / game viewing		√	√		√	√	√	√	√	√
	Wingsuit flying / wingsuiting		√		√						√
Airborne (Implications of CAA)	Drones over national parks		√		√						√
	Flights over national parks		√		√						√
	Helicopter flips		√		√						√
	Hot-air ballooning		√	√		√	√	√	√	√	√
	Microlight flying / ultra-light aviation		√		√						√
Interpretive	Archaeology		√	√			√		√	√	√
	Endangered species breeding centre		√		√						√
	Films - amphitheatre		√	√					√	√	√
	Films - auditorium		√	√					√	√	√
	Interpretive centres	√		√					√	√	√
	Palaeontology		√	√		√	√	√	√	√	√
	Theatre		√	√					√	√	√
	Tours - astronomy		√	√		√	√	√	√	√	√
	Tours - birding		√	√		√	√	√	√	√	√
	Tours - botanical		√	√		√	√	√	√	√	√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is Product currently AVAILABLE or under develop-ment?		Is Product APPROPRIATE for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
						Within boundaries of national-/ contractual park					Buffer / adjoining
						1	2	3	4	5	6
		YES	NO	YES	NO						
Interpretive	Tours - specialist (fauna and flora)		√	√		√	√	√	√	√	√
	Tours - tree (dendrology)		√	√		√	√	√	√	√	√
	Trail - mobility impaired	√		√				√	√	√	√
	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 / military		√	√		√	√	√	√	√	√
	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		√	√					√	√	√
	Off-road driving skills training		√		√						√
	Orienteering		√	√			√		√	√	√
	Rope skills course		√	√			√		√	√	√
	Scuba diving Skills	√		√			√		√	√	√
	Specialised training / courses		√	√			√		√	√	√
	Survey and mapping skills		√	√			√		√	√	√
	Survival skills		√	√			√		√	√	√
	Tracking skills		√	√			√		√	√	√
	Training - ranger	√		√			√		√	√	√
	Volunteering		√	√			√		√	√	√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is Product currently AVAILABLE or under develop-ment?		Is Product APPROPRIATE for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
						Within boundaries of national-/ contractual park					Buffer / adjoining
						1	2	3	4	5	6
		YES	NO	YES	NO						
Developmental	Wilderness search and rescue		√	√		√	√		√	√	√
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 (KampKwena, "summer" camps)		√	√					√	√	√
Business tourism and 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 and 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		√	√					√	√	√
	Rental - car		√	√					√	√	√
	Car wash		√	√					√	√	√
	Casinos		√		√						√
	Clinics / Doctor/ first aid		√	√					√	√	√
	Outlets - community curios		√	√					√	√	√
	Outlets - curios	√		√					√	√	√
	Essential commodities in camps (ice, wood, *etc.*)	√		√					√	√	√
	Fast moving consumer goods (FMCG) outlets		√	√					√	√	√
	Fuel stations		√	√					√	√	√
	Gas equipment hire		√	√					√	√	√
	Hop-on guides		√	√			√	√	√	√	√
	Internet café / Wi-Fi hotspot		√	√					√	√	√

PRODUCT CATEGORY	PRODUCT OR SERVICE	Is Product currently AVAILABLE or under develop-ment?		Is Product APPROPRIATE for the applicable National Park?		ZONING FOR WHICH PRODUCT IS APPROPRIATE					
						Within boundaries of national-/ contractual park					Buffer / adjoining
		YES	NO	YES	NO	1	2	3	4	5	6
Retail / services	Laundromats and laundry service	√		√					√	√	√
	Pharmacies		√	√					√	√	√
	Photo booth		√	√					√	√	√
	Pop-up retail		√	√					√	√	√
	Postal services		√	√					√	√	√
	Proshop		√		√						√
	Road emergency services		√	√					√	√	√
	Shuttle services		√	√					√	√	√
	Vending machines		√	√					√	√	√
	Vendors		√	√					√	√	√
	Wi-Fi facilities (free service)		√	√					√	√	√
Food and beverage	Bars	√		√					√	√	√
	Boma / lapa meals		√	√					√	√	√
	Bush meals		√	√					√	√	√
	Coffee shops / tea rooms	√		√					√	√	√
	Fast-food outlets		√	√					√	√	√
	Game drives picnic baskets		√	√					√	√	√
	Local cuisine	√		√					√	√	√
	MICE catering		√	√					√	√	√
	Picnic baskets		√	√					√	√	√
	Pop-up food, retail		√	√					√	√	√
	Restaurants	√		√					√	√	√
	Room service		√	√					√	√	√
	Sports bar		√	√					√	√	√
Non tourism related activities											
Mining/ Exploratory	Prospecting		√		√						√
	Mining		√		√						√
Consumptive / Subsistence	Fishing (non-release)	√		√			√		√	√	√
	Hunting (lethal)		√		√						√
	Sustainable harvesting of resources	√		√			√		√	√	√

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Appendix 4: Internal rules

The following internal rules are applicable to all persons entering the park in terms of Section 52 of the NEM: PAA.

General

1. All regulations of the National Environment Management Act: Protected Areas Act (NEMA: PAA) (Act No. 57 of 2003) as amended, apply;
2. All visitors enter South African national parks at their own risk;
3. Guest entering national parks will be required to sign indemnity documents, indemnifying SANParks against any claim, action, judgment, costs and / or expenses which may be made against SANParks;
4. Daily conservation fees are payable per day or night stayed in any national park. The acquisition of a Wild Card is available as an alternative to paying daily conservation fees;
5. Everyone gaining access to national parks should conduct themselves in a safe and courteous manner and be considerate of other guests;
6. No noise or other public disturbances which may affect other guests or wildlife are allowed;
7. A fee may be payable for certain activities, in which case a separate permit will be issued;
8. Guests are only allowed to stay at booked and recognised overnight facilities and must report to the relevant reception before occupying accommodation or camping sites;
9. Access is restricted as determined by the time indications of the specific area or recreational facility, dictated by the date(s) of validity on the entrance permit;
10. Depending on the carrying capacity of designated user areas, the numbers of day visitors can be restricted;
11. Activities related to recreation, education, cultural or spiritual fulfilment may take place only at places designated for that purpose and with prior permission;
12. Starting or causing of fire, whether intentional or unintentional, other than in a designated fireplace or container purposefully made available, is strictly prohibited and will result in summons being issued. Fires may not be left unattended and must be extinguished after use;
13. Remain on designated tourist roads and trails. Do not enter a road that has a no-entry sign or travel off road or trail. Vehicles may only be parked in designated parking areas;
14. Littering is prohibited and will result in a fine. Litter may not be deposited anywhere except in designated rubbish bins;
15. No plant, animal, wildlife or any natural or cultural items may be removed from the park without permission. To cut, damage, destroy or be in possession of any plant, including dry wood or firewood, is a serious offence, punishable by law;
16. No person may interfere with the management duties of SANParks officials within park boundaries. Unauthorised access is not allowed to any areas where personnel or equipment is at work;
17. Any person who, without a license for hunting, fishing or other valid authority, kills or collects any animal, bird, insect, fish, or other organism is guilty of an offence and will be find;
18. The feeding or intentional disturbance of wildlife is a serious offence. By feeding any wildlife you are potentially signing their death warrant, as they may become dependent, aggressive and dangerous and thus must be euthanized;
19. All firearms/ dangerous weapons of any sort, any explosive, trap or poison must be declared upon entry, and firearms will be sealed in an appropriate manner;
20. No pets (dogs, cats, birds or any other animal) may be brought into the park;

21. Guide dogs for visually impaired guests are an exception. Please note that access for guide dogs at park entrance gates will be denied if there is no permit accompanying the dog. A permit must be obtained beforehand;
22. The unauthorised launching or landing of drones, airplanes, helicopters, hang gliders, aircraft, balloons, vessels and parachutes on and over SANParks land is prohibited;
23. The use or possession of fireworks or any explosive devise within SANParks is prohibited;
24. No unauthorised commercial photographing or filming is allowed in a national park;
25. Designated hiking trails are for the specific use of hikers and not for any other users;
26. All hikers, cyclists, tourists that experience difficulties with their vehicles or other tourists that are assisted on a call-out request will be liable for a reimbursement fee on a cost recovery basis;
27. Alcohol use in public areas is prohibited;
28. Abusive or anti-social behaviour is an offense and will be acted upon;
29. The responsible use of water within the boundaries of a national park is always applicable; and
30. Construction of any private infrastructure in the park must have applicable authorisation.

Vessel use on waterbodies

31. All vessels, including non-motorised vessels, may only be operated on SANParks-managed estuaries and water bodies with a valid vessel permit;
32. All vessels and skippers operating on SANParks-managed water bodies must comply with relevant South African Maritime Safety Authority (SAMSA) Small Vessel Regulations;
33. Commercial activities on SANParks-managed estuaries and water bodies must have valid commercial operating permits and vessels must comply with SAMSA Small Vessel Regulations;
34. Vessels may only be operated in water bodies zoned for recreational use and all owners must abide by the applicable use zone operating rules; and
35. Vessels may only be launched at designated public launch sites.

Other activities in waterbodies

36. Swimming and fishing are allowed only in areas designated for that purpose.
37. Fishermen, including bait collectors, must be in possession of valid recreational fishing permits and must abide by the Marine Living Resources Act (Act No. 18 of 1998) Regulations with specific focus on bag and size limits.
38. Fishing and bait collecting are only permitted in designated fishing and bait areas.
39. Maintenance, removal, alteration and new construction of slipways, jetties, moorings and other private infrastructure in SANParks-managed water bodies must be approved by SANParks.
40. Grey water and black water from vessels on the waterbodies in the park must only be disposed of into a registered municipal disposal site and the relevant register completed.
41. Any maintenance on infrastructure or vessels that takes place within, or adjacent to the waterbodies in the park, is subjected to regulation and a special permit with conditions is required.

Vehicle related matters

42. Guests are to obey all speed limits when driving in the park – failure to do so will result in the issuing of fines.
43. Driving without a valid driver's licence in a national park is unlawful.
44. Vehicles used within the boundaries of the park must be licenced.
45. Motorbikes will be permitted to enter the park on prior arrangement.
46. All vehicles need to keep to designated and marked roads.

Walking dogs on beaches

47. Dog owners walking their pets in the Wilderness Section of the park, specifically in Wilderness and Sedgefield, must always adhere to the zonation system and abide by the Code of Conduct for People Walking with Dogs.
    - Green Zone: Dog friendly beach, dogs must be under owner's command at all times;
    - Orange Zone: Dogs on leash at all times;
    - Red Zone: No Dogs permitted; and
    - Dog owners must clean up after their dogs and the droppings must be binned.
48. Dogs on leashes are only allowed in certain designated zones around the Knysna estuary. No dogs walking off leash are allowed.

Appendix 5: Maps

Map 1: Regional context

Map 2: Physical features

Map 3: Land tenure and park expansion

Map 4a-c: Estuarine and marine zoning

Map 5a-c: Terrestrial zoning

Map 6a-c: Estuarine and marine zoning with sensitivity value

Map 7a-c: Terrestrial zoning with sensitivity value

Map 8a-c: Estuarine and marine special management areas

Map 9a-b: Proposed bait reserves

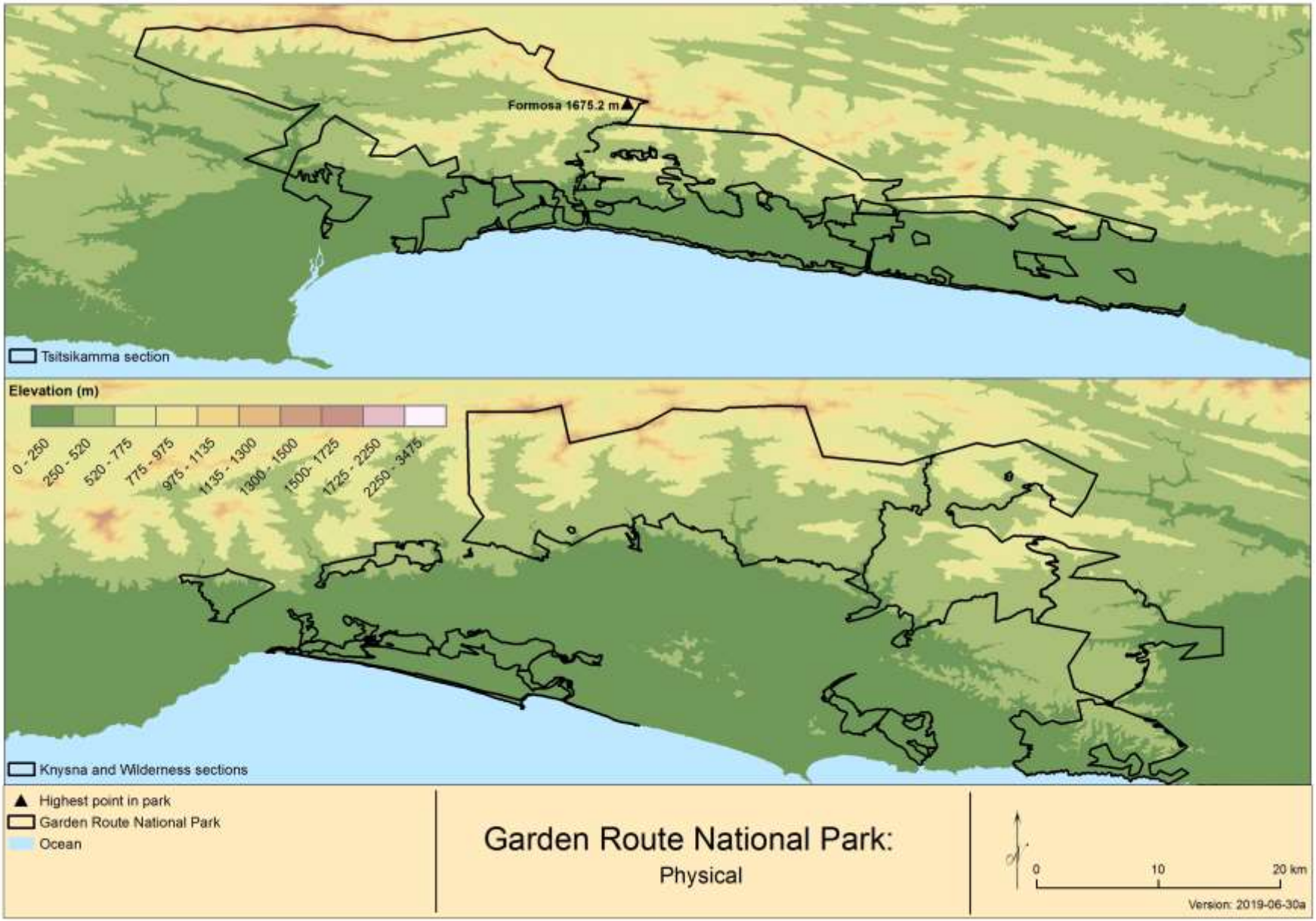
Map 10a-c: Terrestrial special management areas

Map 11: Buffer area

Map 12a-c: Infrastructure

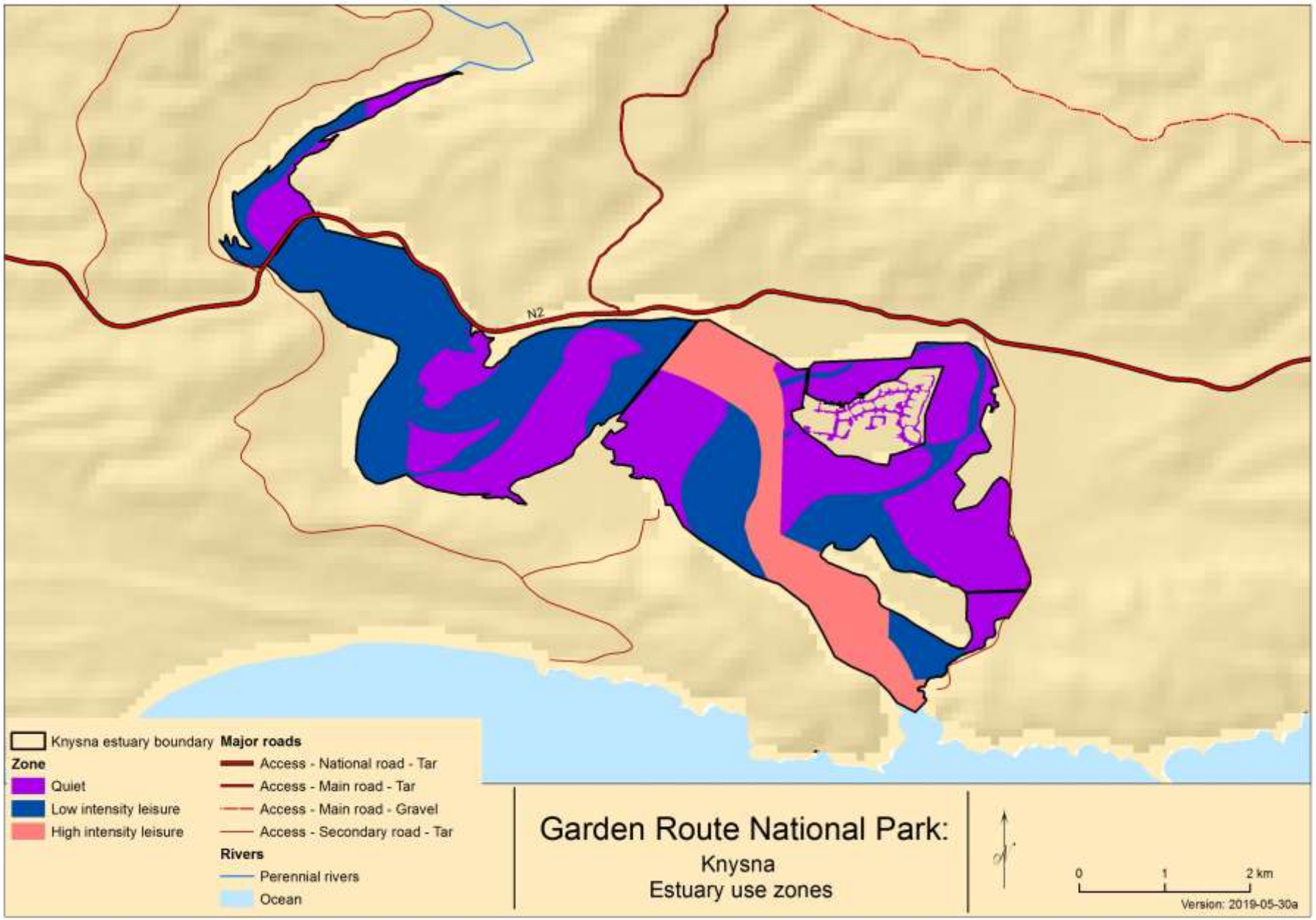
Map 13a-c: Vegetation

Map 1: Regional context



Map 2: Physical features

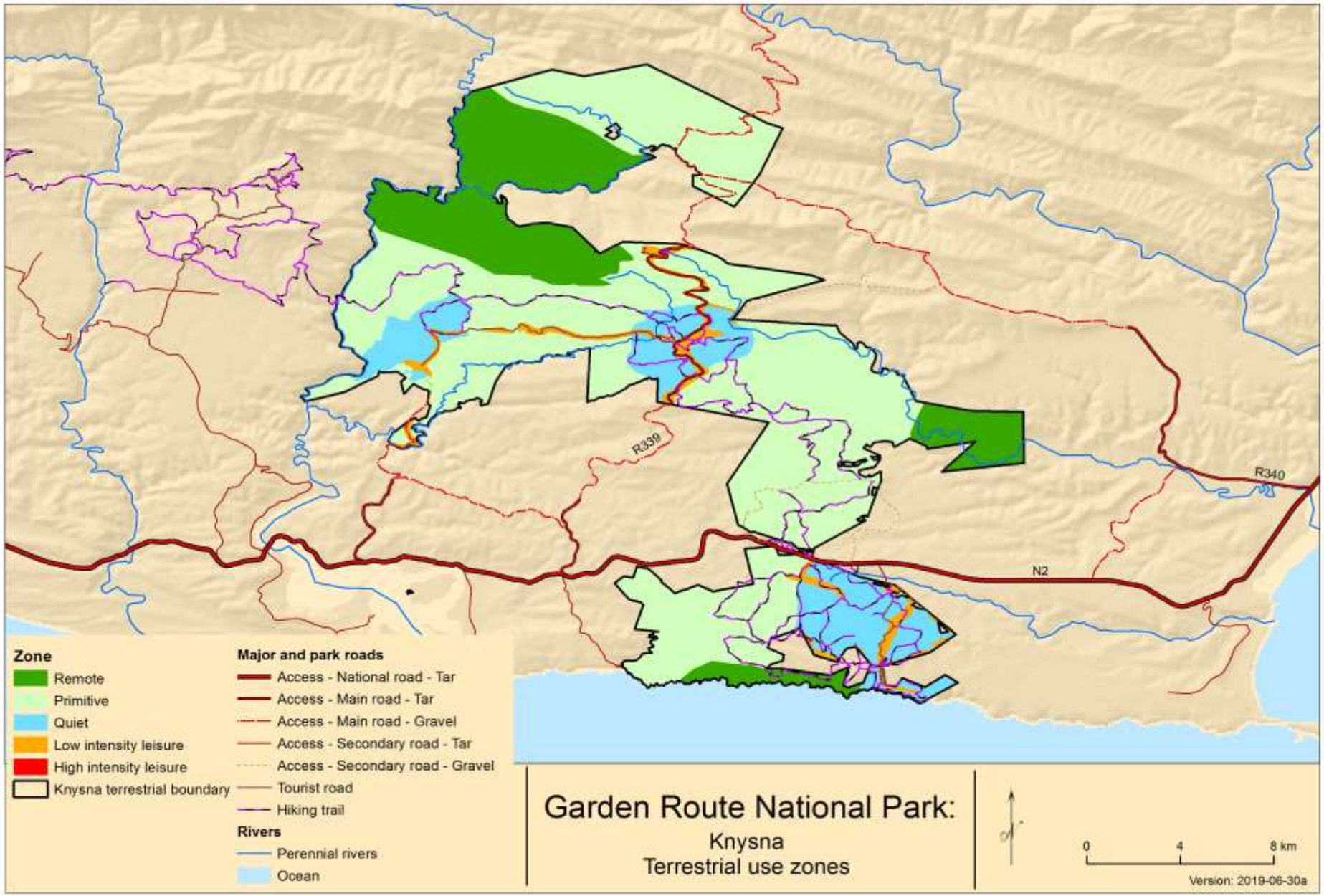
Map 3: Land tenure and park expansion



Map 4a: Knysna estuarine zoning

Map 4b: Tsitsikamma marine zoning

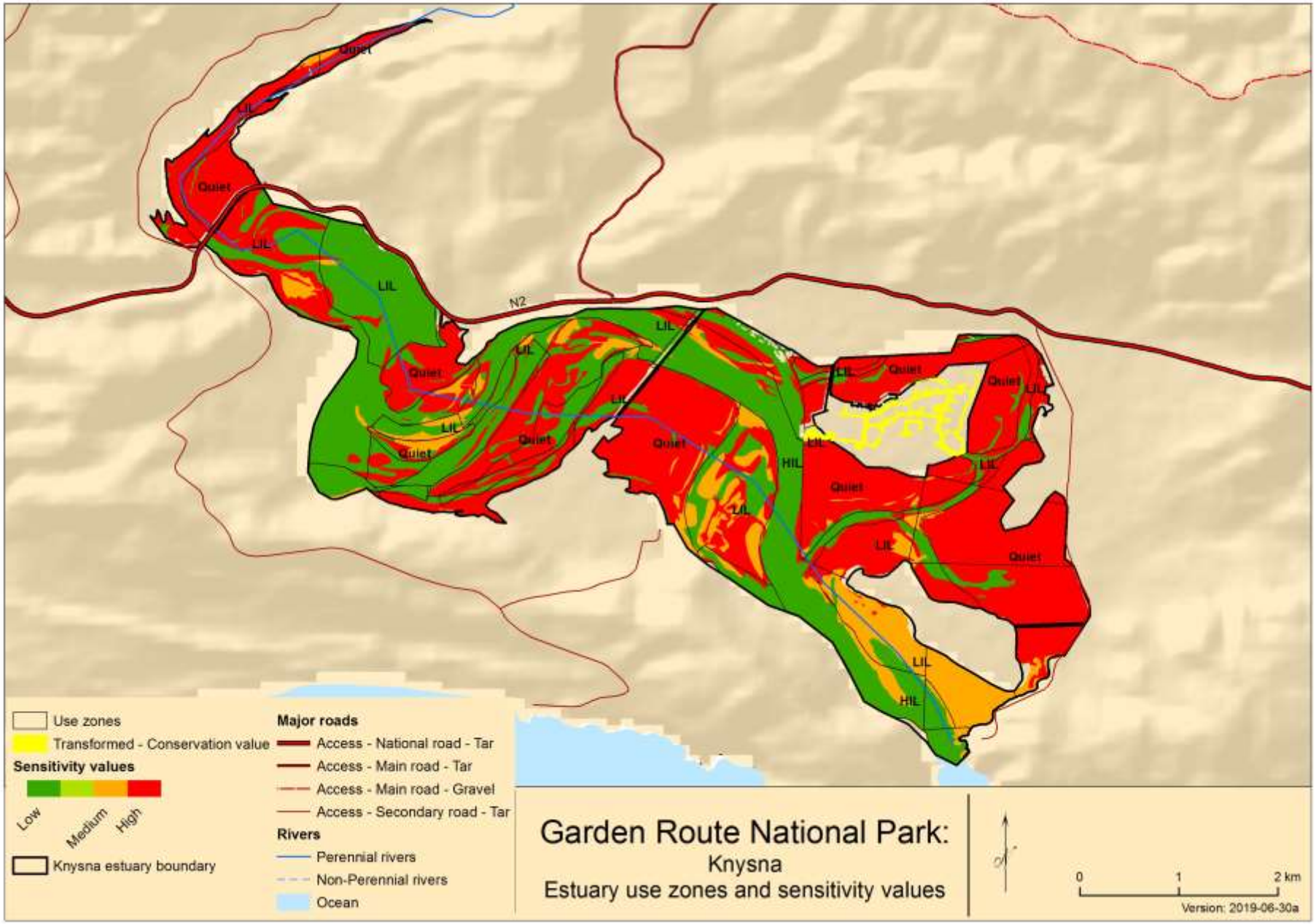
Map 4c: Wilderness estuarine zoning



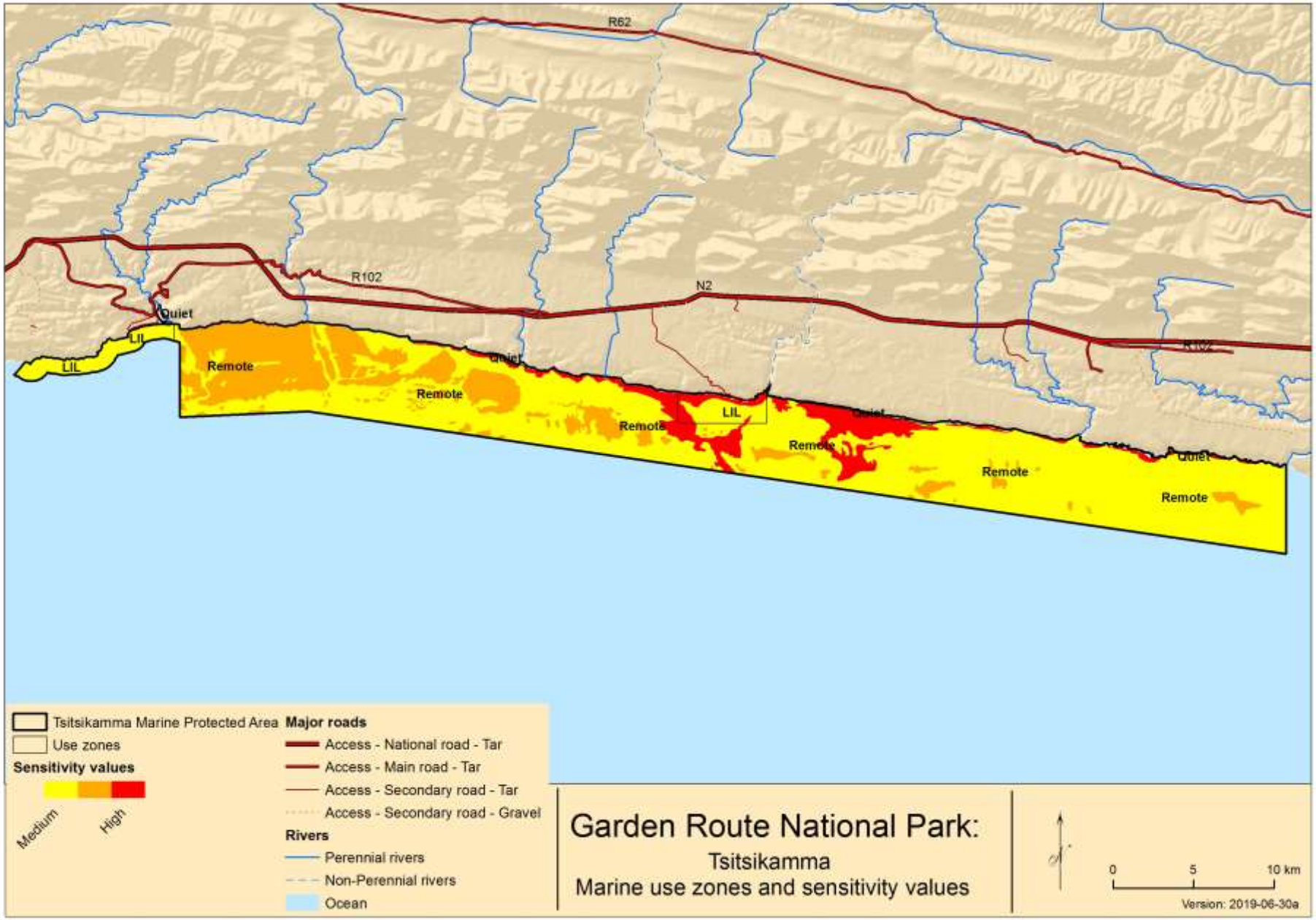
Map 5a: Knysna terrestrial zoning

Map 5b: Tsitsikamma terrestrial zoning

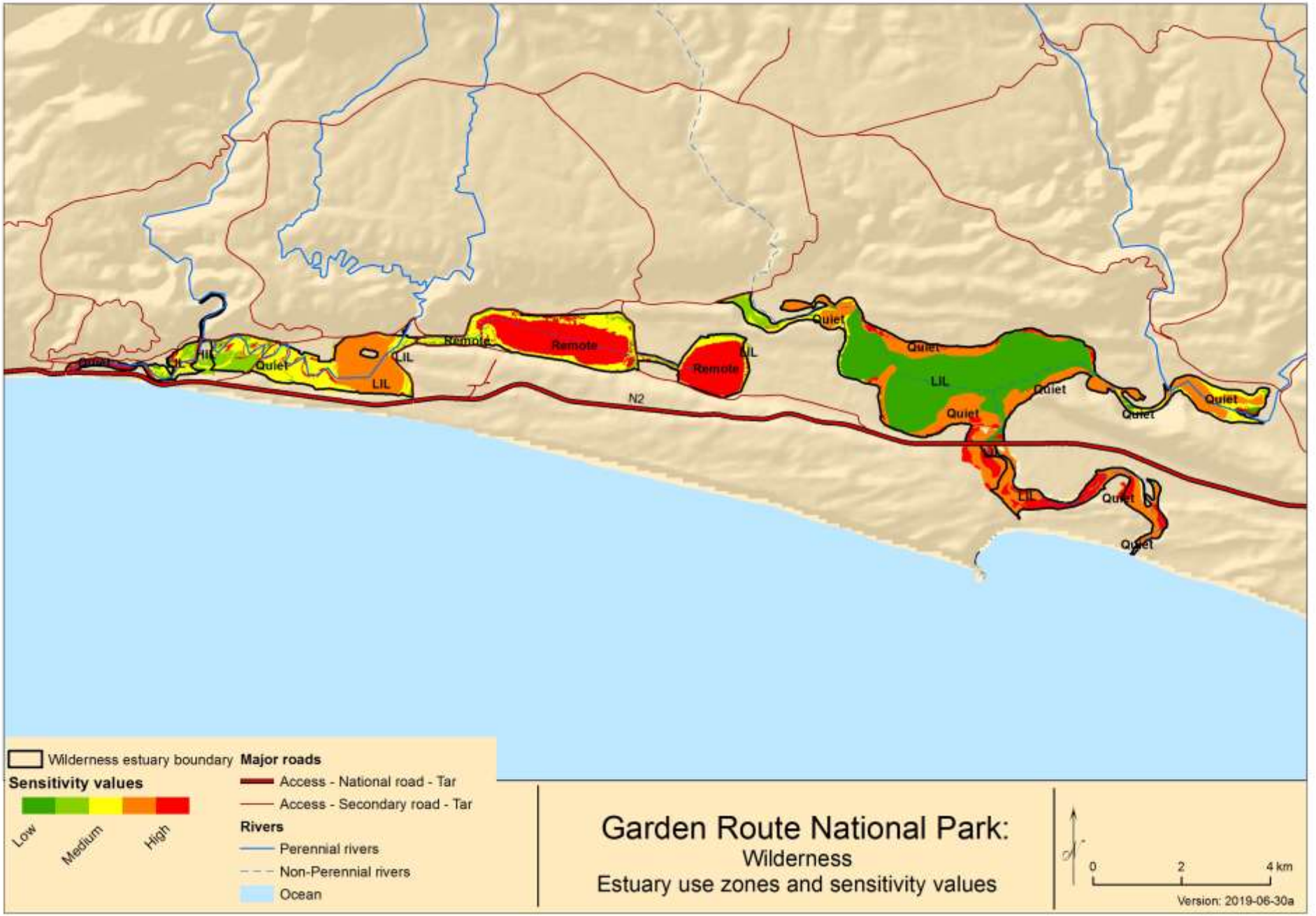
Map 5c: Wilderness terrestrial zoning



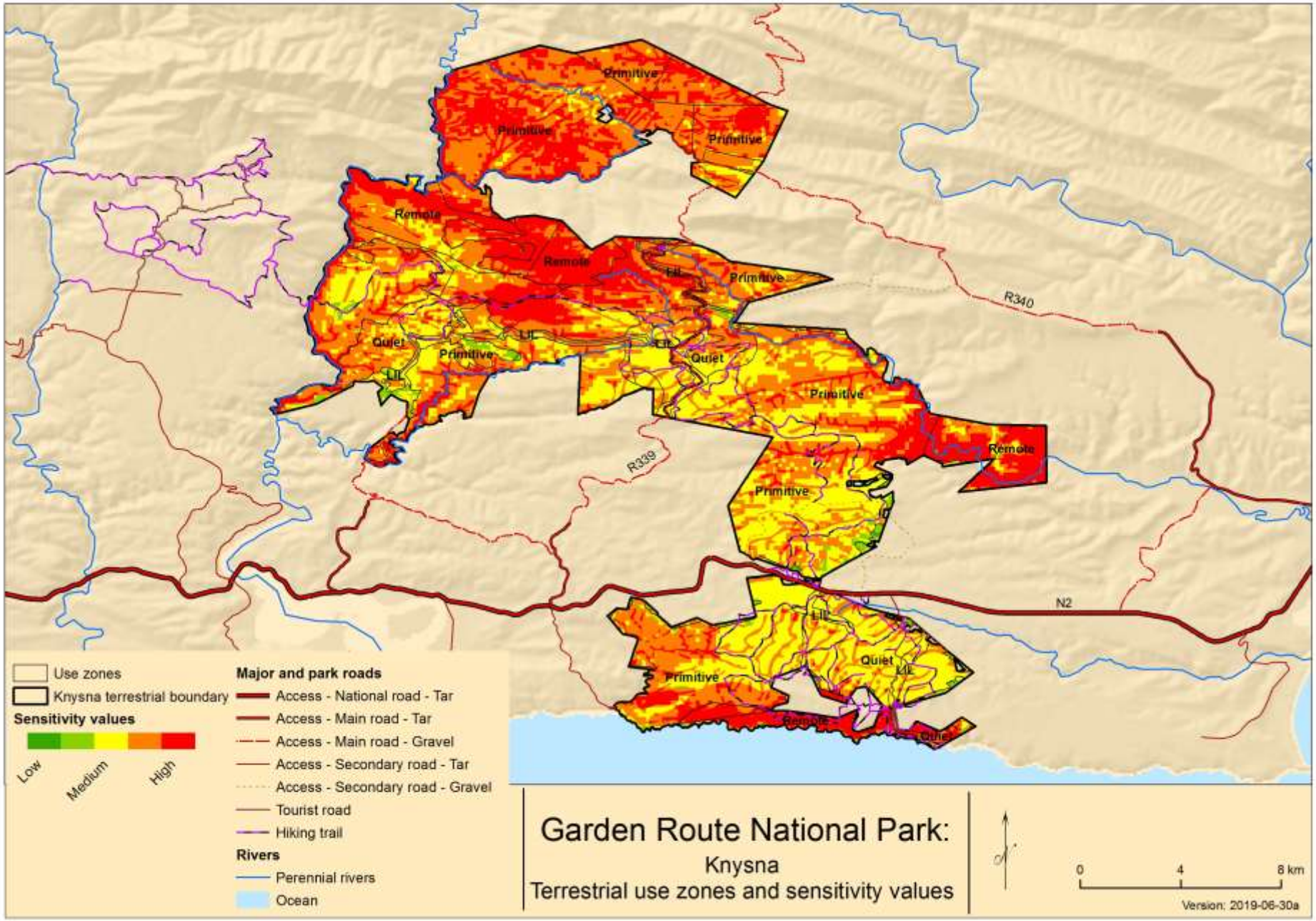
Map 6a: Knysna estuarine and marine zoning with sensitivity value



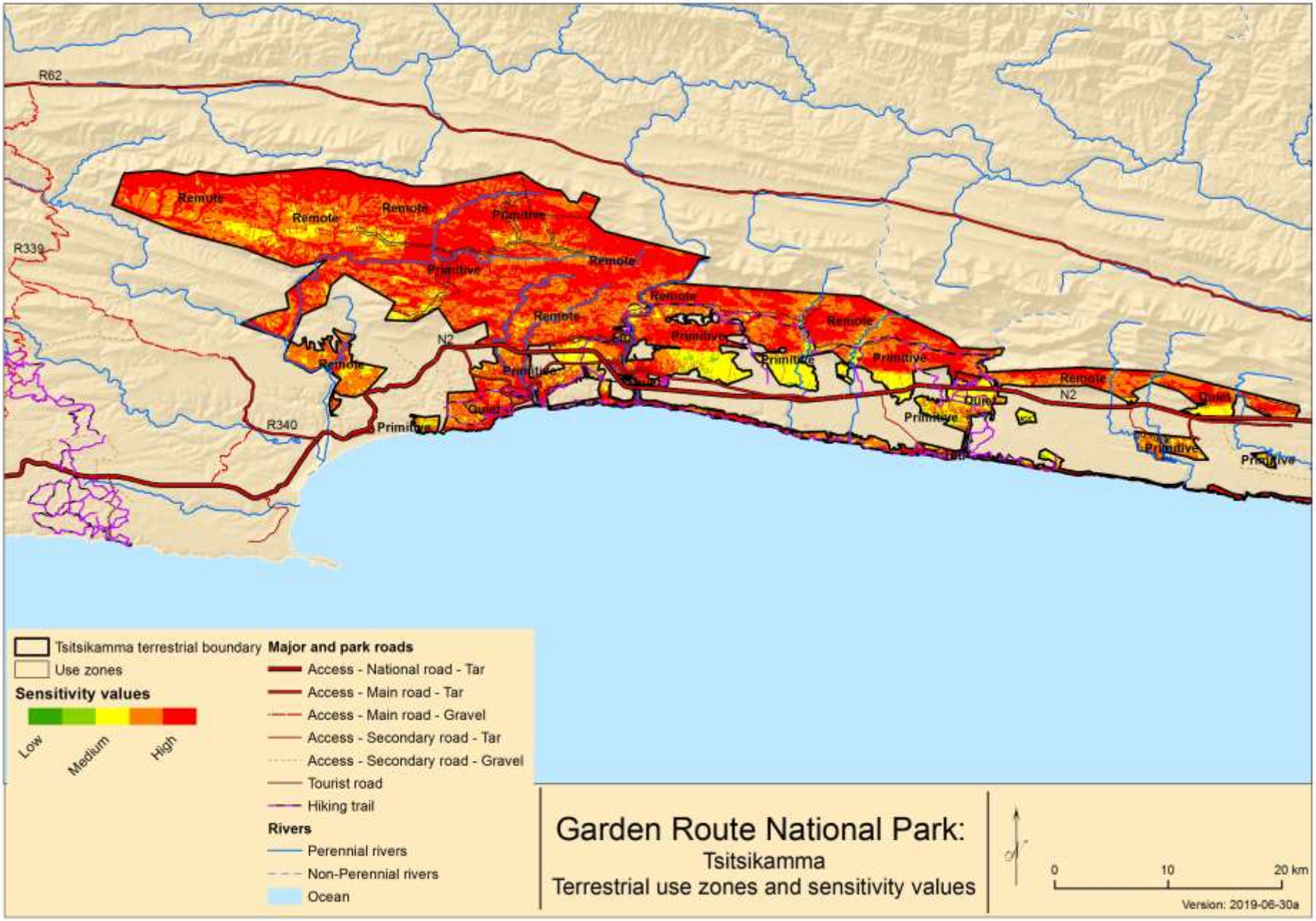
Map 6b: Tsitsikamma marine zoning with sensitivity value



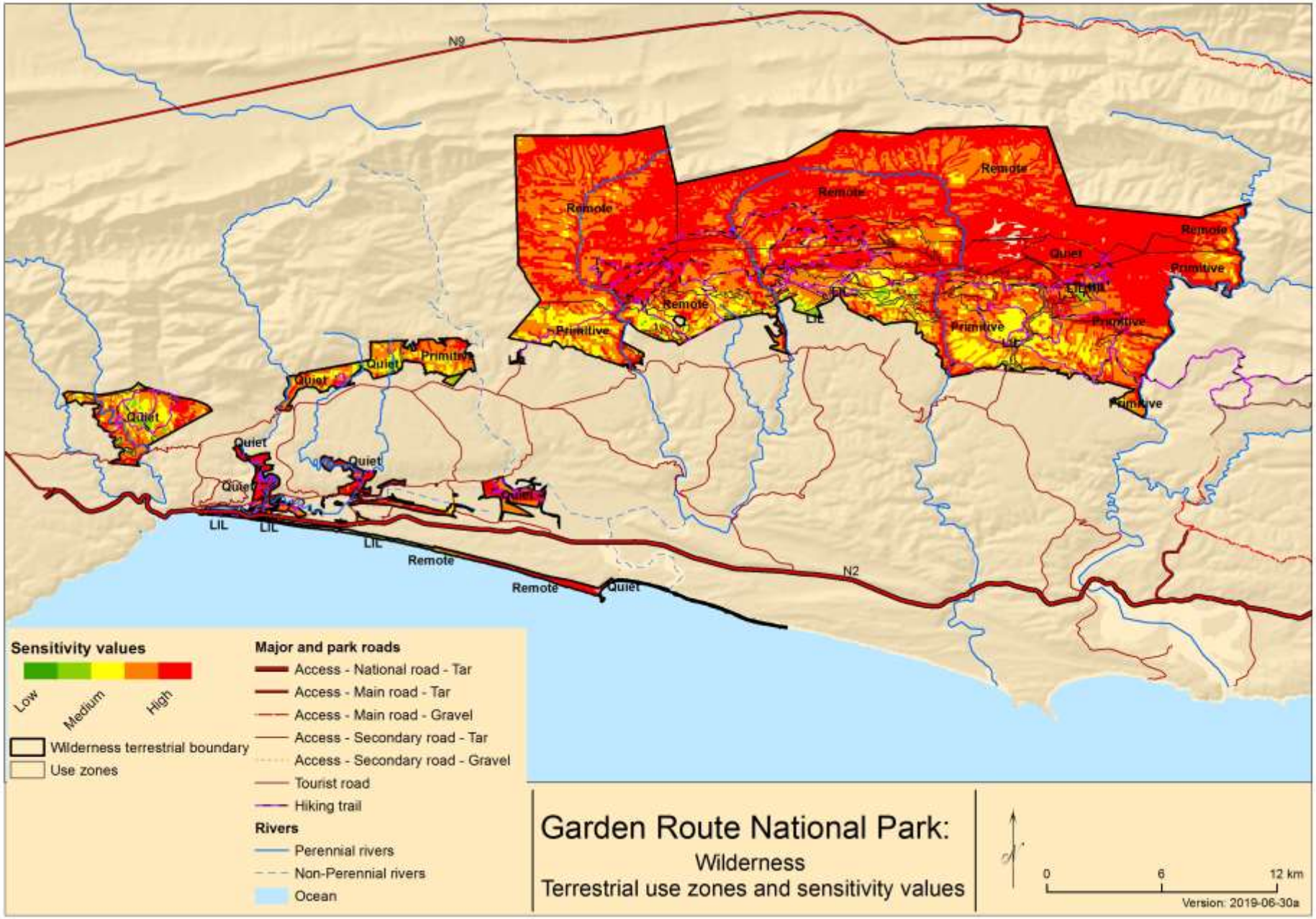
Map 6c: Wilderness estuary zoning with sensitivity value



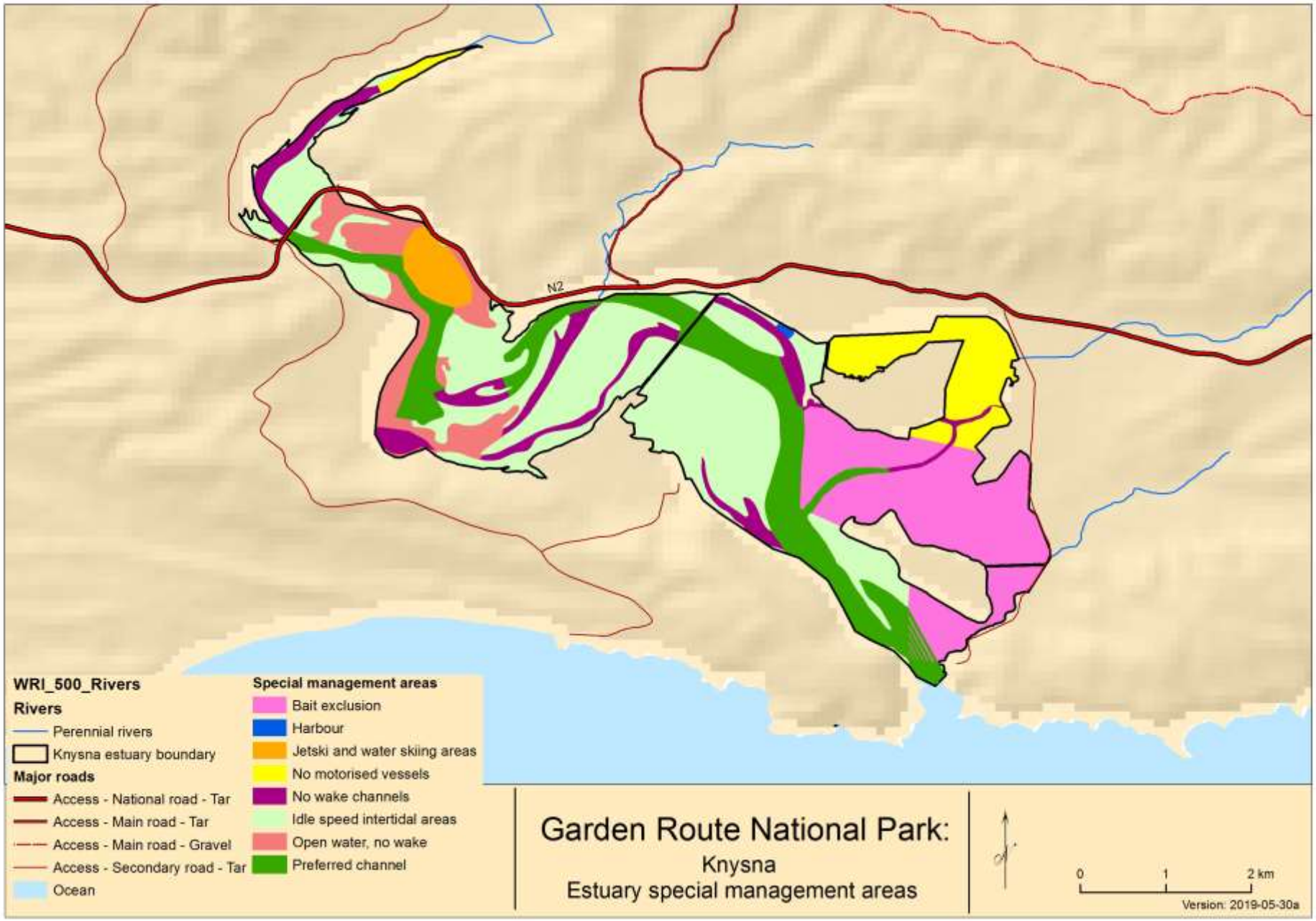
Map 7a: Knysna terrestrial zoning with sensitivity value



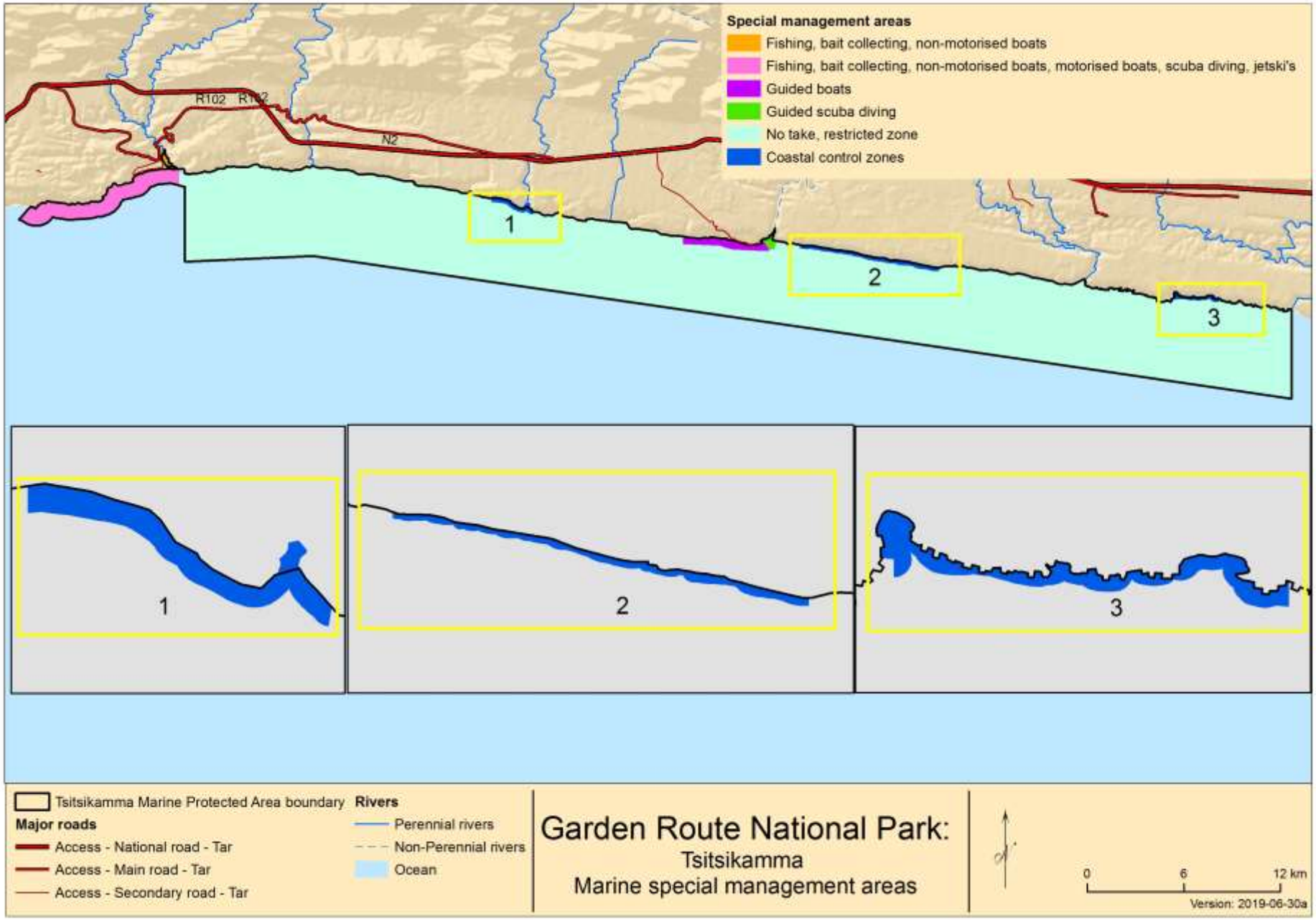
Map 7b: Tsitsikamma terrestrial zoning with sensitivity value



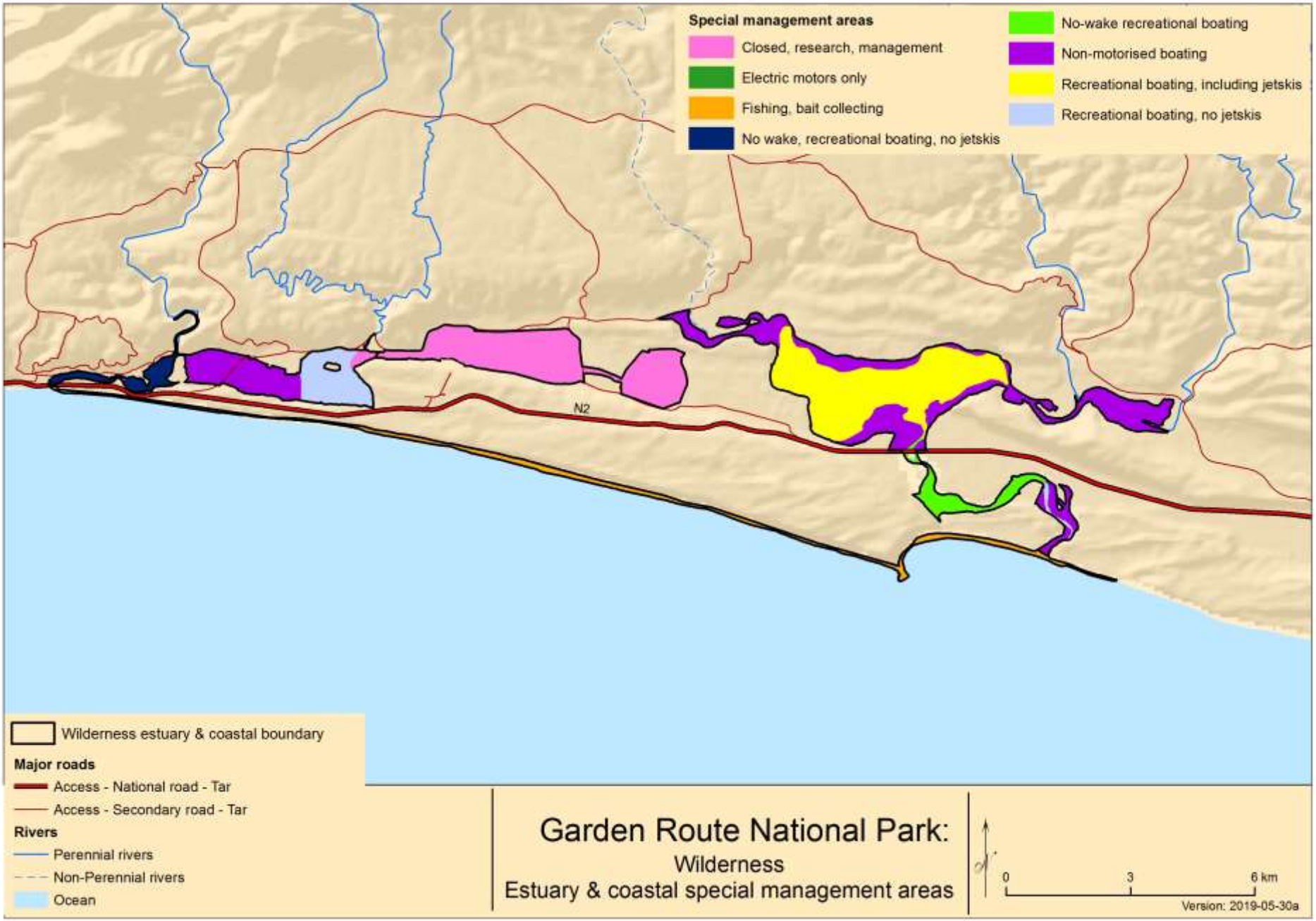
Map 7c: Wilderness terrestrial zoning with sensitivity value



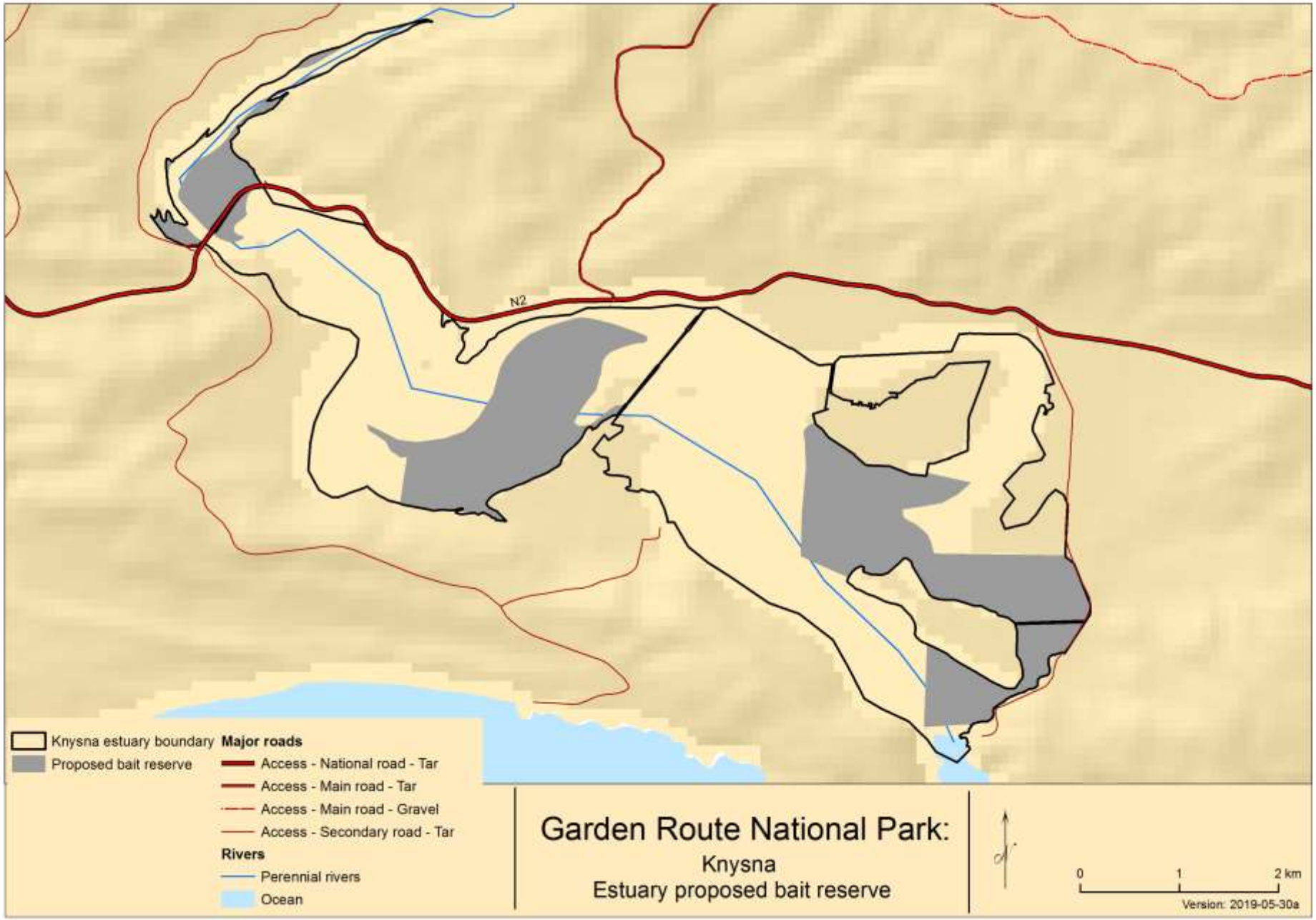
Map 8a: Knysna estuary special management areas



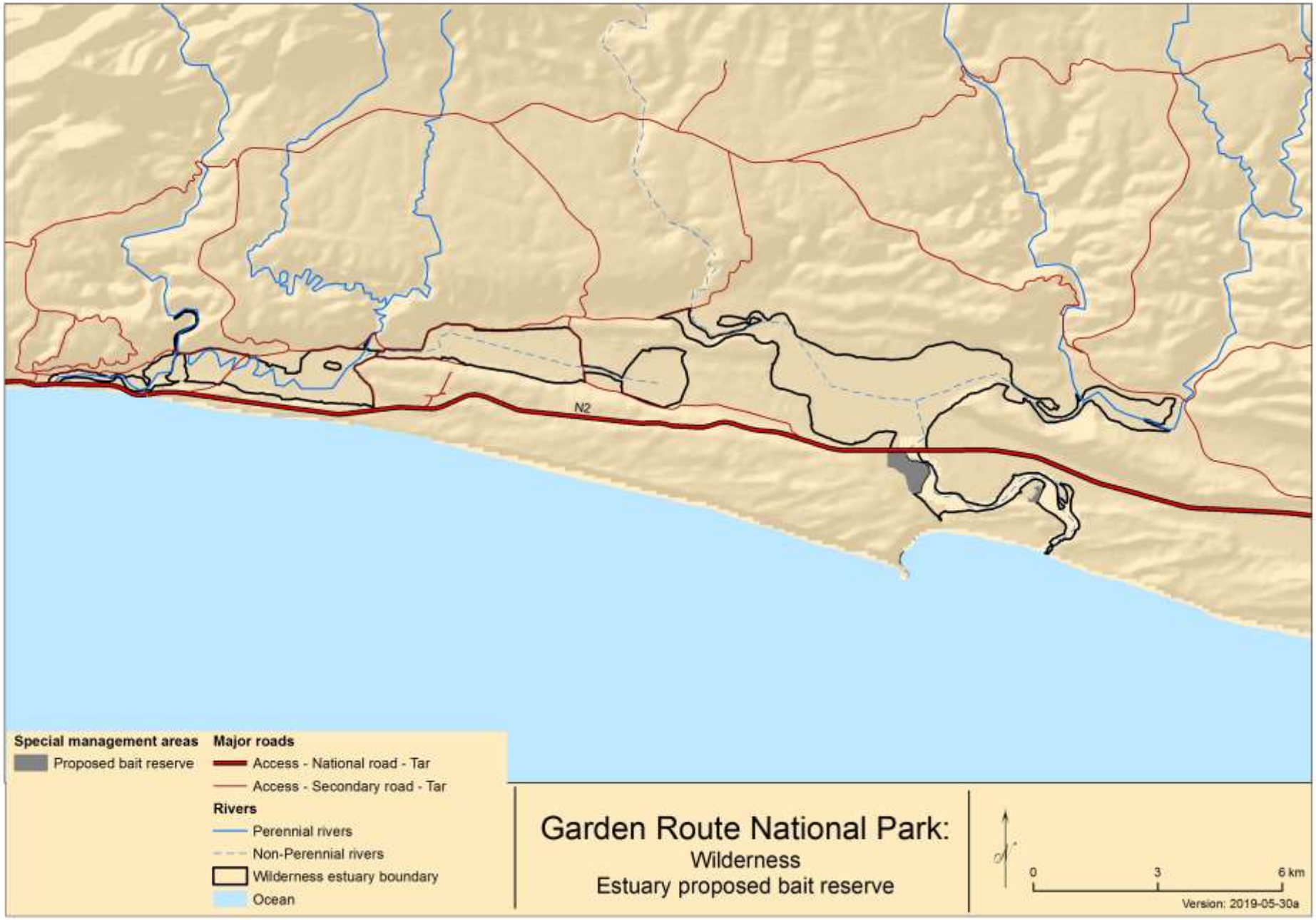
Map 8b: Tsitsikamma marine special management areas



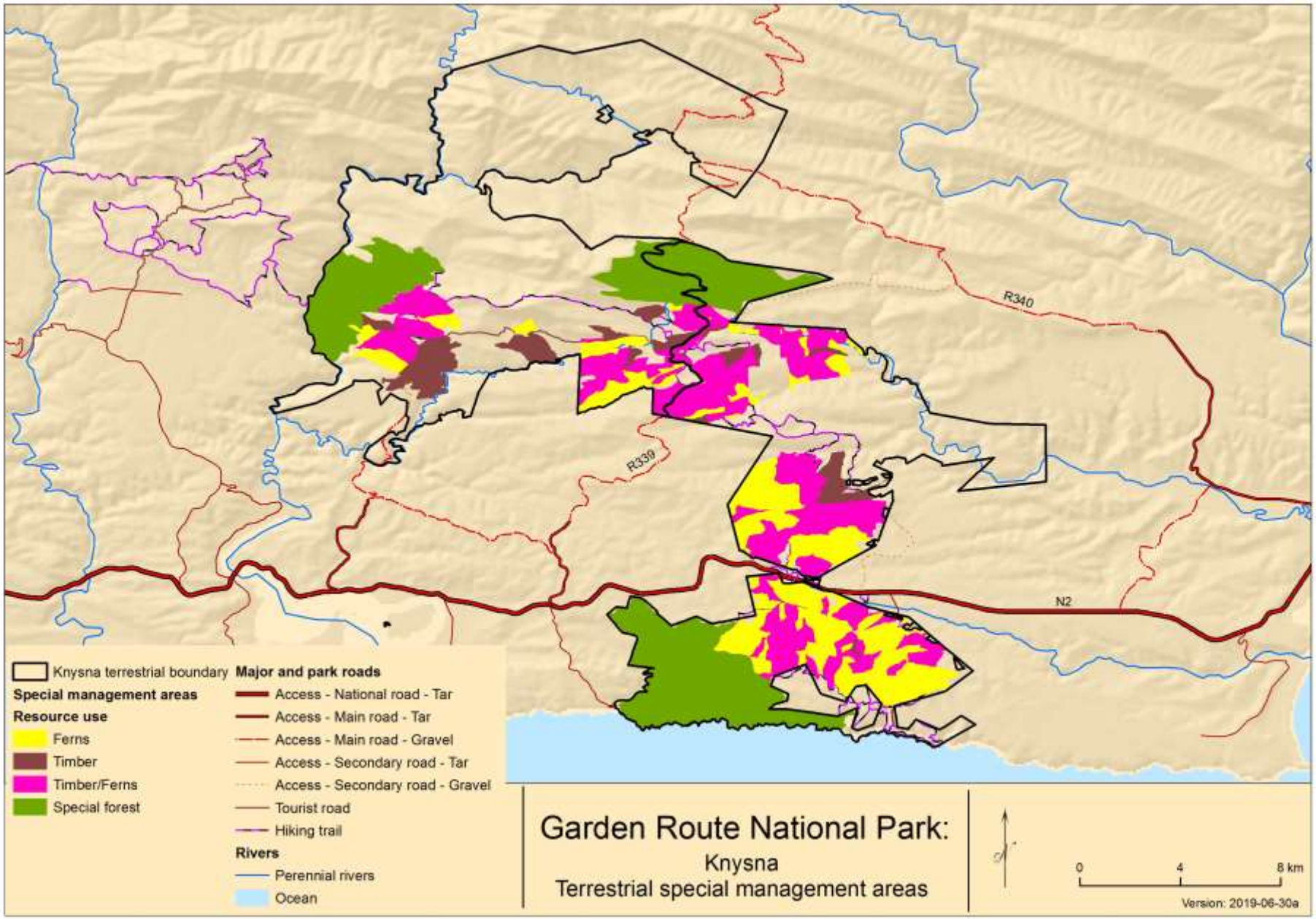
Map 8c: Wilderness estuary and coastal special management areas



Map 9a: Knysna estuary proposed bait reserve

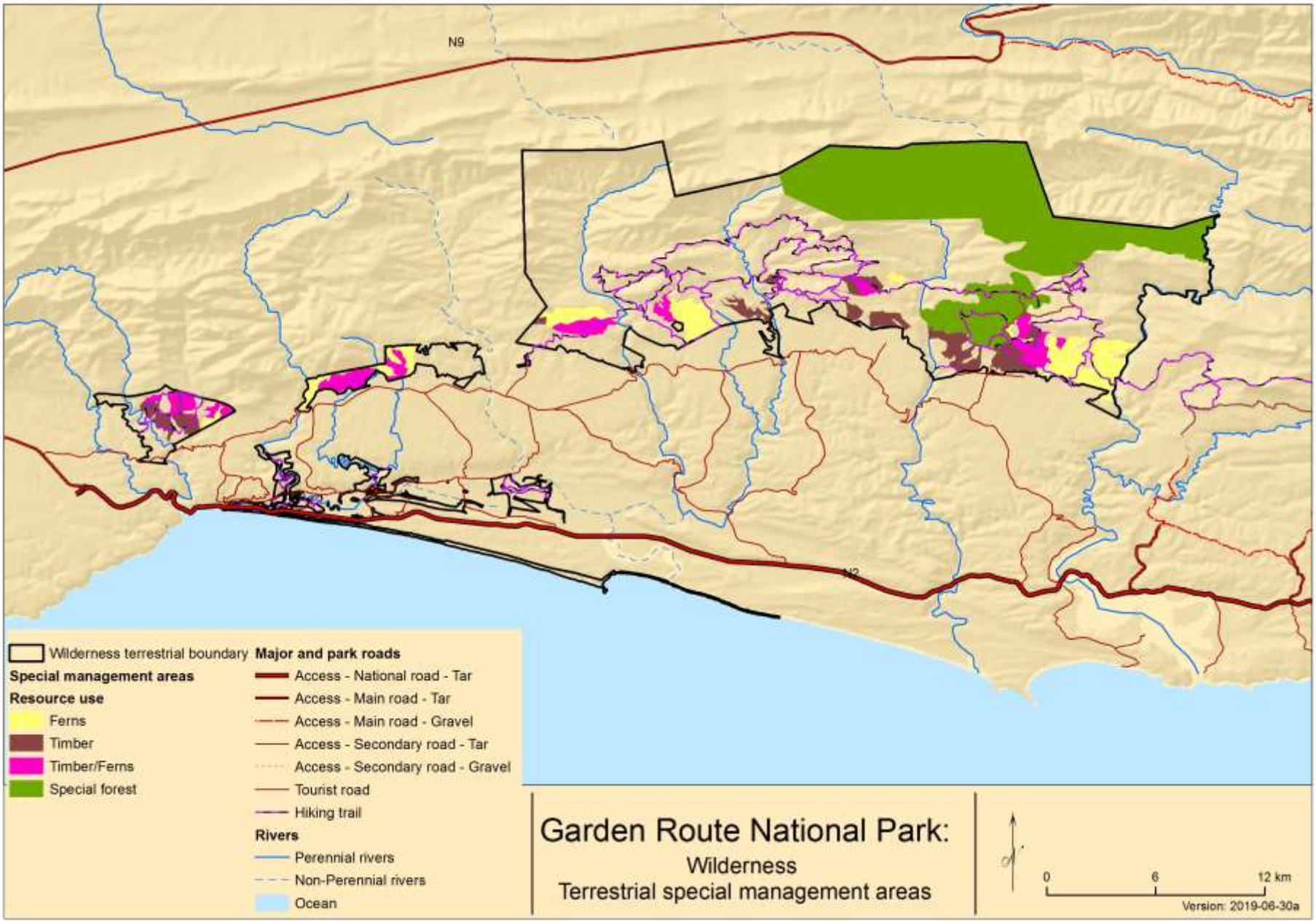


Map 9b: Wilderness estuary proposed bait reserve



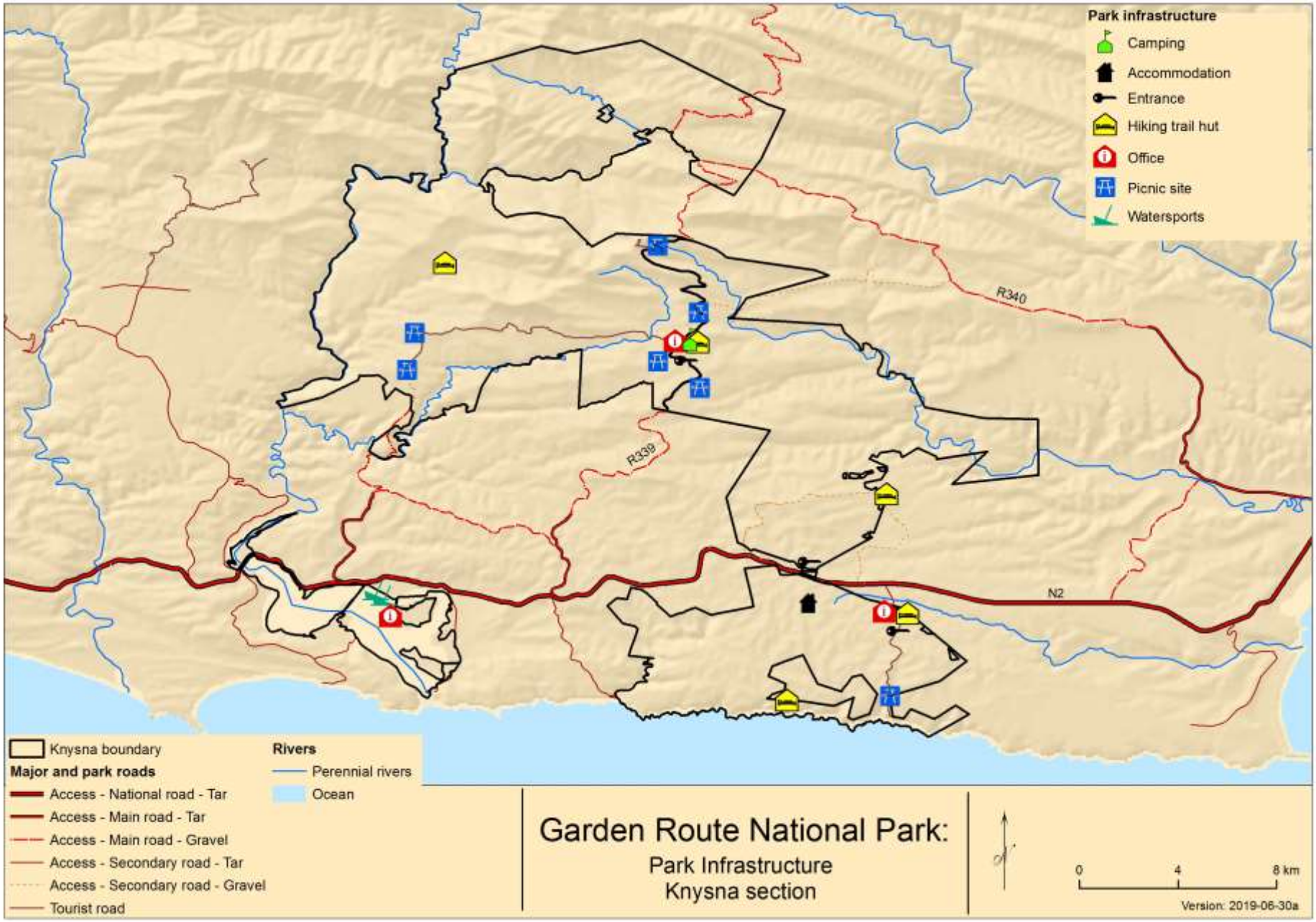
Map 10a: Knysna terrestrial special management areas

Map 10b: Tsitsikamma terrestrial special management areas



Map 10c: Wilderness terrestrial special management areas

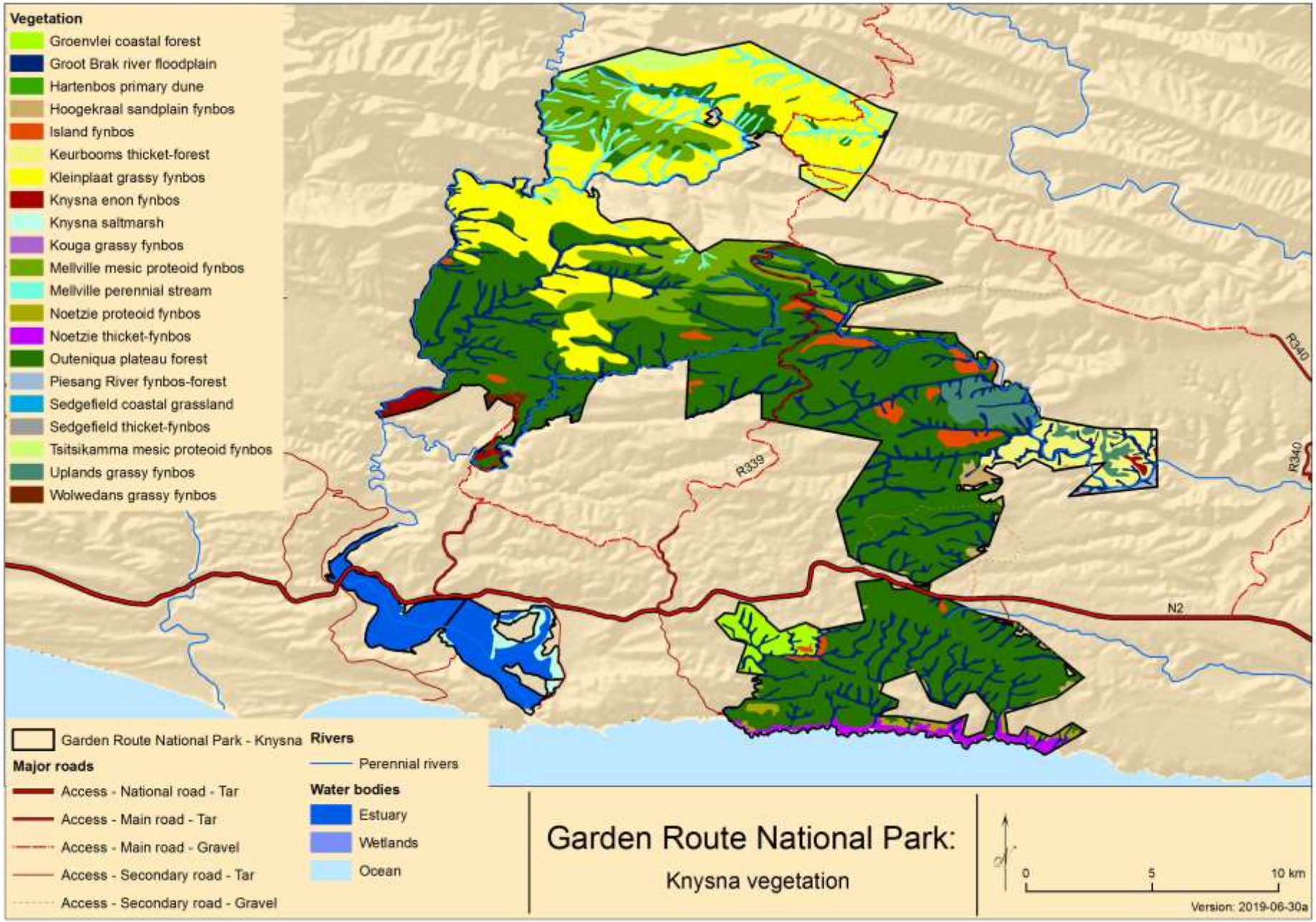
Map 11: Buffer area



Map 12a: Knysna infrastructure

Map 12b: Tsitsikamma infrastructure

Map 12c: Wilderness infrastructure



Map 13a: Knysna vegetation

Map 13b: Tsitsikamma vegetation

Map 13c: Wilderness vegetation