EZEMVELO KZN WILDLIFE™

Conservation, Partnerships & Ecotourism

TEMBE ELEPHANT PARK

Protected Area

MANAGEMENT PLAN

LUBOMBO

USUTHU-TEMBE-FUTI TRANSFRONTIER CONSERVATION AREA

Tembe Elephant Park

KwaZulu-Natal

South Africa

Protected Area Management Plan

Prepared by
Ezemvelo KwaZulu-Natal Wildlife
Protected Area Management Planning Unit
and Tembe Elephant Park Planning Committee

Citation

Tembe Elephant Park: Management Plan. Version 1.0 (date), Ezemvelo KZN Wildlife, Pietermaritzburg.

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This Protected Area Management Plan for Tembe Elephant Park is recommended by the Tembe Elephant Park Planning Committee (TEPPC), a multi-disciplinary team consisting of:

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This Management Plan for Tembe Elephant Park is approved by:

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Recommended:

TITLE	NAME	SIGNATURE AND DATE
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PREFACE

This Protected Area Management Plan for Tembe Elephant Park is its primary and overarching management document. It forms the framework within which the TEP will be managed and developed towards the achievement of its management objectives, derived in collaboration with the protected area's stakeholders during November 2013 to June 2014.

The protected area management planning process has been designed to meet the statutory requirements of the National Environmental Management: Protected Areas Act and other relevant legislation. The protected area management planning process requires participation from the protected area's stakeholders, the general public and specialists during the various stages of plan development and implementation. Although the management plan and its sub-components are planning documents, an annual review process will ensure an active adaptive management planning approach.

A long-term business approach has also been introduced that ensures that the protected area's management objectives are operationalised and reflected through an Annual Plan of Operation. A Financial Plan will, at the same time, actively pursue additional and improved funding and income towards the achievement of the natural and cultural heritage conservation objectives of the TEP over the next five years and into the future.

Ezemvelo KwaZulu-Natal Wildlife, as the appointed Management Authority for Tembe Elephant Park, hereby commits itself to the implementation of this plan.

Dr. D Mabunda
Acting Chief Executive Officer

EXECUTIVE SUMMARY

Introduction

Tembe Elephant Park (TEP) was originally declared in 1983 on communal lands under the leadership of the Tembe Traditional Authority, to protect the lives and property of the Tembe people from injury or damage by elephants. The Park largely encapsulates the area roamed by the last free ranging elephant in KwaZulu-Natal. Although the reasons behind the original proclamation was not primarily for conservation but to ensure the safety of the local communities from elephant, its history with regard to conservation in South Africa is significant. The Park covers an area of 30 013 ha and is situated on the northern border of the KwaZulu-Natal Province of the Republic of South Africa, on the border with Mozambique, approximately 500 km north-northeast of Durban and approximately 30 km west of the town of KwaNgwanase.

Its northern boundary is the international border with Mozambique, the eastern boundary borders on community wards (Tembe Traditional Area), the southern boundary is along the main tar road from Jozini to KwaNgwanase, and the west is bordered by a district road which runs from the tar road to the Mozambique border. Although no major rivers flow through the park, sections of the park is recognised as a National Freshwater Ecosystem Priority with a series of priority wetlands (the Muzi swamps).

The Park is a core conservation area forming part of the Ezemvelo KZN Wildlife protected area network and the Combined Lubombo Conservancy-Goba and Usuthu-Tembe-Futi Trans-Frontier Conservation Area (previously the Usuthu-Tembe-Futi TFCA). Within the KwaZulu-Natal Province, the Park is situated in the umKhanyakude District Municipality (DC 27) area and under the umHlabuyalingana Local Municipality (KZ 271).

TEP contributes to the protection of an ecologically viable representative portion of Sand Forest, the Maputaland Wooded Grassland and its associated biodiversity such as the rare Suni. The Park also contributes to the protection of endangered, rare and endemic species specific to elements of the IUCN's Maputaland Centre for Plant Endemism.

Public consultation has been undertaken in the revision of the plan through a series of meetings and discussions with key stakeholders culminating in two key stakeholder workshops, held on the 26th of November 2013 and 25th of February 2014. Furthermore, the draft management plan has been made available for public review and comment prior to its finalisation. This process has ensured a great deal of valuable input into the development of the management plan, the outcomes of which have been incorporated into it.

Management issues, challenges and opportunities at Tembe Elephant Park

Based on The management effectiveness assessment for TEP and the situational analysis that was done in consultation with stakeholders, the following key issues that were identified:

- Out-dated legal agreements, leases etc.
- The need to develop a Concept Development Plan for TEP to guide sustainable tourism opportunities and sustained benefits to the community.
- TEP is surrounded by poverty stricken rural areas and benefits such as sustainable livelihoods and sustainable resource utilisation are key issues to be addressed.
- Poaching, illegal resource use, fire management and human/wildlife conflict in the Park, as well as inappropriate land uses in areas around the Park have also been identified as issues of concern.
- Furthermore sufficient human and financial resources are required to effectively manage the protected area.

Managing the issues, challenges and opportunities at Tembe Elephant Park

In order to address these issues TEP management, with assistance from Legal Unit will assess and update where necessary the status of all legal documents, MoU's, MOA's, lease agreements and other agreements. Subsequently all operational agreements will be assessed, formalised and updated where required. The management team will develop of a Concept Development Plan to guide sustainable tourism in TEP; this will focus on integration with local and regional tourism initiatives and specifically with opportunities through the TFCA programme.

Effective communication with local and cross border security stakeholders will improve relationships and lead to more effective law enforcement in the Park. The TEP will play an anchor role in local, regional and international conservation planning initiatives and together with the integration of the Park requirements in municipal planning documents inappropriate land uses in the areas surrounding the TEP could be addressed. This will also ensure that any expansion opportunities are actively pursued in line with the Ezemvelo expansion programme as well as the TFCA expansion opportunities.

Management recommendations in the Management Plan which requires dedicated financial resources include:

- Maintenance of building infrastructure
- Repair of roads including tourist and management roads.
- Replace and upgrade where required the TEP fence to secure the boundary of the protected area.
- Development of a concept development plan based on tourism feasibility study.

Annual plan of operation

Each year an annual plan of operation will be prepared, based on the objectives, strategic outcomes, management activities and targets contained in the protected area management plan. Records of recommendations for update/changes to the plan should be kept, so that when the plan is revised, these recommendations can be assessed and included where necessary. This should be undertaken in the form of a running list, which is updated in each annual report that will therefore contain the complete list of recommendations. Any proposed significant changes to the management plan that are likely to result in amendment to the vision, objectives and zonation must be supported by the Regional Operations Committee and the Biodiversity Conservation Operations Management Meeting (BCOMM) before being subjected to the appropriate stakeholder participation process and before BCOMM recommends that the proposed amended protected area management plan be submitted for authorisation to the Ezemvelo KZN Wildlife Board and to the MEC.

ABBREVIATIONS

AMAFA	Amafa aKwaZulu-Natali (KwaZulu-Natal Provincial Heritage Agency)
A.S.L.	Above sea level
APO	Annual Plan of Operation
CARA	Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)
CCA	Community Conservation Area
CDP	Concept Development Plan (Component of Ezemvelo KZN Wildlife protected area management planning process)
CEO	Chief Executive Officer
CMS	Conservation Management Specialist
CRMP	Cultural Resource Management Plan
Co-MS	Co-management Structure
DAERD	KwaZulu-Natal Provincial Department of Agriculture, Environmental Affairs and Rural Development
DCO	District Conservation Officer
DEA	National Department of Environmental Affairs
DWA	National Department of Water Affairs
EIA	Environmental Impact Assessment
Ezemvelo	Ezemvelo KwaZulu-Natal Wildlife
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EWT	Endangered Wildlife Trust
FP	Financial Plan
FPA	Fire Protection Association in terms of the National Veld and Forest Fire Act (No.1 of 1998)
GDP	Gross Domestic Product
GIS	Geographical Information System
IDP	Municipal Integrated Development Plan
IUCN	International Union for the Conservation of Nature
KZN	KwaZulu-Natal Province of the Republic of South Africa
KZN CMA	KwaZulu-Natal Nature Conservation Management Act, 1997 (Act No. 9 of 1997)
KZNHRA	Kwa-Zulu Natal Heritage Resources Act 1997, (Act No. 10 of 1997)
LTFCA	The Combined Lubombo Conservancy – Goba and Usuthu – Tembe – Futi Transfrontier Conservation Area
MEC	Member of the Executive Council
MoA	Memorandum of Agreement
MoU	Memorandum of Understanding
MP	Management Plan
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NEMPAA	National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NPAES	National Protected Area Expansion Strategy

NSBA	National Spatial Biodiversity Assessment
OCNPA	Operations Committee Northern Protected Areas
PA	Protected Area
PFMA	Public Finance Management Act, 1999 (Act No. 1 of 1999)
PPC	Park Planning Committee
SA	Republic of South Africa
SAHRA	South African Heritage Resources Agency
SANDF	South African National Defence Force
SAPPI	South African Pulp and Paper Industry
SAPS	South African Police Service
SDF	Municipal Spatial Development Framework
SMME	Small, Micro and Medium Enterprises
SWOT	Strengths, weaknesses, opportunities and threats analysis
TEP	Tembe Elephant Park
TEPPC	Tembe Elephant Park Planning Committee
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UTF TFCA	Usuthu-Tembe-Futi Transfrontier Conservation Area
WWF	Word Wildlife Fund

1. BACKGROUND

1.1. Purpose of the plan

Protected area management plans are high-level, strategic documents that provide the direction for the development and operation of protected areas. They inform management at all levels, from the staff on-site through to the CEO, the Board and the MEC. The purpose of the management plan is to:

- Facilitate compliance with the National Environmental Management: Protected Areas Act (No. 57 of 2003).
- Provide the primary strategic tool for management of Tembe Elephant Park, informing the need for specific programmes and operational procedures.
- Provide motivations for budgets and provide indicators that the budget is spent correctly.
- Build accountability into the management of Tembe Elephant Park.
- Provide for capacity building, future thinking and continuity of management.
- Provide alignment where appropriate with the:
  - The LTFCA Protocols
  - TFCA Integrated Development Plan (IDP)
  - Joint Operational Strategy (JOS).
- Enable Ezemvelo KZN Wildlife to develop and manage Tembe Elephant Park in such a way that its values and the purpose for which it was established are protected.

1.2. Structure of the plan

Table 1: Structure of the management plan for Tembe Elephant Park

Section 1:	Provides an introduction and background to the management plan and Tembe Elephant Park.
Section 2:	Establishes the context of the TEP, providing the basis for the strategic and operational management frameworks that follow.
Section 3:	Sets out the vision and objectives that must be achieved in efforts to effectively conserve the TEP.
Section 4:	Sets out the zonation of the Tembe Elephant Park, outlining the permissible land uses in particular zones.
Section 5:	Describes the administrative structure required to effectively manage Tembe Elephant Park.
Section 6:	Sets out the detailed management targets that must be achieved in managing the TEP.
Section 7:	Sets out the monitoring measures required to determine if management targets are being met and the requirements for reporting on performance in implementing the plan.

Section 8:	Describes the components that must be included in the annual plan of operation.

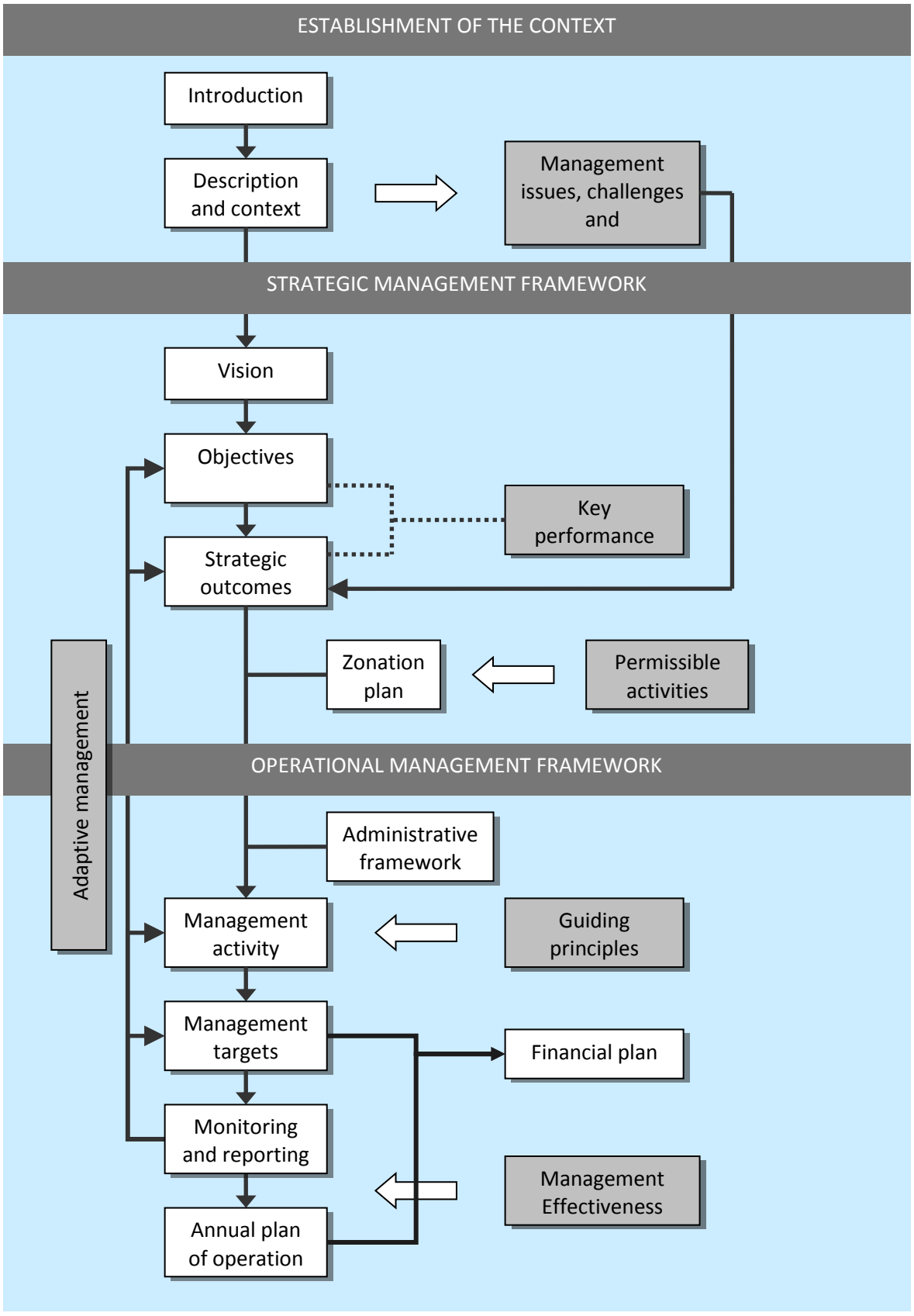

Figure 1: Structure of the Protected Area Management Plan

1.3. Introduction

TEP was originally declared in 1983 on Tembe communal lands under the leadership of the Tembe Traditional Authority. The TEP is a core conservation area forming part of the Ezemvelo KZN Wildlife protected area network and the Combined Lubombo Conservancy-Goba and Usuthu-Tembe-Futi TFCA (previously the Usuthu-Tembe-Futi TFCA). Within the KwaZulu-Natal Province, the Park is situated in the umKanyakude District Municipality (DC 27) area and the umHlabuyalingana Local Municipality (KZ 271).

The Park covers an area of 30 013 ha and is situated on the northern border of the KwaZulu-Natal Province of the Republic of South Africa, on the border with Mozambique. It is located approximately 500 km north-northeast of Durban, approximately 30 km west of the town of KwaNgwanase.

Its northern boundary is the international border with Mozambique, the eastern boundary borders on community wards (Tembe Traditional Area), the southern boundary is along the main tar road from Jozini to KwaNgwanase, and the west is bordered by a district road which runs from the tar road to the Mozambique border.

Geographically the Park stretches from latitude (26.86 Decimal degrees) 26° 52' 05" S to 27° 41' 50" S and from longitude 32° 24' 10" E to 32° 36' 00" E (32.40 Decimal degrees). The central co-ordinates of TEP are 32° 30' 00" S (32.5 Decimal degrees) and 32° 15' 26" E (32.25 Decimal degrees).

The altitudinal range within TEP is approximately 82 m, from the lowest point in the northeast of the Park at approximately 42 m. a.s.l., to 124 m. a.s.l. near the main entrance. The Tembe Elephant Park is a water scarce area and no major rivers flows through the park, although some sections of the park are recognised as a National Freshwater Ecosystem Priority with a series of priority wetlands (the Muzi swamps).

See Map A - Regional location of Tembe Elephant Park.

1.4. The values of Tembe Elephant Park

The values of a place are those remarkable attributes that exemplify it and are largely the reason that it has been proclaimed as a protected area. The values are important in planning and management, as they are the aspects of the place that must be protected.

The protected area's values, in particular those that underlie the functioning of its ecosystems, will be given the highest degree of protection to ensure the persistence of these systems.

The values of Tembe Elephant Park include:

Table 2: Values of Tembe Elephant Park

Natural values	▪ One of only three original elephant populations in South Africa. ▪ Largest population of Suni in South Africa. ▪ Conserve elements of the IUCN recognised Maputaland Centre for Plant Endemism (and associated fauna). ▪ High diversity of butterflies and other invertebrates. ▪ TEP is a core protected area within the Maputaland Centre of Plant Endemism, the Combined Lubombo Conservancy-Goba and Usuthu-Tembe-Futi TFCA and the greater Maputaland-Pondoland-Albany system. (internationally recognised – Conservation International "hotspot")[1] ▪ Unique birdlife associated with "Maputaland Centre for Endemism" and Eastern Coastal Bird Area. ▪ Catalyst for biodiversity conservation, cultural heritage management and ecotourism development to form part of a consolidated conservation area. ▪ Wild nature of area.
Ecosystem service values	The park delivers a range of ecosystem services to the broader community which includes climate change mitigation, water services and refugia for biodiversity.
Eco-cultural tourism values	▪ Part of a larger Combined Lubombo Conservancy-Goba and Usuthu-Tembe-Futi TFCA eco-cultural tourism development area. ▪ Provides a unique biodiversity assets as part of guest experience. ▪ Big five area contributing to guest experience. ▪ Investment opportunities for local entrepreneurs. ▪ Important role in eco-cultural tourism development both within South Africa and southern Mozambique.
Cultural and historic values	▪ Unique relationship between people and the environment, especially in terms of how they use natural resources. (Isifonyo fishing, Fish kraals, wild fruit utilisation (marula festivals, palm wine, monkey oranges etc.) ▪ The unique Thonga culture and customs. (amaNdawu spirit possession, importance of mother's brother, Thonga language and settlement rules) ▪ Border identities and character (Thonga, Swazi and Zulu cultures). ▪ Frontier life style of the local people - kin on both sides of the border, trade across borders, border markets etc. ▪ The history of the various Traditional Authorities in the area. ▪ The settlement history of the region. ▪ The influx of refugees during the Zulu Wars (1815) and later during

[1] To qualify as a Conservation International 'hotspot', a region must meet two strict criteria: it must contain at least 1,500 species of vascular plants (> 0.5 percent of the world's total) as endemics, and it has to have lost at least 70 percent of its original habitat.

	the Mozambican War (1975-1992) and the influence it had on local customs. ▪ The political history causing the splitting of a nation (International boundary line – MacMahon Award) ▪ The history of conservation and the role it played in the development of the region.
Social values	▪ Provides an opportunity to co-manage land with the Tembe community (the landowners) to provide ecological, social and economic benefits, primarily to the owners and secondary to the surrounding communities of TEP. ▪ TEP provides both permanent and temporary job opportunities. ▪ Provides opportunities for environmental education, awareness and research. ▪ Keep people safe from elephants as per the historic purpose for the establishment of the Tembe Elephant Park. ▪ Serve an important role for conservation and regional economic empowerment through partnership agreements. ▪ Key stakeholder in the planning initiatives with Transfrontier Conservation Area (TFCA), District and Local Municipalities, Amafa, private and communal initiatives. ▪ Economic benefit flow to the Tembe people from sustainable resource use. ▪ Recognition of conservation as a viable and sustainable land use option.

Consistent with Section 17 of the Protected Areas Act, the purpose of Tembe Elephant Park is to:

- protect the lives and property of the Tembe people from injury or damage from elephants;
- contribute to the achievement of Provincial and National conservation targets through the protection of an ecologically viable representative portion of Sand Forest and its associated biodiversity, including the ecological and evolutionary processes that generate and maintain this diversity;
- protect endangered, rare and endemic species including Suni, which is closely associated to the sand forest and specific to elements of the IUCN's Maputaland Centre for Plant Endemism;
- protect and conserve one of only three original elephant populations of South Africa and only one of KwaZulu-Natal;
- safeguard the archaeological, historical, palaeontological and living cultural heritage of the area;
- play an anchor role in local; regional; national and international economic and other relevant development and conservation initiatives;
- make available surplus game meat and controlled access to the Tembe people to specific natural resources within the area;

- promote awareness of the natural beauty and outstanding aesthetic value of the area, through the promotion of ecotourism;
- conserve the ecological integrity of the area and the important biodiversity in TEP;
- protect areas representative of ecosystems, habitats and species naturally occurring in TEP;
- protect TEP's endangered and vulnerable species;
- assist in ensuring the sustained supply of environmental goods and services specifically relating to water provision;
- create or augment destinations for nature-based tourism and in the region;
- manage the interrelationship between natural environment, biodiversity, human settlement and economic development;
- to contribute to human, social, cultural, spiritual and economic development and
- to rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species.

1.5. Planning approach

The preparation of this management plan has been undertaken based on the following guiding principles:

1.5.1. Protecting and managing park ecosystems

Within the protected area, effort must be directed at maintaining ecosystems in as natural a state as possible and human induced disturbance must primarily be avoided. Where in those rare circumstances avoidance cannot be achieved the disturbance must be mitigated and ameliorated in compliance with Ezemvelo KZN Wildlife's conservation policies and norms and standards, and in particular the Integrated Environmental Management Policy.

Human activities within the Tembe Elephant Park that threaten the integrity of or a component park's ecosystems will not be permitted. Where ecosystem integrity is threatened by human activities outside the park, Ezemvelo KZN Wildlife will initiate collaborative action with relevant stakeholders to eliminate or reduce the threat.

It is recognised that the Tembe Elephant Park does not contain complete or unaltered ecosystems. This, combined with increasing and cumulative disturbances from sources outside of the protected area such as adjacent land use, upstream effects of pollution, colonisation of invasive and alien species, and visitor use, is likely to result in irreversible degradation of the protected area's ecosystems, the loss of biodiversity and impoverishment of gene pools.

Ecosystem management must be derived from a conceptual and strategic basis for the protection of park ecosystems which is based on sound research and monitoring. It must involves a holistic view of the natural environment to ensuring that all management decisions take into the consideration of the complex interactions and dynamic nature of the ecosystems and their limited capacity to withstand and recover from human induced disturbance.

It is recognised that the Ezemvelo KZN Wildlife's protected areas are becoming increasingly important, if not vital, in national and international efforts to maintain biodiversity and genetic resources of South Africa. Thus the management of the protected areas ecosystems must be credible and solidly based in science and best management practice. In this, a rigorous application of conservation science in the collection and interpretation of research and monitoring data must be achieved.

It is further recognised that, in particular cumulative, human induced disturbance or poor management practices have far-reaching and long-lasting and potentially irreversible negative impacts effects on species, habitats, ecosystems and the protected area as a whole. It is thus recognised that a cautious and risk adverse approach must be exercised.

1.5.2. Ecosystem-based management

Decision-making associated with the protection of park's ecosystems will be scientifically based on internationally accepted principles and concepts of conservation biology. The Protected area ecosystems will be managed with minimal interference to natural processes. Specific management may be desirable, when the structure or function of a habitat or ecosystem has been significantly altered by way human induced impacts or previous management. Specific management will only be considered when this option is the only possible alternative available to restore ecological integrity.

Provided that park ecosystems will not be impaired, the manipulation of naturally occurring processes (e.g. creation of firebreaks, damage causing animals) may take place when no reasonable alternative exists and when monitoring has demonstrated, that without direct intervention:

- there will be serious adverse effects on neighbouring lands; or
- protected area's facilities, public health or safety will be threatened; or
- the objectives of a protected area's management plan prescribing how certain natural features or cultural resources are to be maintained cannot be achieved.

Where directed management is required, it will be based on scientific research, and will employ techniques that emulate natural processes as closely as possible.

Ezemvelo KZN Wildlife will be exemplary in the implementation of conservation and other environmental legislation including but not limited to environmental impact assessment and review.

1.5.3. Adaptive management

Adaptive management is a structured, iterative process in which decisions are made using the best available information, with the aim of obtaining better information through monitoring of performance *(Figure 2)*. In this way, decision making is aimed at achieving the best outcome based on current understanding, whilst accruing the information needed to improve future management. Adaptive management can lead to revision of a part or if necessary the whole management plan.

Figure 2: The adaptive management cycle

Adaptive management enables protected area managers to:

- learn through experience;
- take account of, and respond to, changing factors that affect the protected area;
- continually develop or refine management processes;
- adopt best practices and new innovations in biodiversity conservation management, and
- demonstrate that management is appropriate and effective.

1.5.4. Collaboration and transparency

Stakeholder involvement and support is an important aspect of effective protected area management. It is also a requirement in terms of Sections 39(3) and 41(2)(e) of the National Environmental Management: Protected Areas Act (No.57 of 2003). Accordingly, the development of this management plan has been undertaken through a collaborative process, involving local communities and other key stakeholders.

Public consultation has been undertaken through a series of meetings and discussions with key stakeholders culminating in two key stakeholder workshops, held on the 26th of November 2013 and 25th of February 2014. Furthermore, the draft management plan has been made available for public review and comment prior to its finalisation by the end of 2014.

Stakeholders consulted included local, provincial and international stakeholders through the TFCA programme including the Peace Parks Foundation and Mozambique stakeholders.

This process has ensured a great deal of valuable input into the development of the management plan, the outcomes of which have been incorporated into it. A detailed public participation report is available upon request from the TEP management.

2. DESCRIPTION OF TEMBE ELEPHANT PARK AND ITS CONTEXT

2.1. Institutional and administrative framework for the management of Tembe Elephant Park

The KwaZulu-Natal Nature Conservation Board, established in terms of the KwaZulu-Natal Nature Conservation Management Act No.9 of 1997, was appointed by the KwaZulu-Natal MEC: Agriculture and Environmental Affairs as the management authority for all provincial protected areas in KwaZulu-Natal. The Board's implementing agency is Ezemvelo KZN Wildlife.

Management of Tembe Elephant Park will be undertaken in accordance with relevant legislation and the management policies of Ezemvelo KZN Wildlife, which includes a commitment to maintain the character and ecological, cultural and aesthetic integrity of the site.

The KwaZulu-Natal Nature Conservation Board will be responsible for reporting on the management of Tembe Elephant Park to the designated KwaZulu-Natal Provincial Member of the Executive Committee (MEC) and the Premier thus ensuring coordination of those matters that may affect the TEP through the relevant provincial departments, district and local municipalities.

2.2. The legislative basis for the management of Tembe Elephant Park

There is a large body of legislation that is relevant to the management of Tembe Elephant Park, but the primary legislation guiding the management of protected areas is the National Environmental Management: Protected Areas Act (No.57 of 2003).

The Protected Areas Act establishes the legal basis for the creation and administration of protected areas in South Africa, as its objectives include provisions "for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes". The Act sets out the mechanisms for the declaration of protected areas and the requirements for their management.

A detailed list of relevant legislation is provided in Appendix B. Managers are required to familiarise themselves with the purpose and contents of the statutes and their subsequent amendments and regulations.

2.2.1. Proclamation status of Tembe Elephant Park

After several years of discussion and negotiation with the Tembe Traditional Authority, the Tembe Elephant Park was proclaimed by the then KwaZulu Government in terms of KwaZulu Government Notice No. 73 of 1983 on 21 October 1983.

The KwaZulu Cabinet also approved the following set of conditions which were forwarded by letter (dated 1 August 1983) to the Tembe Traditional Authority:

- The people living within the proposed Park should move to areas indicated by the Tembe Traditional Authority or to areas of their own choosing.
- The people will receive cash compensation for their improvements at ruling rates and will be given assistance to transport their belongings and building material.
- The people must all move before the fencing is completed but in any event not later than 30 June 1984.
- If no water supply, clinic services or educational facilities exist in the area of re-establishment, these will be provided by the Kwa-Zulu Government.
- The Tembe Traditional Authority will receive 25% of the net profit made by the Tembe Elephant Park.
- The Tembe Traditional Authority will be granted representation on any body or board of control established for the Park.
- Any surplus game meat and by-products will in the first instance be offered to the people of the area via the Tembe Traditional Authority.
- The Park will be fenced, surveyed and proclaimed in terms of section 29 of Act 8 of 1975, as soon as possible.

Re-proclamation of TEP took place on 13 April 1993 in terms of Kwa-Zulu Government Notice No.17 of 1993. *See Appendix C – Proclamation of Tembe Elephant Park.* The second proclamation was made in terms of a surveyed proclamation diagram instead of a written description referring to beacons and gives the size of TEP as being 30 013,3236 ha.

In terms of the national system of classification of protected areas (which follows that of the IUCN), TEP is categorized as a national park and equivalent reserve – Category II.

In terms of Section 12 of the Protected Areas Act, protected areas that were protected in terms of provincial legislation, prior to the commencement of the Protected Areas Act, which would be eligible to be declared as a protected area in terms of the Act, and must be regarded to be a protected area for the purposes of the Protected Areas Act. The implication of this is that Tembe Elephant Park is legally considered to be a proclaimed protected area in terms of the Protected Areas Act.

2.2.2. Co-management of Tembe Elephant Park

Kepe (2008) identified co-management as one of the popular approaches for reconciling land claims and biodiversity conservation in South Africa. A 2007 Memorandum of Agreement between the Department of Land Affairs and the then Department of Environmental Affairs, Agriculture and Tourism (now Department of Environmental Affairs) setting out guidelines for a co-operative national approach to the resolution of land claims in protected areas, states that:

- Where feasible and applicable, title in land shall be transferred to claimants without settlement rights and conditions of land use shall be registered against the title deed in respect of restored land.
- All the claimants for a protected area will be required to form one association to ensure representation into management structures appointed by the National minister in accordance with the applicable legislation.

- The existing conservation agency shall continue to manage the land situated within the protected area after restitution until the DEAT minister reviews it.
- Beneficiation of the claimants shall be structured in such a way that it may be tangible, realistic and optimal, though not compromising the financial sustainability of the said protected area.
- The land restored in a protected area may not be alienated other than to an organ of state. (Department of Environmental Affairs and Tourism 2007:8–12)

TEP was originally declared in 1983 on Tembe communal lands under the leadership of the Tembe Traditional Authority. The traditional authority does not, however have any legal status, hence the establishment of the Ingonyama Trust Board in 1994, as a land-holding legal entity on behalf of the traditional authority. The Ingonyama Trust Board was constituted in accordance with the KwaZulu Ingonyama Trust Act, 1994 (Act No. 3 of 1994). In accordance with this Act, ownership of the land was vested in the Ingonyama Trust Board which is responsible for the administration of the communal land.

During March 1998, the Tembe community lodged a land claim against the communal land that makes up the Park, in terms of the Restitution of Land Rights Act No. 22 of 1994. This claim was successful and a Settlement Agreement was signed on 2 February 2008.

In accordance with the Restitution of Land Rights Act, the claimed land can only be transferred in title to a legal entity representing the originally dispossessed or their direct descendants. The Sihangwana Trust has since been established as a landholding entity on behalf of the dispossessed community. It is now anticipated that, as per the settlement agreement, Ingonyama Trust Board shall transfer ownership to the claimant's legal entity.

A fundamental condition for the transfer of land is therefore that claimant landowners will not physically occupy the land and the land-use shall not be altered and will remain a conservation area in perpetuity under the management of the existing management authority (Ezemvelo).

In terms of the Agreements mentioned above, a Co-management Agreement was entered into between the KwaZulu-Natal Nature Conservation Service and the Tembe Community Trust. *See Appendix D – Co-Management agreement for TEP*.

In 1998, Tembe Safari Lodge was granted a concession for a 16 bed lodge in Tembe Elephant Park. This lodge is co-owned by the community who share in the benefits and profits.

Furthermore, benefits accrue to the community through various Extended Public Works Programme projects. The nature of these projects is to employ unskilled local people and to train them in basic construction and other skills. These projects are required to be labour intensive and include targets for females and disabled people.

The lion monitoring programme and alien plant control programme also employs people from the local communities. The Tembe community has access benefits including access for environmental education and awareness, ritual ceremonies and other. Resource harvesting takes place on request and this includes the donation of game animals, sustainable harvesting of thatch, reeds and water collection.

2.2.3. Public Trust Doctrine

Section 3 of the National Environmental Management: Protected Areas Act (No. 57 of 2003) mandates the State, and hence Ezemvelo KZN Wildlife to act as the trustee of protected areas. This trusteeship is derived from the Public Trust Doctrine, which in this context obligates the Ezemvelo KZN Wildlife to support the management of all protected areas and the resources therein for the benefit for current and future generations (the beneficiaries of the Public Trust). Thus it is incumbent on Ezemvelo KZN Wildlife to use all practical means to fulfil its responsibilities as trustee of the protected area for current and succeeding generations.

[See White Paper on Environmental Management — Policy for South Africa GG 749 of 1998]

2.2.4. Local agreements, leases, servitude arrangements and separation of authority

The following state or parastatal institutions need to enter and traverse the Park from time to time to fulfil their respective mandates:

- Telkom: service and repair communication lines and infrastructure.
- Eskom: service and repair power lines and infrastructure.
- SA National Defence Force (SANDF): need to enter TEP at times to execute their mandate.
- SA Police Services (SAPS): MoU exists with SAPS for their operations within TEP and is filed at the Main Office.
- uMhlabuyalingana Local Municipality in terms of trading regulation.

In order to avoid inappropriate actions by staff of the above or other such institutions on TEP, it is advisable to proactively develop documented MoAs on operational protocol between these institutions and Ezemvelo in terms of fulfilling their mandate within the boundaries of TEP. This must be undertaken in the spirit of co-operative governance.

The formal documentation and maintenance of all local agreements, leases, servitude arrangements and MoU's concerning the authorised use of the TEP area by beneficiaries other than Ezemvelo KZN Wildlife must be undertaken to promote transparency and good governance. All such agreements must be scrutinised by the Manager, Ezemvelo KZN Wildlife Legal Services for direction, prior to any Ezemvelo member signing such documents.

The following are documented agreements:

- Tembe Safari Lodge Concession - This concession has been in place since 1998. The concession agreement needs to be revised and the Standard Operating Procedures updated accordingly.
- A Resource Use Operational Management Plan is in place, this plan is signed by the Co – Management Committee Chairman and the iZinduna Committee.
- MoU concerning Lion Monitoring - MoU between Ezemvelo and Wildlife ACT to ensure that lion introduction conditions are met.

- Original Proclamation Agreements - The 1983 agreement between the Tembe Traditional Authority and the KwaZulu Government at the time of proclamation.
- Future Concessions at TEP - Any future concession agreements need to be aligned with the Park IMP as well as CDP and the contents and conditions thereof need to be drawn up in collaboration and with the full knowledge of the PPC / Co-management Structure.

The role of state agencies, specifically the Ingonyama Trust and isiVuno needs to be clarified as a matter of urgency in relation to tourism development in TEP.

2.2.5. Invasive species control in terms of the Biodiversity Act

In terms of Section 76 of the National Environmental Management: Biodiversity Act (No.10 of 2004), the management authority of a protected area must incorporate an invasive species control plan in the protected area management plan. This is addressed in Sections 3 and 4 below.

2.3. The policy framework guiding the management of Tembe Elephant Park

In conserving and managing the biodiversity of KwaZulu-Natal, Ezemvelo KZN Wildlife operations are undertaken within a broad framework of policies. At a national level, overarching policy is set out in:

- The White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity of 1997.
- The Bioregional Approach to South Africa's Protected Areas, 2001/2002.
- Community Based Natural Resource Management Guidelines, 2003.
- National environmental management principles set out in section 2 of the National Environmental Management Act.
- Relevant norms and standards set by the Minister and MEC in terms of the Protected Areas and Biodiversity Acts.
- Relevant protocols and Strategies in relation to the Trans Frontier Conservation Area.

Within the province, Ezemvelo KZN Wildlife has adopted a Five Year Strategic Plan and Performance Plan for 2009-2014, which has developed the following corporate strategic profile:

VISION **"To be a world renowned leader in the field of biodiversity conservation"**
MISSION STATEMENT **"To ensure effective conservation and sustainable use of KwaZulu-Natal's biodiversity, in collaboration with stakeholders, for the benefit of present and future generations."**
STRATEGIC OUTCOMES ▪ **To conserve indigenous biodiversity in KwaZulu-Natal, both within and outside of protected areas.**

- **To be a sustainable, well-resourced and capacitated biodiversity conservation and ecotourism organisation.**
- **To foster the value of biodiversity conservation with stakeholders.**
- **To be an efficient, effective and compliant organisation, with good governance.**
- **To effectively promote the mandate of the organisation to stakeholders.**

CORE VALUES

Integrity	At all times we act morally, ethically and with honesty.
Respect	We treat stakeholders with patience, politeness and acknowledge and value their right and those of the environment.
Accountability	We involve stakeholders in the organisation's activities, with a culture of openness, and are answerable for the outcome of our actions and activities.
Team work	Working together to achieve our vision through goals.
Innovation	An adaptable organisation that embraces the culture of creativity and learning.
Excellence	We are a progressive organisation, applying best practices to achieve the highest quality and standards.
Commitment	At all times, we undertake our activities with passion, loyalty and dedication.
Productivity	We undertake to produce results timeously, efficiently and effectively.

A number of policies, specific to particular areas of operation, have also been developed by Ezemvelo KZN Wildlife *(Appendix E).* These policies have been considered and applied within the plan, where relevant. The protected area's managers are required to be familiar with them and to apply them in managing Tembe Elephant Park.

This management plan has utilised this body of policies to develop a strategic and operational management framework for Tembe Elephant Park that is consistent with the broad goals and specific policy requirements of Ezemvelo KZN Wildlife.

In all of the sections of the management plan, where relevant, mention should be made of specific Ezemvelo KZN Wildlife policies that relate to the topic under discussion.

2.4. The regional and local planning context of Tembe Elephant Park

Within the KwaZulu-Natal Province, the Tembe Elephant Park is situated in the umKhanyakude District Municipality (DC 27) area and within the umHlabuyalingana Local Municipality (KZ 271). The umKhanyakude District Municipality embarked on the development of a regional growth and development plan; other planning initiatives included the development of the uMkhanyakude Bioregional Plan and the TFCA Integrated Development Plan (IDP) are in process of development. In terms of the requirements of NEMPAA and the Local Government: Municipal Systems Act, there must be appropriate planning alignment between the Park and the surrounding area which should be recognised through the Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the relevant municipalities. This will assist in developing an effective buffer zone around TEP. The TEP Conservation Management Specialist in collaboration with the designated

Ezemvelo officials must be tasked to make the relevant inputs whenever these municipalities' Integrated Development Plans and Spatial Development Frameworks are reviewed and updated. This management plan align the management of Tembe Elephant Park where appropriate with these regional and and international planning initiatives.

The Park itself has been zoned *(See Section 4 - Zonation)* according to protected area management norms to control various activities and for the achievement of various conservation objectives.

2.4.1. The National Protected Area Expansion Strategy

In an effort to address a lack of effective protection and representation of all vegetation types within the protected areas system, a National Protected Area Expansion Strategy (NPAES, DEAT 2008) has been developed and approved at a national ministerial level. The purpose of the NPAES is to provide a national framework for the expansion and consolidation of the protected area system, focussing on priority areas for representation and persistence of biodiversity.

In terms of the NPAES, areas around the northern boundary of TEP are identified as priorities for protected area expansion. The TEP falls within Region 24 of the National Protected Area Expansion Strategy focus areas, the Maputaland Delagoa iMfolozi Focus Area in KwaZulu-Natal.

The TEP forms a core conservation area as part of the Ezemvelo KZN Wildlife's protected area network and the Combined Lubombo Conservancy - Goba and Usuthu -Tembe - Futi Trans Frontier Conservation Area, and specifically the Maputo Special Reserve-Tembe Elephant Park-Bekhula-Tshanini core area within the TFCA.

On the basis of the NPAES, at a national level, TEP is a strategically important protected area that forms a critical nodal point for the expansion of protected area efforts.

The forging of Transfrontier linkages between the TEP and the authorities and communities of the bordering Mozambique and Swaziland will be promoted and maintained by TEP management in line with the Conservation and social development strategies for the TFCA.

The uMkanyakude Biodiversity Sector Plan v1.0 (2013), an unpublished report by Ezemvelo KZN Wildlife, indicate that:

> *The TFCA links conservation and resource-use areas in Mozambique, South Africa and Swaziland. In South Africa these include Tembe Elephant Park and Ndumo Game Reserve, as well as the Tshanini and Usuthu Gorge Community Conservation Areas. The TFCA was recently extended to include the Usuthu area in Swaziland, thereby making this a Trilateral TFCA. Plans are also underway to incorporate areas to the east and west of Tembe Elephant Park through partnership with local communities. This has the potential of merging Tembe Elephant Park with Ndumo Game Reserve. In Mozambique the project focuses on the Maputo Special Reserve (Reserve Especial de Maputo) and the Futi-corridor, a swamp system that links the Reserve with Tembe Elephant Park. This TFCA will unite an ancient elephant population that used to move freely between Mozambique and South Africa and will enhance the efficiency of biodiversity*

conservation in a region with high levels of endemicity (Maputaland-Pondoland-Albany biodiversity hotspot).

The forging of Transfrontier linkages between the TEP and the authorities and communities of the bordering Mozambique and Swaziland will be promoted and maintained by TEP management in line with the Combined Lubombo Conservancy-Goba and Usuthu -Tembe-Futhi TFCA biodiversity conservation and social development strategies. *See Map B for the Combined Lubombo Conservancy-Goba and Usuthu-Tembe-Futhi Transfrontier Conservation Area.*

2.4.2. The Provincial Protected Area Expansion Plan

The KwaZulu-Natal Protected Area Expansion Plan (Ezemvelo KZN Wildlife 2010) also identified areas around the borders of TEP as priorities for protected area expansion and the TEP forms a key hub in creating a connected protected area system in the region.

Certain areas around TEP are characterised by high levels of irreplaceability, largely due to losses of natural habitat. Land identified as a priority for protected area expansion may be incorporated into TEP either through land acquisition or through stewardship agreements, established with individual landowners or communities. *See Map C - Conservation value: Maputaland, RSA - from a preliminary conservation plan for Maputaland, South Africa (Bob Smith, Wayne Matthews, Pete Goodman and Nigel Leader-Williams).*

Opportunities may arise that will enable the establishment of new formal protected areas or other conservation management areas on land bordering or in vicinity of TEP in collaboration and co-operation with the relevant communities and landowners. This is likely to contribute to the Ezemvelo KZN Wildlife conservation planning and the Combined Lubombo Conservancy-Goba and Usuthu-Tembe-Futi TFCA targets through more effective natural and cultural heritage conservation. Indirectly, new tourism opportunities could also develop with the resulting socio-economic benefits. All Ezemvelo officials associated with TEP should remain sensitive to these opportunities and ready to engage with the relevant role-players, assisting them with the most appropriate options for establishing conservation areas. This may be in the form of conservancies, private, community or local authority protected areas, contractual protected areas, public open space or even incorporation of land into TEP and in so doing increasing the extent and representivity of core protected areas within the TFCA and KZN. Alignment with the municipal IDPs must also be actively sought to ensure appropriate land use on the borders of TEP.

As an integral part of the approach described above, TEP staff, the Tembe Traditional Authority; as well as the District and Local Municipalities; must be actively sensitised to the identified opportunities and the potential benefits for the various parties. Empowered with this knowledge engagement with the relevant stakeholders should lead to constructive deliberations. Where partnerships and agreements are successfully concluded, these must be clearly articulated and formalised.

Priority areas regarding the broadening of the ecological footprint include:

- The establishment of a conservation area that would join Tembe Elephant Park and Ndumo Game Reserve effectively institutionalising synergy and collaborative

conservation management between the two protected areas. This would consolidate the conservation of Maputaland and effectively create a critical link to the nutritional Phongolo River floodplain for elephant. This will effectively reduce the utilisation pressure on the Sand Forest in TEP, while significantly contributing to the achievement of the objectives of the TFCA Protocol.

- The establishment of a community conservation area in the Muzi area adjoining the Park on its north eastern corner (uKhamba) and Mozambique. This would also assist with the effective establishment of a Transfrontier link with Mozambique.
- Transfrontier conservation areas incorporating: the Ndumo Game Reserve, Tembe Elephant Park (in collaboration with the Mbangweni and Bhekabantu Communities), the Usuthu Gorge Community Conservation Area (CCA), and bordering areas in Mozambique.
- Tshanini Bhekula Community Conservation Area to the south of TEP.
- Any area adjoining the Park that would contribute to the attainment of the overall objectives of the Park will be supported.

2.4.3. EIA Regulations in terms of NEMA

In terms of the National Environmental Management Act (No.107 of 1998) environmental impact assessment (EIA) Regulations, various activities require environmental authorisation before they may commence. In addition, in terms of Regulation RN.546, Listing Notice No.3, there are a number of activities that require environmental approval specifically as a result of their proximity to a protected area. The implication of this is that if any of the *activities listed in Appendix F* are proposed in the protected area, or within five kilometres of it, they will be subject to either a basic assessment or a full scoping and EIA process. A number of general activities and those proposed for either tourism development or operational management within the TEP or its buffer areas will thus also require environmental authorisation.

2.5. The history of Tembe Elephant Park

2.5.1. Origins of the name of Tembe Elephant Park

The Tembe Elephant Park takes its name from the Tembe people, specifically Inkosi Mzimba Tembe and the last free ranging elephant population in KwaZulu-Natal.

2.5.2. History of conservation in Tembe Elephant Park

Maputaland, the area in which TEP is situated, is known to have been inhabited since the early Stone Age period. Little has, however been documented on the extent of the previous agricultural and other use of the area.

From various accounts, it would seem that the TEP area has always been sparsely populated. When the first English speaking hunters and explorers reached the area, they found a thinly forested habitat infested by tsetse fly. The presence of tsetse fly prevented the keeping of cattle and other domestic livestock. While this was a disadvantage for the local Thonga people on one hand, the absence of livestock made them an unlikely target for Zulu attack. Furthermore, water resources were not abundant or were too saline for cultivation while numbers of wild elephant (and lion up until the 1900s) have always roamed the area and raided crops from time to time. These combined factors were most likely the main constraints that prevented further densification of the local community in the TEP area.

It would be safe to assume that up until the establishment of the Game Reserve, the area had always been sparsely inhabited by the local population who practiced subsistence agriculture on a limited scale, hunted and harvested natural resources in the area. No intensive / commercial agriculture was ever practiced here.

Regarding the status of wildlife in the area in the late 1800s, Ellis (1975) - an unreferenced quote in the 1997 draft management plan for TEP - relates the following regarding Maputaland:

"The British Protectorate over Maputaland (Tsongaland) was established in 1896 with C.C. Foxon as Resident. His July report entitled, `Information in general on Maputaland' stated that game appeared to be very scarce, especially all kinds of large game. His August report was slightly fuller on the subject, and he lists kudu, blue wildebeest, nyala, reedbuck, bushbuck, duiker, steenbuck, hippo (in lakes near the Pongolo), `tiger', wild dogs, hyaenas, jackals and `hunting leopards'(?). Lions, elephant and buffalo were on the North bank of the Usuthu River, but his overall impression was that the country did not abound in game. How different from the country which 20 years before was considered alive with game! The guns traded from the Portuguese had surely taken their toll".

Tembe Elephant Park's elephant population was the last naturally free roaming elephant of KwaZulu Natal. Negotiations for the creation of a protected area were initiated in 1977.

In 1983, an experimental electric fence was erected along the south side of the tar road and elephants were driven to the north of it. On the basis of its effectiveness, it was decided that the elephant population of the Sihangwane Forest could be confined to the area of the proposed reserve bringing the elephant / human conflict to an end. The success would also depend on the willingness of the Inkosi (Tribal Chief) and community to set aside an area big enough and with sufficient resources and water for the elephant. This did occur, and Chief Mzimba Tembe allocated land to establish a Game Reserve in the Tembe Tribal Ward and Tembe Elephant Park was proclaimed on 21 October 1983.

To contain the elephant, the park was fenced with electric and game fencing, which was completed in 1986. This was done on three sides leaving the northern border with Mozambique open. The communities were at first sceptical, but the electric fence proved to be a success and to date the fence has been 100% effective in preventing further crop damage and attacks against community members by elephants.

Based on the continued poaching incidents and number of snared and injured animals, it was decided to close the northern boundary of the Park with Mozambique in an effort to control the poaching. This fence was completed at the end of 1989. Unfortunately, this cut the link with the floodplains and the northern Maputaland Coastal Plain elephant population. Effectively, the Maputaland elephant population was split into two.

On 22 June 2000, the governments of Mozambique, South Africa and Swaziland signed five protocols on the establishment of the Lubombo Transfrontier Conservation and Resource Area. It consisted of five distinct Transfrontier Conservation Area projects which includes a protocol that establishes the Usuthu-Tembe-Futi Transfrontier Conservation Area (TFCA).

The Usuthu-Tembe-Futi TFCA situated in the southern part of Mozambique and included the Maputo Special Reserve in Mozambique (formerly known as Maputo Elephant Reserve) and Tembe Elephant Park and Ndumo Game Reserve in South Africa. The intended linkage of Tembe Elephant Park to Ndumo Game Reserve will be via a narrow corridor of communally owned land known as the Mbangweni community area. It furthermore considers the linkage of the South African conservation areas to Maputo Special Reserve through a corridor of land along the Futi River. The proposed area will consolidate a conservation area of approximately 2 000 km^2. Additional Community Conservation Areas (CCAs) include the Usuthu CCA situated on the western boundary of Ndumo Game Reserve. This was supported by the Trilateral Commission and facilitates the inclusion of Swaziland into the TFCA project scope.

2.5.3. History of eco-cultural tourism in Tembe Elephant Park

In 1998, Tembe Safaris was granted a concession for a 16 bed lodge in Tembe Elephant Park. This lodge is co-owned by the community who share in the benefits and profits.

2.6. Ecological context of Tembe Elephant Park

2.6.1. Climate and weather

The region is characterised by summer rainfall dominated by the influence of subtropical anticyclones. TEP is situated on the Mozambican coastal plain and experiences low rainfall. Precipitation is seasonal and increases eastwards towards the coast. The bulk of the rain falls during summer, although summer droughts frequently occur. The relative humidity is high during summer and can exceed 75% between November and February. Heavy dew and dense mists can be frequent during the winter. Winter is largely frost free with mild temperatures. Dense valley mists may occur during the early morning and result in heavy dew with occasional light showers (Gaugris, *et al.;* 2004; Mathews, *et al.* 2001).

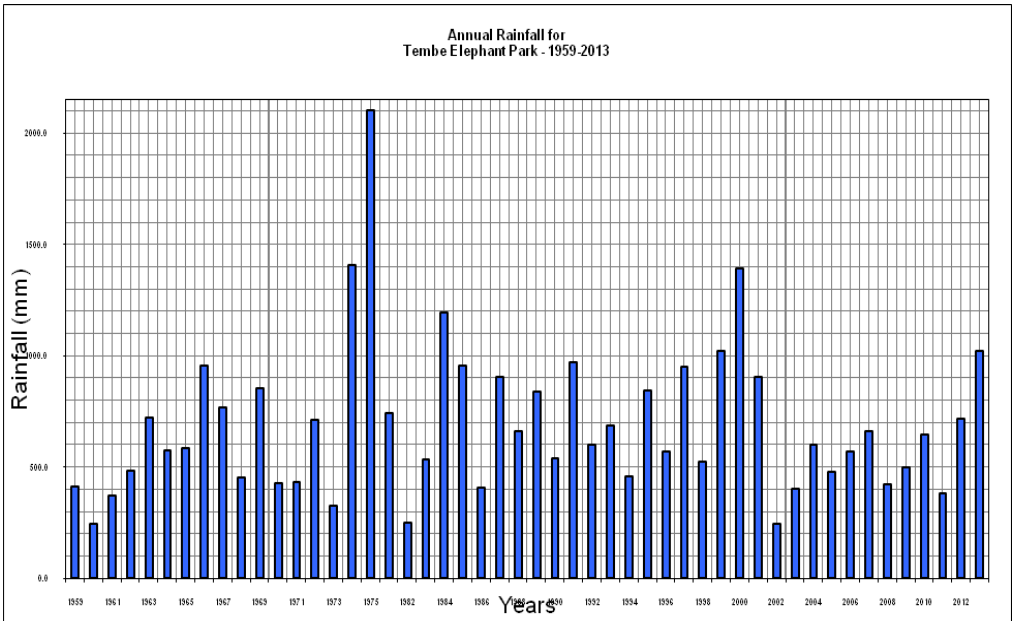

Figure 3: Tembe Elephant Park annual rainfall in mm 1959 – 2013

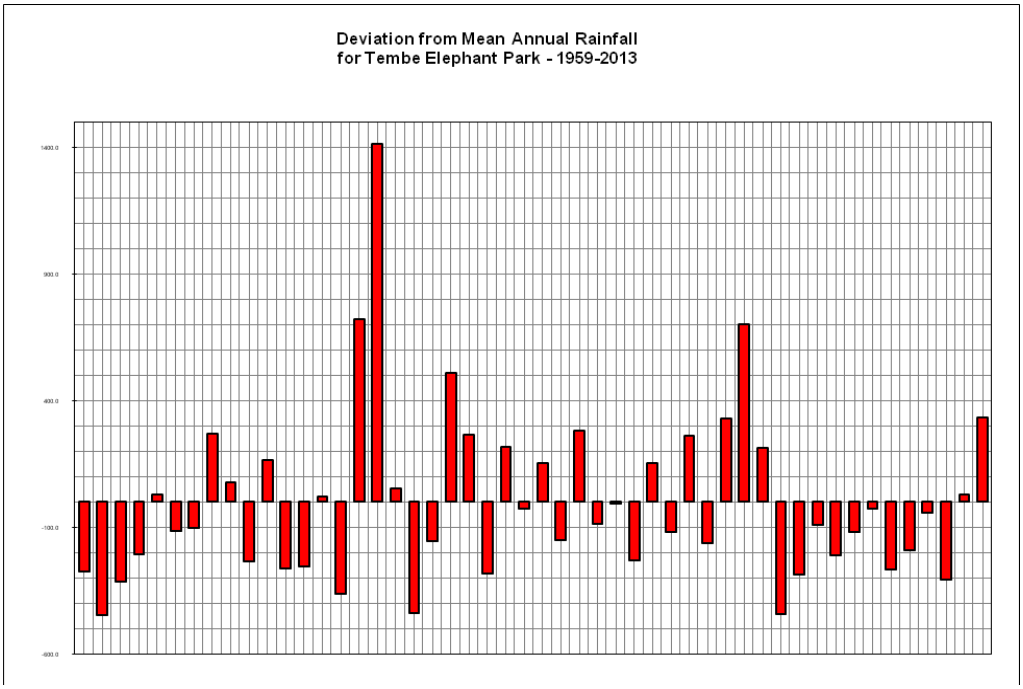

Figure 4: Deviation from mean annual rainfall for TEP 1959 - 2013

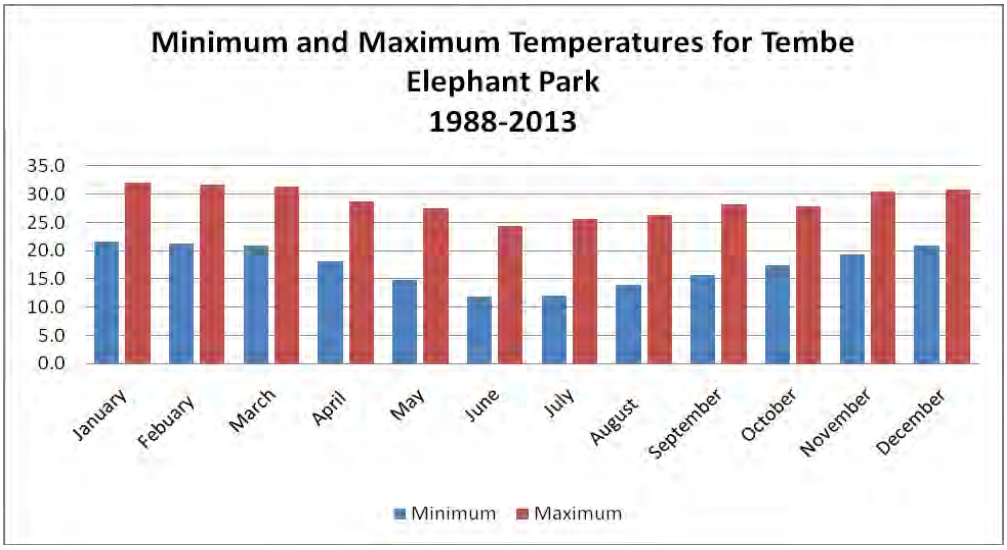

Figure 5: Minimum and maximum temperatures for TEP 1988 - 2013

2.6.2. Topography

Topographically, the Park is situated on the southern border of the Mozambique Coastal Plain. The angulated, relatively flat sand ridges, which run across the whole area border the Lebombo Mountains to the west and the Indian Ocean to the east. The area is representative of fossilised linear dune fields with dunes and dune streets running in a north - south direction. These areas consist of soil with low clay content, making it difficult for perennial pans to form (Gaugris, *et al.;* 2004; Mathews, *et al.;*2001).

Map D – Topography of Tembe Elephant Park

2.6.3. Geology and soils

Geologically, TEP is situated on a Mesoz and geological area that can be followed south and north along the Mozambican Coastal Plain. The base material of the area is predominantly marine siltstone, which is part of the St Lucia Formation. These deposits are not exposed in Tembe Elephant Park as the siltstone is covered with the Maputaland Group (Uloa and Umkwelane Formations) and dune sands cover the Maputaland Group. The dune sands parent material is thus the Maputaland Group and are thus fossilised as the oldest dunes date back to the early Pleistocene (3 million years ago) with the youngest dating back to the late Pleistocene (30 000 – 10 000 years old). These dunes are therefore some of the youngest marine formations in Southern Africa (Gaugris, *et al.;* 2004; Mathews, *et al.;* 2001).

The soils on TEP have a thin organically rich A-horizon with a sandy subsurface. Clay minerals are minimal (less than 5 %) within the matrix of the soil but are present as a result of weathered labile minerals. The soils dominating this area are well drained, have a high base status and are classed as being Hutton or Clovelly, with the inter-dune depressions being well drained yellow Clovelly or grey Fernwood soils (Fourie, *et al.;* 2002; Gaugris, *et al.;* 2004; Mathews, *et al.;* 2001).

2.6.4. Hydrology

Given the arid environment of Maputaland, and in particular TEP which has no river flowing into the protected area, careful consideration must be given to the ground water and the maintenance thereof on which TEP and its biodiversity relies. It is thus incumbent on TEP management to manage the groundwater in such a manner so as to minimise the interference with, and damage to, water bodies, drainage lines and catchments in the protected area.

The only permanent water in TEP is found in the Muzi swamp in the east of the park, with three other water holes able to be supplemented as required. The water in the swamps is not always suitable for humans, animals or plants, as it can reach high salinity levels (0.5 – 5 %). With the establishment of TEP, artificial water holes were developed in areas with higher clay contents. These water holes were important for the supply of water to the game present in the Park as the animals could no longer wonder beyond the boundaries of the area once boundary fences were erected and restricted game movement. An understanding of the ground water table is thus required so as to ensure continued adequate water supply, as well as maintenance of the wetlands. Conservation of the ground cover of the wetlands, notably reeds, must be maintained to assist with the preservation of these wetlands. The sensitive nature of the vegetation in some areas must also be understood so as to prevent game adversely affecting the vegetation in these areas due to the unnatural maintenance of surface water during otherwise dry times.

2.6.5. Vegetation

See Map E – Vegetation of TEP and Appendix G – Species list for Tembe Elephant Park.

The vegetation of the area was classified based on the KZN Vegetation map by Scott – Shaw and Escott (2011), and the following descriptions (except where otherwise stated) of the vegetation types have been extracted from Mucina and Rutherford (2006).

Tembe Sandy Bushveld - Mucina and Rutherford (2006) page 502:

Extensive flat plains to slightly undulating in places with open to closed woodland with canopy 5 – 10 m tall, dominated by leguminous woody and Terminalia sericea, with species-rich shrub layer and grassy undergrowth (Panicum, Perotis, Urelytrum agropyroides, Hyperthelia dissolute and Diheteropogon species).

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Tembe Sandy bushveld is classified as Least Threatened, indicating that the remaining habitat comprises more than 60% of the original area of the ecosystem.

Muzi Palm Veld and Wooded Grassland - page 576 in Mucina and Rutherford (2006):

On ancient coastal dune cordons on gently undulating terrain and dry basins all associated with the Muzi Swamps and Muzi Stream (an ancient shoreline) draining north and south into the Pongola River and Mkuzi River respectively. Two broad plant communities dominate in a patchwork pattern: Hyphaene coriacea dominated seasonally wet Palm Veld lacking in shrubs and herbs and; wooded grassland several to

many meters above the water table (in average rainfall years) rich in shrubs, dwarf shrubs, geoxylic suffrutices and herbs.

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Muzi Palm Veld and Wooded Grassland is classified as Least Threatened, indicating that the remaining habitat comprise more than 60% of the original area of the ecosystem.

Maputaland Wooded Grassland - Mucina and Rutherford (2006) page 577:

Generally flat landscape of the Maputaland coastal plain supporting coastal sandy grasslands rich in geoxylic suffrutices, dwarf shrubs, small trees and very rich herbaceous flora. Excluded from this unit are the many inter-dune depression wetlands and hygrophilous grasslands neighbouring the wooded grasslands.

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Maputaland Wooded Grassland is classified as Endangered, indicating that the remaining natural habitat comprise of less than or equal to the provincial biodiversity target for KZN.

Maputaland Pallid Sandy Bushveld - Gaugris *et al.* (2004), Moll (1978); Matthews *et al*. (2001); Scott-Shaw (2011a):

On ancient coastal dune cordons on gently undulating terrain. Open to closed evergreen woodland with canopy 5 to 10 m tall and bushlands.

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Maputaland Pallid Sandy Bushveld is classified as Least Threatened, indicating that the remaining habitat comprise of more than 60% of the original area of the ecosystem.

Maputaland Coastal Belt - Mucina and Rutherford (2006) page 576:

Flat coastal plain originally probably densely forested in places with a wide range of interspersed non-forest plant communities including dry grasslands (which include palm veld where special conditions prevail), hygrophilous grasslands and thicket groups. Today the vegetation landscape is composed of pockets of various forest types (separated into different vegetation units), thickets, primary and secondary grasslands, extensive timber plantations and cane fields. The belt of the Indian Ocean Coastal Belt immediately inland (only a few kilometres wide) and parallel to the line of the Northern Coastal Forest has a characteristic appearance of very irregular dunes with generally open vegetation and Syzygium cordatum dotted predominantly on the dunes , with many irregular dune slacks interspersed.

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Maputaland Coastal Belt is classified as Endangered, indicating that the remaining natural habitat comprise of less than or equal to the provincial biodiversity target for KZN.

Luquati Sand forest: Eastern Sand Forest - Matthews et al. (2001):

Dense thickets of 5-6 m ('short forest' of Matthews et al. (2001)) up to tall forests with the canopy reaching 15 m ('tall forest' of Matthews et al. (2001)), with well-developed

shrub layer and very poorly developed ground layer. The dominant trees are Cleistanthus schlechteri, Dialium schlechteri and emergent Newtonia hildebrandtii in Maputaland, whereas Baphia massaiensis subsp. obovata, Cleistanthus schlechteri and Guibourtia conjugata are most conspicuous in the tree layer in the Nwanbyia and Pumbe regions (in Mosambique). The shrub layer is dominated by Croton pseudopulchellus, Cola greenwayi, Pteleopsis myrtifolia, Psydrax locuples, Drypetes arguta and the woody climber Uvaria lucida. The most conspicuous graminoid in the herb layer is Eragrostis moggii. Epiphytic orchids and lichens festoon the tall trees.

In the KZN Veg map, these forest types are also attributed the same SANBI code.

- Licuati Sand Forests : Eastern Sand Forest
- Licuati Sand Forests : Western Sand Forest

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Luquati Sand Forest: Eastern Sand Forest is classified as Least Threatened, indicating that the remaining habitat comprise of more than 60% of the original area of the ecosystem.

Inland Saline Wetland: Subtropical Salt Pans - Mucina and Rutherford (2006) page 651:

Shallow depressions, often found on old alluvial terraces of rivers, surrounded by zones of bank reeds or low herblands and in more perennial pans also filled with a dense carpet of macrophytic floating vegetation.

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Inland Saline Wetland: Subtropical Wetland: Subtropical Salt Pans is classified as Least Threatened, indicating that the remaining habitat comprise of more than 60% of the original area of the ecosystem.

Freshwater Wetlands: Subtropical Freshwater - Mucina and Rutherford (2006)page 635:

Flat topography supporting low beds dominated by reeds, sedges and rushes, water logged meadows dominated by grasses. Found typically along edges of often seasonal pools in Aeolian depressions as well as fringing alluvial backwater pans or artificial dams.

Based on the KZN Vegetation targets for vegetation types (Jewitt, 2011) Freshwater Wetlands: Subtropical Freshwater Wetlands: is classified as Least Threatened, indicating that the remaining habitat comprise of more than 60% of the original area of the ecosystem.

This category is further subdivided into:

- Freshwater Wetlands: Subtropical Freshwater Wetlands: Tall Grassland/ Sedge/Reed Wetland
- Freshwater Wetlands: Subtropical Freshwater Wetlands: Short Grass/ Sedge Wetlands
- Freshwater Wetlands: Subtropical Freshwater Wetlands: Coastal Lakes and Pans

Sand Forest occurs in both South Africa and Mozambique, it is a very distinctive forest type with a unique combination of plant and animal taxa. This vegetation type is more or less restricted to ancient coastal dunes in northern KwaZulu-Natal and the extreme southern portion of Mozambique (Maputaland). Because of its restricted occurrence and unusual species complement, Sand Forest is one of the most important habitat types in the Maputaland Centre. It occurs in patches from False Bay in the south to just south of Maputo in Mozambique (Myre, 1964; De Moor, *et al.;* 1977; Moll, 1980; Moll & White, 1978; Goodman, 1990; Matthews, *et al.;* 1991, 2001; Everard, *et al.;* 1995; Lubbe, 1997; Kirkwood & Midgley, 1999; Siebert, *et al*.; 2002).

2.6.6. Fire regime

Fire is a key driver of ecological dynamics in southern African systems, which are largely driven by patterns of disturbance. Fire contributes to patterns of disturbance by removing the vegetative growth of plants, and in contrast to grazing it does this non-selectively, which reduces the competitive advantages of species adapted to grazing.

See also *Section 6.6.1 – Fire management*. According to the draft Fire Management Plan for Tembe Elephant Park (1999) the following objectives have been identified for fire management in Tembe Elephant Park:

- Maintain diversity of species and habitat
- Remove accumulated and/or moribund plant material
- Control of woody plant structure
- Control of bush encroachment and thickening
- Change grass species composition of old lands
- Protect sensitive features, infrastructure, and areas not due for burning
- Alien plant management
- Soil erosion control (Burning can assist by maintaining a vigorous grass sward with good basal cover)

The fire regime applied in Tembe is currently that of bi-annual and tri-annual burns, depending on the fuel load measured in that year, rainfall experience in the preceding season, as well as the management objectives for the TEP. Burning is ostensibly used in TEP to control bush encroachment, mostly in the woody grasslands in the centre, north and west of the park. Experimental burns will be undertaken in 2014 with the support of the "Working on Fire" program, which should assist in determine a more formal burning plan for TEP.

2.6.7. Invasive species

An invasive species means any species, in terms of section 70 of the National Environmental Management: Biodiversity Act (No. 10 of 2004), who's establishment and spread occurs outside of its natural distribution range. Alien plant species have been planted or have established themselves within the protected area over time. They can, to varying degrees, impact negatively on water production, the natural environment and biodiversity as well as the natural landscape character of the protected area. Their control and management is

considered a management priority. Wherever possible and appropriate these plants should be removed from the protected area.

An on-going time-bound programme to effectively control these alien weeds and invader plants within the protected area and 1km (buffer area) of the protected area boundary must be developed. State poverty relief programs such as 'Landcare', 'Working for Water', ''Working on Fire' and 'Working for Wetlands" should be used to full effect to complement the protected area budget for this management task.

Alien animal species can threaten the ecological, genetic or natural aesthetic integrity of the protected area and can be vectors for the spread of diseases. Their control and management are considered a management priority. Wherever possible and appropriate these animals must be removed from the protected area. The most important alien and invasive species currently that needs to be controlled is the

Alien animals that are present and are a threat / potential threat to the ecological processes / tourism experience in the protected area will be dealt with as necessary according to a control program.

Prior to 2012 control efforts at Tembe Elephant Park were focussed on *Chromoleana Odorara* (Triffid weed), *Caesalpinia decapatalaata (Mauritius thorn),* Opuntia ficus-indica (Sweet prickly pear), *Opuntia sp*., *Melia azadarach (*Syringa*) and Ricinus communis* (castor oil plant). In 2010 *Parthenium hysterophus* (Parthenium) and *Flaveria bidentis* (Smelter's bush) were included in the clearing operations. These species are all potential threats and may be found in the protected area sporadically.

2.6.8. Mammalian fauna

Relatively large and safe breeding populations of Elephant (Loxodonta africana africana), Suni (Neotragus moschatus zuluensis), Greater Kudu (Tragelaphus strepsiceros strepsiceros), Nyala (*Tragelaphus angasii*) and Impala (*Aepyceros melampus melampus*) are present at TEP.

Leopard (*Panthera pardus melanotica*), Hippopotamus (*Hippopotamus amphibius*) and White Rhinoceros (Ceratotherium simum simum) are present while TEP is also home to the following Red Data Book mammals:

- Four-toed Elephant Shrew (*Petrodomus tetradactylus warreni*) - Endangered
- Tonga Red Squirrel (*Paraxerus palliatus tongensis*) - Endangered
- Yellow Golden Mole (*Calcochloris obtusirostris chrysillis*) - Vunerable
- Suni (*Neotragus moschatus zuluensis*) - Vulnerable
- Samango monkey (*Ceropithecus mitis*) - Vunerable
- Black Rhinoceros (*Diceros bicornis minor*) - Vunerable
- Lion (*Panthera leo leo*) - Vunerable

Eland (*Tragelaphus oryx oryx)* were introduced to TEP after proclamation but the area is marginal in terms of their natural distribution and would appear to be unsuitable to sustain them – by 2004, the last remaining Eland had died.

Altogether the TEP checklist of mammals notes that only 27 mammal species have been recorded against the Ezemvelo Biodiversity Database. This is incomplete. The small mammals especially are not well recorded. It is important that the necessary surveys be initiated to confirm the presence and status of the large and small mammals present in the Park

Table 3 below *shows Game Estimates from 1993 to 2013 for TEP*. Four methods were used to estimate population numbers. These were (i) total area aerial counts; (ii) transect distance sampling counts; (iii) population estimates based on the numbers in known groups for black and white rhino, lion and elephant; (iv) breeding group figures based on ground elephant survey program.

Table 3: Tembe Elephant Park annual game estimates 1993 – 2013

Species	Aerial Census - 1993	Aerial Census - 1994	Aerial Census - 2000	Aerial Census - 2002	Aerial Census – 2003	Aerial Census– 2004	Aerial Census – 2005	Aerial Census – 2006	Aerial Census – 2007	Aerial Census – 2009	Aerial Census – 2010	Aerial Census – 2011	Aerial Census – 2012	Census Estimate - 2013
	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted	No. Counted
Black rhino														
Buffalo	-	1	19	66	83	94	98	101	108	95	99	120	121	127
Bushbuck	-	-	5	2	11	3	8	4	10	5	4	-	5	-
Bushpig	26	6	-	6	6	-	-	2	-	-	4	-		-
C Reedbuck	118	250	272	269	454	158	216	197	293	185	81	35	194	106
Eland	32	45	28	15	5	-	-	-	-	-	-	-		
Elephant	54	71	65	118	63	137	139	125	155	125	158	94	136	220
Giraffe	38	34	86	120	116	127	131	138	124	124	116	54	135	77
Grey Duiker	26	55	27	35	102	20	27	51	60	21	51	5	32	-
Hippo	7	10	14	14	10	10	20	14	11	3	12	7	13	-
Impala	69	127	130	263	460	323	370	369	668	460	939	238	1104	1430
Kudu	27	7	106	231	376	202	334	389	540	343	311	80	467	345
Leopard								2			2	-		-
Lion	-	-	4	*4*	7	7	13	16	16	41	37	38	39	44
Nyala	45	86	62	161	584	535	958	746	1686	1353	2912	564	1961	4091
Porqupine	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Red Duiker	54	118	24	30	191	99	122	86	97	34	95	32	78	-
Side st jackal	-	1	2	-	1	-	-	-	1	1	-	-	-	-
Steenbuck				4	2	-	2	1	-	1	-	-		-
Suni	2	12	2	2	23	15	8	2	6	5	8	1	2	-
Warthog	7	26	83	105	108	171	156	83	130	64	58	17	55	36
Waterbuck	58	28	91	158	195	232	262	295	318	213	244	59	364	163
Wild dog											13	10	9	8
White rhino														
Wildebeest	19	16	119	189	234	407	434	386	387	221	340	55	415	307
Zebra	51	51	160	132	170	208	133	140	186	107	85	22	120	48

2.6.9. Avifauna

Tembe Elephant Park is well known for its abundant bird life and diversity of species. Significant numbers of several internationally important species occur here, including many that are Red Data Book species (van Rensberg, 1998).

A total of 356 bird species have been recorded for TEP. Of these, 19 species are associated with Sand Forest. Of all the species recorded, 30 are included in the South African Red Data Book (Brooke, 1984). All five Maputaland endemics have been recorded for TEP. The Ezemvelo KZN Wildlife Biodiversity Database Bird checklist for TEP, however needs updating.

van Rensberg (1998), has shown that the avifauna of sand forest (based on work in TEP) in the Maputaland Centre has its closest affinities with afromontane forest, and that species considered geographically rare in South Africa may achieve relative high abundances in these habitats and within a given habitat there may be significant spatial heterogeneity in the avian assemblage.

TEP has not been designated internationally as an Important Bird Area by Birdlife International, but does meet the criteria. Numbers of bird species recorded in the Park meet the following IBA criteria, which should result in the Park acquiring this status:

Criteria A1 - Globally Threatened;

Criteria A2 - Restricted-range; and / or

Criteria A3 - Biome-restricted.

TEP furthermore falls within the Birdlife International South-east African Coast Important Bird Area (092).

2.6.10. Herpetofauna (reptiles and amphibians)

Reptiles and amphibians form an important part of the ecosystem and certain species serve as bio-indicators due to their sensitivity to environmental factors. Much remains to be discovered about the reptile and amphibian species complement of the area, their life histories, inter-relationships and contributions to the functioning of its ecosystems.

The presence / absence of certain amphibian and reptile species is often indicative of the state of health of an ecosystem.

Thus far, 40 indigenous frog and toad species have been recorded from TEP and are recorded on the Ezemvelo Biodiversity Database. Of these, ten are endemics restricted to KZN and one frog species is a SA endemic and a near KZN endemic.

55 indigenous reptile (lizards, snakes and tortoises / terrapin) species have been recorded from TEP and are recorded on the Ezemvelo Biodiversity Database. Of these, 15 are endemics restricted to KZN and one snake species is a SA endemic and a near KZN endemic. Three Red Data Book snakes (categorised as Peripheral and Rare) have also been recorded at TEP.

The above include Crocodiles (*Crocodylus niloticus*) which are restricted mostly to the open water areas of the Muzi Swamp in TEP.

See Appendix G – Species List for TEP.

2.6.11. Invertebrates[2]

Invertebrate fauna constitutes the greatest component of species diversity in natural systems but it is often poorly understood while their role in ecosystems is important and often overlooked. In terms of biodiversity and the provision of ecosystem services however, it is important to acknowledge that they are fundamentally important. Invertebrates form important components of food webs, assist nutrient cycling and aeration of soil, decomposition and pollination of plants and trees. For many of these invertebrate species habitat conservation is the most important management intervention required with habitat loss being the biggest threat to their survival.

2.7. Cultural context of Tembe Elephant Park[3]

The greater Maputaland is endowed with heritage sites of various traditions and periods spanning the Stone Ages, Iron Ages and the historical period. However, the majority of these occur to the west of the Phongolo River in the foothills of the Lebombo Mountains. A second large concentration occurs adjacent to and on the dune cordon along the coastline.

Tembe Elephant Park is situated for the most part on the coastal plain. This area, by contrast to the rest of Maputaland, is devoid of known archaeological sites. Oliver Davies, an archaeologist who conducted pioneer research and surveys in northern KwaZulu Natal in the 1960's and 1970's, commented that the coastal plain was unpromising for archaeological research due to its being covered by superficial sands and bush coverage which affect preservation and visibility (Avery, 1980). The provincial heritage data base of the Natal Museum lists only two sites occurring in the southernmost section of TEP. These include an open air Early Stone Age site and an Early Iron Age site. Based on typological criteria it can be speculated that the Early Stone Age site most probably dates back to between 300 000 and 1.7 million years ago. Some of the stone tools have been identified as belonging to the Acheulian tradition and it is therefore possible that this site was occupied by an early hominin such as *Homo erectus* or *Homo ergaster*. The Early Iron Age site contains ceramic fragments identified as belonging to the Matola phase. The Matola phase sites can be identified with the very first Bantu-speaking agriculturists that entered KwaZulu-Natal approximately 1 600 years ago from Eastern Africa (Maggs, 1989). Although oral history indicate that the area was occupied in more recent centuries times by the Tembe-Thonga or their immediate ancestors archaeological sites belonging to this period have not yet been identified. Nevertheless the present African inhabitants of the area, the

[3] Compiled by Frans Prins, Cultural Heritage Specialist (2009)

Tembe-Thonga, have a rich oral history and culture relating to their intimate relationship with the environment spanning many centuries. Aspects of their cultural heritage identified by community representatives as being important include the following:

- Relationship of the local community with the physical environment
- Traditional fishing practises (isifonyo basket fishing)
- The amaNdawo spirit possession cult
- Wild fruit utilisation
- The significance of the mother's brother in Tembe-Thonga social organisation
- Settlement rules and history
- Thonga language
- Issues relating to cross border identities
- Trade across the border
- History of various traditional authorities in the area
- Occupation of some areas by refugees of the Zulu wars

Influence on local customs by refugees of the Mozambican War of 1975-1990

During the colonial period the area was frequented by hunters, traders, and later missionaries (Bruton, *et al.;* 1980). However, sites and structures associated with these activities need to be identified and placed in an inventory. Likewise during the more recent past many refugees of Mozambique crossed the international border and settled in the area (Kloppers, 2004). Sites belonging to this more recent "struggle era history" are also protected by national heritage legislation and needs to be surveyed and placed in an inventory.

The conventional view is that the historical occupants of the Tembe Elephant Park, the Tembe-Thonga, migrated from Karanga in the present day Zimbabwe in the middle of the seventeenth century Junod (1962). However, the theory that the African societies of south-east Africa migrated there in fixed ethnic units, as in the case of the Tembe-Thonga, has been questioned by archaeological research and recent research on oral traditions of Zululand and Natal (Maggs, 1989). Instead of migrating there in fixed ethnic groups, it is now argued that the African societies of south-east Africa emerged locally from long established communities of diverse origins and diverse cultures and languages. Nevertheless, whether the Tembe came from Karanga to establish their authority over the people of south-east Africa, or whether they emerged locally, reports from Portuguese sailors indicate that a Chief Tembe was in control of the ruling chiefdom in the Delagoa Bay hinterland in the mid-1600s (Wright & C. Hamilton, 1989 and Kuper, 1997).

Tembe and his followers gradually established their authority over the people who lived in this hinterland including the area covered by the present TEP. Due to the abilities of their strong and charismatic leaders, the Tembe-Thonga remained a unified chiefdom and gradually extended their influence. This unity was upset in the middle of the eighteenth century when a split in the ruling lineage led to the fragmentation of the chiefdom. The division came after the death of Silamboya in 1746. The descendants of Silamboya's oldest son, Muhali, settled west of the Maputo River and north of the Usuthu River. This group,

the senior branch of the Tembe-Thonga, became known as the Mututwen-Tembe. The other part of the Tembe-Thonga followed Mangobe, a junior son of Silamboya and settled east of the Maputo River. This branch would later become known as the Mabudu or Maputo (Bryant, 1965). The imposed international border of 1875 bisected the area where the Mabudu branch settled. Being unable to control the vast area under his control, the chief of the junior branch, Mangobe, placed his sons in strategic positions so as to ensure his control. When Mangobe died, his first son, Nkupo, was named chief. However, his younger son, Mabudu, soon established himself as the stronger leader and took the chieftainship from his older brother (Hedges, 1978). With the army now at his disposal Mabudu was able to dominate all trade between Europeans who landed at Delagoa Bay and local people living in the hinterland. Through this domination the Mabudu became, by the middle of the eighteenth century, the strongest political and economic unit in south-east Africa (Smith, 1972). The people under his authority, which gradually increased, became known as the abakwaMabudu or the people of Mabudu's land (Webb and Wright, 1979). By the early 1800s the Mabudu chiefdom stretched from the Maputo River in the west to the Indian Ocean in the east, and from Delagoa (Maputo) Bay in the north to as far south as Lake St. Lucia (Felgate, 1982). This extensive area included the present-day Tembe Elephant Park.

During the early 1800s, similar processes of political centralisation were taking place amongst the Mthetwa, Ndwandwe and later the Zulu chiefdoms to the immediate south of the TEP. The Zulu eventually defeated the other groups and established themselves as the dominant power in south-east Africa (Wright & Hamilton, 1989 and Laband, 1995). The Mabudu were never attacked by, nor directly involved in any war with the Zulu. They were, however indirectly affected by wars of conquest the Zulu waged in the northern part of Zululand in the first half of the nineteenth century (Omer-Cooper, 1975). Various groups of refugees passed through the Mabudu chiefdom during the reign of Shaka. Many of them settled among the Mabudu. The people who crossed the southern boundary of the Mabudu chiefdom brought with them languages and customs foreign to the Mabudu. Over time, Mabudu identity became less distinctive as people adopted many customs of those living south of them (Bryant, 1965). As more and more people from the southern chiefdoms crossed into the Mabudu chiefdom, an increasing amount of prestige was attached to being Zulu and speaking isiZulu, since the Zulu were the dominant political force. The Zulu cultural influence in the greater Tembe Elephant Park region was however not complete. People who fled the onslaught of the Zulu only stayed in the area for a short period before they moved on, largely due to the ecology of the region which makes it unsuitable to keep cattle (Felgate, 1982). Furthermore, in exchange for tribute paid, the Zulu recognised the Mabudu as leaders of a vast territory. This, to an extent, secured their sovereignty (Bradley, 1974). The relationship between the Mabudu and the Zulu differed markedly from that which the Zulu instituted with other chiefdoms. Ballard (1978), states that although the Mabudu 'paid tribute to the Zulu kings and co-operated on a military and economic level, they enjoyed much greater independence than the chiefdoms south of St. Lucia. Despite the Zulu influence, Maputaland, and by implication the larger TEP area, remained politically and culturally distinct from areas to the north, south and west. The people of the area spoke a unified language – xiRonga (Thonga). With some exceptions, notably the Ngubane and Khumalo, they accepted the rule of Mabudu chiefs (Felgate, 1982). They practiced customs that were unique to the area and differed from those of their Zulu, Swazi and Tsonga neighbours (Webster, 1991).

2.8. Socio-economic context

uMkhanyakude District Municipality:[4]

The uMkhanyakude District Municipality located in the far Northern region of the KwaZulu-Natal is the 2nd largest district in the province. The 2012/2013 Integrated Development Plan indicates that a key function of the District and Local municipality is the promotion of tourism. TEP hase been identified as a key conservation area in the district. The STATSA 2011 Cencus indicates that the population for the district is made up of 128 195 households and 625 846 people with 33 857 households and 156 736 people in the Umhlabuyalingana Local Municipality. The unemployment rate is estimated at 43% of the total population and the district is poverty stricken. A significant portion of the land in uMkhanyakude is under the Ingonyama Trust.

The Swot analysis for the various local municipalities indicates as one of the Umhlabuyalingana's strenths the biodiversity that inhabits an ecosystem landscape that has retained ecological functionality. This is countered by poverty and a high dependance on natural resources. The opportunity for eco-tourism and the incorporation of the local community as custodians and beneficiaries of conservation and eco-tourism was highlighted in the analysis.

The district is also challenged in terms opf water availability and therefore water mangement and water conservation remains crucial.

The 2013/2014 umKhanyakude District Municipality IDP states the following:

Unemployment, inequality and poverty remain the major economic challenges in the District. The close link between these three social ills means that interventions from Government and other developmental partners should directly and indirectly tackle these issues.

Tourism is seen as one of the contributing solutions for these challenges and is seen as the most important growth sector in the district's economy.

- The following strategies has been adopted for biodiversity in the district:
- Ongoing development of alien invasive plant control programmes.
- Campaigns aimed at minimising biodiversity loss outside protected areas.
- Regular workshops with traditional healers and AmaKhosi.
- Co-operative governance around land ownership in order to monitor development.
- Invest in better agricultural education and land care programmes, so that the local communities are able to better understand the land and how best to utilise it.

The majority of the population surrounding TEP are poor rural and previously disadvantaged South African communities. Subsistence agriculture is the main land use in this area and the production of Ilala Palm wine and the selling of Ilala Palm fronds as well as the harvesting of reeds and medicinal plants has become commercially significant. Extensive exotic

[4] Adapted from the umKhanyakude District Municipality 2013/2014 IDP
and umHlabuyalingana Municipality IDP 2011 -2016

plantations (*Eucalyptus* plantations) has emerged as a significant economic value to the communities, with extensive natural areas being planted under Eucalypts.

The local communities also rely on the government Expanded Public Works Programme such as the Elephant Coast TFCA Infrastructure Project (or Ndumo-Tembe-Futi TFCA Poverty Relief Project) which is funded by Department of Agriculture and Environmental Affairs and implemented by Ezemvelo. The project implementation area forms part of the umKhanyakude District Municipality, which is sometimes referred to as the Elephant Coast or Maputaland.

TEP is situated on the international border between South Africa and Mozambique. In the surrounding community area, immigrants often cross the international border illegally. TEP is seldom traversed by these individuals because of the high level of law enforcement vigilance maintained within the park. Presently, there is a significant amount of legal and illegal cross-border trade in the area.

TEP contributes to the Local Economic Development through being an important big five tourist destination in the area, providing employment opportunities and providing controlled resource utilisation opportunities (e.g. venison, reeds and certain other natural products which are often over-exploited outside of the Park). Ecotourism ventures and the hospitality trade in the area also support the local economy significantly.

The most prominent economic activity in the areas within the umHlabuyalingana Local Municipality is the market of selling Ilala Palm leaves and Ilala Palm wine. umHlabuyalingana local municipality has initiated Wall-to-Wall Land use Management Scheme to ensure that the current and future land use practices are guided by an effective land use management system.

umHlabuyalingana Local Municipality developed and approved a Tourism Development Plan for the tourisms areas under the municipality authority. The Tembe Elephant Park is ranked in number 3 of the tourist attraction, with an 11% tour operation business. Most of the tour business operations are from overseas. Tembe Elephant Park is regarded as an important big five tourist destination.

2.9. Operational management within Tembe Elephant Park

2.9.1. Infrastructure

It is imperative that the necessary appropriate standard of infrastructure be developed and maintained to support the effective management of TEP and promote eco-cultural tourism to the Park. Future development plans will be detailed in the TEP Concept Development Plan.

Table 4: Tembe Elephant Park infrastructure

Eco-cultural Tourism Infrastructure	
Main Entrance Gate area	Stone and thatch entrance gate building.
	Brick and thatch reception.
	Brick and thatch ablution block for visitors.
	Pump house with 6 x 10 000l tanks.
	Community curio shop.
Tembe Safari camp – Operated by concessionaire	Camp reception and kitchen area.
	Communal dining and recreational area building.
	10 accommodation tented units.
	1 x storeroom.
	3 x Concessionaire staff accommodation units.
	Computer room.
	3 x communal ablution blocks.
	Swimming pool.
	Dining area (built on a deck with a thatched roof).
	Lapa area (not built).
Picnic Sites and Hides	Manungu picnic site (With public toilet – enviro loo).
	Mathunjana picnic site (no toilet).
	Mahlasela hide (Flush toilet and water tank).
	Ponweni Hide (Flush toilet and pump house).
	Viewing Tower (also main water tanks).
Management Infrastructure	
Tembe Main Office Complex – at Sihangwane	Reception office, Conservation Management Specialist office, walk-in strong room, staff toilet, Admin office, APU store room and Telkom / Archive room.
	Conference facility with male and female ablutions, kitchen and store room.
	Research office (4 rooms / offices), Section ranger office and District Ecologist office.
	Inspection quarters consisting of three 2 – bed reed and thatch rondavels, communal kitchen and ablution block.
	Helipad in front of office (Internal use only).
	5 Tembe Safaris visitor carports behind conference room.

Workshop and Stores – at Sihangwane	Main workshop with vehicle, electrical, fencing and chainsaw stores.
	Building with plumbing and chemical stores.
	Building with building, tool and meat processing rooms as well as freezer room.
	Oil store and tent store.
	Abattoir with cold room.
	Gas store.
	Fenced rubbish area
	4 x 2200l diesel tanks on stands
	Petrol pump and underground tank (13 500 l).
	4 x Diesel tanks (2 200 l) on stands situated opposite the Workshop building.
	8 x Asbestos car ports.
	2 x Brick and asbestos garages / car ports.
	Oil drum store.
	Store for animal by-products.
	Loading ramp/ inspection bay.
Muzi management node	4 x Pre-fabricated accommodation units occupied by SAPS members with communal ablution block, mobile kitchen and lapa.
	Generator room with 2 generators
	Old jail complex (interpretation centre, TV room, section ranger office)
	Water Reservoir Soccer field
	Conference centre with toilet and 2 offices
	Workshop
	1 x 2 bed accommodation unit – Sergeant house
	2 x 5 room accommodation units with communal ablutions and scullery
	1 x 3 bed room house – section ranger north
	3 carports
	4 x 2 bed brick and tile rondawels (inspection quarters) with communal kitchen, toilet and shower.

Air Strip – at KwaMsomi (For internal use only).	
Shooting range - SABS approved	
Research camp	5 x wooden huts.
	1 x 3 cement room accommodation unit.
	3 carports.
	Computer room.
	Communal lounge, kitchen and ablution block.
	Wooden hut with 3 toilets.
	1 x 2-bedroom house, carport – Wildlife ACT monitor / EcoAdvice.
Staff Housing and Accommodation at Sihangwane	38 x Staff accommodation units.
	4 x Communal ablution units for staff.
	6 x Management accommodation units.
	1 x 2-bedroom facebrick house – Sergeant.
	1 x 3-bedroomed facebrick house, carport, wooden shed – EcoAdvice District Ecologist.
	1 x 3-bedroomed facebrick house, carport – EcoAdvice Ecologist.
	1 x 2-bedroomed brick house, carport – EcoAdvice Technician.
	1 x Generator room.
	1 x Laundry.
Field Ranger Outposts	Kwamsomi with borehole.
	Nungwe with borehole.
	Ponweni with borehole
	Sinzengwane with borehole
	Mbangweni with borehole
	Mathunjana
	Zeni boreholes & pumphouse
Repeater Manungu	
Bulk Infrastructure	
Park roads (all gravel /sand roads) – sand, west & east swamp roads, main roads around offices & houses hardened with calcrete.	Management roads and tracks including public (237 km)

No waste management sites exist. Solid waste is collected and removed to the municipal dump at KwaNgwanase.	
Conservation Infrastructure	
Other conservation infrastructure outside the development nodes	The perimeter boundary fences total length is approximately 85 Km. The existing boundary fence is 2.4 m high (bonnox with razor / barbwire on top) with a 6 strand electric fence approximately 3 m away from main fence (1,6m high).
	Internal fencing exists around staff accommodation and tourist facility.
	An elephant exclosure fence exists in the west and is 8 km in length and consists of a 3 strand electric fence approximately 2,1m high.
Infrastructure Owned / Maintained by outside Organisations	Telephone lines are maintained by Telkom and the electricity lines maintained by Eskom.
	Tembe Safari Lodge maintenance is the responsibility of the concessionaire.
	A radio repeater site at Manungu beacon is maintained by Ezemvelo, SANDF and SAPS.

2.9.2. Staffing establishment

Carbutt & Goodman (2010) indicated that Tembe Elephant Park (30 013 hectare) employ 52 permanent staff members (0.0017/ha) and at that stage employed 300 person days of contract staff per annum. Ithala Game Reserve, which is of similar size (29 653 hectare) employ 116 permanent staff (0.0039/ha) and 4 592 person days of contract staff per annum. TEP does not have sufficient staff for the size and complexity of the protected area; this is exacerbated by the fact that TEP staff are also responsible for certain functions at the nearby Sileza TEP.

The existing human resource structure and capacity is insufficient to fully meet TEP Management Objectives. The following key areas of concern in particular are emphasised:

- Provision of staff to ensure safe and secure environment for staff, visitors, researchers, community members, contractors, etc.
- Effective conservation management and sustainable use of the biodiversity.
- Stakeholder liaison and advisory services, particularly within the TFCA.
- Environmental education and awareness programmes.
- Insufficient research and monitoring.
- Inadequate administrative support staff.

In order to effectively address the full spectrum of TEP management functions it is imperative that the human resource needs are fully investigated with a view developing a new and effective human resource structure for TEP.

2.9.3. Funding levels at Tembe Elephant Park

Certain functions of the protected area such as environmental education and awareness and lion monitoring is funded by external partners (TUT and Wildlife Act). Carbutt & Goodman (2010) indicated that Tembe Elephant Park had an operational budget of R 30.67/ha compared to Ithala Game Reserve that have an operational budget of R 52.94/ha. The respective total budgets in 2010 were R 64.76/hectare for Ithala Game Reserve and R 68.12/ha for Tembe Elephant Park, an indication that TEP is underfunded in terms of their operational funds, the nearby Sileza NR is also funded from the TEP operational budget.

Funding – Eco-Advice unit:

- Eco Advice support of monitoring programmes in Tembe Elephant Park:
- Lion and Wild dog – undertaken by Wildlife Act and subsidised by Eco-Advice.
- Elephant Monitoring – All cost covered by Eco-Advice.
- Dartmouth University – Funding received from joint projects with these students (annually).
- Research projects externally funded – no cost to company.

2.9.4. Management effectiveness in Tembe Elephant Park

As with all Ezemvelo protected areas, the intention is to continually improve management effectiveness of TEP in line with the levels adopted for all protected areas within the KZN protected area network. In 2010 Ezemvelo KZN Wildlife conducted management effectiveness assessments for all of its protected areas (Carbutt and Goodman, 2010) and these assessments have subsequently been done on an annual basis. Management effectiveness assessments consider protected area design, the appropriateness of management systems and processes, and delivery of protected area objectives. These assessments assist with the following:

- Promote adaptive management
- Improve project planning
- Promote accountability

Such assessments are intended to enable conservation organisations to refine their conservation strategies, re-allocate budget expenditures, and develop strategic, system-wide responses to the most pervasive threats and management weaknesses (Carbutt and Goodman, 2010). They are not performance assessments of individuals but serve to reflect an organisation's proficiency for protected area management as a whole.

During the 2010 assessment the following Pressures and Threats have been identified:

<u>Pressures</u>:

- Climate change (droughts, flooding, habitat alteration);
- Bush encroachment;
- Disease;

- Erosion (impacts by vehicles in the wet on the west and east swamp roads);
- PA isolation (no formal buffer zone establishment process);
- Transportation and service corridors;
- Alien plants.
- Unsustainable & targeted poaching (elephant & rhino)
- Unsustainable natural resource harvesting

Threats:

- Climate change (droughts, flooding, habitat alteration);
- Poaching;
- Bush encroachment;
- Alien plants & animals;
- Disease;
- Erosion (impacts by vehicles in the wet on the west and east swamp roads);
- Land invasion and disturbance;
- Alien plants;
- Water abstraction from boreholes and extensive woodlots;
- Transportation and service corridors;
- unsustainable tourism;
- Unsustainable and targeted poaching (elephant and rhino).

The following issues have been raised during the 2012/2013 Management Effectiveness assessment for Tembe Elephant Park:

- The protected area is only partially buffered.
- Municipal IDPs have not taken the relevant aspects of the MP into account.
- Adjacent land-use planning does not take into account the objectives of the PA, to the PA's detriment.
- Adjacent water-use planning does not take into account the objectives of the PA, to the PA's detriment.

The overall score for Tembe Elephant Park for the 2012/2013 assessment was 74.52% which is above the national minimum requirement of 67%. The national minimum standard was set by National DEA and was communicated via Working Group 1. This standard is based on a publication by Leverington *et al*. (2008).

2.10. Summary of management issues, challenges and opportunities

Table 5: Management challenges and issues

Key performance area	Issue that must be addressed
Legal compliance and law	▪ Poaching and illegal resource use

enforcement	▪ Cross border issues including law enforcement and immigration
	▪ Crime in region (Contraband, illegal immigrants, hijackings outside the Park)
Stakeholder engagement	▪ Recruitment from the local communities who have the local knowledge and distribution of those job opportunities between the different community groups.
	▪ Training and capacitating local communities
	▪ Poor relationships with local communities
	▪ Lack of clarity of the roles and functions of government structures (Ingonyama Trust, isiVuno etc.)
Buffer zone protection and regional management	▪ Inappropriate land use in areas surrounding the protected area which includes potential pressures from fracking, Eskom power lines and other inappropriate developments.
	▪ TFCA – expansion opportunities (Links with other Protected Areas)
	▪ Park expansion opportunities (partnership with communities) (Also outside of TFCA)
	▪ Potential threats to the sense of place / wildness from inappropriate development encroaching on the park.
	▪ There is currently a strong Tembe brand and this should be maintained through partnerships and marketing efforts.
	▪ Relative small size of the park.
Eco-cultural tourism development	▪ Cross border issues in terms of access and eco-cultural tourism
	▪ Environmental education and awareness opportunities in terms of the roll-out of the TUT programme in Tembe.
	▪ In developing the eco-cultural tourism potential of TEP, care should be taken not to lose the wilderness experience / non-commercial character of the park in the process.
	▪ Capitalise on the well-established tourist route by linking eco-cultural tourism initiatives in the park with regional tourism initiatives.
	▪ Care should be taken not to detract from the visitor experience by having too many people / vehicles in the park.
Conservation management	▪ Human/Wildlife conflict
	▪ Water poor area (this includes problems with potable water). This could be addressed through potential park expansion to the west to the Pongolo River and floodplains; this would include some of the biggest pans on the Futi.
	▪ Fire management – arson fires and controlled fires
	▪ Management of important species including Elephant, Suni, Lions and Rhino.
	▪ Diseases of game and domestic animals
	▪ Redline is a threat to expansion (threat to southern expansion). TEP is in a surveillance zone for Foot and Mouth disease.
Operational management	▪ Opportunity for revival of historical and cultural bonds across the border
	▪ Protection of all cultural heritage sites including living heritage values.
	▪ Lack of human resources
	▪ Limited financial resources

	▪ Maintenance of both tourism and management infrastructure

3. STRATEGIC MANAGEMENT FRAMEWORK

In an effort to ensure that Tembe Elephant Park is effectively managed, the following strategic framework has been developed. It is aimed at providing the strategic basis for the protection, development and operation of the TEP over the next five years and has been prepared collaboratively through a process involving stakeholders within Ezemvelo KZN Wildlife, the communities around the TEP, local and provincial government departments and other stakeholders.

The vision describes the overall long-term goal for the operation, protection and development of Tembe Elephant Park. The objectives and strategic outcomes that follow are intended to provide the basis for the achievement of the vision. The objectives provide a broad description of the goals for each key performance area. The strategic outcomes, which flow from the objectives, set out what is needed to achieve the objectives, based on the management challenges, issues and opportunities described in Section 2 above. In achieving the management objectives and vision of Tembe Elephant Park the park is also contributing to the achievement of the Combined Lubombo Conservancy - Goba and Usuthu -Tembe - Futi Trans Frontier Conservation Area objectives.

3.1. Tembe Elephant Park vision

To provide sustainable benefits to the Tembe people through the conservation, maintenance and wise use of the biodiversity of Tembe Elephant Park

This vision will be achieved through sustainable eco-tourism, environmental awareness, partnerships, maintaining ecological integrity, cultural assets and biodiversity assets such as sand forests etc.

3.2. Objectives and strategic outcomes

An objective has been identified for each of Tembe Elephant Park key performance areas, which follow from the management challenges, issues and opportunities, and relate to the important functions and activities necessary to protect, develop and manage it effectively. The objectives have then been translated into strategic outcomes, which form the basis for the management activities and targets set out in the operational management framework, described in Section 6 below. Table 6 sets out the key performance areas, the objective for each key performance area and the strategic outcomes, required to realise the objectives.

Table 6: Objectives and strategic outcomes for Tembe Elephant Park

Key performance area	Objective	Strategic outcome
Legal compliance and law enforcement	Comply with and enforce legislation pertaining to the protection, development and management of TEP.	▪ Assess and update where necessary the status of all legal documents, MoU's, MOA's, lease agreements and other agreements. ▪ Assess and update where necessary the status of all operational agreements. ▪ Ensure that there is adequate law enforcement within the TEP. ▪ Implement the outcome of the land claim settlement process, the settlement agreement and co-management agreement. ▪ Maintain cross border security through regular engagement with security stakeholders.
Stakeholder engagement	Enable and maintain effective stakeholder relations, provide socio-economic benefits (benefit flow) to the Park's neighbours, contribute to the local economy and the efforts of conservation in a sustainable manner based on sound business principles.	▪ Constructive community involvement in the TEP's management through an effectively functioning liaison forum. ▪ Promote an understanding of the TEP values, importance and ecosystem goods and services. ▪ Keep the Tembe Community safe from elephants and lions (TEP was proclaimed to keep people safe from elephants). ▪ Ensure participation of members of the Tembe people and stakeholders through integrated, shared, co-operative working relationships. ▪ Provide economic (financial and other) benefits to the Tembe people from sustainable resource (consumptive and non-consumptive) use in TEP, including promotion of eco-cultural tourism. ▪ Co-operative partnerships in development and conservation programmes so as to maximise funding opportunities from commercial stakeholders will be pursued. ▪ Ensure effective communication and collaboration between relevant government departments and structures.

Key performance area	Objective	Strategic outcome
Buffer zone protection and regional management	Protect the biodiversity and cultural assets of TEP by promoting compatible land-use and activities in areas surrounding the Park, formation of functional partnerships to integrate the TEP with regional development plans and the TFCA initiatives, and other initiatives which underwrite the vision of TEP.	▪ Determination of the buffer zone requirements around the Tembe Elephant Park. ▪ Play an anchor role in local, regional, national and international development initiatives through joint management agreements so as to promote the formation of a consolidated conservation area. ▪ Facilitate the expansion of the reserve through the incorporation of key areas around TEP. ▪ Capture the buffer zone considerations in municipal IDP's and SDF's. ▪ Participate as a Key-stakeholder in planning initiatives that specifically refer to the promotion of overall Protected Area objectives; specifically the following : ▪ TFCA ▪ Local Government IDPs ▪ Private and Communal initiatives
Eco-cultural tourism	Maintain sustainable eco-cultural tourism in TEP to provide a high quality visitor experience whilst promoting the natural and cultural values of the reserve.	▪ Preparation and implementation of a concept development plan outlining the tourism products and facilities that will be developed for the TEP. ▪ Provide a better ecotourism experience by capitalizing on the unique biodiversity assets such as sand forest, elephants, wildness and birds. ▪ Maximize the quality of staff tourist interactions.
Cultural heritage management	Ensure the protection and public appreciation of all cultural and heritage resources within the Park in accordance with statutory regulations.	▪ Safeguard the cultural, historical, archaeological, palaeontological and living heritage of the area. ▪ Minimize threats to the sense of place (by retaining the wild aesthetic "original character" value of the area (natural impairments including visual and auditory). ▪ Foster, support, guide and facilitate shared cultural programmes with the Tembe people. ▪ Facilitate access to cultural heritage sites (graves, archaeological sites, sites of special activities) by the Tembe people.

Key performance area	Objective	Strategic outcome
Conservation management	Protect the ecological integrity, key biodiversity features, biophysical processes, landscapes and abiotic features of TEP through active interventions based on principles of adaptive management.	▪ Development of a comprehensive fire management plan for TEP. ▪ Ensure adequate fire safety within the TEP. ▪ Develop and implement on-going time-bound program to effectively control declared alien plants, alien weeds and invader plants (especially Parthenium & Flaveria) within the protected area and 1 km (buffer area) of the protected area boundary. ▪ Implementation of procedures to identify, rehabilitate and manage areas that have been significantly impacted by accelerated soil erosion. ▪ Implementation of procedures to manage alien animals found within the TEP. ▪ Ensure that when extractive resource use is undertaken, it is done legally, is sustainable and conforms to Ezemvelo KZN Wildlife Norms and Standards. ▪ Ensure that if bioprospecting is undertaken, it is done legally and conforms to national legislation (NEMBA Act No 10 of 2004 Chapter 6). ▪ Conservation of Elements of Maputaland Centre of Plant Endemism (Global relevance) including Sand Forest as a unique and important habitat type. ▪ Conservation of one of only three original elephant populations in South Africa. ▪ Conservation of Suni (A Red Data Book species of regional importance and one reason for TEP proclamation). ▪ To protect endangered, rare and endemic species indigenous to the area as listed (key biodiversity elements as identified by C-Plan and the IUCN Red Data List etc). ▪ Conserve refugia for specifically named community assemblages not of specified conservation concern in Tembe as per set targets. ▪ Foster, support, guide and facilitate shared biodiversity programmes with the Tembe people.
Operational management	Provide adequate human resources, equipment, infrastructure and funding to	▪ Development of a five-year business plan that identifies the resource needs to achieve the objectives for the TEP.

	enable the effective protection, development and management of TEP.	▪ The protected area is adequately staffed for its effective management and operation. ▪ All facilities and infrastructure in the TEP are adequately maintained.

4. ZONATION PLAN

The purpose of zonation within a protected area is to identify types and levels of usage that are acceptable based on an area's sensitivity and resilience, and to manage visitor experience and inter-user conflict. Zonation is used to identify areas in which infrastructure may be located.

4.1. Zonation of Tembe Elephant Park

The purpose of zonation within a protected area is to identify types and levels of usage that are acceptable based on an area's sensitivity and resilience, and to manage visitor experience and inter-user conflict. Zonation is used to identify areas in which infrastructure may be located.

A standardised zonation system has been developed for all of Ezemvelo KZN Wildlife's protected areas. This system enables a protected area to be zoned according to six categories, which are spread along a continuum, from pristine wilderness to higher intensity nature-based uses. The zonation system recognises and reflects:

- Sensitive features associated with a protected area (i.e. biophysical, cultural and sense of place).
- A general gradation in the zonation categories, in which the next use level provides a buffer to the lower use level.
- Influence of existing and historic facilities, infrastructure and use.
- Opportunities and constraints (biophysical, social or managerial constraints) for use.

Zonation is a composite of ecological zonation (based on natural resource sensitivity), sense of place, cultural features, patterns of environmental settings, and existing development and use patterns. The final zonation map is represented as a desired state, i.e. directing management towards a vision for each zone, which reflects and respects the broader conservation and eco-cultural tourism objectives for the protected area.

Not all zonation categories have been applied in determining the system of zonation for Tembe Elephant Park, as some are not appropriate to it.

General principles:

- There is a general gradation in the zonation categories ranging from high to low protection.
- An overlay zone provides additional protection and may be overlaid onto another zone in order to strengthen the protection e.g. Key Feature Protection Zone.
- A node is an area where tourism, management and service infrastructure can be developed and that has a specified footprint.
- The Wilderness Zone will be buffered by the Low Use Zone.
- Where possible both management and tourism infrastructure should be developed outside the protected area.

- Development of infrastructure should preferably be on the periphery of the zone towards a higher impact/less sensitive adjacent zone.
- Deviations or exceptions in any zones require approval from the management authority. (Operations Committee level)
- Any activities permitted in a category of higher protection are also permitted in a category of lower protection, e.g. activities permitted in the Low Use Zone can also be permitted in the Moderate Use Zone.

All activities will take place in accordance with the local protected area rules and regulations.

4.2. Concept development guidelines

The purpose of the zonation of Tembe Elephant Park is to control the intensity and type of use within it, in efforts to ensure the overriding goals of biodiversity conservation are met whilst enabling acceptable levels of eco-cultural tourism and other resource use. On this basis, within some zones, the permissible intensity of use will be relatively higher than in others.

See Map F – Zonation of Tembe Elephant Park and Table 7 – Zonation categories for Tembe Elephant Park.

Table 7: Zonation Categories for Tembe Elephant Park

Key feature protection	
	An area that is vulnerable and or scientifically important, where specific additional controls are imposed in order to prevent undesirable impacts on identified sensitive or threatened species, habitats, ecosystems, bio-control release sites, research sites, archaeological, living heritage and paleontological sites.
	This zone is for permanent, temporary or seasonal protection of important core protected area values. It aims to provide additional protection for the integrity of key areas.
	▪ The zone may overlay other zones so a range of infrastructure may already exist. ▪ In addition to restrictions of the underlying zone site specific rules and regulations will apply.
	▪ This is a protection zone and would only allow for access and development under site specific constraints. (Does not cater for further developments or resource utilization) ▪ This zone provides a higher level of protection than the underlying zone. ▪ Could be permanent, temporary or seasonal overlay. ▪ Changes to this overlay can be implemented through the Park planning committee and the annual management meeting and recorded as such.
Low use zone	
	An area where there is little evidence of modification of natural processes and landscapes, that is more sensitive than the moderate use zone and where the ecotourism principles of low human impact will prevail. The zone also serves as a buffer to the wilderness zone.
	To designate an area for tourism experiences and management activities that are focused primarily on low impact activities and where general sensitivity requires that management and tourism impacts on the natural landscape should be mitigated.
	▪ Facilities of a rustic nature such as small bush camps, rustic overnight hiking huts, hides and trails. ▪ Motorized access is low-key and 4 x 2 access is provided to points where trails start or to tourist facilities. ▪ 4 x 4 tracks are allowed in this zone (limit to number of tracks and frequency of use) as per site specific rules and regulations. ▪ Hiking and formalised trails. Management activities must focus on protecting park resources and core values. ▪ Limited management roads and tracks. ▪ Controlled extractive resource use in line with Ezemvelo KwaZulu-Natal Wildlife policies and norms and standards.
	▪ Activities are mostly low impact and low density. ▪ No modern facilities such as restaurants and shops are permissible in this zone.

	▪ Where possible, facilities should be developed on the periphery of the zone towards the less sensitive adjacent zone.

	An area where natural processes and the landscape may be altered to support protected area operations. This zone is less sensitive than the low use zone and this is where experiences, facilities, infrastructure and services are provided to visitors and where general park management activities can take place.
	To designate a tourism area that is primarily focused on visitor experience while still securing the values of the protected area and an area that serves the operational and support functions of the protected area.
	▪ Management roads and tracks. ▪ Management activities are directed to maintaining park infrastructure for biodiversity conservation, park operations, equipment and material storage. ▪ Controlled extractive resource use. ▪ Hiking on formalised trails. ▪ Infrastructure is accessible by motorised access. ▪ The tourism road network including access roads and game viewing roads. ▪ Traditional game viewing routes with associated more formalised infrastructure. ▪ Infrastructure is accessible by motorised access.
	▪ Within the moderate use zone a specific Tourism Development Node will be defined which could include areas of commercial use. ▪ Where possible this node should be outside the protected area. ▪ The node should preferably be on the periphery of the Moderate and Low Use Zones, to ensure a quality visitor experience in the lower use zone but with the bulk of the impact e.g. access roads and services in the higher use zone. ▪ This node should be developed in the less sensitive part of the Moderate Use Zone. ▪ The Tourism Development Node can only be developed in areas where it does not compromise the values of the protected area. ▪ The node must have a specified footprint. ▪ Examples of developments in a Tourism development node include picnic areas, camping sites and interpretation centre. ▪ Park Administrative Node (within the Moderate use zone) caters for facilities such as staff accommodation, administrative offices, other operational required infrastructure, waste handling sites etc.

	▪ Wherever possible, facilities and infrastructure related to park operations should be located outside of the protected area. If not possible they will form part of this node. ▪ The node must have a specified area as a footprint.
Protected area buffer zone	
	An area outside the boundary of the protected area where actions are taken and agreements are made to protect the integrity of the protected area and to enhance the livelihoods of protected area neighbours.
	An area outside the boundary of the protected area where actions are taken and agreements are made to protect the integrity of the protected area and to enhance the livelihoods of protected area neighbours. To influence land use adjacent to the protected area to manage external pressures and threats that may threaten its values and objectives.
	The Park management must define these activities in terms of its specific values and objectives and taking into consideration the following: ▪ Alien and invasive species management ▪ Pollution control and prevention ▪ Impact on sense of place ▪ Habitat fragmentation and isolation ▪ Water resource protection ▪ Human/ Wildlife conflict ▪ Climate change adaptation ▪ Compatible land use ▪ Priority species management
	It is desirable for the intensity of land use to decrease closer to the protected area. Activities that are not compatible with the adjacent protected area zonation must be discouraged. Management activities will focus on: ▪ Strategically promoting and monitoring compatible land-use and land-care on adjacent lands and upstream catchments ▪ Integrated alien species control ▪ Biodiversity stewardship and environmental awareness ▪ Working collaboratively with neighbours to secure sensitive sites that contribute to the protection of values and objectives of the protected area. ▪ Influencing and input into the municipal and regional planning tools such as SDFs, Schemes, IDPs and Bioregional Plans. ▪ The Buffer should spatially reflect the 5 km border of listed activities as per National Environmental Management Act No. 107 of 1998 Notice 3 of 2010.

5. ADMINISTRATIVE STRUCTURE

A recommended organisational structure for Tembe Elephant Park is set out in Figure 6. The figure represents the staff complement and positions that are required to enable the effective operation, management and protection of Tembe Elephant Park.

Current Staff Compliment:

- Conservation Management Specialist
- Senior Admin Clerk
- Section Ranger North
- Section Ranger South
- Section Ranger Sileza
- Sargent
- 7 X Corporals
- 24 X Field Rangers
- 2 X Gate Guards
- Labour Supervisor
- 9 X General Assistants
- Tractor Driver
- 2 X Drivers (1 post vacant)

Ecological Advise umKhanyakude:

The Ecological Advice umKhanyakude is based in Tembe Elephant Park and requires the following staff structure:

- District Ecologist
- 2 X Technician
- 2 X Priority Species Monitor
- 2 X Technical Assistant
- 2 X Field Guide

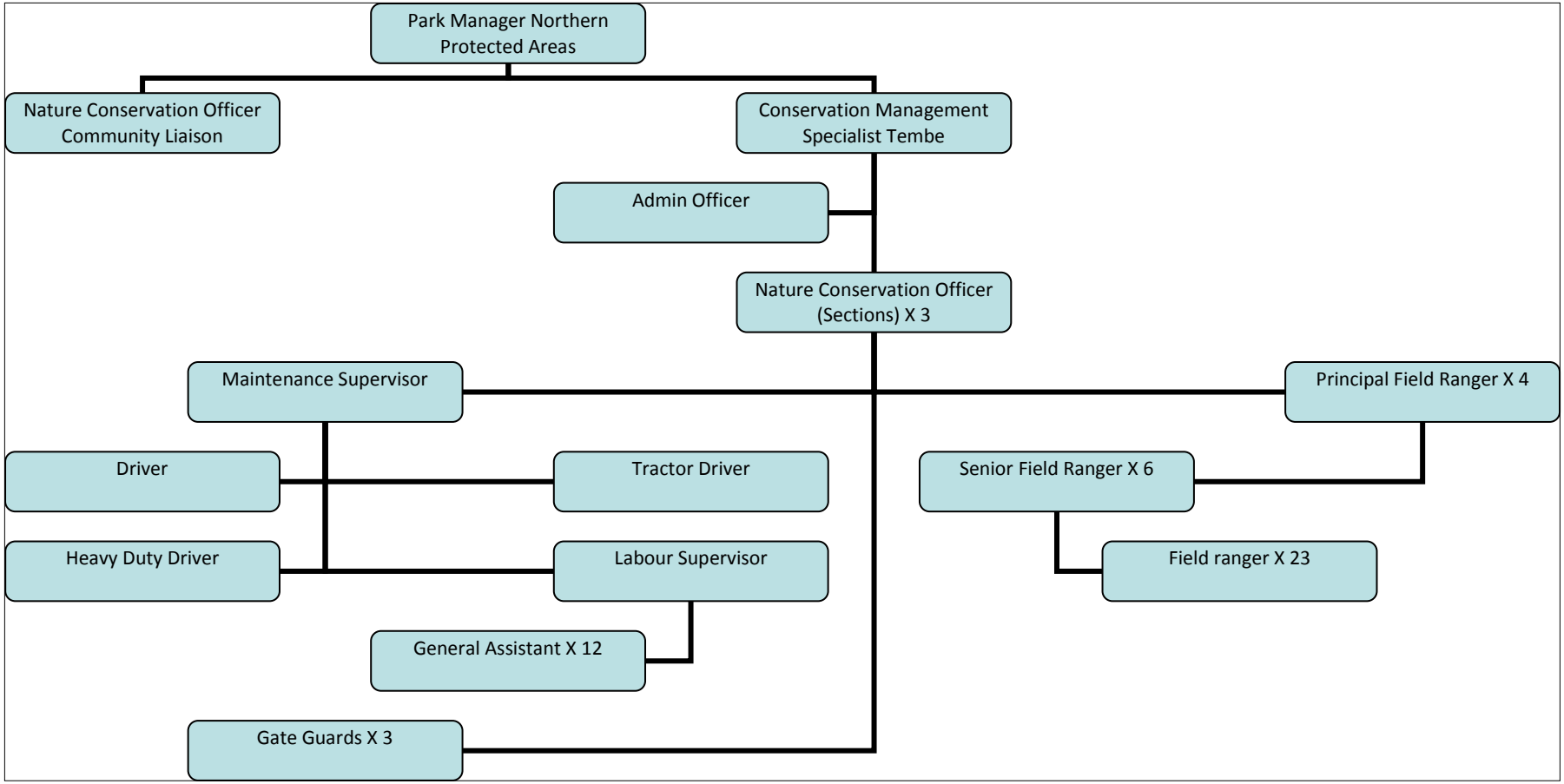

Figure 6: Organisational structure for Tembe Elephant Park

6. OPERATIONAL MANAGEMENT FRAMEWORK

This section translates the strategic framework described in Section 3 above into management activities and targets, which will be used to inform annual plans of operation and the resources required to implement them. The management targets will form the basis for monitoring of performance in implementing the plan and are thus measurable.

6.1. Determination of priorities for strategic outcomes

In the tables that follow in this section, a column has been included entitled "Priority", which is intended to convey the level of priority attached to its management target. The purpose of prioritising activities is to direct funds and resources to the most important activities, in the event that there are insufficient funds or resources to undertake all of the activities outlined in a particular year. Priorities are ordered in three categories, which have been determined on the following basis:

Priority 1:	A management target that is central to the responsibilities and mandate of Ezemvelo KZN Wildlife or that addresses an aspect of management that is fundamental to the protection of the values and purpose of Tembe Elephant Park.
Priority 2:	A management target that addresses an aspect of management that contributes towards community involvement and support for the conservation of Tembe Elephant Park, which is a key principle of effective protected area management.
Priority 3:	A management target that indirectly contributes towards the protection of biodiversity or the development of social and/or economic benefits and opportunities for Tembe Elephant Park and/or its surrounding local communities.

6.2. Legal compliance and law enforcement

Through its mandate to undertake the conservation and management of protected areas in KwaZulu-Natal, Ezemvelo KZN Wildlife must ensure that the province's protected areas are appropriately legally protected and that the laws governing the use of protected areas and the prohibition of particular activities are enforced. In fulfilling this role, the managers of Tembe Elephant Park will adhere to the following guiding principles:

- All reasonable efforts must be made to ensure the effective conservation of biodiversity within and on the boundaries of the protected area.
- Cooperative structures should be established to enable participation by key stakeholders such as local communities and the South African Police Service in addressing offences and breaches of the law.

Law enforcement within the protected area will be undertaken through surveillance, monitoring and appropriate reaction in the event of an offence.

6.3. Stakeholder engagement

Constructive relationships with adjacent landowners and communities are an important aspect of the effective conservation of protected areas. Stakeholder engagement should be aimed at developing a strong sense of partnership between the neighbours and communities around the TEP and its managers. The following guiding principles should be adhered to:

- Efforts should be made to ensure that the communities living around the protected area are aware of the role that it fulfils in biodiversity protection and the provision of ecosystem services to the region.
- Stakeholder engagement should be undertaken to engender a sense of ownership of the protected area, within the communities, and support for its biodiversity conservation objectives.

A common understanding of the issues that affect both the protected area and the surrounding communities should be developed and efforts to resolve them should be undertaken cooperatively.

TEP Local IziNdunas' Forum will always be informed in advance of impending recruitment of staff. Appointments will be made in accordance with the:

- relevant employment legislation;
- employment policy framework of Ezemvelo; and
- required experience, skills, proven ability and qualifications of applicants.

6.4. Co-management

De Koning (2010) indicates that communities need to be aware of the options, restrictions, policies and legislation in order to reduce unrealistic expectations from the agreement. It is

thus necessary for the community to obtain capacity building in conservation, tourism and business development in protected areas.

The abovementioned study also emphasises the need to:

- Clarify responsibilities, rights and power relations of co-management partners
- Bring co-management partners together under one structure
- Clarify expectations (vision) and understanding of co-management among co management partners
- Begin to build capacity of co-management partners
- Establish co-management structures and organisations
- Establish the co-management plan (including joint vision) and co-management agreement
- Modify co-management plan and co-management agreement through adaptive management (adapted from Borrini-Feyerabend et al 2000:14–62).

The operational requirements for legal compliance and enforcement, and stakeholder engagement and co-management are set out in Table 8 below.

Table 8: Framework for legal compliance and law enforcement, stakeholder engagement and co-management

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
LAW ENFORCEMENT					
Ensure that there is adequate law enforcement within the Tembe Elephant Park.	▪ Develop an integrated security strategy for the TEP, which ensures collaboration with all relevant institutions, including cross border security forums. ▪ Maintain cross border security through regular engagement with security stakeholders. ▪ Participate in, and contribute to the Rural Safety and Security Forum. ▪ Contribute to the development of an Integrated Security Strategy for the TFCA.	Creation of cooperative structures with local communities, law enforcement officials and TFCA partners and regular meetings of these structures.	▪ Frequent recovery of snares. ▪ Arson fires. ▪ Recorded losses of game species. ▪ Recorded losses of known rare and endangered plant species.	Year 1	Conservation Management Specialist
	▪ Ensure that staff are equipped and trained to undertake patrols within the TEP for law enforcement purposes. ▪ Implement a programme of patrols of the TEP and its boundaries.	▪ Regular patrols covering the full extent of the TEP. ▪ Prosecution of any offender caught committing an offence.		Ongoing	Conservation Management Specialist
Ensure that all legal agreements are current to ensure effective implementation of these.	Review all formal and informal local agreements, concession agreements, MoU's, leases, servitude arrangements etc. pertaining to TEP and document, update, maintain and monitor these appropriately authorised agreements.	Current, updated implemented and monitored legal agreements with relevant stakeholders.	Out-dated and unenforceable legal agreements.	Year 1	Conservation Management Specialist and Legal Unit
STAKEHOLDER ENGAGEMENT					
Ensure participation of members of the Tembe people through	Ensure open lines of communication between members of the local communities and the protected area management through regular meetings of the Isinduna's Forum and Co-	Quarterly meetings of the IziNduna Forum and Co-management Committee.	Lack of regular meetings and community dissatisfaction with TEP.	Year 1 and then ongoing	Conservation Management Specialist

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
integrated, shared, co-operative working relationships with the Tembe people.	management Committee.				
Ensure effective communication and collaboration between relevant government departments and structures.	Clarify the role of state agencies and specifically Ingonyama Trust and isiVuno in order to unlock the tourism potential of the TEP.	Collaborative structures with relevant government departments to facilitate corporate governance.	Absence of regional planning due to lack of corporate governance.	Year 1	Regional Management, Conservation Management Specialist and Senior Community Conservation Officer
CO-MANAGEMENT					
Implement the outcomes of the land claim settlement process.	▪ Implement the settlement and co-management agreements for TEP. ▪ Re-evaluate representation in the co-management committee to ensure representation from the relevant communities.	▪ Quarterly meetings of the co-management committee. ▪ Appropriate representation of the co-management committee.	Co-management and settlement agreement not implemented.	Ongoing	Conservation Management Specialist and Senior Community Conservation Officer

6.5. Buffer zone protection and regional management

6.5.1. Protected area expansion and buffer zone management

In terms of Ezemvelo KZN Wildlife's protected area expansion strategy, it has identified a number of areas as priorities for protected area expansion around the TEP. In order to safeguard the biodiversity within TEP and to counter any threatening processes or edge effects, suitable buffer zones and appropriate land uses in these zones should be identified. Appropriate actions may then be taken to secure these buffer zones through protected area expansion mechanisms and local planning tools, as described in Section 6.5.2 below. In ensuring the protection of its biodiversity, the following guiding principles will be adopted in terms of protected area expansion and buffer zone management:

- If under threat, efforts must be made to formally protect the areas of critical habitat, located outside of TEP.
- Threatening processes and edge effects on the protected area's boundary and beyond it must be identified.

Appropriate actions must be taken to manage threatening processes and edge effects on TEP's boundary and beyond it.

6.5.2. Local and regional planning

It is important, in managing the buffer areas around the TEP, that Ezemvelo KZN Wildlife work with local government authorities to ensure that their land use planning considers the biodiversity conservation imperatives of Tembe Elephant Park. In this regard it is necessary to ensure that buffer zone considerations are captured in planning tools such as IDPs and SDF's. In developing relationships with the local and district municipality, Ezemvelo KZN Wildlife will adhere to the following guiding principles:

- Relationships with local government and other provincial and national departments will be developed in the spirit of cooperative governance.
- Ezemvelo KZN Wildlife will endeavour to assist the local and district municipality in determining appropriate land uses and development strategies in the areas surrounding the protected area.

Ezemvelo KZN Wildlife will endeavour to align its plans and strategies with the programmes and strategies of the local and district municipality, where appropriate.

The detailed operational requirements for buffer zone protection and regional management are set out in Table 9 below.

Table 9: Framework for buffer zone protection and regional management

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
PROTECTED AREA EXPANSION					
Determination of the buffer zone requirements around the Tembe Elephant Park.	▪ Determine the ecological impacts and edge effects influencing the ecology of the TEP's boundary. ▪ Determine the areas that should be demarcated as buffer zones for the purposes of protecting the biodiversity within the TEP.	Identification of threatening processes on TEP's boundary.	▪ Edge effects such as invasive plant encroachment along the TEP's boundary. ▪ Incompatible land use on the boundary.	Year 2	Ezemvelo KZN Wildlife Ecological Advice Unit
Prioritisation of key buffer zone areas within the provincial Protected Area Expansion Plan.	Focus efforts of the biodiversity stewardship programme on priority areas in the buffer zone around Tembe Elephant Park's boundaries.	Legal protection of key buffer zone areas through establishment of biodiversity management plans, protected environments (Stewardship sites) or the TFCA.	Detrimental changes of land use in the TEP's buffer zone.	Year 3	Ezemvelo KZN Wildlife Stewardship Unit, Conservation Management Specialist, Ecological Advice Unit and Community Conservation Unit
Strategic outcome	**Management activities**	**Management targets**	**Indicators of Concern**	**Priority**	**Responsibility**
LOCAL AND REGIONAL PLANNING					
Participate as a Key-stakeholder in planning initiatives that specifically refer to the promotion of overall	Play an anchor role through the established TFCA steering committee in local, regional, national and international development initiatives through joint management agreements so as to promote the formation of a consolidated conservation area.	Collaboration with and joint planning documents of the TFCA.	Managing the Tembe Elephant Park in isolation of the greater TFCA landscape.	Ongoing	Conservation Management Specialist and Park Management

Protected Area objectives; specifically the following : ▪ Usuthu-Tembe-Futi TFCA ▪ Amafa ▪ Private and Communal initiatives					Committee.
Capture of buffer zone considerations in municipal planning documents including IDP's and SDF's.	Make inputs into the development of local and district municipality IDPs and SDFs in an effort to avoid environmentally harmful land uses in Tembe Elephant Park's buffer areas.	▪ Adoption of environmentally appropriate land uses in IDPs and SDFs in the areas immediately surrounding the TEP. ▪ Retention of existing benign land uses in the areas immediately surrounding the TEP.	Identification/approval of environmentally harmful land uses on the boundaries of the TEP.	Annually	Conservation Management Specialist, Ecological Advice Unit, and Ezemvelo KZN Wildlife Planning Unit.
Tourists are able to safely access "Tembe Elephant Park.	Assist the local and district municipalities in determining agreed upon regional and district access roads to Tembe Elephant Park that require upgrade and maintenance.	▪ Adoption of agreed upon regional access routes to the TEP. ▪ Upgrade and maintenance of access routes which are degraded.	Inability to access the Park due to condition of access roads.	Year 2	Conservation Management Specialist in collaboration with relevant municipalities.

6.6. Eco-cultural tourism

6.6.1. Tourism product development and management

Ezemvelo KZN Wildlife has the mandate to sustainably develop Tembe Elephant Park to fully realise its eco-cultural tourism and associated income-generating potential, within the context of protecting its biodiversity and cultural values. Several nature-based tourism products have been developed within the TEP and there is the potential to further develop nature-based and cultural-based tourism products. In further developing tourism within the TEP, the following guiding principles should be adhered to:

- Tourism products developed within the protected area must be appropriate to the values and purpose for which the protected area has been proclaimed and must not threaten its biodiversity or ecological function.
- In developing tourism products, requirements for environmental authorisation must be considered and adhered to.
- Tourism products should be designed to capitalise on the unique beauty and biodiversity features of the protected area.
- Tourism products should be developed in response to tourism market demands and opportunities within the TEP and should be carefully assessed to determine their viability.
- The development of tourism products within the protected area must be integrated with tourism strategies and plans in the region.

Tourism should be used as a tool for the generation of economic activity and employment in the communities surrounding the protected area.

Tourism infrastructure should be maintained to an acceptable level based on the Ezemvelo standard and infrastructure must be incorporated in the Scheduled maintenance programme of the protected area.

6.6.2. Environmental education and interpretation

Environmental interpretation and education of Tembe Elephant Park natural and cultural resources will be aimed at creating awareness, understanding and appreciation of its biodiversity and ecological function, and their significance. In developing an environmental interpretation and education programme, the following guiding principles should be adhered to:

- There should be a strong focus on neighbouring communities, in efforts to engage, inform and benefit them.
- Wherever possible, local community members should be trained to assist and operate environmental interpretation and education tours.

The detailed operational requirements for eco-cultural tourism development and environmental education and interpretation are set out in Table 10 below.

Table 10: Framework for eco-cultural tourism

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
TOURISM MANAGEMENT					
Determination of a tourism market profile, through tourism market research for the TEP.	▪ Capture visitor information and statistics in order to better understand the TEP's tourist numbers and market. ▪ Develop an understanding of tourism in the region in order to inform the types of products and activities that may be offered.	An understanding of annual tourist numbers and a tourism market profile for the TEP.	▪ Declining tourist numbers. ▪ Unprofitable occupancy rates in accommodation within the TEP.	Ongoing	Ezemvelo KZN Wildlife Ecotourism and Marketing Unit.
	Based on the above tourism profile and in the context of regional and TFCA tourism initiatives develop a Concept Development Plan for TEP.	Concept Development Plan guiding development and tourism activities inside TEP.	Ad hoc unsustainable tourism development	Year 1	Conservation Management Specialist and Ezemvelo KZN Wildlife Ecotourism and Marketing Unit.
Strategic outcome	**Management activities**	**Management targets**	**Indicators of Concern**	**Priority**	**Responsibility**
ENVIRONMENTAL INTERPRETATION AND EDUCATION					
Facilitation and rolling out through key partnerships environmental implementation of an environmental interpretation and education programme.	▪ Focus on environmental interpretation and education amongst the TEP's neighbouring communities and visitors. ▪ Roll out the Rhino Ambassadors programme in TEP.	Environmental education and awareness programme implemented.	Lack of understanding of the values of the protected area.	Year 2 & ongoing	Ezemvelo KZN Wildlife Community Conservation Officer and TUT

	Promote understanding through all stakeholders forums (Co-management committee and iziNduna Forum) of the values and importance of Tembe Elephant Park.	Standing agenda item on stakeholders meeting for discussions of the values of the Park.	Lack of understanding in the broader communities of the importance and values of Tembe Elephant Park.	Ongoing	Conservation Management Specialist and Ezemvelo KZN Wildlife Senior Community Conservation Officer

6.7. Conservation management

6.7.1. Fire management

Fire plays an important role in the ecological dynamics of grasslands and wetlands, and has important effects on vegetation composition, primary productivity and nutrient cycling. In developing burning and fire management strategies for the protected area, the following guiding principles should be adhered to:

- Burning should be undertaken in such a way that it maintains spatial and temporal heterogeneity within the landscape.
- A patch mosaic of burnt and un-burnt areas should be maintained.
- The burning of areas should be undertaken in such a way that promotes patchy burns (i.e. within the block being burnt, some patches will remain un-burnt rather than aiming for a complete burn).
- Burning must be undertaken with due consideration to the biodiversity conservation requirements of the protected area and the need to protect rare and endangered species.
- Burning and fire management must be undertaken in a safe manner that is compliant with the National Veld and Forest Fire Act (No.101 of 1998).

In terms of Section 17 of the National Veld and Forest Fires Act, a landowner (in this case the TEP) must have such equipment, protective clothing and trained personnel for extinguishing fires as may be prescribed or, if not prescribed, reasonably required in the circumstances. It is therefore necessary to consider the following in relation to fire fighting:

- The need to maintain a system of firebreaks to enable the management of controlled burns and to effectively fight wildfires.
- The size of the protected area and the requirements necessary to access different areas in the event of a wildfire, this relates to both roads and vehicles.
- The number of personnel necessary to effectively fight wildfires.
- The equipment necessary to effectively fight wildfires.
- This would include:
    - Water tankers and pressure pumps mounted on or pulled behind tractors.
    - Fire fighting equipment mounted on the backs of vehicles.
    - Backpack sprayers
    - Beaters
    - Safety equipment for personnel involved in fire fighting.

The detailed operational requirements for fire management are set out in Table 11 below.

Table 11: Framework for conservation management - fire management

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
FIRE MANAGEMENT					
Development of a comprehensive fire management plan for the TEP.	The fire management plan must address fire management objectives, scientific understanding, legal compliance, equipment, personnel training requirements, monitoring and research required.	Adoption and implementation of the fire management plan.	Burning regimes that result in ecological degradation of the TEP.	Year 1	Conservation Management Specialist and Ecological Advice Unit
Adequate fire safety within the TEP is ensured.	▪ Maintain a system of firebreaks within the TEP that are of adequate extent, which are prepared at the correct time of the year under the appropriate weather conditions. ▪ Ensure that staff are trained and that adequate fire fighting equipment is available within the TEP. ▪ Become a member of the local Fire Protection Association, or if one does not exist, champion the creation of one.	Compliance with the National Veld and Forest Fires Act.	▪ Inadequate personnel, equipment or an inability to communicate effectively in fighting fires. ▪ Wildfires spreading from the TEP to neighbouring properties.	Ongoing	Conservation Management Specialist
Annual planning is undertaken for the implementation of the season's burning plan.	▪ Review the previous fire season burns (planned and unplanned) as well as the annual biomass determination results to determine the burning plan for the coming season. ▪ Determine the annual burning requirements.	Burn according to the annual plan based on ecological advice.	Unplanned fires.	Annually	Conservation Management Specialist and Eco Advice.

6.7.2. Invasive plant control

A listed invasive species means any species, which is listed in terms of section 70 of the Biodiversity Act, whose establishment and spread occurs outside of its natural distribution range. Such plants are considered to be a serious threat to the ecological functioning of natural systems and to water production, and must be strictly controlled. In undertaking invasive plant control, the following guiding principles will be adhered to:

- Invasive plant control will require an ongoing programme that prioritises key infestations along water courses, drainage lines and upper catchment areas.
- Initial clearing efforts should focus on containing infestations that are most likely to spread into new areas.
- All follow-up requirements must be strictly adhered to otherwise the problem will be exacerbated.

Strategic partnerships and poverty relief programmes such as the Working for Water programme should be utilised in controlling invasive plants.

6.7.3. Soil erosion control

In addressing soil erosion, the following guiding principles should be adhered to:

- Areas impacted by soil erosion should be stabilised and re-vegetated with indigenous plant species to prevent the spread of listed invasive plant species.
- Areas susceptible to soil erosion, or showing early signs of soil erosion such as loss of vegetation cover, must be managed to prevent soil erosion.

Soil erosion control and rehabilitation measures may include the need to re-vegetate disturbed areas. A detailed assessment of the nature and extent of soil erosion within the TEP will determine the appropriate responses required and the costs associated with them.

The detailed operational requirements for invasive plant and soil erosion control are set out in Table 12 below.

Table 12: Framework for conservation management - invasive plant control and soil erosion

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
INVASIVE PLANT CONTROL					
Development of an invasive species control plan for the Tembe Elephant Park.	▪ Develop a detailed inventory of the listed invasive species. ▪ Map the areas and extent of invasive species infestations. ▪ Describe previous efforts to control and eradicate invasive plants. ▪ Outline the measures required to monitor, control and eradicate the listed invasive species. ▪ Identify measurable indicators of progress and success in implementing the invasive species control plan.	Compliance with the Biodiversity Act.	▪ Further spread of existing levels of infestation of listed invasive species. ▪ Persistence of existing infestations. ▪ New infestations of listed invasive species.	***Year 1***	Conservation Management Specialist, Ecological Advice Unit and Alien Plant Control Unit
Achievement of a significant reduction in levels of invasive plant infestations in the TEP.	▪ Implement the control plan for the TEP. ▪ Implement concerted, sustained control efforts in identified areas of heavy invasive plant infestation. ▪ Undertake suitable rehabilitation measures, including re-vegetation using indigenous plant species, to prevent soil erosion, following clearing of invasive plant species. ▪ Develop partnerships with Working for Water and other strategic programmes.	80% reduction in infestation levels in five years.		***Year 5***	Ezemvelo KZN Wildlife Alien Plant Control Unit and Conservation Management Specialist
Strategic outcome	**Management activities**	**Management targets**	**Indicators of Concern**	**Priority**	**Responsibility**
SOIL EROSION CONTROL					
Implementation of procedures to identify, rehabilitate and manage areas that have been significantly impacted by	▪ Undertake a detailed survey of the TEP to identify the extent and severity of soil erosion. ▪ Identify the requirements for soil erosion control and rehabilitation within the TEP. ▪ Implement soil erosion control and rehabilitation	▪ A detailed map depicting areas of soil erosion within the TEP. ▪ Implementation of soil erosion control measures in	▪ Further erosion of impacted areas. ▪ Sedimentation impacts in watercourses and wetland areas.	Year 5	Conservation Management Specialist

soil erosion.	measures, focussing strategically on key areas such as those impacting on watercourses or that are growing larger. ▪ Undertake preventative measures in areas with low plant cover that may be at risk of soil erosion.	areas in which plant cover is low, which are susceptible to erosion.			

6.7.4. Alien animal control

Alien animal species can threaten the ecological, genetic or natural aesthetic integrity of Tembe Elephant Park and can be vectors for the spread of diseases. In dealing with the control of alien animals, procedures to deal with animals that stray into the TEP should be developed. In addressing alien animal control, the following guiding principles should be adhered to:

- Domestic animals such as horses and donkeys will only be allowed if kept at the TEP for official purposes such as patrolling.
- Feral animal species that pose a threat to indigenous species will be destroyed (as humanely as practicably possible with due regard to the tourist experience).

6.7.5. Resource utilisation

It is an accepted tenet of biodiversity conservation in South Africa and KwaZulu-Natal that the sustainable use of natural and biological resources may be undertaken within a protected area, provided that it does not compromise its ecological functioning or biodiversity conservation imperatives. Accordingly, applications for the extractive use of resources within the TEP will be considered, based on the following guiding principles:

- The context of the TEP's zonation plan, in particular the ecological sensitivity of particular areas.
- The benefits that such resource use will provide to the neighbouring communities around the protected area.
- The equitable access of members of the neighbouring communities to such resource use opportunities.
- Whether activities such as the collection of biological materials/samples are for legitimate scientific purposes, are from bone fide South African research institutions and are undertaken in accordance with relevant Ezemvelo KZN Wildlife policies.

The detailed operational requirements for alien animal control and resource utilisation are set out in Table 13 below.

Table 13: Framework for conservation management - alien animal control and resource utilisation

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
ALIEN ANIMAL CONTROL					
Implementation of procedures to manage alien animals found within the TEP.	▪ Develop a policy to address the use of domestic animals such as horses for patrolling purposes. ▪ Implement the Ezemvelo KZN Wildlife policy to address the control of feral animals within the TEP. ▪ Communicate the Ezemvelo KZN Wildlife policy to the communities in terms of dealing with stray livestock and domestic animals found in the Park, particularly dogs, which may be used for illegal hunting.	▪ Creation of cooperative structures between Ezemvelo KZN Wildlife, local communities and law enforcement officials to address these problems. ▪ Control of any alien animals found within the Park.	Uncontrolled access of domestic animals or livestock within the TEP.	***Year 2 then ongoing***	Conservation Management Specialist and Community Conservation Officer.
Strategic outcome	**Management activities**	**Management targets**	**Indicators of Concern**	**Priority**	**Responsibility**
RESOURCE UTILISATION					
If extractive resource use is undertaken, it is done legally and conforms to Ezemvelo KZN Wildlife policy.	▪ Together with neighbouring communities, agree on the approach to sustainable extractive resource use in the TEP. ▪ Ensure that any approved extractive resource use is aligned with the zonation of the Park.	Implementation of the signed Resource Use Operational Management Plan for TEP.	Uncontrolled or unsustainable resource extraction	***When required***	Conservation Management Specialist
If bioprospecting is undertaken, it is done legally and conforms to national legislation (NEMBA Act No 10 of 2004 Chapter 6).	Only allow the collection of biological materials or samples if the appropriate permits or permission has been given in accordance with Ezemvelo KZN Wildlife policy.	No illegal collection of biological material or samples.	Illegal collection of biological material or samples.	***When required***	Conservation Management Specialist and Ecological Advice Unit

6.7.6. Wildlife management

Management interventions related to indigenous wildlife will be limited to those that are for the purposes of safeguarding populations of rare and endangered species or to meet set conservation targets. Interventions may also be required for problem animal management. In addressing wildlife management, the following guiding principles should be adhered to:

- Wildlife management must be focussed primarily on protecting the ecological functioning of the TEP and meeting set provincial conservation targets for species and vegetation types.
- The introduction of indigenous species into the TEP must be undertaken in accordance with relevant Ezemvelo KZN Wildlife policies.
- Population management of wildlife species may be required to ensure that such species are not causing ecological degradation of the TEP.

Animals that become a danger or excessive nuisance to persons and property due to either habituation or aberrant behaviour must be managed in accordance with relevant Ezemvelo KZN Wildlife policies.

As TEP is situated within the surveillance zone for Foot and Mouth Disease, periodic surveys of game must be undertaken so that tests for the occurrence of the disease may be undertaken. These disease monitoring surveys should be able to cater for additional diseases if necessary, given the intended long-term goal of dropping fences between TEP and MSR (Maputo Special Reserve) in Mozambique. The transboundary movement of game may lead to the transfer of diseases between these two countries, and so a surveillance protocol must be established by the Ezemvelo Veterinarian and the State Veterinarians in South Africa, and their counterparts in Mozambique.

6.7.7. Conservation targets

The 2011 version of the KwaZulu-Natal systematic biodiversity plan identifies the provincial conservation targets referred to in Section 6.6.6, above. The conservation of Tembe Elephant Park contributes towards the achievement of a portion of some of these targets. Targets will continue to be updated as knowledge develops about the ecology of areas, connectivity between them, and other process requirements for ecosystems, communities and species. On this basis, the conservation targets should be viewed as a set of working hypotheses around which conservation planning and evaluation can take place. An advantage of developing strategies around targets is that this process highlights critical knowledge deficits thus guiding future research. See Map C – Conservation value: Maputaland.

Table 14: Systematic biodiversity planning conservation targets to which Tembe Elephant Park contribute

Feature	Description	Percentage of target located within Tembe Elephant Park	Notes
Tembe Sandy Bushveld	Vegetation Type	83.62	Least Threatened

Subtropical Freshwater Wetlands	Vegetation Type	5.11	Least Threatened
Maputaland Coastal Thicket	Vegetation Type	9.92	Least Threatened
Licuati Sand Forests : Eastern Licuati Sand Forest	Vegetation Type	48.33	Least Threatened
Warburgia salutaris	Plant	3.33	Vulnerable
Pelargonium tongaense	Plant	66.67	Rare
Encephalartos ferox	Plant	2.94	Least Concern
Cassipourea mossambicensis	Plant	50	Vulnerable
Edouardia conulus	Mollusc	15.03	
Orthoporoides corrugatus	Millipedes/Centipedes	4.78	
Stagira nasuta	Insect	25	
Cinnyris neergaardi (Neergaard's sunbird)	Bird	69.95	Vulnerable
Anthreptes reichenowi (Plain-backed Sunbird)	Bird	69.95	Vulnerable

The detailed operational requirements for wildlife management and the achievement of conservation targets are set out in Table 15 below.

Table 15: Framework for conservation management - wildlife management and conservation targets

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
WILDLIFE MANAGEMENT					
Development of a strategy for the introduction and management of wildlife into the TEP in accordance with Ezemvelo KZN Wildlife policies.	▪ Ensure that any proposals for the introduction of wildlife species conform to Ezemvelo KZN Wildlife policies. ▪ Ensure that only species known to have historically occurred in the TEP are re-introduced. ▪ Ensure that species introductions are adequately documented.	An agreed upon approach to future wildlife species introductions, in conjunction with the community.	Ad hoc introductions of species, particularly those that may not have historically occurred in the TEP.	***Year 5***	Ezemvelo KZN Wildlife Ecological Advice Unit and Conservation Management Specialist
	Ensure that adequate population control measures are included in the strategy for the management of wildlife in the TEP.	Control of population numbers of species that are exceeding identified carrying capacities.	Ecological degradation as a result of over-stocking of wildlife species	***Ongoing***	
Development and implementation of a strategy for problem animal control.	▪ Undertake preventative measures, such as boundary fence maintenance, to minimise the need for problem animal control. ▪ Apply appropriately humane methods, if problem animals must be destroyed or captured.	Effective procedures and relationships with neighbours in dealing with problem animal control.	Frequent complaints from neighbours with no clear response.	***Year 1***	Conservation Management Specialist
Rare, endangered and important species management is undertaken using best available scientific knowledge.	▪ Adopt procedures for the management of rare and endangered species within the TEP on known best practices (Suni, Elephant and sand forest elements). ▪ Implement the Tembe Elephant Park Elephant Management Plan. ▪ Identification of key critical mammal species, invertebrate species bird species and amphibian and reptile species.	▪ Maintenance of optimum population numbers of rare and endangered species. ▪ Elephant strategies as contained in Elephant Management Plan implemented.	▪ Declining population numbers of rare and endangered species. ▪ Unsustainable increase in elephant numbers ▪	***Year 2 and then ongoing***	Conservation Management Specialist with Ezemvelo KZN Wildlife Ecological Advice Unit

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
CONSERVATION TARGETS					
Processes are established to determine the success of management interventions in protecting the ecosystems, communities and species of the TEP.	Develop surveillance and monitoring plans for key management interventions in accordance with the Ezemvelo KZN Wildlife policies and norms and standards. Update the Ezemvelo Biodiversity Database with TEP species list and specifically the plant species list.	▪ Surveillance and monitoring plans for key threatening processes. ▪ Monitoring plans for key rare and endangered species.	Lack of awareness of the status of key threatening processes including infestations of invasive plant species and severity and extent of soil erosion.	***Year 3***	Ezemvelo KZN Wildlife Ecological Advice Unit
Ensure that research projects in the TEP are prioritised and relevant to the management of the Park.	Develop a prioritised research list and communicate this to the relevant potential tertiary institutions.	Relevant research based on a prioritised list.	Research that is not relevant to the management of TEP	***Year 2***	Conservation Management Specialist and Ezemvelo KZN Wildlife ecological advice unit
Critical ecological processes and functions are maintained in TEP.	▪ Implement a wetland monitoring programme to ensure that wetland processes and functions in the TEP are maintained (Muzi Swamps). ▪ Initiate a survey to identify and clarify the Maputaland Centre of Plant Endemism associated elements / species / habitat on TEP and develop an appropriate conservation management strategy for TEP.	▪ Wetland monitoring report. ▪ Understanding of the Maputaland Centre of Plant Endemism and relevant conservation strategies relevant to TEP.	▪ Ecological degradation of wetlands. ▪ Loss of elements of the Maputaland Centre of Plant Endemism	***Ongoing***	Conservation Management Specialist with Ezemvelo KZN Wildlife Ecological Advice Unit

6.7.8. Cultural heritage management

According to the National Heritage Resources Act No. 25 of 1999 the "conservation, in relation to heritage resources, includes protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance."

The Tembe Elephant Park has both natural and cultural values that need to be protected. In addressing Cultural heritage management, the following guiding principles should be adhered to:

- Access to cultural heritage sites must be of a nature that considers the safety of the visitors.
- The cultural heritage sites including grave sites needs to be properly demarcated in order to prevent accidental damage by fire or other means.
- Sites (if required and based on the AMAFA recommendation) must be cleared of excess vegetation to reduce fire risk.

In managing the cultural assets of Tembe Elephant Park, in accordance with the National Heritage Resources Act the following guiding principles will apply:

- All Cultural resources must be carefully managed to ensure their survival.
- Heritage resources contribute significantly to research, education and tourism and must be managed and used in a way that ensures respect for cultural values.
- Promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs.
- Heritage resources must be researched, documented and recorded.

The detailed operational requirements for wildlife management and the achievement of conservation targets are set out in Table 16 below.

Table 16: Framework for conservation management - cultural heritage management

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
CULTURAL HERITAGE MANAGEEMNT					
Ensure the protection and the improved awareness of the cultural heritage values of TEP.	▪ Facilitate in partnership with AMAFA the identification and recording of all cultural heritage sites within the TEP.	▪ Photographic and descriptive records of heritage sites.	▪ Cultural heritage sites not known and therefore not protected.	***Year 1***	Conservation Management Specialist with AMAFA
	Develop site specific management plans for all cultural heritage sites in TEP.	Recorded procedure of management requirements.	Vandalism or damage to heritage sites due to inappropriate tourism or management activities.	***Year 2***	Conservation Management Specialist with Amafa
	▪ Include the cultural values of the Park in interpretation, awareness and marketing material.	▪ Increased awareness of cultural values.	▪ Lack of understanding of the importance of the Park's cultural heritage values.	***Year 2***	Conservation Management Specialist, Senior Community Conservation Officer
	▪ Identify research priorities and encourage tertiary students to address these priorities in the protected area.	▪ Prioritised research list that are communicated to the relevant tertiary institutions.	▪ Ad hoc research that is not relevant to the management of the reserve's cultural assets.	***Ongoing***	Park Management Committee

6.8. Operational management

6.8.1. Financial and human resources

Tembe Elephant Park cannot be effectively managed without adequate sustained funding and sufficient human resources. In addressing the financial and human resource needs of the protected area, the following guiding principles should be adhered to:

- Adequate funding must be provided for the management of the Tembe Elephant Park to ensure the protection of its biodiversity and cultural values and the continued provision of its ecosystem services.
- Commercial operations within the Tembe Elephant Park must be self-sufficient and, if profitable, should be used to subsidise its conservation and community programmes.
- Adequate, properly trained and experienced staff must be employed at the Tembe Elephant Park to undertake the operations required for its effective management.

6.8.2. Facilities and infrastructure

In order for Tembe Elephant Park to operate appropriately, adequate facilities and infrastructure need to be developed and maintained both for management and eco-cultural tourism purposes. In addressing facilities and infrastructure needs in the protected area, the following guiding principles will be adhered to:

- Facilities and infrastructure must be maintained to avoid any damage to the environment and ensure the safety of staff and visitors to the protected area.
- Facilities and infrastructure must be provided to ensure the effective management and operation of the TEP.
- Practical solutions to the provision of electricity should be sought at the TEP based on available renewable energy technologies.
- Facilities and infrastructure must be provided to support the eco-cultural tourism activities in the protected area.

The detailed operational requirements for financial and human resource, and facilities and infrastructure development and management are set out in Table 17 below.

Table 17: Framework for operational management - financial and human resources, facilities and infrastructure

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
FINANCIAL RESOURCES					
Development of a five-year business plan that identifies the resource needs to achieve the objectives for the TEP.	▪ Undertake an assessment of past income and expenditure trends in the TEP. ▪ Develop a five-year projection of income and expenditure targets that will allow for the effective achievement of the TEP's objectives.	Adequate funding to achieve the objectives of the TEP.	Inadequate funding to effectively protect and operate the TEP.	Year 1	Ezemvelo KZN Wildlife Regional Management Unit
Strategic outcome	**Management activities**	**Management targets**	**Indicators of Concern**	**Priority**	**Responsibility**
HUMAN RESOURCES					
The TEP is adequately staffed for its effective management and operation.	▪ Undertake a review of current staffing levels to determine the human resource needs to effectively manage the TEP. ▪ Employ sufficient, appropriately skilled staff to meet the management and operational requirements of the TEP. ▪ Undertake regular training and skills development to ensure that staff are able to effectively complete their duties.	Appointment of staff in all positions in the TEP.	Inadequate staff numbers or skills for the effective management of the TEP.	Year 2	Ezemvelo KZN Wildlife Regional Management Unit
Strategic outcome	**Management activities**	**Management targets**	**Indicators of Concern**	**Priority**	**Responsibility**
FACILITIES AND INFRASTRUCTURE					
All facilities and infrastructure in the TEP are adequately maintained.	Ensure that the boundary and ex-closure fences are regularly inspected and adequately maintained to ensure security and to contain game species within the TEP.	Regular scheduled maintenance of all facilities and infrastructure.	▪ Environmental, health or safety incidents associated with inadequately maintained facilities and infrastructure. ▪ Non-compliance with approved plans (elephant	Ongoing	Conservation Management Specialist
	Develop a Concept Development plan for both tourism and management infrastructure based on the zonation as well as the outcome of the tourism feasibility studies.				
	Develop and implement a schedule maintenance				

	programme to maintain facilities and infrastructure in a condition that meets relevant environmental, health and safety requirements.		management plan) due to lack of infrastructure maintenance ▪ Conflict with neighbouring communities due to increased human wildlife conflict due to inadequate infrastructure maintenance (fences)		

7. MONITORING AND REPORTING

Monitoring and reporting is a critical component of the adaptive management cycle. It enables the effective assessment of management interventions and, if necessary, can be used to direct modifications of management in an effort to achieve the outcomes required.

7.1. Annual monitoring

The annual monitoring schedule should be designed to monitor the implementation of aspects of the management plan. It should be designed to be straightforward and relatively easy to implement by on-site staff. In accordance with the Ezemvelo KZN Wildlife norms and standards for surveillance and monitoring (Goodman 2011), monitoring is characterised by:

- An objective, target or desired state of the attribute or resource (as described in the management targets in Section 6 above).
- Being part of a formalised adaptive management cycle.
- Establishing and repeatedly evaluating the measures of success of conservation project or management intervention.

Records should be maintained of all key management interventions and of problem events or incidents such as uncontrolled access, poaching, illegal plant collection or uncontrolled/arson fires. In terms of the norms and standards set for surveillance and monitoring (Goodman 2011) these incidents would be deemed to be surveillance.

Scientific monitoring programmes may be established to monitor specific management interventions such as measures for the protection of flagship species. Not all of the management interventions will be monitored through the monitoring scheduleMost of the outcomes of the monitoring process will be captured in an annual report, which will be used to inform the following year's annual plan of operation.

On this basis, a monitoring schedule for Tembe Elephant Park is set out in Table 18.

Table 18: Annual surveillance and monitoring schedule for Tembe Elephant Park

Management issue	Parameters to be monitored	Monitoring measures	Monitoring frequency	Responsibility	Reporting requirements
Law enforcement	Schedule of patrols	Written record	Weekly	Conservation Management Specialist	Annual report
	Recovery of snares	Photographs/written record	Weekly		Annual report
	Illegal incidents	Photographs/written record	Per event		Record of event
Stakeholder engagement	Minutes of meetings of the local board and community trust	Written record	Bi-monthly	Conservation Manager	Annual report
Buffer zone management	Influx of listed invasive vegetation on the TEP's boundaries.	Surveillance plan	To be determined	Conservation Manager supported by Ecological Advice Unit	Annual report
Local and regional planning	Land uses that are approved in the areas around the TEP in local and regional IDPs and SDFs	Written record	Annually	Ezemvelo KZN Wildlife Senior Conservation Management Specialist	Annual report
Eco-cultural tourism	Visitor statistics	Completion of questionnaire	Ongoing	Conservation Management Specialist	Annual report
Fire management	Burning of firebreaks as part of fire management	Written record/map/photography	Annually	Conservation Management Specialist	Annual report
	Burning of blocks as part of controlled burning		Annually		Annual report
	Unplanned wildfires	Written record/map/photography	Per event		Record of event
Invasive plant control	Areas subject to invasive plant control	Monitoring plan	To be determined	Conservation Management Specialist supported	Annual report
	State of areas in which invasive plants have been eradicated				

Management issue	Parameters to be monitored	Monitoring measures	Monitoring frequency	Responsibility	Reporting requirements
	Records of labour hours/days	Written record	Annually	by Ecological Advice Unit	Annual report
	Herbicide usage	Written record	Annually		Annual report
Soil erosion control	Areas subject to erosion control	Monitoring plan	To be determined	Conservation Management Specialist supported by Ecological Advice Unit	Annual report
	State of rehabilitated areas of erosion				Annual report
Conservation targets	Incidents related to flagship species	Photographs/written record	Per event	Conservation Management Specialist	Record of event
	Status of key rare and endangered species, particularly those for which conservation targets have been set	Monitoring plan	To be determined	Conservation Management Specialist supported by Ecological Advice Unit	Annual report
Resource utilisation	Extraction of resources from the TEP	Photographs/written records	Per event	Conservation Management Specialist	Annual report
Human resources	Staffing levels	Number of full-time staff	Annually	Conservation Management Specialist	Annual report
Facilities and infrastructure	State of roads, 4x4 tracks and paths	Photographs/written records	Quarterly	Conservation Management Specialist	Annual report
	State of the boundary fence	Photographs/written records	Monthly		Annual report
	Weather data	Surveillance plan	To be determined	Ezemvelo KZN Wildlife Ecological	Annual report

Management issue	Parameters to be monitored	Monitoring measures	Monitoring frequency	Responsibility	Reporting requirements
				Advice Unit	
	State of facilities and service infrastructure	Maintenance schedule/written records	Monthly	Conservation Management Specialist	Annual report
	Pollution events	Photographs/written records	Per event	Conservation Management Specialist	Per event

As set out in Table 18 the following issues require a surveillance plan:

- The influx of listed invasive vegetation on the Tembe Elephant Park's boundaries.
- The capture of weather data – it is recommended that the Ezemvelo KZN Wildlife Ecological Advice Unit approach the South African Weather Service to request that they install a proper weather station at the protected area.

In addition, the following issues require a monitoring plan:

- Measures taken to control invasive plant species.
- Measures taken to control soil erosion.
- Measures taken to manage rare and endangered species, particularly those for which conservation targets have been set.
- The ecological status of the wetlands within the protected area.

These surveillance and monitoring plans must be developed and implemented in accordance with the Ezemvelo KZN Wildlife Norms and Standards: Surveillance and Monitoring Plans for Biodiversity (Goodman 2011).

The preparation of these plans must be undertaken by the Ezemvelo KZN Wildlife Ecological Advice Unit with the support of the Surveillance and Monitoring Working Group of Ezemvelo KZN Wildlife.

7.2. Annual protected area management plan implementation review

The purpose of undertaking an annual performance review of implementation of the protected area management plan will be to:

- Determine how effectively the management plan has been implemented.
- Assist in determining the focus for the annual plan of operation and the setting of appropriate time frames and budgets.
- Enable effective adaptive management by identifying changes and modifying management interventions.

The report produced from the annual protected area management plan implementation review should be submitted to the Regional Operations Committee, prior to the annual management meeting for Tembe Elephant Park, for its review and comment. Records of recommendations for update/changes to the five-year plan should be kept on record so that when the five-year plan is revised for the subsequent five years, these recommendations can be assessed and included where necessary. This should be undertaken in the form of a running list, which is updated in each annual report so that the final annual report before the five-yearly review of the management plan contains the complete list of recommendations. The review process should include:

Any recommended minor amendments to the management plan that do not affect the substance of the vision, objectives or zonation.

Any proposed significant changes to the management plan that are likely to result in amendment to the vision, objectives and zonation must be supported by the Regional

Operations Committee and the relevant Operations Committee before being subjected to the appropriate stakeholder participation process and before recommends that the proposed amended protected area management plan be submitted for authorisation to the Ezemvelo KZN Wildlife EXCO Committee, Board and to the MEC.

8. TEMBE ELEPHANT PARK ANNUAL PLAN OF OPERATION

Each year an annual plan of operation will be prepared, based on the objectives, strategic outcomes, management activities and targets contained in the protected area management plan.

8.1. Implementation of the protected area management plan

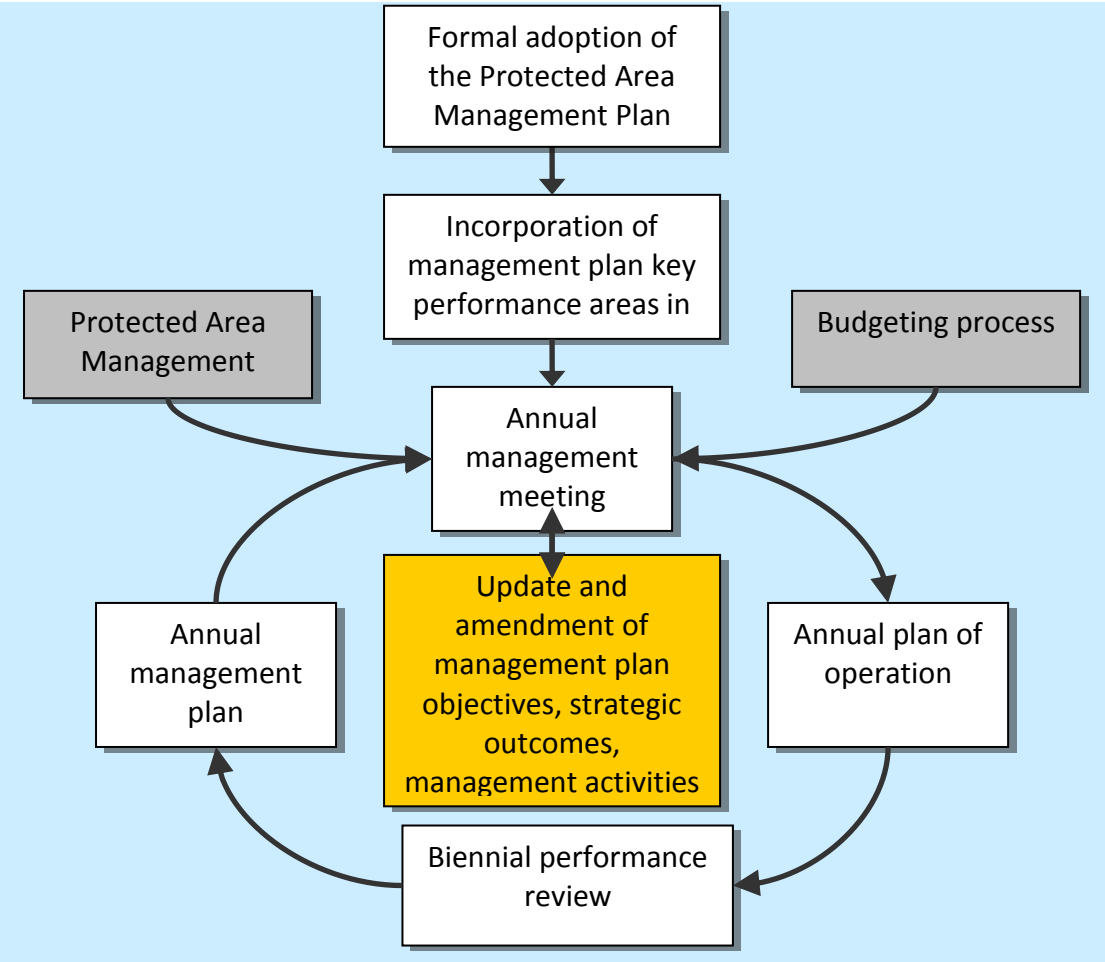

Figure 7: Process for the implementation of Protected Area management Plans

Each year an annual management meeting is held for each protected area managed by Ezemvelo KZN Wildlife. In terms of the implementation of the protected area management plan, the purpose of the annual management meeting for Tembe Elephant Park will be to:

Finalise the annual report, as part of the annual protected area management plan implementation review described in Section 7.2 above.

As part of the annual performance review, determine the need to modify or change any of the management plans objectives, strategic outcomes, management activities or targets.

Determine management activities for the coming year and to set goals for the year, based on the key performance areas set out in the management plan, in accordance with the Tembe Elephant Park manager's performance contract.

Determine how budgets will be spent in an effort to achieve the goals for each of the quarters of the coming year.

The minutes and notes of the annual management meeting will be compiled in an annual plan of operation, which will include all of the information, set out above, and will determine what management activities need to be completed for the coming year, based on the management plan. The annual plan of operation will be tied to staff performance contracts, and goals set in them will be categorised within the same key performance areas as the integrated management plan. *A pro forma annual plan of operation is set out in Appendix I.*

8.2. Responsibilities in implementing the protected area management plan

In the tables in the operational management framework, the responsibilities for the completion of management activities are identified. In many cases the people responsible for implementing the activities will be in attendance at the annual management meeting and the requirements for the achievement of the management activities can be discussed and agreed to at the meeting. In some cases, however, the management activities may be required to be referred to the Regional Operations Committee and the relevant Operations Committee in order to assign responsibility for the completion of the management activity.

8.3. Tembe Elephant Park resource requirements

In developing annual plans of operation for Tembe Elephant Park the resource requirements, associated with management activities and targets set out in the operational management framework must be considered and budgeted for. The following section broadly identifies the issues that must be considered in determining adequate human resources, funds and equipment for the protected area.

8.3.1. Staff and equipment

Annual plans of operation must consider the staff and equipment needs to undertake the following activities:

- Administration and management of the TEP.
- Patrolling of the TEP and its boundaries.
- An annual burning programme and fire fighting response to wildfires.
- An ongoing invasive plant species control programme.
- An ongoing soil erosion control and rehabilitation programme.
- Ecological monitoring and data capture.
- Maintenance of roads, paths and fences within the TEP.
- Maintenance of facilities and infrastructure within the TEP.
- Capture of visitor information and statistics.

- Admitting visitors to the TEP and charging entrance fees.
- Community liaison and cooperation.
- Environmental interpretation and education.

8.3.2 Projects

In addition to the requirements for annual recurrent funding for the issues outlined above, there will be a need to identify funding requirements for the following capital projects:

- Development of a Concept Development Plan to guide developments and specifically Eco-cultural tourism activities and infrastructure in the Park.
- Maintenance of buildings, roads and fences.

8.4. Annual financial plan

The annual plan of operation must contain a financial plan, which must be approved by the Regional Operations Committee. The annual goals, contained in the annual plan of operation, will be prioritised with the approved budget and guided by the strategic direction of the protected area management plan.

8.5. Financial accounting system

It is accepted that all fiscal management will be guided by the Public Finance Management Act (No.1 of 1999) and the Ezemvelo KZN Wildlife Financial Policy and Procedures directive. Funding sources not generated internally will be accounted for in the prescribed process as determined by the donor source.

8.6. Financial reporting

Annual and quarterly fiscal reports will be submitted as directed by the Regional Operations Committee.

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Appendix A: Definitions of terms

Alien species	**Species or genotypes, which are not indigenous to Tembe Elephant Park and the surrounding area including hybrids and genetically altered organisms.**
Biodiversity	**The variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part and also includes diversity within species, between species, and of ecosystems (as per the National Environmental Management: Biodiversity Act, 2004 [Act No. 10 of 2004]).**
Bioprospecting	**In relation to indigenous biological resources, means any research on, or development or application of, indigenous biological resources for commercial or industrial exploitation, and includes – the systematic search, collection or gathering of such resources or making extractions from such resources for purposes of such research, development or application (as per the National Environmental Management: Biodiversity Act, 2004 [Act No. 10 of 2004])**
Board	**The KwaZulu-Natal Nature Conservation Board as defined by the KwaZulu-Natal Nature Conservation Management Act, 1997 (Act No.9 of 1997).**
Buffer zone	**An area surrounding Tembe Elephant Park that has restrictions placed on its use or where collaborative projects and programmes are undertaken to afford additional protection to the TEP.**
Co-management	**The term 'Co-management' must be understood within the context of Section 42 of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003).**
Cultural heritage	**As defined in Article 1 of the World Heritage Convention (UNESCO) 1972 , 'cultural heritage' is considered as "monuments, architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of (…) value from the point of view of history, art or science, groups of buildings, groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of significance from the point of view of history, art or science, sites, works of man or the combined works of nature and man, and areas including archaeological sites which are of (…) value from the historical, aesthetic, ethnological or anthropological point of view." For the purpose of this IMP, living heritage features such as mountains, pools, rivers, boulders, etc. as well as palaeontological features are included under this definition.**
Eco-cultural Tourism (ecotourism):	**The travel to natural areas to learn about the way of life and cultural history of people, the natural history of the environment, while taking care not to change the environment and contributing to the economic welfare of the local people (adapted from a definition of ecotourism by Hecto Ceballos Lascurain).**
Ecological integrity	**The sum of the biological, physical and chemical components of an ecosystem and its products, functions and attributes (as per the National Environmental Management: Protected Areas Act, 2003 [Act No. 57 of 2003]).**
Ecosystem	**A dynamic complex of animal, plant and micro-organism communities and their non-living environment interacting as a functional unit (as per the National Environmental Management: Protected Areas Act, 2003 [Act No. 57 of 2003]).**
Ecosystem	**As defined in Section 1 of the National Environmental Management: Protected**

services	**Areas Act, 2003 (Act No. 57 of 2003) as "environmental goods and services" meaning:** **a. Benefits obtained from ecosystems such as food, fuel and fibre and genetic resources.** **b. Benefits from the regulation of ecosystem processes such as climate regulation, disease and flood control and detoxification.** **c. Cultural non-material benefits obtained from ecosystems such as benefits of a spiritual, recreational, aesthetic, inspirational, educational, community and symbolic nature;"** **For the purposes of this management plan, sustainable water production is also specifically included under this definition.**
Environmental degradation	**The deterioration of the environment through depletion of resources such as air, water and soil; the destruction of ecosystems and the loss of species or undesirable reduction of species population numbers from a specific area from an environmental health perspective**
Ezemvelo KZN Wildlife	**Nature Conservation Service as established in terms of the KwaZulu-Natal Nature Conservation Management Act No. 9 of 1997.**
Indigenous species	**In relation to a specific protected area, means a species that occurs, or has historically occurred, naturally in a free state of nature within that specific protected area, but excludes a species introduced in that protected area as a result of human activity (as per the National Environmental Management: Protected Areas Act, 2003 [Act No. 57 of 2003]).**
Invasive species	**Means any species whose establishment and spread outside of its natural distribution range –** **a. Threaten ecosystems, habitats or other species or have a demonstrable potential to threaten ecosystems, habitats or other species.** **b. May result in economic and environmental harm or harm to human health.** **(As per the National Environmental Management: Protected Areas Act, 2003 [Act No. 57 of 2003]).**
Joint management	**The agreed co-ordination of management and/or management actions by landowners and/or mandated managers on their individual or combined properties in order to achieve common management objectives.**
Local community	**Any community of people living or having rights or interests in a distinct geographical area (as per the National Environmental Management: Protected Areas Act, 2003 [Act No. 57 of 2003]).**
Management	**In relation to a protected area, includes control, protection, conservation, maintenance and rehabilitation of the protected area with due regard to the use and extraction of biological resources, community-based practices and benefit sharing activities in the area in a manner consistent with the Biodiversity Act (as per the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003).**
Management	**In relation to a protected area, means the organ of state or other institution or person in which the authority to manage the protected area is vested (as per the**

authority	**National Environmental Management: Protected Areas Act, 2003 [Act No. 57 of 2003]).**
Monitoring	**The collection and analysis of repeated observations or measurements to evaluate change in status, distribution or integrity in order to track the impacts of directed management implemented to achieve a stated management objective.**
Nature conservation	**The conservation of naturally occurring ecological systems, the sustainable utilisation of indigenous plants and animals therein, and the promotion and maintenance of biological diversity (as per the KwaZulu-Natal Nature Conservation Management Act, 1997 [Act No.9 of 1997]).**
Neighbouring community	**The communities and people permanently living in the local municipal area/s bordering onto the TEP.**
Natural heritage	**As defined in Article 2 of the World Heritage Convention (UNESCO) 1972 'natural heritage' is as: "natural features consisting of physical and biological formations or groups of such formations, which are of (…) value from the aesthetic or scientific point of view, geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of (…) value from the point of view of science or conservation, natural sites or precisely delineated natural areas of (…) value from the point of view of science, conservation or natural beauty." For the purposes of this IMP, this would include the required ecological integrity of the protected area for the production of ecosystem services.**
Partnerships	**A co-operative and / or collaborative arrangement between the Game Reserve management / Ezemvelo KZN Wildlife and a third party that supports the achievement of the Game Reserve management objectives.**
Protected areas	**Means any area declared or proclaimed as such in terms of section 3 or listed in the Second Schedule to the KwaZulu-Natal Nature Conservation Management Act, 1997 (Act No. 9 of 1997); or** **Means any of the protected areas referred to in section 9 of the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003).**
Protected area management committee	**Is the management body that deals with the day-to-day management of the protected area and is chaired by the Conservation Management Specialist.**
Ramsar Convention	**Means: "The Convention on Wetlands of International Importance, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty, which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources." (There are presently 158 Contracting Parties to the Convention, the Convention has broadened its scope to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities.)**
Stakeholders/ interested parties	**These are interested individuals or groups concerned with or affected by an activity and its consequences. These include the authorities, local communities, investors, work force, consumers, environmental interest groups and the general public. According to the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004), "stakeholder" means 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).
Surveillance	**The collection and analysis of single or repeated measurements to establish status or distribution or integrity at a point in time in the absence of a specific management context or objective.**
Sustainable	**In relation to the use of a biological resource, means the use of such resource in a way and at a rate that would not lead to its long-term decline; would not disrupt the ecological integrity of the ecosystem in which it occurs; and would ensure its continued use to meet the needs and aspirations of present and future generations of people (as per National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).**
Wilderness area	**Means an area designated in terms of section 22 or 26 for the purpose of retaining an intrinsically wild appearance and character, or capable of being restored to such and which is undeveloped and roadless, without permanent improvements or human habitation (as defined by the National Environmental Management: Protected Areas Act, 2003 [Act No. 57 of 2003]).**
World heritage site	**Means a World Heritage Site as defined in the World Heritage Convention Act, No. 49 of 1999 under Chapter 1, section 1 subsection (xxiv).**

Appendix B: List of statutes to which Tembe Elephant Park is subject

Biodiversity and Cultural Resource Management and Development:

- Animals Protection Act [No. 71 of 1962]
- Atmospheric Pollution Prevention Act [No. 45 of 1965]
- Conservation of Agricultural Resources Act [No. 43 of 1983]
- Constitution of the Republic of South Africa [No. 108 of 1996]
- Criminal Procedures Act [1977]
- Environment Conservation Act [No. 73 of 1989]
- Forest Act [No. 122 of 1984]
- Hazardous Substances Act [No. 15 of 1973]
- KwaZulu Nature Conservation Act [No. 8 of 1975]
- KwaZulu-Natal Heritage Management Act [No. 10 of 1997]
- KwaZulu-Natal Nature Conservation Management Act [No. 9 of 1997]
- National Environmental Management Act [No. 107 of 1998]
- National Environmental Management: Biodiversity Act [No. 10 of 2004]
- National Environmental Management: Protected Areas Act [No. 57 of 2003]
- National Forests Act [No. 84 of 1998]
- National Heritage Resources Act [No. 25 of 1999]
- National Water Act [No. 36 of 1998]
- National Water Amendment Act [No. 45 of 1999]
- National Veld and Forest Fire Act [No 101 of 1998]
- Nature Conservation Ordinance [No. 15 of 1974]

General Management:

- Development Facilitation Act [No. 67 of 1995]
- Disaster Management Act [No. 57 of 2002]
- Fire Brigade Services Act [No. 99 of 1987]
- Local Government: Municipal Systems Act [No. 32 of 2000]
- National Road Traffic Act [No. 93 of 1996]
- National Building Standards Act [No. 103 of 1977]
- Natal Town Planning Ordinance [No. 27 of 1949]
- Occupational Health and Safety Act [No. 85 of 1993]

- KwaZulu-Natal Planning and Development Act [No. 5 of 1998]
- Water Services Act [No. 108 of 1997]

Financial Management:

- Public Finance Management Act [No. 1 of 1999]

Human Resource Management:

- Basic Conditions of Employment Act [No. 75 of 1997]
- Broad-Based Black Economic Empowerment Act [No. 53 of 2003]
- Compensation for Occupational Injuries and Diseases Act [No. 130 of 1993]
- Employment Equity Act [No. 55 of 1998]
- Labour Relations Act [No. 66 of 1995]
- Pension Funds Act [No. 24 of 1956]
- Skills Development Act [No. 97 of 1998]
- Skills Development Levies Act [No. 9 of 1999]
- Unemployment Insurance Act [No. 63 of 2001]

Appendix C: Tembe Elephant Park proclamation

usuka lapho ubheke ngakumadigri angu 7, amaminithi angu 49, amasekendi angu 49 ibanga elicishe libengamamitha angu 2 650 kuya eNdaweni L (y+54584, x+2995042); okungamamitha angu 20 ngasenyakatho komugqa ophakathi komGwaqo oya eNgwavuma/KwaNgwanase;

usuka lapho ubheke ngasenyakatho-ntshonalanga uqonde ngakumadigri angu 120, amaminithi angu 27, amasekendi angu 47 ibanga elingamamitha angu 4 513 kuya eNdaweni N (y+57474, x+2992574). Lesisigaba L - N somncele siwumugqa oyinsonge olinganisene, futhi ongamamitha angu 20 ngasenyakatho-mpumalanga komugqa ophakathi komGwaqo oya eNgwavuma/KwaNgwanase;

ukusuka ku N, umncele uqhubeka udlule ku -

P (y+57478, x+2992630);
naku Q (y+57566, x+2992626)
kuya ku R (y+57575, x+2992718)

ukuze **ushiye ngaphandle** isitolo saseSihangwane, izindlu zaso ezingaphandle kanye nengxenye elingene yamagceke. Indawo R (njengeNdawo N) ingamamitha angu 20 ngasenyakatho-mpumalanga komugqa ophakathi komGwaqo oya eNgwavuma/KwaNgwanase nasemnceleni oseceleni womhlaba oshiyelwe isakhiwo sezitolo;

ukusuka ku R, umncele ubheka ngasentshonalanga uqonde kumadigri anu 92, amaminithi angu 6, amasekendi angu 45 ibanga elingamamitha angu 3 445 uze ufike eNdaweni M (y+61018, x+2992591); naso lesisigaba R - M siwumugqa oyinsonge ongamamitha angu 20 ngasenyakatho, futhi olingamisene nomugqa ophakathi komGwaqo oya eNgwavuma/KwaNgwanse; Indawo M iseduze kwalapho kuhiangana khona umgwaqo omkhulu wokungena emnceleni nomGwaqo oya eNgwavuma/KwaNgwanase;

ukusuka ku M, umncele uqhubeka uyele ngasenyakatho uqonde ngqo ugudle ngasempumalanga kwalapho kuphela khona umgwaqo wokungena emnceleni, uqonde kumadigri angu 185, amaminithi angu 18, amasekendi angu 39 ibanga elingamamitha angu 20 214 uqonde eNdaweni A, okuyindawo lapho uqala khona.

Ubungako bendawo equkethwe kulomdwebe ongenhla bucishe bubengamahekthare angu 29 878.

KWAZULU GOVERNMENT NOTICE NO 73 OF 1983
ESTABLISHMENT OF TEMBE ELEPHANT PARK
IN MAPUTALAND, DISTRICT OF INGWAVUMA

Under and by virtue of the powers vested in me by section 29 (1) of the KwaZulu Nature Conservation Act (Act 8 of 1975), I, Mangosuthu G. Buthulezi, Chief Minister of KwaZulu, hereby establish on land set aside for that purpose by the Cabinet of KwaZulu, a Game Reserve to which I assign the name "Tembe Elephant Park", the boundaries of which are defined in the accompanying schedule.

M.G. BUTHELEZI
CHIEF MINISTER OF KWAZULU

SCHEDULE

Starting at Point A (y+59147, x+2972464) near the intersection of the main access road with the sisal strip immediately south of the R.S.A./Mocambique border, at a rough geographical co-ordinate of -

Latitude: 26 degrees, 51 minutes, 51 seconds south, and
Longitude: 32 degrees, 24 minutes, 17 seconds east.

From A, the boundary proceeds roughly eastwards along the southern side of the sisal strip at a direction of 270 degrees, 4 minutes, 18 seconds for a distance of 18 401 metres to Point B (y+40746, x+2972487) which is at the intersection of the southern edge of the sisal strip with a cutline coming in from the south;

thence, along the above cutline roughly southwards at a direction of 17 degrees, 6 minutes 16 seconds for a distance of 9 683 metres to Point C (y+43594, x+2981742);

thence, along a direction of 120 degress, 26 minutes, 11 seconds for a distance of 1 192 metres to Point D (y+44622, x+2981138);

thence along a direction of 29 degrees, 25 minutes, 39 seconds for a distance of 2 911 metres to Point E (y+46052, x+2983673);

thence along a direction 88 degrees, 52 minutes, 48 seconds for a distance of 1 381 metres to Point F (y+47433, x+2983700);

thence, along a direction of 13 degrees, 30 minutes, 48 seconds for a distance of 6 483 metres to Point G (y+48948, x+2990004);

thence, along a direction of 90 degrees, 10 minutes, 38 seconds for a distance of 1 293 metres to Point H (y+50241, x+2990000);

thence, along a direction of 2 degrees, 8 minutes, 11 seconds for a distance of 1 931 metres to Point J (y+50313, x+2991930);

thence, along a direction of 80 degrees, 29 minutes, 58 seconds for a distance of 2 950 metres to Point K (y+53223, x+2992417);

thence, along a direction of 7 degrees, 49 minutes, 49 seconds for a distance of approximately 2 650 metres to Point L (y+53584, x+2995042) which is 20 metres north of the centre-line of the Ingwavuma/KwaNgwanase Road;

thence, generally north-westwards along a direction of 120 degrees, 27 minutes, 47 seconds for a distance of 4 513 metres to Point N (y+57474, x+2992754). This section L-N of the boundary is a curvilinear line parallel to, and 20 metres north-east from, the centre-line of the Ingwavuma/KwaNgwanase Road;

from N, the boundary proceeds through -
P (y+57478, x+2992630);
and Q (y+57566, x+2992626)
to R (y+57575, x+2992718)

2

so as to **exclude** Sihangwane shop, its outbuildings and a reasonable extent of yard space. Point R is (like Point N) 20 metres north-east from the centre-line of the Ingwavuma/KwaNgwanase Road and on the lateral boundary of the land excluded for the shop complex;

from R, the boundary proceeds generally westwards along a direction of 92 degrees, 6 minutes, 45 seconds for a distance of 3 445 metres to Point M (y+61018, x+2992591); this section R-M is again a curvilinear line 20 metres north of, and parallel to, the centre-line of the Ingwavuma/KwaNgwanase Road; Point M is near the intersection where the main border access road joins the Ingwavuma/KwaNgwanase Road;

from M, the boundary proceeds roughly northwards in a straight line along the eastern edge of this border access road, a direction of 185 degrees, 18 minutes, 39 seconds for a distance of 20 214 metres to Point A, the point of starting.

The area contained within the above figure is approximately 29 878 hectares".

KWAZULU AMPTELIKE KOERANT NR 73 VAN 1983

VESTIGING VAN DIE TEMBE OLIFANT PARK IN MAPUTALAND, INGWAVUMA DISTRIK

Kragtens die bevoegdheid my verleen by artikel 29 (1) van die KwaZulu Natuurbewaringswet, (Wet 8 van 1975) stig ek, Mangosuthu G. Buthelezi, Hoofminister van KwaZulu op die grond wat deur die Kabinet van KwaZulu vir daardie doel afgesonder is, 'n wild reservaat waaraan ek die naam "Tembe Olifant Park" toeken en waarvan die grense omskryf word in die bygaande bylae.

M.G. BUTHELEZI
HOOFMINISTER VAN KWAZULU

BYLAE

Van Punt A (y+59147, x+2972464) naby die kruising van die hoof toegangspad met die sisal strook direk suid van die R.S.A./Mosambiek grens, by 'n ruwe geografiese koördinaat van -

Breedtegraad: 26 grade, 51 minute, 61 sekondes suid; en
Lengtegraad: 32 grade, 24 minute, 17 sekondes oos.

Vanaf A, gaan die grens ooswaarts langs die suidelike sy van die sisal strook in 'n rigting van 270 grade, 4 minute, 18 sekondes vir 'n afstand van 18 401 meter na Punt B (y+40746, x+2972487) by die kruising van die suidelike kant van die Sisal strook met 'n kaplyn wat inkom van die suide;

daarvandaan, langs die kaplyn ruweg suidwaarts in 'n rigting van 17 grade, 6 minute, 16 sekondes vir 'n afstand van 9 683 meter na Punt C (y+43594, x+2981742);

daarvandaan in 'n rigting van 120 grade, 26 minute, 11 sekondes vir 'n afstand van 1 192 meter na Punt D (y+44622, x+2981138);

daarvandaan in 'n rigting van 29 grade, 25 minute, 39 sekondes vir 'n afstand van 2 911 meter na Punt E (y+46052, x+2983673);

daarvandaan in 'n rigting van 88 grade, 52 minute, 48 sekondes vir 'n afstand van 1 381 meter na Punt F (y+47433, x+2983700);

daarvandaan in 'n rigting van 13 grade, 30 minute, 48 sekondes vir 'n afstand van 6 483 meter na punt G (y+48948, x+29900004);

daarvandaan in 'n rigting van 90 grade, 10 minute, 38 sekondes vir 'n afstand van 1 293 meter na Punt H (y+50241, x+2990000);

daarvandaan in 'n rigting van 2 grade, 8 minute, 11 sekondes vir 'n afstand van 1 931 meter na Punt J (y+50313, x+2991930);

daarvandaan in 'n rigting van 80 grade, 29 minute, 58 sekondes vir 'n afstand van 2 950 meter na Punt K (y+53223, x+2992417);

daarvandaan in 'n rigting van 7 grade, 49 minute, 49 sekondes vir 'n afstand ongeveer 2 650 meter na Punt L (y+54584, x+2995042); wat 20 meter noord is van die middellyn van die Ingwavuma/KwaNgwanase Pad;

daarvandaan ongeveer noord-weswaarts in 'n rigting van 120 grade, 27 minute, 47 sekondes vir 'n afstand van 4 513 meter na Punt N (y+57474, x+2992574).

Hierdie deel L - N van die grens is 'n kromlynige lyn parallel aan, en 20 meter noord-oos van die middellyn van die Ingwavuma/ KwaNgwanase Pad;

vanaf N, gaan die grens deur -

P (y+57478, x+2992630);
en Q (y+57566, x+2992626);
tot R (y+57575, x+2992718)

sodat dit die Sihangwane winkel, sy buite geboue en 'n redelike deel van die erf uitsluit. Punt R is (soos Punt N) 20 meter noord-oos van die middellyn van die Ingwavuma/KwaNgwanase Pad en die laterale grens van die grond uitgesluit vir die winkel kompleks;

vanaf R, gaan die grens ongeveer weswaarts in 'n rigting van 92 grade, 6 minute, 45 sekondes vir 'n afstand van 3 445 meter na Punt M (y+61018, x+2992591); hierdie deel R - M is weereens 'n kromlynige lyn 20 meter noord van, en parallel aan, die middellyn van die Ingwavuma/KwaNgwanase Pad; Punt M is naby die kruising waar die hoof grens toegangspad aansluit by die Ingwavuma/KwaNgwanase Pad;

vanaf M, gaan die grens ruweg noordwaarts in 'n reguit lyn langsdie oostelike rand van die grens toegangspad, 'n rigting van 185 grade, 18 minute, 39 sekondes vir 'n afstand van 20 214 meter na Punt A, die aanvangspunt.

Die area begrepe in die bostaande figuur is ongeveer 29 878 hektaar.

3

OFFICIAL GAZETTE

AMPTELIKE KOERANT

IGAZETHI KA HULUMENI

KWAZULU

GOVERNMENT SERVICE - UHULUMENI - REGERINGSDIENS

PRICE R1,10 VOLUME 17 | INTENGO R1,10 13/04/93 | PRYS R1,10 No. 15

UMNYANGO WEZOMNOTHO | DEPARTMENT OF ECONOMIC AFFAIRS | DEPARTEMENT VAN EKONOMIESE SAKE

ISAZISO SIKAHULUMENI WAKWAZULU UNOMBOLO 17 SIKA 1993

UKUMISWA KWEPAKI LEZINDLOVU LAKWATEMBE, ESIFUNDENI SASENGWAVUMA, KWAZULU.

Ngegunya namandla enginikezwe wona yisigaba 29(1) soMthetho waKwaZulu wokoNgiwa kweMvelo, 1975 (uMthetho 8 ka 1975) njengoba uchitshiyelwe, Mina, Mangosuthu Gatsha Buthelezi, uNgqongqoshe wezoMnotho, ngalokhu nginquma ukuthi indawo echazwe emdwebeni ehambisana nalesisaziso, futhi echazwe kuSheduli ekhona lapha, ukuba yaziwe ngokuthi yiPaki leZindlovu lakwaTembe.

iSaziso sikaHulumeni waKwaZulu uNombolo 73 sangomhlaka 21 Oktoba 1983 ngalokhu siyachithwa.

M.G. BUTHELEZI

UNGQONGQOSHE WEZOMNOTHO

ISHEDULI

INCAZELO YEPAKI LEZINDLOVU LAKWATEMBE

Kusukela esiKhonkwaneni uA emdwebeni ehambisana naleliSheduli; kuhambe emingceleni yomdwebo njengoba kukhonjisiwe kudlula eziKhonkwaneni B C D E F G H J K L M N O P Q R S T U V W X Y Z A1 B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 Q1 R1 S1 T1 kubuyele ku-A; [illegible]hatha indawo engu 30013.3236 yama hectari etholakala epulazini likaTembe 16445.

KWAZULU GOVERNMENT NOTICE NO. 17 1993

ESTABLISHMENT OF THE TEMBE ELEPHANT PARK, INGWAVUMA DISTRICT, KWAZULU

Under and by virtue of the powers vested in me by section 29(1) of the KwaZulu Nature Conservation Act, 1975 (Act 8 of 1975) as amended, I, Mangosuthu Gatsha Buthelezi, Minister of Economic Affairs, hereby determine that the area defined by the accompanying diagram and supporting Schedule be known as a Game Reserve, and that the name Tembe Elephant Park be assigned to the said area.

KwaZulu Government Notice No. 73 of 21 October, 1983 is hereby repealed.

M.G. BUTHELEZI

MINISTER OF ECONOMIC AFFAIRS

SCHEDULE

DESCRIPTION OF THE TEMBE ELEPHANT PARK

Beginning at Beacon A on the accompanying diagram; thence along the boundaries of the diagram as indicated, through Beacons B C D E F G H J K L M N P Q R S T U V W X Y Z A1 B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 Q1 R1 S1 T1 and returning to A; covering an area of 30013.3236 hectares; situated on the farm Tembe No. 16445.

1

SIDES Metres		DIRECTIONS		CO-ORDINATES Y System Lo. 33° X	
	Constants:			±0 , 00	+2900000 , 00
AB	272,87	1.48.20	A	+ 40 241 , 28	+ 72 473 , 37
BC	568,53	91.21.00	B	+ 40 249 , 89	+ 72 746 , 11
CD	3 648,48	17.19.46	C	+ 40 818 , 25	+ 72 732 , 71
DE	290,23	16.18.30	D	+ 41 905 , 01	+ 76 215 , 58
EF	5 488,92	17.12.18	E	+ 41 986 , 51	+ 76 494 , 14
FG	1 192,83	120.21.50	F	+ 43 610 , 09	+ 81 737 , 44
GH	2 939,68	29.50.00	G	+ 44 639 , 30	+ 81 134 , 47
HJ	1 205,09	90.00.00	H	+ 46 101 , 73	+ 83 684 , 57
JK	6 532,60	14.13.52	J	+ 47 306 , 82	+ 83 684 , 59
KL	1 349,76	89.52.00	K	+ 48 912 , 74	+ 90 016 , 72
LM	2 093,82	8.40.44	L	+ 50 262 , 50	+ 90 019 , 88
MN	1 159,53	86.54.10	M	+ 50 578 , 45	+ 92 089 , 73
NP	434,37	89.30.20	N	+ 51 736 , 28	+ 92 152 , 41
PQ	971,33	89.51.20	P	+ 52 170 , 64	+ 92 156 , 15
QR	2 893,44	10.19.41	Q	+ 53 141 , 96	+ 92 158 , 62
RS	741,49	119.38.20	R	+ 53 660 , 71	+ 95 005 , 18
ST	3 695,64	120.50.40	S	+ 54 305 , 19	+ 94 638 , 50
TU	66,94	190.13.10	T	+ 57 478 , 13	+ 92 743 , 72
UV	125,95	111.44.30	U	+ 57 466 , 25	+ 92 677 , 84
VW	119,91	10.13.10	V	+ 57 583 , 24	+ 92 631 , 19
WX	197,65	98.05.20	W	+ 57 604 , 51	+ 92 749 , 20
XY	357,08	95.50.00	X	+ 57 800 , 20	+ 92 721 , 39
YZ	99,26	99.46.50	Y	+ 58 155 , 42	+ 92 685 , 09
ZA1	79,36	87.55.20	Z	+ 58 253 , 24	+ 92 668 , 23
A1B1	1 632,29	95.37.40	A1	+ 58 332 , 55	+ 92 671 , 11
B1C1	1 012,99	88.27.10	B1	+ 59 956 , 98	+ 92 511 , 08
C1D1	47,88	114.33.20	C1	+ 60 969 , 60	+ 92 538 , 45
D1E1	3 468,76	185.43.39	D1	+ 61 013 , 15	+ 92 518 , 55
E1F1	5 458,43	185.27.46	E1	+ 60 666 , 98	+ 89 067 , 10
F1G1	1 576,42	185.14.10	F1	+ 60 147 , 35	+ 83 633 , 46
G1H1	868,28	185.10.20	G1	+ 60 003 , 47	+ 82 063 , 62
H1J1	3 572,48	184.30.15	H1	+ 59 925 , 20	+ 81 198 , 87
J1K1	2 180,43	184.48.27	J1	+ 59 644 , 65	+ 77 637 , 42
K1L1	1 880,48	185.02.00	K1	+ 59 461 , 91	+ 75 464 , 66
L1M1	588,86	187.21.00	L1	+ 59 296 , 90	+ 73 591 , 44
M1N1	578,60	189.31.00	M1	+ 59 221 , 57	+ 73 007 , 39
N1P1	186,03	270.08.30	N1	+ 59 125 , 92	+ 72 436 , 75
P1Q1	2 368,86	269.14.16	P1	+ 58 939 , 89	+ 72 437 , 21
Q1R1	6 643,61	269.39.32	Q1	+ 56 571 , 24	+ 72 405 , 70
R1S1	3 163,53	270.07.08	R1	+ 49 927 , 75	+ 72 366 , 14
S1T1	3 966,54	270.31.22	S1	+ 46 764 , 23	+ 72 372 , 71
T1A	2 557,39	271.26.40	T1	+ 42 797 , 86	+ 72 408 , 90

TRIG BEACONS

11/2632	+57 250,95	+75 001,35
16/2632	+53 596,17	+84 486,46
17/2632	+46 643,70	+73 538,25
49/2732	+57 633,75	+89 749,16

DESCRIPTION OF BEACONS

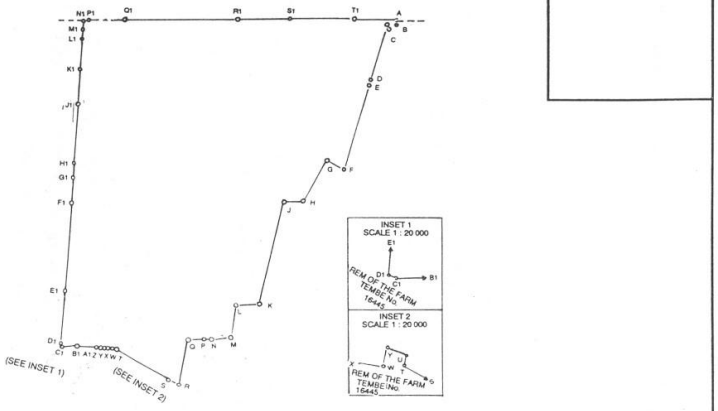
Iron standard : A, C, D, G, H, J, K, P, Q, S, T, U, V, W, X, Y, A1, B1, C1, D1, E1, F1, G1, H1, J1, K1, L1, M1, N1

Iron standard near wooden fence post : B, E, F, L, M, N, R, Z

0,7m conical concrete pillar : P1

,2m conical concrete pillar : Q1, S1

1m conical concrete pillar : R1, T1



REM OF THE FARM TEMBE No. 16445

SCALE 1 : 200 000

The figure A B C D E F G H J K L M N P Q R S T U V W X Y Z A1 B1 C1 D1 E1 F1 G1 H1 J1 K1 L1 M1 N1 P1 Q1 R1 S1 T1

represents 30 013 3236 Hectares of land, being

SUB 2 OF THE FARM TEMBE No. 16445

situate in the Administrative District and Province of Natal

Surveyed in February 1977, March and April 1979, March 1980, November 1988, July, September - November 1991 and February 1992 by me	and in October - December 1975, December 1976, December 1978 - February 1979, March 1980, July, September and November 1991 and February 1992 by me	and in July and September 1991 and February 1992 by me	and in July, September and November 1991 and February 1992 by me
D.G. Smith Professional Land Surveyor	H.B. Isherwood Professional Land Surveyor	C.C. Krause Professional Land Surveyor	J.M. Goosen Professional Land Surveyor

This diagram is annexed to No.	The original diagram is S.G. No.	File No.
Registrar of Deeds	C.C.T. No.	Survey Records No.
		Compilation

Appendix D: Co-management agreement for Tembe Elephant Park

CO-MANAGEMENT AGREEMENT FOR THE TEMBE ELEPHANT PARK ENTERED INTO IN TERMS OF SECTION 42 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT, 2003

Entered into between:

KWAZULU-NATAL NATURE CONSERVATION BOARD

Duly constituted in terms of the KwaZulu-Natal Nature Conservation Management Act, 1997 (Act No.9 of 1997) duly represented herein by **Dr Bandile Mkhize** in his capacity as Chief Executive Officer.

(hereinafter referred to as the **Board**)

(Trading as Ezemvelo KZN Wildlife)

and

TEMBE COMMUNITY TRUST

(herein represented by Mr DP Mdluli on behalf of the Tembe Community Trust, the beneficiaries of who are members of the Tembe Community, who warrant his authority)

CO-MANAGEMENT AGREEMENT

WHEREAS the National Environmental Management: Protected Areas Act 57, 2003 makes provision for the designated Management authority to enter into a co-management agreement with any other parties in respect of management of a state managed protected area;

AND WHEREAS the Constitution of the Republic of South Africa Act, 1996 makes provision for restitution, or other equitable redress, to persons and communities, who were dispossessed of rights in Claimed Land after 19th June 1913, using the Restitution of Land Rights Act 22, 1994 as amended, as a result of past racially discriminatory laws or practices;

AND WHEREAS Inkosi M.I Tembe lodged on behalf of the Claimants, a claim for restitution of rights in land lost by the Claimants in an area situated within the Tembe Elephant Park, fully described in **Annexure A** hereto;

WHEREAS the Tembe Community Trust and the management authority are parties to the Land Claim settlement agreement in respect of the claimed land in the Tembe Elephant Park;

AND WHEREAS the trust and the management authority recognize and concur, in this Co-management Agreement, to observe the fundamental principles of resolving Land Claims on state managed protected areas as signed by the Minister of Agriculture, Land Affairs and the Minister of Environmental Affairs and Tourism, annexure;

AND WHEREAS the parties agreed to negotiate the co-management agreement on the basis set out in s42 of the National Environmental protected areas act ;

AND WHEREAS the parties agreed that the co- management shall uphold the principles of economic viability, financial sustainability and enlist management of the protected area and that such agreement shall avoid fragmentation or result in a duplication of management functions;

AND WHEREAS the parties acknowledge that the existing liaison structures (i.e. local boards) and broader community benefaction through the community levy shall continue to

operate in the manner they are currently operating to avoid unnecessary conflict between Land Claim beneficiaries and the broader community;

AND WHEREAS the trust agreed to the development and implementation of the corporate strategy and its subsidiary tools by the management authority;

AND WHEREAS the parties agreed to the development of communication strategy for effective communication during the course of the implementation of this agreement;

TABLE OF CONTENTS

1. DEFINITIONS AND INTERPRETATIONS

The following words and expressions in this Memorandum of Agreement shall have the meanings hereby assigned to them:

1.1. "**Access Rights**" means regulated access to the restored land for landowners and the relevant Management Authorization in accordance with the Protected Areas Act and the Settlement Agreement.

1.2. "**Agreed Position**" means a common approach by Government on how restitution claims shall be settled in Protected Areas in terms of Clause 4 hereof

1.3. "**Applicable legislation**". includes, but not limited to, the following Acts (and their regulations):

Environment Conservation Act, 1989

KwaZulu-Natal Nature Conservation Management Act, 1997

Marine Living Resources Act,1998

National Environment Management Act,1998

National Environmental Management: Protected Areas Act, 2003

National Environmental Management: Biodiversity Act, 2004

Nature Conservation Management Act,1997

International Conventions that the State is party to

Public Finance Management Act, 1999

1.4. "**Beneficiation**" means direct and indirect benefits derived by the claimants from the activities to be conducted and operated from the said areas including appropriate skills transfer in accordance with the Agreed Position

1.5. "**Biodiversity**" has the meaning ascribed to it in Section 1 of the National Environmental Management: Biodiversity Act, 2003 (Act No. 10 of 2003);

1.6. "**Cabinet Memorandum**" means the Cabinet Memorandum no. 5 of 2002, dated 13 September 2002, that was approved on 9 October 2002 in which Government states

its recommended position and methodology for the restitution of Land Claims in Protected Areas.

1.7. **"The Board"** means the KwaZulu Nature Conservation Board established in terms of the KwaZulu Natal Nature Conservation Management Act, 1997

1.8. **"EKZNW"** means the Management Authority herein referred to as KwaZulu Natal Nature Conservation Service (KZNCS)

1.9. **"Land owner"** shall for purpose of this co-management agreement mean the Tembe Community Trust whose land has been restored through the Restitution of Land Rights Act, 1994 (Act No. 22 of 1994) as amended

1.10. **"Capacity building" means** skills transfer and development in accordance with applicable legislation

1.11. **"Co-management"** means an agreement for the management of Land by the Management Authority, being an organ of state as lead manager, and the new owners as contemplated in Section 42 of the Protected Areas Act and as set out in the Agreed Position

1.12. **"Commission"** means the Commission on Resolution of Land Rights

1.13. **"Concession"** means the grant by a Management Authority for a specific Protected Area of the commercial right to use a defined area or premises for a specified purpose and for a limited period within a Protected Area

1.14. **"Business opportunities"** means commercial opportunities that are capable of being conducted on the Land in accordance with the management plan and provided for in terms of section 50 of the Protected Areas Act

1.15. **"Integrated Management Plan"**. means the primary overaching protected area plan which forms the framework within which all other planning components are developed

1.16. **"Effective Date"** means the date of signature of this co-management agreement last signing by the parties

1.17. **"Enforceability"** means the implementation of this co-management agreement

1.18. **"Land Claims"** means restitution claims lodged with the Commission in terms of the Restitution Act and which are in Protected Areas

1.19. **"Land"** means the land to be restored in title to a Claimant

1.20. **"Management Authority"** means the organ of state or other institution or person in which the authority to manage the protected area is vested. Where appropriate, management authority shall be interpreted to include, or mean, KwaZulu-Natal Nature Conservation Board, as defined in the KwaZulu-Natal Nature Conservation Management Act No. 9 of 1997;

1.21. **"Co-Management Agreement"** means an agreement for the collaborative management of land, restored to its rightful owners through a land claim settlement agreement in accordance with Restitution Act, contemplated in section 42 of the National Environmental Management Protected Areas Act 53 of 2003;

1.22. **"Parties"** means the KZNCBoard Minister and the Tembe Community Trust

1.23. **"Protected Area"** means a Protected Area as defined in the Protected Areas Act

1.24. **"Protected Areas Act"** means the National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) as amended by the National Environment Management: Protected Areas Amendment Act, 2004(Act No. 31 of 2004)

1.25. **"Restitution Act"** means the restitution of Land Rights Act, 1994 (Act No. 22 of 1994) as amended

1.26. **"Tembe Community Trust".**means the Tembe land claimants Community Trust, registered in terms of the Trust Property Control Act of 1988;

1.27. **"Settlement Agreement"** means the agreement between the DLA Minister and the Claimant and other relevant stakeholders with regard to the settlement of particular Land Claims in a Protected Area in accordance with the Agreed Position

2. COMMENCEMENT AND DURATION

2.1. This agreement shall come into effect on the date of the parties last signing, which will be known as the signature date and shall remain in force unless otherwise agreed in writing between the parties

3. ENFORCEABILITY

3.1. The parties to this agreement shall ensure that the provisions of this agreement insofar as they apply to individual landowners shall be exercised and enforced through the co-management committee comprising of representatives of the Landowner's Trust and the Management Authority

4. AGREED POSITION

4.1. The parties agree that the co-management agreement shall embrace the fundamental principles of the MOA, emanating from the Cabinet Memorundum; and thus agree on the following:

4.2. Where possible, feasible and necessary, the Management authority shall capture game, as a conservation management tool, and auction the surplus thereof on an annual basis. This shall be determined by the availability of excess animals declared after census

5. CAPACITY BUILDING

5.1. The Management authority shall set up a skills development fund, using funds from one key species (i.e. Black/White Rhino) secured from the auction sales, over an initial three year period to invest in local human capital. The express aim and objective of the fund shall be to facilitate training of a defined number of Land owners beneficiaries in line with the targets set up by the Trust and the co-management committee.

5.2. The skills development fund shall ensure that landowners and or landowner's beneficiaries receive at least the following training:

5.2.1. Provide bursaries for specialized courses

5.2.2. Offering in service training on identified field

5.2.3. On job practical training

5.2.4. Exposure trips

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5.3. Qualifying criteria and selection process. The following criteria will be used to administer the allocation of training opportunities.

5.3.1. Proven Membership of the claimant or broader community and

5.3.2. Matric or other Experience or Interest in the Conservation and ecotourism field,

5.3.3. Willingness to serve at least two years service in any other project, relevant to course studied, as identified by the Board of Trustees.

5.3.4. Prepared to sign a commitment agreement with the Tembe Community Trust.

6. EMPLOYMENT

6.1. Employment of full-time and contract staff shall remain the responsibility of the Management Authority. This responsibility shall be implemented in accordance with existing labour laws.

7. BUSINESS OPPORTUNITIES

7.1. The procurement of business opportunities within the Protected Area shall be implemented in accordance with the Broad based Black Economic Empowerment (BBBEE) and all other empowerment legislation.

8. ACCESS TO PROTECTED AREA

8.1. Access rights to the protected area by the landowners shall be subject to existing protected area management procedures to be enforced by the Management Authority. The Landowners shall list all their access needs for discussion, approval and management by the co-management structure.

9. ROLES AND RESPONSIBILITIES OF THE MANAGEMENT AUTHORITY

9.1. The management Authority shall take lead responsibility for the implementation of the co-management agreement in accordance with applicable legislation, policies and IMP. In this regard the Management Authority duties and obligation shall include, but not limited to:

9.2. Develop and implement the Integrated Management Plan for the Protected Area;

9.3. Recommend enabling policy and legislation to the;

9.4. Provide regulatory framework in respect of the Protected Area;

9.5. Nominate government representatives to the co-management committee

9.6. Continue to manage, maintain and develop the Protected Area in accordance with applicable legislation, policies and plans

9.7. Provide and manage skills transfer to the landowners

9.8. Manage the recruitment and employment of staff in the Protected Area in accordance with applicable legislation

9.9. Manage the procurement of services within the Protected Area in accordance with applicable legislation

9.10. Facilitate the process of developing and implementing a co-management agreement

10. ROLES AND RESPONSIBLITIES OF THE LAND OWNER'S TRUST

10.1. The landowners trust shall take lead responsibility in facilitating broader landowner's engagement and participation in activities pertaining to the co-management agreement. In this regard, the Land owner's Trust roles and responsibilities shall include; but not limited to the following:

10.2. Nominate representatives to the co-management committee;

10.3. Where possible, feasible and necessary, co-opt representatives to the co-management committee

10.4. Participate in the formulation of the Terms of Reference for the co-management committee;

10.5. Ensure that their representatives in the co-management committee represent the interests of landowners to their best capabilities;

10.6. Ensure that their representatives in the co-management committee report back to their constituencies

10.7. Participate in the monitoring and evaluation of the implementation of the co-management agreement.

11. . ROLES AND RESPONSIBILITIES OF THE CO-MANAGEMNT COMMITTEE

11.1. The co-management committee shall take lead responsibility in the coordination, planning, development and implementation of the co-management agreement. The committee shall primarily consist of the representatives from the Management Authority and the Land Owner's Trust who have the full mandate to negotiate on behalf of their representative organizations. The Committee may co-opt other members as it deem necessary provided they have acquired authority from their respective organizations and appropriate consultation has occurred with other parties constituting the co-management committee. In this regard, the responsibilities of the co-management committee shall include, but not limited to:

11.1.1. establish and implement communication strategy;

11.1.2. establish and implement conflict resolution mechanism

11.1.3. develop, communicate and implement co-management agreement

11.1.4. review co-management agreement

11.1.5. conduct skills audit and identify training needs for both co-management committee members and Land Owner's Trust

11.1.6. Plan, coordinate and facilitate workshops for stakeholders

11.1.7. Identify key partners in the co-management process

11.1.8. Develop a co-management strategy document

11.1.9. Monitor and evaluate the implementation of co-management agreement

12. DISPUTE RESOLUTION

12.1. In the event any dispute or difference arising between the Parties in relation to or arising out of this CO-MANAGEMENT AGREEMENT, including the interpretation and implementation, of this CO-MANAGEMENT AGREEMENT, the Parties delegated officials referred to in Annexure 1: shall forthwith meet to attempt to settle such a dispute or difference, and failing such settlement within a period of 14 (fourteen) business days:

12.2. Such a delegated official claiming such dispute or irreconcilable difference, shall declare a formal dispute and advice the other in writing thereof;

12.3. The party against whom material non-compliance is alleged must respond to the written allegation of the other party within 7 (seven) days of receiving written notification of non-compliance from the other party.

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12.4. The Parties should convene a meeting within 10 calendar days after the date of the correspondence referred to in paragraph 12.3 Above has been received by the particular party.

12.5. If the Disputing Parties are unable to resolve such dispute or difference the matter will be referred to the respective Chief Executive Officer of Ezemvelo KZNWildlife and Chairperson of the Tembe Community Trust or their delegated officials.

12.6. If the respective Chief Executive Officer of Ezemvelo KZNWildlife and the Chairperson of the Tembe Community Trust, or their delegated officials, are unable to resolve such dispute or difference as expeditiously as possible but in any event within a period of 14 (fourteen) business days from the matter being referred to them, the matter will be referred to the Ministers joining for resolution by them

12.7. The Ministers may also agree to designate a facilitator, to assist the parties to settle the dispute in any manner and furnish a written report on the best way of resolving the dispute within 10 working days of appointment.

12.8. In the event of any dispute or different arising between the Parties in relation to or arising out of this CO-MANAGEMENT AGREEMENT, including the interpretation, rectification, amendment, termination or cancellation of this CO-MANAGEMENT AGREEMENT, and if the parties are unable to resolve such dispute or difference, due to political process will follow as guided by relevant legislation.

12.9. In the event that clarity is required about any role of any Party to this CO-MANAGEMENT AGREEMENT r any aspect of the Memorandum of Agreement, the mechanism set out in this clause shall guide the Parties in defining their roles,

12.10. Responsibilities and interests in relation to the resolution of the Land Claims in Protected Areas

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13. NOTICES

13.1 All notices to be given in terms of this Agreement shall be given in writing and shall be addressed and delivered to the Parties by registered mail or by hand delivery to their postal or street addresses as set out below;

13.2 Any Party may change its address by giving 7 (Seven) days written notice to that effect to all other Parties.

14. DOMICILIUM

The PARTIES choose the following addresses as their *domicilium citandi et executandi* for all purposes, including delivery of notices and serving of paper namely:

The Chaiperson of the Board
KwaZulu Natal Nature Conservation
Queen Elizabeth Park
19 Peter Brown
Cascades
3245
Tel: 033- 8451431
Fax: 033-8451442
Or
The Chaiperson of the Board
KwaZulu Natal Nature Conservation
Queen Elizabeth Park
P.O. Box 13053
Cascades
3245
And
The Chairperson
The Tembe Community Trust

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Appendix E: List of policies, unpublished documents and supporting documentation

Copies available from: a) Reserve Management and / or,
b) Regional Ecologist

Item:

1. Ezemvelo KZN Wildlife Corporate Strategic Plan and Performance Plan for 2009 - 2014.
2. Ezemvelo KZN Wildlife Corporate Policies and Procedures (Norms & Standards) listed in the table below.
3. Ezemvelo KZN Wildlife Biodiversity Database Checklists for TEP.
4. Proclamations of TEP.
5. TEP Public Participation Report, January 2011.
6. MoU with South African Police Services in terms of operations in the Park.
7. TEP Settlement Agreement.
8. TEP Co-Management Agreement.
9. The General Lubombo Spatial Development Initiative Protocol (1999)
10. The General Lubombo Transfrontier Conservation and Resource Area Protocol (2000)
11. The Usuthu-Tembe-Futi Transfrontier Conservation and Resource Area Protocol (2000)
12. The Nsubane-Pongola Transfrontier Conservation and Resource Protocol (2000)
13. MOA between KZN Province and Maputo Province regarding collaboration on environmental management.
14. Tembe Safari Lodge Concession - This concession has been in place since 1998.
15. Agreements concerning Resource Utilisation - Agreements with local communities, the land claimants and the Local Board.
16. MoU concerning Lion Monitoring - MoU between Ezemvelo and Wildlife Act to ensure that lion introduction conditions are met.
17. Resource Utilisation Operational Management Plan Tembe Elephant Park. (2008)

The table below lists the Ezemvelo KZN Wildlife corporate policies (norms and standards) referenced from the intranet that are most relevant to Ezemvelo KZN Wildlife protected area management. It is the responsibility of all management and other personnel associated with management of protected areas to ensure that they familiarise themselves and comply with the most recent versions of all Ezemvelo KZN Wildlife Board Approved Policies.

EZEMVELO KZN WILDLIFE POLICIES (NORMS & STANDARDS)	
File No.	**CORPORATE AFFAIRS**
B 2	➢ Access to Ezemvelo KZN Wildlife Areas and Employment.
B 5	➢ Outsourcing of Functions and Services
B 7	➢ Monuments, Memorials and Names of Protected Areas under the control of Ezemvelo KZN Wildlife.
B 8	➢ Restricted use of Board Theatres, Halls and Conference Facilities etc.
B 9	➢ Code of Ethics / Conduct.
B 10	➢ Photography in Board Protected Areas.

B 13	➢ Mission Statement
B 14	➢ Access to Information.
File No.	**INTERNAL AUDIT**
C 5	➢ Management Control
	BIODIVERSITY CONSERVATION OPERATIONS
	1. NATURAL RESOURCE SUSTAINABILITY
File No.	**Threatened Species and Ecosystems**
D 1.1	➢ Disposal of Black Rhino.
D 1.2	➢ Disposal of Surplus White Rhino.
D 1.3	➢ Strategy for the Management of Southern White Rhino in KwaZulu-Natal.
D 1.4	➢ Strategy for the Biological Management of Black Rhino in KwaZulu-Natal.
D 1.5	➢ Rhinoceros Products.
D 1.6	➢ Crocodilians
D 1.7	➢ Cycads.
D 1.8	➢ Disposal of Threatened Species.
	BIODIVERSITY CONSERVATION OPERATIONS
	1. NATURAL RESOURCE SUSTAINABILITY
File No.	**Exotic and Invasive Species**
D 1.9	➢ Release of Alien Species.
D 1.10	➢ Control Measures for Red-billed Quelea.
D 1.12	➢ Grass Carp.
D 1.13	➢ Establishment of Alien Plantations.
File No.	**Migratory Species**
D 1.14	➢ Black Wildebeest and Blue Wildebeest Hybridization and Conservation.
D 1.15	➢ Permit authorising the collection of Biological Material within Board Areas.
	2. CONSERVATION EFFECTIVENESS
File No.	**Strategic Applications**
D 2.1	➢ Involvement of the KwaZulu-Natal Nature Conservation Board in Project 8 of the MAB (Man and Biosphere) Programme.
File No.	**Conservation Management: Protected Area Management**
D 2.2	➢ Management of Wilderness Areas.
D 2.3	➢ Protected Area Development.
D 2.4	➢ Prohibition of Works and Servitudes in Board Areas.
D 2.5	➢ Zonation and Regulations for the control of off-road vehicles on beaches controlled by the Board.
D 2.6	➢ Quarries in KZN Protected Areas.
D 2.7	➢ Re-establishment and Management of Vegetation on Development Sites in the Ezemvelo KZN Wildlife Protected Areas.
D 2.8	➢ Ecotourism and Protected Areas.
D 2.9	➢ Solid Waste Management within Protected Areas.
D 2.10	➢ State Security Service Activities within Board Areas.
D 2.11	➢ Shark Nets in or bordering KwaZulu-Natal Nature Conservation Board Controlled Areas.
File No.	**Integrated Environmental Management**
D 2.12	➢ Integrated Environmental Management - incorporating the procedure for the assessment of the impact of proposed development projects on nature conservation concerns.

D 2.13	➢ Precautionary Principle.
D 2.14	➢ Shark Net Installations.
D 2.15	➢ Bioprospecting in KwaZulu-Natal.
D 2.17	➢ Use of Pesticides by the Ezemvelo KZN Wildlife: Safety to Humans and the Environment.
D 2.18	➢ Interference with the Mouth of a Lagoon or River (Breaching).
File No.	***Ex Situ* Wild Animal Management**
D 2.21	➢ Re-establishment of Terrestrial Mammals in Board Areas.
D 2.22	➢ Translocation of Animals.
D 2.25	➢ Elephant Introductions and Elephant in Enclosures.
D 2.27	➢ Introduction and Keeping of Large Predators in Enclosures in KZN.
D 2.28	➢ Use of Narcotic Drugs.
D 2.29	➢ Falconry.
	BIODIVERSITY CONSERVATION OPERATIONS
	2. CONSERVATION EFFECTIVENESS
File No.	**Human Animal Conflict - Inside and Outside Protected Areas**
D 2.30	➢ Disposal of Leopard from Ezemvelo KZN Wildlife Protected Areas.
D 2.31	➢ Problem Animal Control.
D 2.32	➢ Compensation claims in respect of damage caused by Lion, Cheetah, Wild Dog and Elephant to Stock and Crops.
D 2.33	➢ Instances of Death as a result of an Unprovoked Attack by a Wild Animal Normally contained and originating from within a Fenced Protected Area under the Control of the KwaZulu-Natal Nature Conservation Board.
File No.	**Environmental Awareness**
D 2.34	➢ Environmental Education Policy.
	3. BIODIVERSITY PROTECTION
File No.	**Co-management**
D 3.1	➢ Supply of Game to Conservancies, Community Conservation Areas and Biosphere Reserves in KwaZulu-Natal
D 3.2	➢ Establishment and Management of Community Conservation Reserves (CCR)
D 3.4	➢ Community Conservation Programmes
D 3.5	➢ Neighbours' Access to Board Protected Areas
D 3.6	➢ Relationship with Local Boards
D 3.7	➢ Conservation Partnerships Between KwaZulu-Natal Nature Conservation Board and Adjacent Landowners
D 3.8	➢ Community Trust
D 3.9	➢ Community Levy Policy and Guidelines
D 3.10	➢ Land Claims on Proclaimed and Unproclaimed Provincial and Assigned National Protected areas in KwaZulu-Natal
D 3.11	➢ Amafa Policy Guidelines for the access of rock art sites in KwaZulu Natal
File No.	**Resource-use benefits**
D 3.12	➢ Disposal of Venison from Ezemvelo KZN Wildlife Management Operations.
D 3.13	➢ Sustainable use of wildlife resources.
D 3.14	➢ Freshwater Angling.
D 3.15	➢ Freshwater species utilisation.
D 3.16	➢ Use of plant resources from protected areas.
D 3.17	➢ Use of doomed biological material.
D 3.19	➢ Provision of hunting by Ezemvelo KZN Wildlife.

File No.	4. RELATIONSHIPS
D 4.1	➢ Neighbour Relations.
D 4.2	➢ Participation - Non Government Organisations.
D 4.3	➢ Data Access.
D 4.4	➢ Consultation and Communication with Stakeholders: Policy and Guidelines.

File No.	COMMERCIAL OPERATIONS
E 1	➢ Concessions for Welfare Groups.
E 2	➢ Hiking and Mountaineering.
E 3	➢ Educational Concessions.
E 4	➢ Club Facilities within Board Areas.
E 5	➢ Hutted Camps.
E 6	➢ Joint Venture Scheme.
E 7	➢ Allocation of Sites in terms of the Joint Venture Scheme.
E 8	➢ Access to Protected Areas through Unofficial Entry Points.
E 9	➢ Visitor Facilities Management by Ezemvelo KZN Wildlife.
E 10	➢ Lease of Lakeshore at State Dam Protected Areas.
E 11	➢ Execution, Control and Management of Leases and Concession Contracts (excluding Biodiversity Conservation Partnerships and Leases of Wildlife).
E 12	➢ Private Sector Reservations Policy.
E 13	➢ Partnerships for Eco-Tourism Development within or Adjacent to Protected Areas.
E 14	➢ Discounting of Tariffs for Walk-in Guests.
E 15	➢ Ecotourism Discounting Strategy.
E 16	➢ Travel Trade Commissions: Tour Operator/ Travel Agency.
E 17	➢ Policy and Procedure for the establishment and monitoring of Commercial Operations Public Private Partnership (PPP) Agreements.
E 18	➢ Administrative and operational policy on Professional hunting in South Africa.
E 19	➢ Commercialisation.

Appendix F: Listed activities in terms of Regulation R.546, Listing Notice 3

If any of the following activities are proposed in a protected area, proclaimed in terms of the Protected Areas Act, or within five kilometres of one, they will be subject to either a basic assessment or full scoping and environmental impact assessment process:

- The construction of billboards exceeding 18 square metres in size.
- The construction of reservoirs for bulk water supply with a capacity of more than 250m3.
- The construction of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast:
  - Is to be placed on a site not previously used for this purpose.
  - Will exceed 15 metres in height but excluding attachments to existing buildings and masts on rooftops.
- The construction of a road wider than four metres with a reserve less than 13.5 metres.
- The construction of resorts, lodges or other tourism accommodation facilities.
- The conversion of existing structures to resorts, lodges or tourism accommodation facilities that sleep 15 people or more.
- The construction of aircraft landing strips and runways.
- The construction of above ground cableways and funiculars.
- The construction of facilities or infrastructure for the storage, or storage and handling of a dangerous good.
- The construction of tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles excluding conversion of existing tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles.
- The clearance of an area of 1ha or more of vegetation where 75% of the vegetative cover constitutes indigenous vegetation, except where such removal is required for:
  - The undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), in which case the activity is regarded to be excluded from this list.
  - The undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN No.544 of 2010.
- The construction of facilities and infrastructure or structures of any size for any form of aquaculture (this applies only inside a protected area, not within five kilometres of it).
- The construction of:
  - Jetties exceeding $10m^2$ in size.
  - Slipways exceeding $10m^2$ in size.
  - Buildings with a footprint exceeding $10m^2$ in size.
  - Infrastructure covering $10m^2$ or more. Where such construction occurs within a watercourse or within 32 metres of watercourse, measured from the edge of the watercourse, excluding where such construction will occur behind the development setback line.
- The expansion of reservoirs for bulk water supply where the capacity will be increased by more than 250m3.
- The expansion of a resort, lodge, hotel and tourism or hospitality facilities where the development footprint will be expanded.

- The widening of a road by more than four metres or the lengthening of a road by more than one kilometre.
- The expansion of runways or aircraft landing strips where the expanded runways or aircraft landing strips will be longer than 1.4 kilometres in length.
- The expansion of above ground cableways and funiculars where the development footprint will be increased.
- The expansions of tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles excluding conversion of existing tracks or routes for the testing, recreational use or outdoor racing of motor powered vehicles, where the development footprint will be expanded.
- The expansions of facilities or infrastructure for the storage, or storage and handling of a dangerous good.
- The expansion of:
    - Jetties where the jetty will be expanded by $10m^2$ in size or more.
    - Slipways where the slipway will be expanded by $10m^2$ or more.
    - Buildings where the buildings will be expanded by $10m^2$ or more in size.
    - Infrastructure where the infrastructure will be expanded by $10m^2$ or more.
- Where such construction occurs within a watercourse or within 32 metres of watercourse, measured from the edge of the watercourse, excluding where such construction will occur behind the development setback line.
- The expansion of facilities, infrastructure or structures of any size for any form of aquaculture (this applies only inside a protected area, not within five kilometres of it).
- Phased activities for all activities listed in the Schedule and as it applies to a specific geographical area, which commenced on or after the effective date of the Schedule, where any phase off the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold.

Appendix G: Species list for TEP

Abbreviations:

DD	Data Deficient
E	Endangered
L	Least Concern
NT	Near Threatened
Ordinance	KwaZulu Nature Conservation Act No. 8 of 1975
P	Protected
SARDB	South African Red Data Book
SP	Specially Protected
ToPS	Threatened or Protected Species status in terms of the Biodiversity Act No. 10 of 2004
V	Vulnerable

AMPHIBIANS	
Taxon Name	**English Name**
Afrixalus aureus	Golden leaf-folding frog
Afrixalus delicatus	Delicate leaf-folding frog
Afrixalus fornasinii	Greater leaf-folding frog
Arthroleptis stenodactylus	Shovel-footed squeaker/Common squeaker
Breviceps adspersus adspersus	Bushveld rain frog
Breviceps mossambicus	Mozambique rain frog
Bufo garmani	Eastern Olive Toad
Bufo gutturalis	Guttural toad
Cacosternum boettgeri	Boettger's caco
Chiromantis xerampelina	Southern foam nest frog
Hemisus marmoratus	Mottled shovel-nosed frog
Hildebrandtia ornata	Ornate frog
Hyperolius argus	Argus reed frog
Hyperolius marmoratus	Painted reed frog
Hyperolius pusillus	Water lily frog
Hyperolius tuberilinguis	Tinker reed frog
Kassina maculata	Red-legged kassina
Kassina senegalensis	Bubbling kassina
Leptopelis mossambicus	Brown-backed tree frog
Phrynobatrachus acridoides	Eastern african puddle frog
Phrynobatrachus mababiensis	Dwarf puddle frog
Phrynobatrachus natalensis	Snoring puddle frog
Phrynomantis bifasciatus	Banded rubber frog
Ptychadena anchietae	Plain grass frog
Ptychadena mascareniensis mascareniensis	Mascarene grass frog
Ptychadena mossambica	Broad-banded grass frog
Ptychadena oxyrhynchus	Sharp-nosed grass frog
Ptychadena porosissima	Striped grass frog
Ptychadena taenioscelis	Dwarf grass frog

Pyxicephalus edulis	Edible bullfrog
Schismaderma carens	Red toad
Strongylopus fasciatus fasciatus	Striped stream frog
Tomopterna cryptotis	Tremolo sand frog
Tomopterna krugerensis	Knocking sand frog
Xenopus laevis laevis	Common platanna
Xenopus muelleri	Muller's platanna

Important Amphibian Species		
Taxon name	**English Name**	**Status**
Afrixalus aureus	Golden leaf-folding frog	Restricted in KZN
Arthroleptis stenodactylus	Shovel-footed squeaker/Common squeaker	Restricted in KZN
Hemisus marmoratus marmoratus	Mottled shovel-nosed frog	Restricted in KZN
Hildebrandtia ornata ornata	Ornate frog	Restricted in KZN
Hyperolius marmoratus marmoratus	Painted reed frog	Near-endemic (50-75%) to KZN; Endemic to South Africa, Lesotho or Swaziland
Kassina maculata	Red-legged kassina	Restricted in KZN
Leptopelis mossambicus	Brown-backed tree frog	Restricted in KZN
Phrynobatrachus acridoides	Eastern african puddle frog	Restricted in KZN
Ptychadena mascareniensis mascareniensis	Mascarene grass frog	Restricted in KZN
Ptychadena mossambica	Broad-banded grass frog	Restricted in KZN
Xenopus muelleri	Muller's platanna	Restricted in KZN

Birds	
Taxon Name	**English Name**
Amaurornis flavirostris	Black crake
Ardea purpurea	Purple heron
Centropus grillii	Black coucal
Nettapus auritus	African pygmy-goose, Pygmy goose
Porphyrio madagascariensis	African purple swamphen, Purple gallinule
Porzana pusilla	Baillon's crake
Sarothrura rufa	Red-chested flufftail

Important Bird Species		
Taxon name	**English Name**	**Status**
Centropus grillii	Black coucal	SARDB - NT
Nettapus auritus	African pygmy-goose, Pygmy goose	

Bony Fish	
Taxon Name	**English Name**
Aplocheilichthys myaposae	Natal topminnow
Barbus paludinosus	Straightfin barb
Barbus viviparus	Bowstripe barb
Clarias ngamensis	Blunttooth catfish
Ctenopoma multispine	Manyspined climbing perch
Oreochromis mossambicus	Mozambique tilapia
Pseudocrenilabrus philander	Southern mouthbrooder

Tilapia sparrmanii	Banded tilapia
Mammals	
Taxon Name	**English Name**
Aepyceros melampus	Impala
Atilax paludinosus paludinosus	Water mongoose
Canis adustus adustus	Side-striped jackal
Canis mesomelas mesomelas	Black-backed jackal
Cephalophus natalensis	Red duiker
Ceratotherium simum	White rhinoceros
Cercopithecus albogularis	Samango Monkey, Sykes' monkey
Civettictis civetta	African civet
Connochaetes gnou	Black wildebeest
Connochaetes taurinus taurinus	Blue wildebeest
Crocuta crocuta	Spotted hyaena
Diceros bicornis minor	Black rhinoceros
Equus quagga	Plains zebra
Galago moholi	Southern lesser galago
Galago zanzibaricus	Grant's galago
Galerella sanguinea	Slender mongoose
Genetta tigrina	South african large-spotted genet
Giraffa camelopardalis	Giraffe
Graphiurus murinus	Woodland dormouse
Hippopotamus amphibius	Hippopotamus
Hystrix africaeaustralis	Cape porcupine
Kobus ellipsiprymnus	Waterbuck
Lemniscomys rosalia	Single-striped grass mouse
Lepus saxatilis	Scrub hare
Loxodonta africana	African elephant
Lycaon pictus pictus	African wild dog
Manis temminckii	Ground pangolin
Mellivora capensis capensis	Honey badger, Ratel
Mungos mungo	Banded mongoose
Neotragus moschatus	Suni
Panthera leo leo	Lion
Panthera pardus melanotica	Leopard
Paraxerus palliatus tongensis	Tonga red squirrel
Petrodromus tetradactylus	Four-toed elephant shrew
Phacochoerus aethiopicus	Warthog
Phacochoerus africanus	Common warthog
Potamochoerus larvatus koiropotamus	Bushpig
Raphicerus campestris	Steenbok
Redunca arundinum arundinum	Southern reedbuck
Sylvicapra grimmia	Common duiker, Grey duiker
Syncerus caffer caffer	African Buffalo
Tatera leucogaster	Bushveld gerbil
Thryonomys swinderianus	Greater canerat

Tragelaphus angasii	Nyala
Tragelaphus oryx oryx	Eland
Tragelaphus scriptus	Bushbuck
Tragelaphus strepsiceros	Greater Kudu

Important Mammal Species		
Taxon name	**English Name**	**Status**
Ceratotherium simum	White rhinoceros	ToPS - P
Cercopithecus albogularis	Samango monkey, Sykes' monkey	SARDB - V, ToPS - V
Civettictis civetta	African civet	
Connochaetes gnou	Black wildebeest	Endemic to SA, Lesotho or Swaziland, ToPS - P
Crocuta crocuta	Spotted hyaena	SARDB – NT, ToPS - P
Diceros bicornis minor	Black rhinoceros	SARDB – V, ToPS - E
Galago moholi	Southern lesser galago	
Galago zanzibaricus	Grant's galago	
Hippopotamus amphibius capensis	Hippopotamus	Restricted in KZN
Lemniscomys rosalia	Single-striped grass mouse	SARDB – DD
Loxodonta africana	African elephant	ToPS - Protected
Lycaon pictus pictus	African wild dog	SARDB – E, ToPS - E
Manis temminckii	Ground pangolin	SARDB – V, ToPS - V
Mellivora capensis capensis	Honey badger, Ratel	SARDB – NT, ToPS - P
Neotragus moschatus zuluensis	Suni	SARDB – V, ToPS - V
Panthera leo leo	Lion	SARDB – V, ToPS - V
Panthera pardus melanotica	Leopard	ToPS - V
Paraxerus palliatus tongensis	Tonga red squirrel	SARDB – E, ToPS - E
Petrodromus tetradactylus	Four-toed elephant shrew	SARDB – E, ToPS - E
Redunca arundinum arundinum	Southern reedbuck	ToPS - P
Syncerus caffer caffer	African Buffalo	
Tatera leucogaster	Bushveld gerbil	SARDB - DD

Reptiles	
Taxon Name	**English Name**
Acanthocerus atricollis atricollis	Southern tree agama
Acontias plumbeus	Giant legless skink
Aparallactus capensis	Cape centipede eater
Atractaspis bibronii	Bibron's burrowing asp
Bitis arietans arietans	Puff adder
Chamaeleo dilepis dilepis	Flap-neck chameleon
Cordylus jonesii	Limpopo girdled lizard
Crocodylus niloticus	Nile crocodile
Crotaphopeltis hotamboeia	Herald snake
Dasypeltis scabra	Common egg-eater
Dendroaspis angusticeps	Green mamba
Dendroaspis polylepis	Black mamba
Dipsadoboa aulica	Marbled tree snake
Dispholidus typus typus	Boomslang
Duberria variegata	Variegated slug eater
Elapsoidea sunderwallii sunderwallii	Natal garter snake

Gerrhosaurus flavigularis	Yellow-throated plated lizard
Hemidactylus mabouia	Moreau's tropical house gecko
Homopholis wahlbergii	Wahlberg's velvet gecko
Ichnotropis capensis	Cape rough-scaled lizard
Kinixys zombensis	Bell's hinged tortoise
Lamprophis capensis	Brown house snake
Lycodonomorphus rufulus	Common brown water snake
Lycophidion capense capense	Cape wolf snake
Lygodactylus capensis capensis	Cape dwarf gecko
Meroles squamulosa	Common rough-scaled lizard
Monopeltis sphenorhynchus sphenorhynchus	Slender spade-snouted worm-lizard
Naja annulifera annulifera	Snouted cobra
Naja melanoleuca	Forest cobra
Naja mossambica	Mozambique spitting cobra
Nucras intertexta	Spotted sandveld lizard
Panaspis wahlbergii	Wahlberg's snake-eyed skink
Pelomedusa subrufa nigra	Marsh terrapin
Pelusios sinuatus	Serrated hinged terrapin
Philothamnus hoplogaster	Green water snake
Philothamnus natalensis natalensis	Natal green snake
Philothamnus semivariegatus	Spotted bush snake
Prosymna janii	Mozambique shovel-snout
Psammophis brevirostris brevirostris	Short-snouted grass snake
Psammophis mossambicus	Olive grass snake
Pseudaspis cana	Mole snake
Python sebae natalensis	Southern african python
Rhinotyphlops schlegelii schlegelii	Schlegel's beaked blind snake
Scelotes arenicola	Zululand dwarf burrowing skink
Scelotes sp.	
Telescopus semiannulatus semiannulatus	Eastern tiger snake
Thelotornis capensis capensis	Bird snake
Trachylepis depressa	Eastern coastal skink
Trachylepis striata	Eastern striped skink
Trachylepis varia	Variable skink
Typhlops fornasinii	Fornasini's blind snake
Typhlosaurus aurantiacus aurantiacus	Golden blind legless skink
Varanus albigularis	Rock monitor
Varanus albigularis albigularis	Rock monitor
Varanus niloticus	Water monitor
Xenocalamus transvaalensis	Transvaal quill-snouted snake
Zygaspis vandami arenicola	Van Dam's round-headed worm-lizard

Important Reptile Species		
Taxon Name	**English name**	**Status**
Chamaeleo dilepis dilepis	Flap-neck chameleon	LC
Cordylus jonesii	Limpopo girdled lizard	Restricted in KZN
Crocodylus niloticus	Nile crocodile	ToPS - P

Dipsadoboa aulica	Marbled tree snake	Restricted in KZN
Duberria variegata	Variegated slug eater	Restricted in KZN
Elapsoidea sunderwallii sunderwallii	Natal garter snake	Near Endemic (50 – 75%) to KZN
Kinixys zombensis	Bell's hinged tortoise	Restricted in KZN
Meroles squamulosa	Common rough-scaled lizard	Restricted in KZN
Monopeltis sphenorhynchus sphenorhynchus	Slender spade-snouted worm-lizard	Restricted in KZN
Naja melanoleuca	Forest cobra	SARDB - Peripheral
Nucras intertexta	Spotted sandveld lizard	Restricted in KZN
Pelusios sinuatus	Serrated hinged terrapin	Restricted in KZN
Prosymna janii	Mozambique Shovel-snout	SARDB - Peripheral
Python sebae natalensis	Southern African Python	SARDB – V, ToPS - P
Rhinotyphlops schlegelii schlegelii	Schlegel's beaked blind snake	Restricted in KZN
Scelotes arenicola	Zululand dwarf burrowing skink	Restricted in KZN, Near Endemic (50 – 75%) to KZN
Trachylepis depressa	Eastern coastal skink	Restricted in KZN
Typhlops fornasinii	Fornasini's blind snake	Restricted in KZN
Typhlosaurus aurantiacus aurantiacus	Golden blind legless skink	Restricted in KZN
Varanus albigularis	Rock monitor	
Varanus niloticus	Water monitor	
Xenocalamus transvaalensis	Transvaal quill-snouted snake	Restricted in KZN,SARDB - R
Zygaspis vandami arenicola	Van Dam's round-headed worm-lizard	Restricted in KZN

Flora	
Taxon name	**English name**
Ancylanthos monteiroi	
Bonatea lamprophylla	
Cassipourea mossambicensis	
Cyrtorchis arcuata	
Cyrtorchis praetermissa	
Drypetes natalensis var. natalensis	
Encephalartos ferox	Ferox cycad
Eulophia ensata	
Eulophia speciosa	Wild Orchid
Grewia microthyrsa	
Indigofera podophylla	
Ochna barbosae	
Oncocalyx bolusii	
Oxyanthus latifolius	
Pelargonium tongaense	Tonga Pelargonium
Phyllanthus sp.	
Rothmannia fischeri	
Suregada zanzibariensis	
Warburgia salutaris	Pepper-bark Tree
Zanthoxylum leprieurii	

Important flora		
Taxon Name	**English name**	**Status**
Bonatea lamprophylla		Maputaland Centre of Endemism
Cassipourea mossambicensis		Maputaland Centre of Endemism, SARDB - V
Cyrtorchis arcuata		
Cyrtorchis praetermissa		
Drypetes natalensis var. natalensis		SARDB - LC
Encephalartos ferox	Ferox cycad	Maputaland Centre of Endemism, SARDB – NT, Ordinance - SP
Eulophia ensata		SARDB - LC
Eulophia speciosa	Wild Orchid	SARDB – Declining, Ordinance - P
Grewia microthyrsa		SARDB - LC
Indigofera podophylla		SARDB - LC
Ochna barbosae		SARDB - LC
Oncocalyx bolusii		SARDB - LC
Oxyanthus latifolius		SARDB - LC
Pelargonium tongaense	Tonga Pelargonium	Maputaland Centre of Endemism, Endemic to South Africa, Lesotho or Swaziland, SARDB – R, Ordinance - P
Suregada zanzibariensis		SARDB - LC
Warburgia salutaris	Pepper-bark Tree	SARDB – E, ToPS – E, Ordinance - P
Zanthoxylum leprieurii		SARDB - LC

Appendix H: Financial plan for Tembe Elephant Park

The National Environmental Management: Protected Areas Act (No.57 of 2003) stipulates the requirement of a costing plan to be prepared for the approval of a Protected Area Management Plan by the MEC or Minister.

Management Effectiveness of protected areas relates directly to the availability of financial resources to achieve biodiversity conservation objectives. It is recognised that most protected areas do not have adequate financial resources to achieve their vision and stated objectives.

The Financial plan has been developed in the context of the management plan in the interests of proper planning and sustained conservation management of the Weenen TEP.

Management recommendations in the Management Plan which requires dedicated financial resources include:

- Maintenance of building infrastructure
- Repair of roads including tourist and management roads.
- Replace and upgrade where required the TEP fence to secure the boundary of the protected area.

Financial management of TEP

The financial objective for the TEP stipulates:

Provide adequate human resources, equipment, infrastructure and funding to enable the effective protection, development and management of TEP.

Current income generation activities include:

- Day visitor fees
- Meat sales

Current funding is not sufficient to effectively maintain the reserve and of particular concern is the security of rhinos, elephants, tourism and management infrastructure and in particular the effective maintenance of the road and fence infrastructure. *Table 19 below provides a cost estimate of the requirements for the implementation of the management plan.*

Funding provided by Eco-Advice unit:

- Eco Advice support of monitoring programmes in Tembe Elephant Park:
- Lion and Wild dog – undertaken by Wildlife Act and subsidised by Eco-Advice.
- Elephant Monitoring – All cost covered by Eco-Advice.
- Dartmouth University – Funding received from joint projects with these students (annually).
- Research projects externally funded – no cost to company.

Further funding opportunities exist through the TFCA programme and the Park Management Team should pursue these where appropriate.

Table 19: Tembe Elephant Park - a cost estimate

EXPENCES (Projected operational budget)					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Road maintenance	0	0	0	0	0
Fence maintenance	61875	70000	75000	80000	85000
Building maintenance	60000	65000	70000	75000	80000
Equipment maintenance	60000	62000	64000	66000	68000
Alien and invasive plant control	21000	24000	28000	30000	30000
Fire management	98132	100000	100000	100000	100000
Erosion control and rehabilitation	0	0	0	0	0
Law enforcement	452652	500000	510000	520000	540000
Services (gas, electricty, water)	583320	600000	650000	680000	700000
Vehicle running cost and maintenance	292000	300000	310000	340000	350000
TOTAL OPERATIONAL[5]	**1628979**	**1721000**	**1807000**	**1891000**	**1953000**

CAPITAL REQUIREMENT					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Roads					
Fences	0	0	500000	500000	500000
Buildings		300000	300000	300000	300000
TOTAL CAPITAL EXPENSES (Critical Activities)	**0**	**300000**	**800000**	**800000**	**800000**

[5] excluding salaries

Appendix I: Pro forma annual plan of operation

Notes of a management meeting for Tembe Elephant Park held at … office on …

Present:

Apologies:

CC:

In the notes set out below two separate tables are presented. The first sets out all of the management targets, which are the responsibility of the Tembe Elephant Park Conservation Management Specialist and the second sets out all of the management targets that are the responsibility of other units or individuals.

Table 20: Progress and goals set for the Tembe Elephant Park

Management target	2012/13 Progress	2013/14 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT					
Creation of cooperative structures with local communities, law enforcement officials and TFCA partners.			Year 1	Conservation Management Specialist	
▪ Regular patrols covering the full extent of the TEP. ▪ Prosecution of any offender caught committing an offence.			Ongoing	Conservation Management Specialist	
Current, updated implemented and monitored legal agreements with relevant stakeholders.			Year 1	Conservation Management Specialist	
Quarterly meetings of the co-management committee.			Ongoing	Conservation Management Specialist and Senior Community Conservation Officer	
STAKEHOLDER ENGAGEMENT					
Quarterly meetings of the IziNduna Forum and Co-management Committee. Meeting with communities once a year to provide feedback. Fair distribution of benefits to the communities. Agreed upon protocols for employment and meat sales.			Ongoing	Conservation Management Specialist and Senior Community Conservation Officer	
PROTECTED AREA EXPANSION					
Identification of threatening processes on the TEP's boundary. Legal protection of key buffer zone areas through establishment of biodiversity management plans or protected environments (Stewardship sites).			Year 2 & 3	Conservation Management Specialist, Ecological Advice Unit and Community	With support from the Stewardship Unit

Management target	2012/13 Progress	2013/14 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT					
Local and Regional Planning					
Collaboration with and joint planning documents of the TFCA. Formalised TFCA agreements. Adoption of environmentally appropriate land uses in IDPs and SDFs in the areas immediately surrounding the TEP. Retention of existing benign land uses in the areas immediately surrounding the TEP. Adoption of agreed upon regional access routes to the TEP. Upgrade and maintenance of access routes which are degraded.				Year 2 & annually	Conservation Management Specialist, Ecological Advice Unit, Senor Community Conservation Officer, TFCA coordinator and Ezemvelo KZN Wildlife Planning Unit
TOURISM MANAGEMENT					
An understanding of annual tourist numbers and a tourism market profile for the TEP. Concept Development Plan guiding development and tourism activities inside TEP.				Year 1 & ongoing	Conservation Management Specialist and Ecotourism and Marketing Unit
ENVIRONMENTAL EDUCATION AND AWARENESS					
Environmental education and awareness programme. Standing agenda item on stakeholders meeting for discussions of the values of the Park.				Year 2 and ongoing	Conservation Management Specialist and Ezemvelo KZN Wildlife Senior Community Conservation Officer and TUT

Appendix G

Management target	2012/13 Progress	2013/14 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT CONSERVATION MANAGEMENT					
Adoption and implementation of a fire management plan.			Year 1	Conservation Management Specialist and Ecological Advice Unit	Requires support from the Ecological Advice Unit
Burning according to the annual plan in accordance with ecological advice.			Annually	Conservation Management Specialist and Ecological Advice Unit	
Compliance with the National Veld and Forest Fires Act.			Ongoing	Conservation Management Specialist	
Compliance with the Biodiversity Act in terms of the preparation of an invasive species control plan.			Year 1	Conservation Management Specialist	Requires support from the Ecological Advice and Alien Plant Control Units
80% reduction in infestation levels in five years.			Year 5	Conservation Management Specialist	Requires support from the Ecological Advice and Alien Plant Control Units
A detailed map depicting areas of soil erosion within the TEP. Implementation of soil erosion control measures in areas in which plant cover is low, which are susceptible to erosion.			Year 5	Conservation Management Specialist	Requires support from the ecological advice unit
Creation of cooperative structures between Ezemvelo KZN Wildlife, local communities and law enforcement officials			Year 2 - ongoing	Conservation	

Management target	2012/13 Progress	2013/14 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT					
to address these problems Control of any alien animals found within the TEP.				Management Specialist and Senior Community Conservation Officer	
Implementation of the signed Resource Use Operational Management Plan for TEP.			When required	Conservation Management Specialist	Requires support from the Senior Community Conservation officer and Ecological Advice Unit
No illegal collection of biological material or samples.			When required	Conservation Management Specialist	Requires support from the Ecological Advice Unit
An agreed upon approach to future wildlife species introductions, in conjunction with communities			Year 5	Ezemvelo KZN Wildlife Ecological Advice Unit and Conservation Management Specialist	Requires guidance from the
Control of population numbers of species that are exceeding identified carrying capacities.			Ongoing		Appendix G
Effective procedures and relationships with neighbours in dealing with problem animal control.			Year 1	Conservation Management Specialist	
Maintenance and increase in population numbers of rare and endangered species within the TEP. Elephant strategies as contained in Elephant Management Plan implemented.			Ongoing	Ezemvelo KZN Wildlife Ecological Advice Unit and TEP Manager	Requires guidance from the ecological advice unit
CONSERVATION TARGETS					
Surveillance and monitoring plans for key threatening processes.			Year 3 & ongoing	Ezemvelo KZN Wildlife	

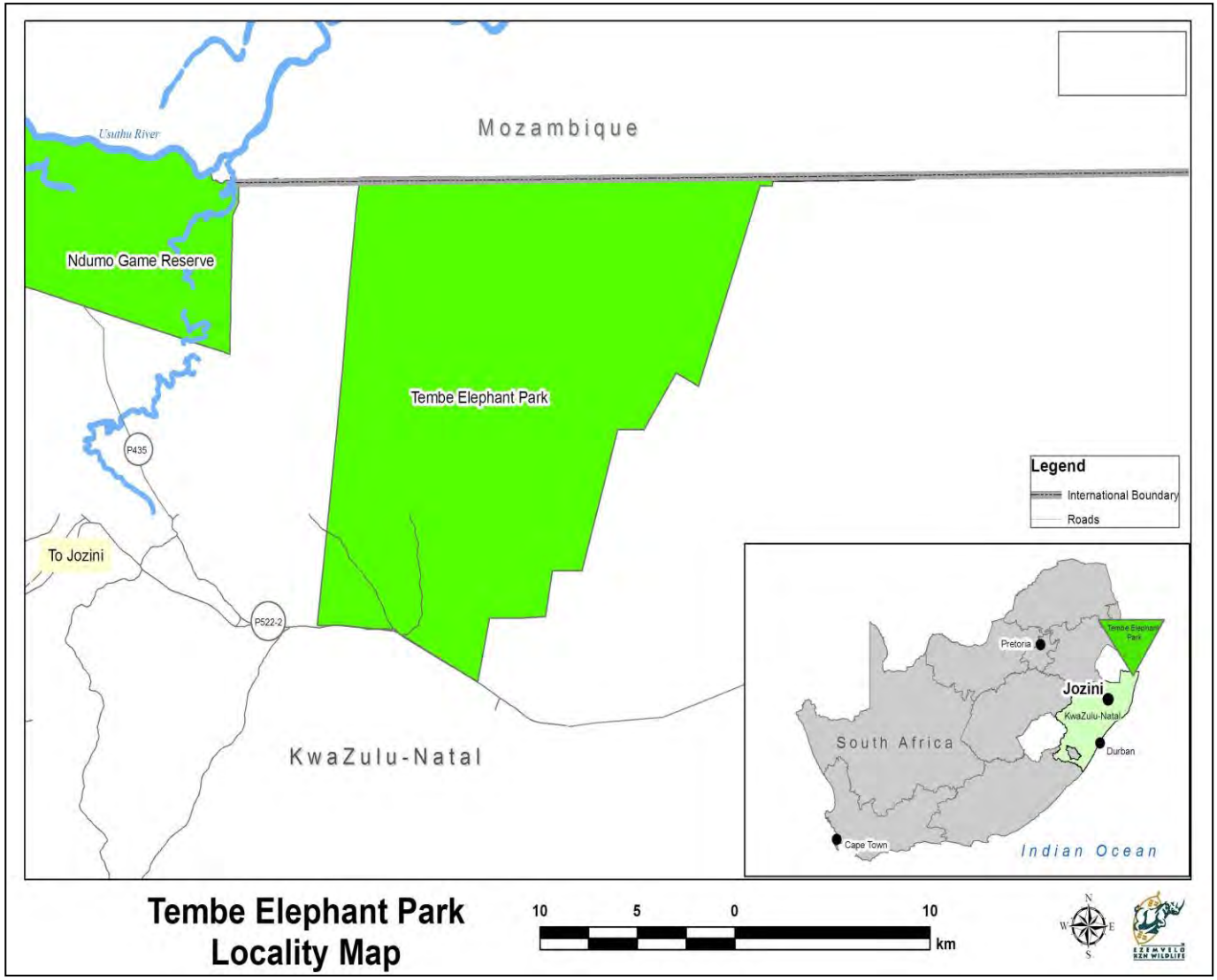
Appendix I

Management target	2012/13 Progress	2013/14 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT					
Monitoring plans for key rare and endangered species. Relevant research based on a prioritised list. Wetland monitoring report. Understanding of the Maputaland Centre of Plant Endemism and relevant conservation strategies relevant to TEP.				Ecological Advice Unit	
CULTURAL HERITAGE MANAGEMENT					
Photographic and descriptive records of heritage sites.			Year 1	Conservation Management Specialist with AMAFA	
Recorded procedure of management requirements. Increased awareness of cultural values.			Year 2	Conservation Management Specialist, Senior Community Conservation officer with AMAFA	
Prioritised research list that are communicated to the relevant tertiary institutions.			Ongoing	Park Management Committee	
OPERATIONAL MANAGEMENT					
Adequate funding to achieve the objectives of the TEP.			Year 1	Conservation Management Specialist and Regional management	
Regular scheduled maintenance of all facilities, assets and infrastructure.			Ongoing	Conservation Management Specialist	
Appointment of staff in all positions in the Park.			Year 2	Conservation Management Specialist	

Management target	2012/13 Progress	2013/14 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT					
				and regional management	
Appropriately functioning service infrastructure and systems that do not cause harm to the environment.			Year 3	Conservation Management Specialist	

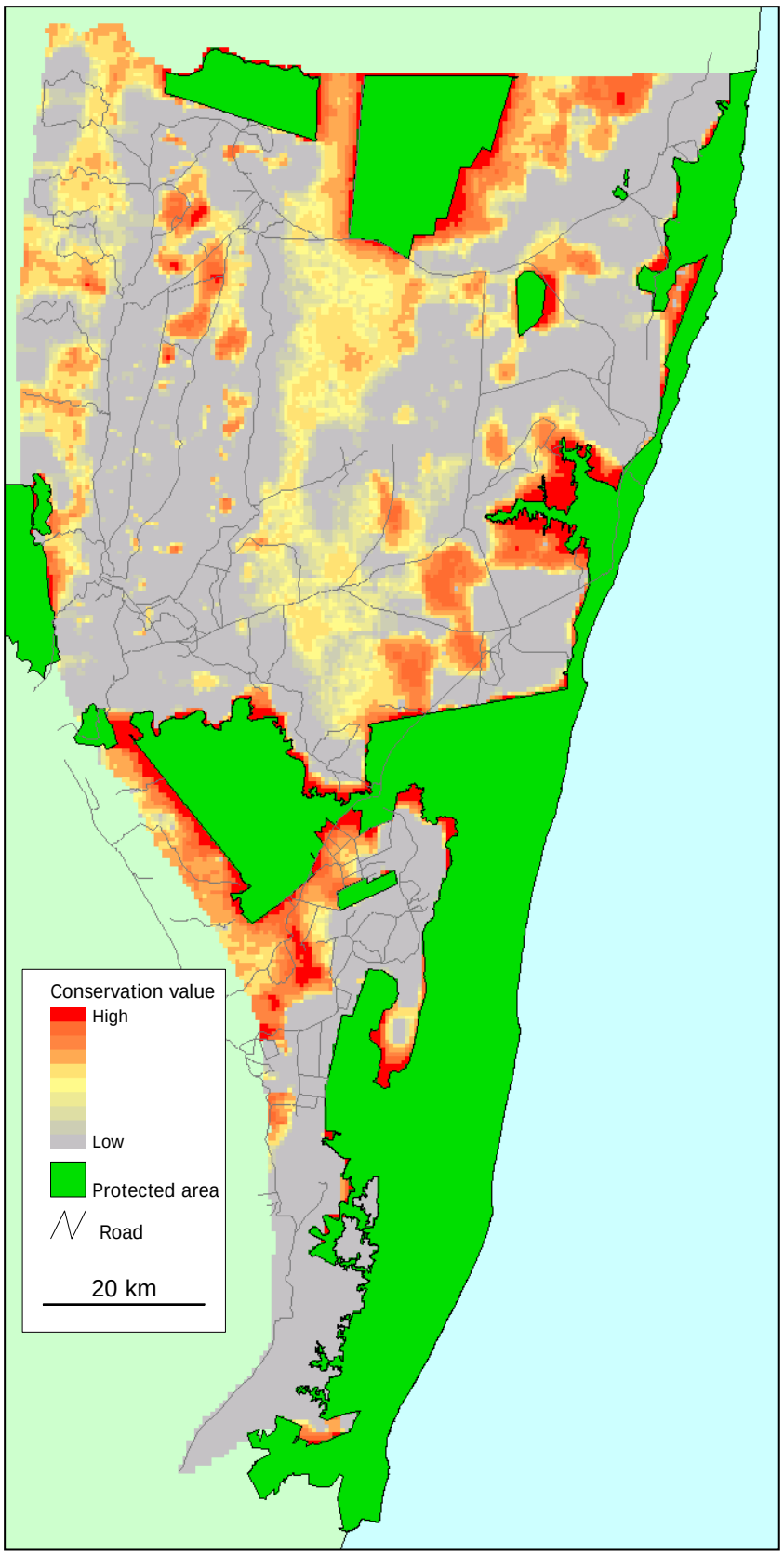
Appendix J: Joint Operational Strategy of the Combined Lubombo Conservancy - Goba and Usuthu - Tembe - Futi Trans Frontier Conservation Area

Map A: Regional location of Tembe Elephant Park



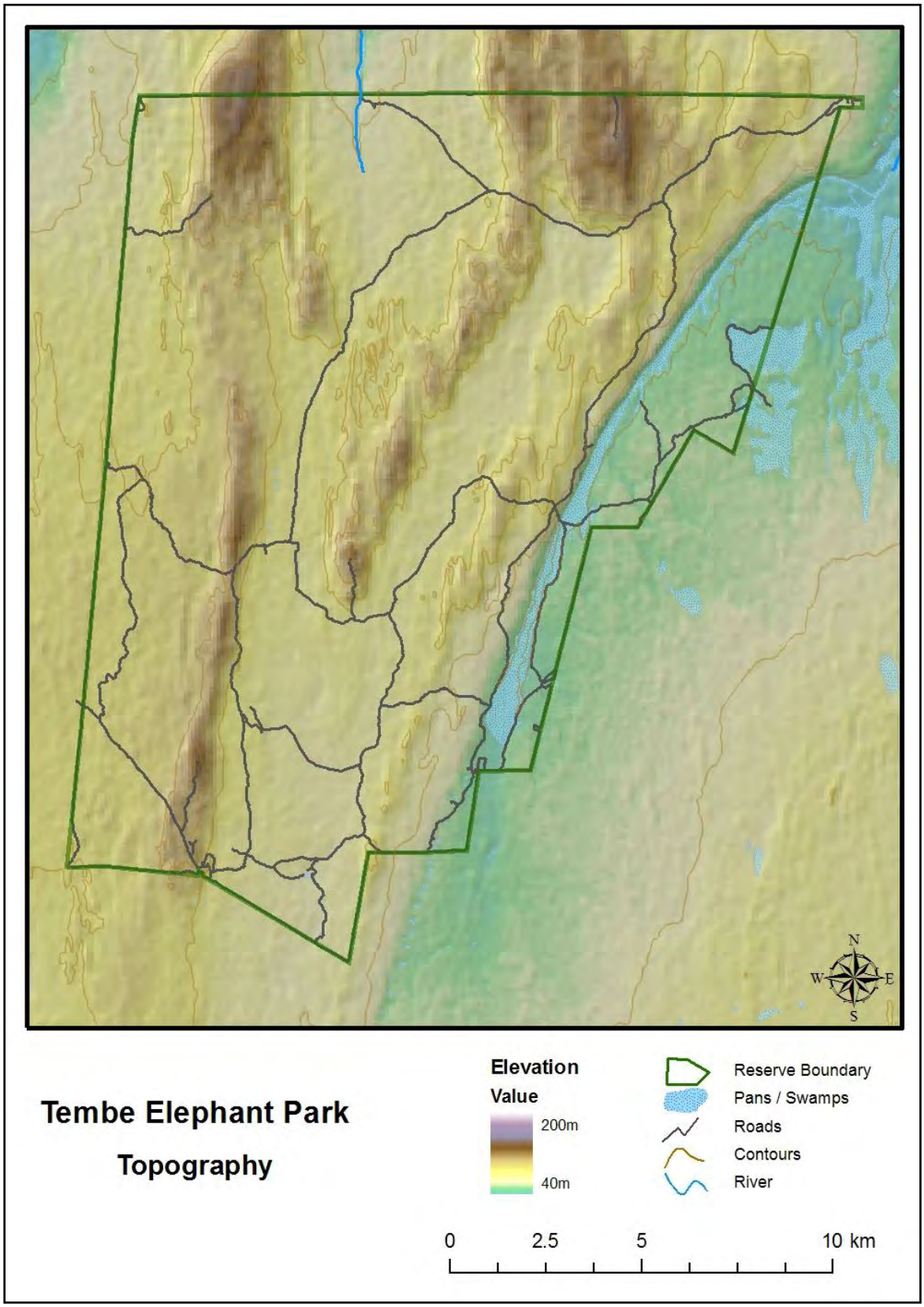
Map B: The Combined Lubombo Conservancy-Goba and Usuthu-Tembe-Futi Transfrontier Conservation Area

Map C: Conservation value: Maputaland[6]

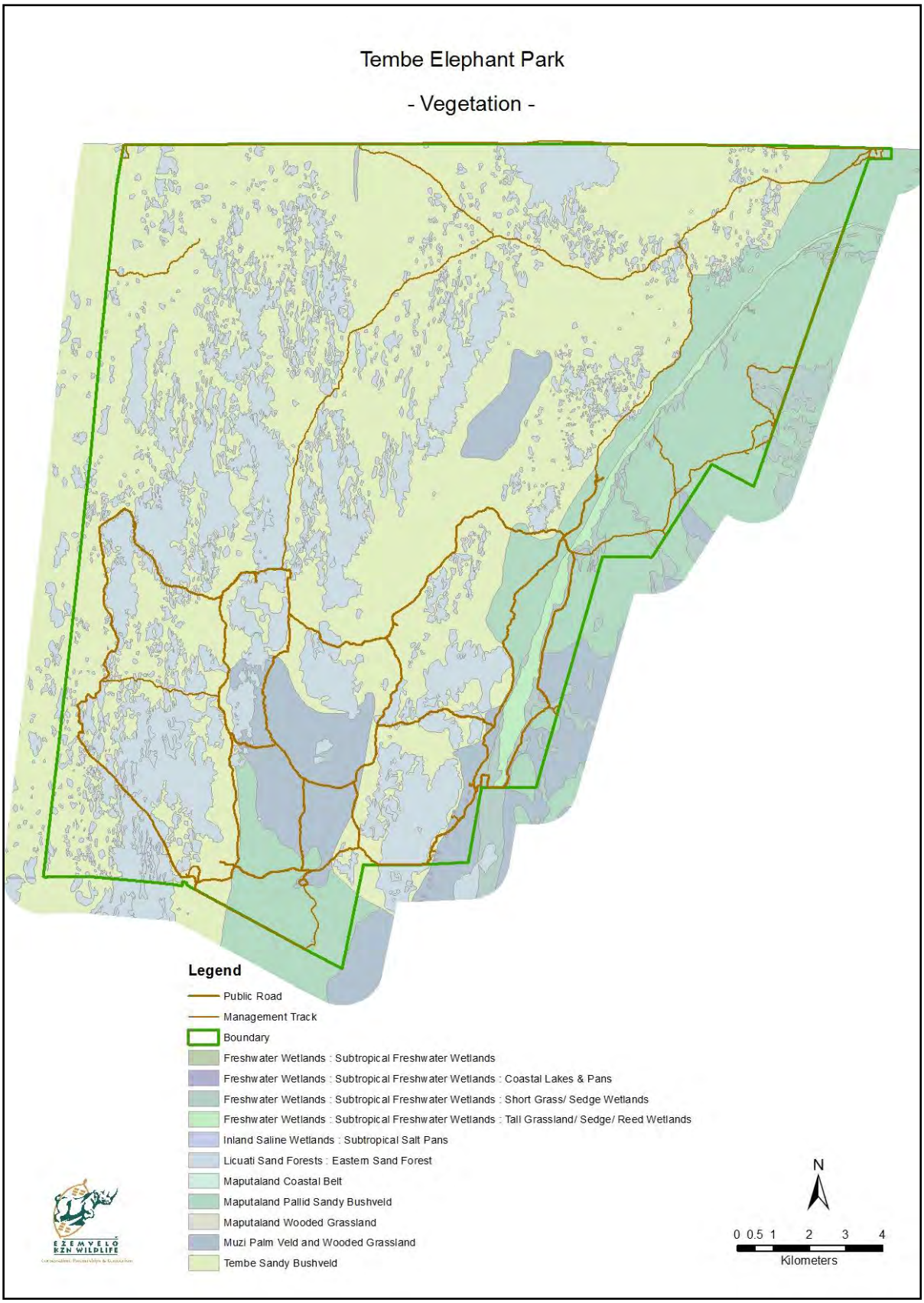


[6] from a preliminary conservation plan for Maputaland, South Africa (Bob Smith, Wayne Matthews, Pete Goodman and Nigel Leader-Williams)

Map D: Topography of Tembe Elephant Park



Map E: Vegetation of Tembe Elephant Park



Map F: Zonation of Tembe Elephant Park