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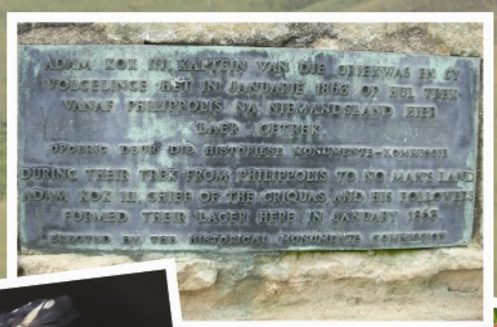
Conservation, Partnerships & Ecotourism

MOUNT CURRIE NATURE RESERVE

Protected Area

MANAGEMENT PLAN



BirdLife IBA IMPORTANT BIRD AREA

MOUNT CURRIE NATURE RESERVE

KwaZulu-Natal
South Africa

Protected Area Management Plan
Developed: 2013

Prepared by
Ezemvelo KwaZulu-Natal Wildlife Protected Area Management
Planning Unit and the Mount Currie Planning Committee

Citation
Mount Currie Nature Reserve: Management Plan. Version 1.0 (2013), Ezemvelo KZN Wildlife, Pietermaritzburg.

AUTHORISATION

This Protected Area Management Plan for Mount Currie Nature Reserve is recommended by the Mount Currie Nature Reserve Planning Committee (NRPC), a multi-disciplinary team consisting of:

Ezemvelo KZN Wildlife

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APPROVAL

This Protected Area Management Plan for Mount Currie Nature Reserve is approved:

TITLE	NAME	SIGNATURE AND DATE
KwaZulu-Natal MEC: Department of Agriculture and Environmental Affairs	See the next page for MEC approval. The change is due to reconfiguration of provincial government departments.	

Recommended:

TITLE	NAME	SIGNATURE AND DATE
Chairperson: KZN Nature Conservation Board	Mr ZC Ngidi	
Chief Executive Officer: Ezemvelo KZN Wildlife	Dr IB Mkhize	
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Chairperson: Operations Committee: West	D. MKHABELA	A/GM W

APPROVAL

This Protected Area Management Plan for Mount Currie Nature Reserve is approved:

TITLE	NAME	SIGNATURE AND DATE
KwaZulu-Natal MEC: Department of Economic Development, Tourism and Environmental Affairs	Michael Mabuyakhulu	

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PREFACE

This Protected Area Management Plan for Mount Currie Nature Reserve is its primary and overarching management document. It forms the framework within which the nature reserve will be managed and developed towards the achievement of its management objectives, derived in collaboration with the protected area's stakeholders during January 2013.

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. 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 nature reserve.

Ezemvelo KwaZulu-Natal Wildlife, as the appointed Management Authority for Mount Currie Nature Reserve, hereby commits itself to the implementation of this plan.

Dr. Bandile Mkhize

EXECUTIVE SUMMARY

Introduction

The Mount Currie Nature Reserve (MCNR) consists of 1750 hectares located 5km north of the town of Kokstad in the KwaZulu-Natal province of South Africa. The Mount Currie peak within the reserve is seen as an iconic landmark in the Greater Kokstad Area. The reserve is situated within the municipal boundaries of the Greater Kokstad Local Municipality which forms part of the Sisonke District Municipality. The larger component of the reserve is leased from the Greater Kokstad Local Municipality and waters from the Crystal Dam within Mount Currie Nature Reserve forms an important component of the water provision by the Sisonke District Municipality to the town of Kokstad.

The reserve is an important component of the conservation estate of KwaZulu-Natal and contributes significantly to the biodiversity conservation of the region through the protection of a variety of threatened or protected species, habitats and vegetation types. Important vegetation types such as the endemic East Griqualand Grassland and Drakensberg Foothill Moist Grassland, of which only a small percentage is currently protected, are conserved in the Mount Currie Nature Reserve. The area is an Important Bird Area (IBA) contributing to the conservation of various species [Mount Currie Nature Reserve IBA (Sa084)]. The Penny Park stewardship site lies approximately 3 kilometres east of Mount Currie Nature Reserve (MCNR).

The MCNR is situated close to the R617 and R56, the main route from the province of KwaZulu-Natal to the Eastern Cape, and is an important stopover for many people on this route. The D623 district road borders the reserve on the western side and a tributary of the Umzimtlava River meanders through the valley floor and into Crystal Dam.

Public consultation has been undertaken through a series of meetings and discussions with key stakeholders culminating in a key stakeholder workshop, held on the 29th of January 2013. Furthermore, the draft management plan has been made available for public review (27 February 2013) and comment prior to its finalisation.

Management issues, challenges and opportunities at Mount Currie Nature Reserve

The MCNR's proximity to the town of Kokstad is significant and provides both opportunities and threats. A challenge is the ever encroaching threat of incompatible developments in areas surrounding the reserve. It also provides opportunities for specifically improved eco-tourism and environmental awareness. Currently there are limited opportunities for environmental awareness and the tourism facilities are mostly utilised by travellers as a stopover or contractors working in the vicinity, rather than being an eco-tourism destination. Other management issues that were identified include a lack of sufficient human resources and the general security in the area. There are also an opportunity to incorporate approximately 600 hectares of commonage into the reserve and this need to be actively pursued.

Managing the issues, challenges and opportunities at Mount Currie Nature Reserve

In order to address the management issues of MCNR sufficient financial and human resources is required. There is a need to develop an interpretation center that will focus on communicating both the values of the nature reserve as well as general environmental issues to visitors and school groups. In terms of eco-cultural tourism there are opportunities to expand the products and activities that are offered, this must be investigated through a feasibility study.

Security issues will be addressed through effective stakeholder communication and effective access control. All opportunities for expansion will be investigated, negotiated and implemented, this will lead to better opportunities for eco-tourism and the possibility of further game introductions will be investigated.

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.

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 MCNR 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 MCNR 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 G.**

ABBREVIATIONS

AMAFA	Amafa aKwaZulu-Natali (KwaZulu-Natal Provincial Heritage Agency)
CCA	Community Conservation Area
CDP	Concept Development Plan (Component of Ezemvelo KZN Wildlife protected area management planning process)
CEO	Chief Executive Officer
CRMP	Cultural Resource Management Plan
CMS	Co-management Structure
DAEA	KwaZulu-Natal Provincial Department of Agriculture and Environmental Affairs
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
GKLM	Greater Kokstad Local Municipality
GIS	Geographical Information System
IDP	Municipal Integrated Development Plan
IUCN	International Union for the Conservation of Nature
MCNR	Mount Currie Nature Reserve
MEC	Member of the Executive Council
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEMA	National Environmental Management Act
NPAES	National Protected Area Expansion Strategy
NR	Nature Reserve
NRPC	Nature Reserve Planning Committee
NSBA	National Spatial Biodiversity Assessment
OiC	Officer in Charge
OPSCOMM	Operations Committee
PA	Protected Area
SAHRA	South African Heritage Resources Agency
SAPPI	South African Pulp and Paper Industry
SDF	Municipal Spatial Development Framework
SMME	Small, Micro and Medium Enterprises
SWOT	Strengths, weaknesses, opportunities and threats analysis
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WWF	Word Wildlife Fund

1) BACKGROUND

1.1 Purpose of the plan

The Protected Area Management Plan is a high-level, strategic document that provides 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 Mount Currie Nature Reserve (MCNR), 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 MCNR.
- Provide for capacity building, future thinking and continuity of management.
- Enable Ezemvelo KZN Wildlife to develop and manage MCNR in such a way that its values and the purpose for which it was established are protected.

1.2 Structure of the plan

See **Figure 1.1 Structure of the Protected Area Management Plan.**

Section 1:	Provides an introduction and background to the management plan and Mount Currie Nature Reserve.
Section 2:	Establishes the context of the nature reserve, 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 nature reserve.
Section 4:	Sets out the zonation of the nature reserve, outlining the permissible land uses in particular zones.
Section 5:	Describes the administrative structure required to effectively manage Mount Currie Nature Reserve.
Section 6:	Sets out the detailed management targets that must be achieved in managing the nature reserve.
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.

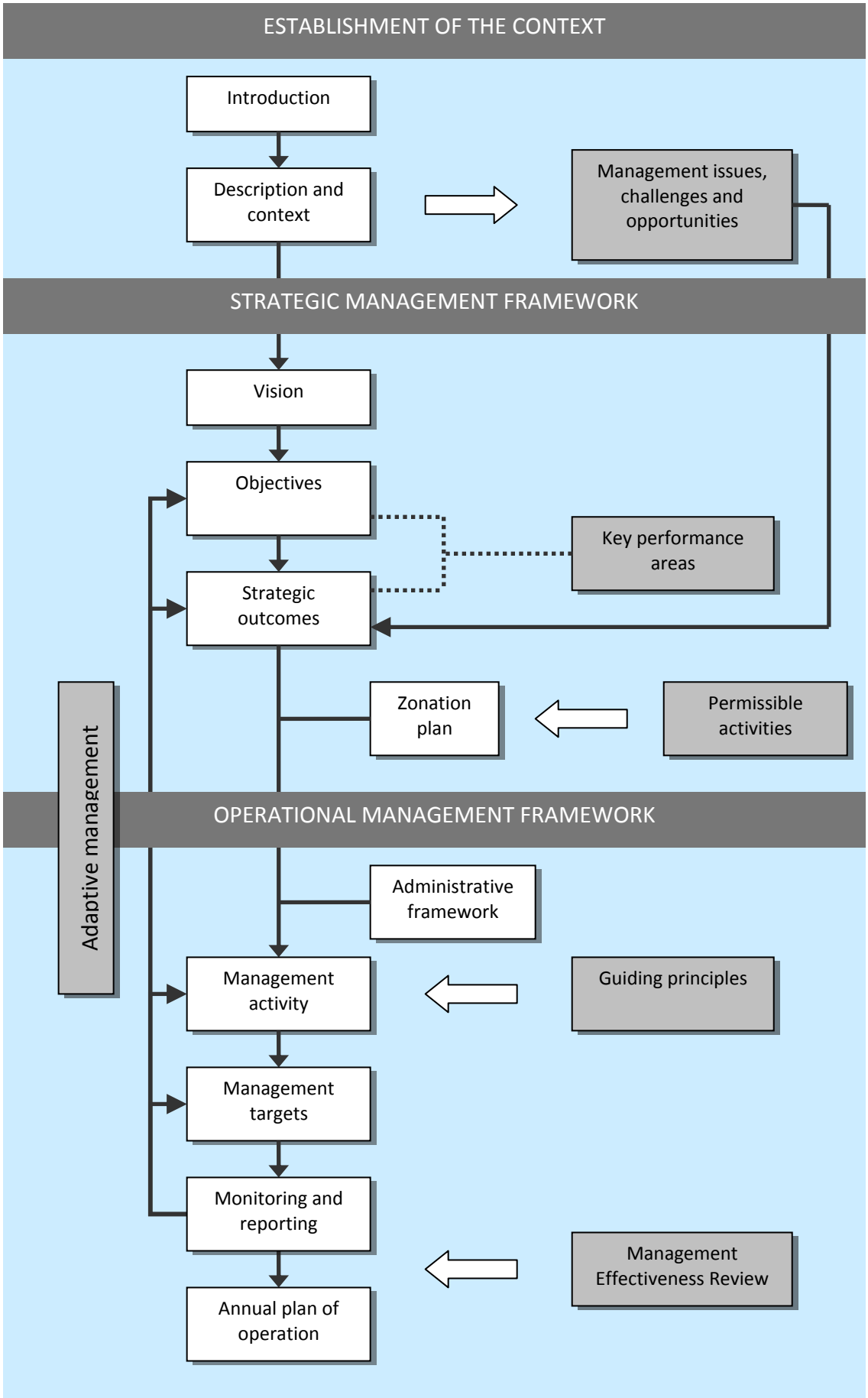

Figure 1.1 Structure of the Protected Area Management Plan

1.3 Introduction

The Mount Currie Nature Reserve consists of 1750 hectares located 5km north of the town of Kokstad in the KwaZulu-Natal province of South Africa. The Mount Currie peak within the reserve is seen as an iconic landmark in the Greater Kokstad Area. The reserve is situated within the municipal boundaries of the Greater Kokstad Local Municipality which forms part of the Sisonke District Municipality. The larger component of the reserve is leased from the Greater Kokstad Local Municipality and waters from the Crystal Dam within MCNR forms an important component of the water provision by the Sisonke District Municipality to the town of Kokstad.

The reserve is an important component of the conservation estate of KZN and contributes significantly to the biodiversity conservation of the region through the protection of a variety of threatened or protected species, habitats and vegetation types. Important vegetation types such as the endemic East Griqualand Grassland and Drakensberg Foothill Moist Grassland, of which only a small percentage is currently protected, are conserved in the Mount Currie Nature Reserve. The area is an Important Bird Area (IBA) contributing to the conservation of various species [Mount Currie Nature Reserve IBA (Sa084)]. The candidate Penny Park stewardship site lies approximately 3 kilometres east of Mount Currie Nature Reserve (MCNR).

The reserve is situated close to the R617 and R56, the main route from the province of KwaZulu-Natal to the Eastern Cape, and is an important stopover for many people on this route. The D623 district road borders the reserve on the western side and a tributary of the Umzimtlava River meanders through the valley floor and into Crystal Dam. See also **Map A – Location of MCNR**.

1.4 The values of Mount Currie Nature Reserve

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 values of MCNR include:

Natural values	▪ An area of unique natural beauty and a relatively untransformed landscape. ▪ The Mount Currie peak is seen as an iconic landmark in the Greater Kokstad Area. ▪ The area is an Important Bird Area (IBA) contributing to the conservation of various species [Mount Currie Nature Reserve IBA (Sa084)]. The reserve provides habitats for important, threatened and protected species including the Cape Vulture and Bearded Vulture. Other important species includes African Grass-Owl and Cape Eagle-Owl, Drakensberg Rockjumper, Black

	Harrier, a locally breeding pair of Blue Cranes and Striped Flufftails. ▪ Provides habitat for threatened mammal species and specifically for Oribi which contributes to the conservation targets set in the KZN Oribi Conservation Plan. Other species of importance include Vaal (Grey) Rhebok, Baboon, Aardvark, Serval, Cape Clawless Otter and Spotted Necked Otter, and Brown Hyaena. ▪ The reserve provides a refuge for medicinal muthi plants that have been depleted in the surrounding areas. ▪ Important vegetation types such as the endemic East Griqualand Grassland and Drakensberg Foothill Moist Grassland of which only a small percentage is currently protected are conserved in the MCNR. ▪ The reserve contains important geomorphological and hydrological features such as Scree slopes, Mount Currie Peak, the Crystal Spring, soil movement areas and wetlands.
Ecosystem service values	▪ The reserve provides an altitudinal gradient of approximately 800m which provides for altitudinal variance, climate change mitigation and diversity of species. ▪ Provides important ecosystem services especially in terms of protection of the catchment area of the Crystal Dam which supplies water to the town of Kokstad and to the Umzimtlava River that flows into the Umzimvubu.
Eco-cultural tourism values	▪ Recreation and tourism activities include a camping site, angling, boating and hiking activities that are regularly utilized by visitors from the Greater Kokstad Area.
Cultural and historic values	▪ The reserve is of spiritual, religious and cultural importance to the people of the Greater Kokstad Area as well as for Griqua heritage. A Boy Scouts War Monument is situated in the foothills of MCNR. ▪ Adam Kok Memorial site commemorating the Griqua heritage where, in 1861, 2000 Griquas under Adam Kok migrated to the area from the southern Free State. They lived in a laager in this vicinity for about ten years, before moving to Kokstad itself.
Social values	▪ The reserve provides both permanent and temporary job creation opportunities. ▪ Provides opportunities for environmental education and awareness specifically considering its location close to the town of Kokstad. ▪ The Mount Currie Mountain and the waterfall in the

	reserve are of spiritual and religious significance.

Consistent with Section 17 of the Protected Areas Act, the purpose of Mount Currie Nature Reserve is to:

- protect ecologically viable representative portions of East Griqualand Grassland and Drakensberg Foothill Moist grassland;
- preserve the ecological integrity of the area;
- conserve the important biodiversity in MCNR;
- protect areas representative of ecosystems, habitats and species naturally occurring in MCNR;
- protect MCNR's endangered and vulnerable species and specifically the Oribi (*Ourebia ourebi)*and Bearded Vulture *(Gypaetus barbatus*);
- assist in ensuring the sustained supply of environmental goods and services specifically relating to water provision;
- create or augment destinations for nature-based tourism in the Greater Kokstad Area;
- manage the interrelationship between natural environmental biodiversity, human settlement and economic development;

1.5 Planning approach

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

1.5.1 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 1.2 – The adaptive management cycle**). 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.

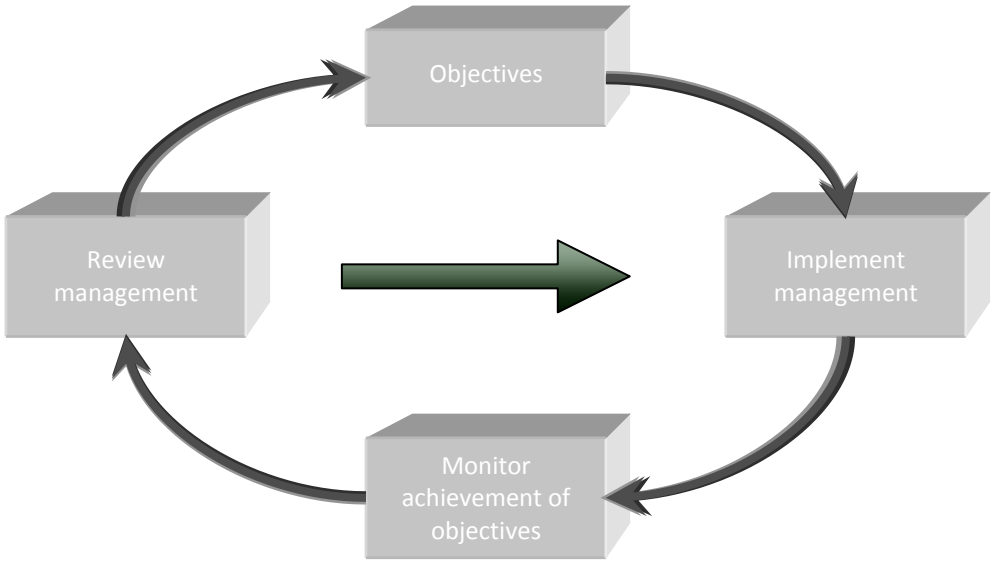

Figure 1.2 The adaptive management cycle

Adaptive management enables protected area managers to:

i) Learn through experience.

ii) Take account of, and respond to, changing factors that affect the protected area.

iii) Continually develop or refine management processes.

iv) Adopt best practices and new innovations in biodiversity conservation management.

v) Demonstrate that management is appropriate and effective.

1.5.2 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 community representatives, and other key stakeholders.

Public consultation has been undertaken through a series of meetings and discussions with key stakeholders culminating in a key stakeholder workshop, held on the 29th of January 2013. Furthermore, the draft management plan has been made available for public review (27 February 2013) 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. A detailed public participation report is available upon request from the MCNR management.

2) DESCRIPTION OF MOUNT CURRIE NATURE RESERVE AND ITS CONTEXT

2.1 Institutional and administrative framework for the management of MCNR

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 (Ezemvelo).

Management of MCNR will be undertaken in accordance with relevant legislation and the management policies of Ezemvelo, 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 MCNR 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 nature reserve through the relevant provincial departments, district and local municipalities.

2.2 The legislative basis for the management of Mount Currie Nature Reserve

There is a large body of legislation that is relevant to the management of MCNR, 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 – List of statutes to which Mount Currie Nature Reserve is subject.**

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 Mount Currie Nature Reserve

The MCNR was established through Gazette Notice No. 141 of 1981. See **Appendix C – Mount Currie Nature Reserve proclamation.**

The reserve is situated in the Greater Kokstad Municipal area on land that is leased on the long term from the municipality and consist of 1540, 78 hectares describes as Erf 1697 (portion of Erf 1), Kokstad. The portion known as Seven Fountains consisting of 204 hectares was expropriated in 1986 and is the only portion of Mount Currie Nature Reserve that is owned by the state. The current lease agreement with the municipality is valid until 2078.

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 nature reserves in terms of the Act, must be regarded to be a nature reserve for the purposes of the Protected Areas Act. The implication of this is that Mount Currie Nature Reserve is legally considered to be a proclaimed nature reserve in terms of the Protected Areas Act.

2.2.2 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 **Section 6.6.2 – Invasive Plant Control.**

2.3 The policy framework guiding the management of Mount Currie Nature Reserve

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:

i) The White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity of 1997.

ii) The Bioregional Approach to South Africa's Protected Areas, 2001/2002.

iii) Community Based Natural Resource Management Guidelines, 2003.

iv) National environmental management principles set out in section 2 of the National Environmental Management Act.

v) Relevant norms and standards set by the Minister and MEC in terms of the Protected Areas and Biodiversity Acts.

Within the province, Ezemvelo 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 GOALS

i) To conserve indigenous biodiversity in KwaZulu-Natal both within and outside of protected areas.

ii) To be a sustainable, well-resourced and capacitated biodiversity conservation and ecotourism organisation.

iii) To foster the value of biodiversity conservation with stakeholders.

iv) To be an efficient, effective and compliant organisation with good governance.

v) 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 D – List of policies, unpublished and supporting documents**).

These policies have been considered and applied within the plan, where relevant. The nature reserve's managers are required to be familiar with them and to apply them in managing Mount Currie Nature Reserve.

The management plan has utilised this body of policies to develop a strategic and operational management framework for Mount Currie Nature Reserve that is consistent with the broad goals and specific policy requirements of Ezemvelo KZN Wildlife.

2.4 The regional and local planning context of Mount Currie Nature Reserve

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, the areas around the borders of Mount Currie Nature Reserve are identified as priorities for protected area expansion. The nature reserve falls within Region 9 of the National Protected Area Expansion Strategy focus areas, the Drakensberg and Midlands Focus Area in KwaZulu-Natal. The NPAES states that this focus area "provides opportunities for consolidating protection of moist high-altitude grasslands, protecting ecosystem services, and incorporating ecological gradients for resilience to climate change. It is the source area for several free-flowing rivers and includes critically endangered river types."

On the basis of the NPAES, at a national level, MCNR is a strategically important protected area that forms a critical nodal point for the expansion of protected area efforts in an important but currently under-represented regional ecotype.

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 MCNR as priorities for protected area expansion and the nature reserve forms a key hub in creating a connected protected area system in the region.

Many areas around MCNR are characterised by high levels of irreplaceability, largely due to losses of natural habitat within the grassland biome and the individual vegetation types in which they occur. This is exacerbated as the grassland biome and many of its vegetation types are poorly protected.

Land identified as a priority for protected area expansion may be incorporated into MCNR either through land acquisition or through

stewardship agreements, established with individual landowners or communities. There is specifically a need to incorporate 600 hectares of commonage to the south west of MCNR under the current long term lease agreement.

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 E – Listed activities requiring environmental authorisation in terms of Regulation R.546, Listing Notice 3**, are proposed in the nature reserve, 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 nature reserve or its buffer areas will thus also require environmental authorisation.

2.5 The history of Mount Currie Nature Reserve

2.5.1 Origins of the name of Mount Currie Nature Reserve

The MCNR was named after the iconic Mount Currie Peak - situated in the nature reserve. The mountain was named after Sir Walter Currie (1819 – 1872) who was the Commandant of the Frontier Armed and Mounted Police. He acted for Sir George Grey, Cape Governor and High Commissioner in 1859. He negotiated with Faku, the Mpondo Nkosi to obtain land in the “No Man’s Land” for Adam Kok and the Griquas.

The Griquas named the mountain where they settled Mount Currie in honour of Sir Walter Currie, the peak was previously known as Mount Fifty, and this name was transferred to the peak immediately to the north.

2.5.2 History of conservation in Mount Currie Nature Reserve

The MCNR was previously managed by what is known today as the Greater Kokstad Municipality (GKLM), the reserve was then known as the Phil Leary Nature Reserve until the area was proclaimed as Mount Currie Nature Reserve in Gazette No.141 of 1981. At that time the then Natal Parks Board (now Ezemvelo KZN Wildlife) leased the land from the GKLM on a long term basis and took over the management of the reserve. In 1996 the portion called Seven Fountains was expropriated and this portion of 204 hectares is the only portion that is owned by the state. The reserve is managed by Ezemvelo and the Sisonke District Municipality maintains and manages the water provision infrastructure based at Crystal Dam. The reserve manager is responsible for the management and control of visitors using the dam for recreational purposes.

2.5.3 History of eco-cultural tourism in Mount Currie Nature Reserve

Prior to the establishment of the Phil Leary Nature Reserve hunting and wildflower gathering were popular recreational pursuits on the mountain. With the establishment of Phil Leary Nature Reserve these activities were curtailed. Watersports and angling became popular when Crystal Dam was constructed.

The Natal Parks Board took over in March 1979 and the reserve was renamed Mount Currie Nature Reserve. Angling and watersports continued to be popular pursuits of Kokstad residents.

Crystal Dam used to be stocked with trout but this no longer happens as the waters are marginal for trout. Largemouth bass and Bluegill are the species utilized by anglers today.

A campsite, with a capacity of 60 visitors per night was established by the Natal Parks Board (now Ezemvelo) on the banks of Crystal Dam. The old staff squaredavel was converted in later years into visitor accommodation and a small cottage was also built for extra visitor accommodation.

Mount Currie Nature Reserve is not a destination for overnight visitors but is mainly used as an overnight stopover by people travelling to and from the Eastern Cape. However there is a small group of people for whom the reserve is the preferred destination for a longer stay. At times the overnight facilities are also utilized by people working in the area for short or extended periods of time.

Hiking has never been a favoured recreational opportunity in the reserve but a number of parties do make the walk to the summit of Mount Currie an occasional outing.

The untransformed landscapes of Mount Currie make the reserve important for social and religious purposes by both Christians and traditional Africans.

Most visitor activity is centred around Crystal Dam, particularly in the summer months and there is sometimes conflict of interest among different user groups.

2.6 Ecological context of Mount Currie Nature Reserve

2.6.1 Climate and weather

According to Garland *Et al* (1979) the climate in the MCNR area is moderate with regular frost in winter and snow being an infrequent occurrence. The area has a distinct wet period that generally lasts from November to March. The average rainfall between 1992 and 1998 was 693mm with the driest period from May to July. During the dry period 30 days or more without rain is common. Rainfall intensities greater than 35 mm per day are not a regular occurrence. During January – December average daily maximum

temperatures may be higher than 30°C and could fall to 15°C in June, normally the coldest month. Frost is a common occurrence at night in June and July and sub-zero temperatures have may be recorded in up to 6 months of the year.

Scotney *Et al* (1978) records that the rainfall in the Kokstad area is significantly impacted by the physiography in the area with the higher areas receiving up to 900mm and more per annum and that the area is subject to occasional droughts.

2.6.2 Topography, Geology and Soils

See Map B – Topography and Map C – Geology of MCNR.

The Mount Currie Nature Reserve provides an altitudinal gradient of approximately 800 m which provides for altitudinal variance, climate change mitigation and diversity of species. The altitude ranges from 1 430m to 2 224m above sea level.

In a reconnaissance survey of land units, erosion potential and water resources in the Phil Leary Nature Reserve Garland (1979) classified the land units as follows:

The Mount Currie Peak (2 224m above sea level) consists of basalt bounded by a vertical/sub-vertical rock wall of up to 30 meter high. The ridge-like summit levels out in places to allow some soil accumulation.

Ridges or hills consisting of loose dolerite core stones at a 30° to 60° slope are common and often form the main drainage divides. In the north-west section of the nature reserve at about 2000m above sea level rugged dolerite boulder fields dominates the landscape.

Steep concave upper slopes of 30° to 35° underlain by dolerite but with Beaufort sediments present beneath some of the accumulated dolerite scree. These areas are highly sensitive to land use which removes vegetation cover or forces leading to soil compaction and paths and tracks should not be created in these areas.

Dissected lower slopes consisting of dolerites are generally more suitable for paths. At altitudes of 1 500m above sea level dolerite is again the most common rock type and with slopes varying from 10° to 20° and soil in these areas may reach a depth of 2m. In these areas there is little evidence of serious surface erosion although some isolated sheetwash does occur.

The valley floor is dominated by Beaufort sediments with occasional dolerite outcrops. Slopes rarely exceed 3° with soils up to 2 metres deep and moist and marshy.

The MCNR Reserve is located in the Beaufort series of the Karoo system. Dolerite is the most abundant rock type, although Beaufort sediments in the form of shale and clay outcrops occur in places.

Igneous outcrops in the area form the dominant landscape elements, whilst the less resistant Beaufort sediments are found only on the very gentle slopes. Active geomorphological processes typically include rock fall, sheet erosion, soil creep and surface/subsurface gullying.

2.6.5 Hydrology

The MCNR is the catchment area for the Crystal Dam (28 Hectares) which is an important component in the water provision to the town of Kokstad. The reserve is drained by a tributary of the uMzimtlava River which in turn flows into the Umzimvubu River.

The reserve contains abundant shallow groundwater with Crystal Spring feeding into the Crystal Dam.

2.6.6 Vegetation

See Map D – Vegetation of MCNR and **Appendix F – Species list.**

The Greater part of the MCNR consists of Drakensberg Foothill Moist Grassland. The south-western section of the reserve consists of East Griqualand Grassveld which is listed as Vulnerable.

The lower areas of the MCNR have a history of agriculture with heavy grazing and wattle and pine plantations, these plantations have been removed and rehabilitated back to grassland. Extensive areas of open woodland with Common Sugar Bush (*Protea caffra*) and Silver Sugar Bush (*Protea roupelliae*) the most dominant species also occur. Areas of scrub forest line some of the watercourses with typical species such as Ouhout (*Leucosidea sericea*), Mountain Hard Pear (*Olinia emarginata*), Mountain Saffron (*Scolopia mundii*), Wild Peach (*Kiggelaria africana*), Dog Wood (*Rhamnus prinoides*), Cross-Berry (*Grewia occidentalis*) and Blue Quarri (*Euclea crispa*).

Leucosidea sericea is currently being monitored as a potential invader into the grasslands. Many plants in these grasslands are endemic to the area.

2.6.7 Fire regime

See also section 6.6.1 – Fire management.

Mt Currie has 11 burning blocks of which two have been subdivided because of their large size. Generally most are burnt biennially with odd numbered blocks being burnt one year and even numbers in the following year. This frequency burn is not ideal, but most blocks have large sections that are either burnt patchily or not at all as a result of the topography, high moisture content or vegetation type. Some blocks are left unburnt for three or more years to maintain heterogeneity and to encourage Black Harrier to breed in MCNR. Because of the relatively small size of the reserve, it is possible to achieve a variety of burns with respect to type, frequency and season of burn. The wetland strip alongside the river is divided into three, and each 'block' can be burnt approx. once every 3 years.

There are a number of reasons for burning the grassland at MCNR:

- Infrastructure protection
- Legal compliance e.g. boundary firebreaks
- To enhance the vigour of the grassland by periodically removing moribund grass
- To provide fresh green and short grass for the Oribi (an Endangered species)
- The mosaic burning programme allows for extensive patches of longer grass which is essential as cover for animals such as Oribi, Grass Owl, Striped Flufftail, and gamebirds etc.
- To try to control the spread of *Leucosidea sericea* into the grasslands

The burns are carried out as carefully as possible in order not to excessively damage the *Protea* woodlands and the patches of forest.

2.6.8 Invasive species

The reserve contains several exotic species and Wattle and Pine plantations have been removed and rehabilitated back to grassland. Other alien species include Plane trees and Oak trees. Some of these are seen to have historic value e.g. the Oak trees at the Adam Kok Memorial Site. Plane and Oak trees currently provide shade for visitors at the camp and picnic sites and some of these will be replaced by indigenous trees in a phased process.

2.6.9 Mammalian fauna

See Appendix F – Species list of MCNR.

A healthy population of the Endangered Oribi (*Ourebea ourebi*) occurs in the reserve while other species include Mountain Reedbuck (*Redunca fulvorufula*), Southern (or Common) Reedbuck (*Redunca arundinum*), Grey Rhebok (*Pelea capreolus*), Grey (or Common) (*Sylvicapra grimmia)*, Bushbuck (*Tragelaphus scriptus)* and a small population of Blesbok (*Damaliscus pygargus phillipsi*).

A variety of carnivores also occurs in the reserve and includes Serval (*Leptailurus serval*), Caracal (*Caracal caracal*), African Wild Cat (*Felis silvestris cafra*) and Black-backed Jackal (*Canis mesomelas*). Both Cape Clawless Otter (*Aonyx capensis capensis*) and Spotted Necked Otter as well as Mongoose species, Aardwolf (*Proteles cristatus cristatus*), Brown Heyena (*Parahyaena brunnea*) and Aardvark (*Orycteropus afer afer*) have been recorded in the reserve.

2.6.10 Avifauna

According to the site description of the Important Bird Area[1] directory the MCNR provides a variety of habitat for birds and rivers, floodplains, pans, dams and vleis are import for many wetland-dependant species such as the Black Stork (*Ciconia nigra*) which breed in gorges in the nearby mountains. Wetlands provide habitats for African Marsh Harrier (*Circus ranivorus*) and the threatened Crowned Crane (*Balearica regulorum*). Up to 33 pairs of Striped Flufftail (*Sarothrura affinis*) occur in the reserve and this is one of the highest densities in the country.

Grass Owl (*Tyto capensis*), Blue Crane (*Anthropoides paradiseus*) and Southern Ground Hornbill (*Bucorvus leadbeateri*) are found in the grasslands. Cape Vulture (*Gyps coprotheres*), Bearded Vulture (*Gypaetus barbatus*) and Martial Eagle (*Polemaetus bellicosus*) are sporadically seen in the reserve.

Black Harrier (*Circus maurus*), Buffstreaked Chat (*Oenanthe bifasciata*), Drakensberg Rockjumper (*Chaetops aurantius*), Gurney's Sugarbird (*Promerops gurneyi*) and Sentinel Rock Thrush (*Monticola exploratory*) can be seen in montane areas and rocky slopes whilst Bush Blackcaps (*Lioptilus nigricapillus*) can be found in the thickets on the slopes. **See Appendix F – Species List.**

2.6.11 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. **See Appendix F – Species List.**

2.6.12 Invertebrates

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 of the most important management intervention required with habitat loss being the biggest threat to their survival.

Several species of millipedes, molluscs and insects are considered important and these species are reflected in **Table 6.7: Systematic biodiversity planning conservation targets** to which MCNR contributes.

[1] www.birdlife.org.za/conservation/iba/iba-directory/304-mountcurrie

There are currently 46 identified species of *Proandricus* and all of them are restricted to a narrow range, mainly in the eastern and south-eastern parts of South Africa (Plisco, 2002). These species occur in natural undisturbed areas. Plisco (2002) states that these species are extremely sensitive to disturbances, pollution and chemical influence.

A new species of Velvet Worm has been discovered in the MCNR in 2000. "One specimen of a distinctive white Onychophoran was collected in 2000 in leaf litter at Mt Currie Nature Reserve, KwaZulu-Natal and taken to the Natal Museum. These white Onychophorans represent a new species of Opistopatus, described here as *O. herbertorum* sp. nov." (Ruhber and Hamer, 2005).

See Appendix F – Species List.

2.7 Cultural context of Mount Currie Nature Reserve

Extracted from an unpublished brochure developed by the then Natal Parks Board: Adam Kok III (1811 – 1875):

Adam Kok III (1811 – 1875), the great-grandson of Adam Kok I, ruled over the Griqua people from 1837. At the time they were settled in the Philippolis area, in the present day O.F.S.

The Griqua community decided to leave Philippolis as they were progressively losing authority over the land to Ductch-speaking trekkers. The O.F. S. government, the Cape colonial government and the Griquas themselves shared the blame for this. The fertile, apparently empty "No Man's Land" over the southern Drakensberg offered them some hope of re-establishing their pastoral way of life. The trek began in 1861 and comprised approximately 2 000 people, 20 000 head of stock, and some 30 wagons. The hazardous terrain and continual harassment by Sotho tribesmen, turned the2 year trek into an ordeal; for years afterwards the Basutos collected valuable metal from the broken wagon.

The Griquas descended into "No Man's Land" via the precipitous Ongeluksnek Pass (so-named after a member of the 1859 exploratory trek accidentally shot himself while unloading a wagon). The Umzimvubu River was crossed near where Cedarville stands today. The trek party arrived on the slopes of the present Mount Currie in May 1863. The peak was named in honour of Sir Walter Currie, who commanded a detachment of Frontier Armed and Mounted Police (F.A.M.P.) later the Cape Mounted Rifles, which was on hand to welcome the newcomers. The previous name, Mount Fifty, was transferred to the peak immediately to the north. (The welcome suggested a rosier future for the Griquas, but despite British guarantees of autonomy, the fate of the Philippolis settlement was to be repeated, especially after Adam kok's death in 1875, when the Griquas lost his wise leadership). Adam Kok inadvertently established his laager close to one of South Africa's best 'eyes' (water supplies). However, it was not for some years that he put the water to good use by digging furrows to carry permanent supply to his new township,

Kokstad. The present town utilises water from the same source – the appropriately named Crystal Springs – just north of the laager site.

The first settlement on the slopes of Mount Currie was simply a rough collection of sod-homes where wagons had been outspanned. There was only a semblance of streets. At its centre Adam Kok built a long narrow mud-brick and thatch building to serve as a church, school and place of assembly. Invariably it also became the kraal for the community's goats. Surrounding this was a loopholed sod-wall with bastions at each corner. Three muzzle-loading cannons, laboriously dragged from Philippolis, served as an extra deterrent, especially against local black chiefdoms such as the Sotho and Bhaca. The site is marked by a memorial plaque and the remains are still visible.

The Griquas had two burial grounds. Higher up the slope, north of the laager, was the burial site of the community elders and other influentials. The site north of the laager was laid out in the shape of a cross but due to neglect, it was soon overrun by bush and weeds.

After the Rev. William Dower's visit to the Mount Currie laager in 1869, as requested by the London Missionary Society, he was asked to stay on as their minister. He agreed on condition that the community moved down the slope to the new 'town'. Nether the less, Kokstad was only formally established in 1872 and named after the Griqua leader. Adam Kok died in a wagon accident on Old Year's Eve 1875 en route to Hancock's Drift (later Umzimkulu).

2.8 Socio-economic context

The MCNR falls within the Sisonke District Municipality and the Greater Kokstad Municipality. The Greater Kokstad Municipality 2011/2012 IDP acknowledge the area as a growing regional service centre that is strategically located and could capitalize on major investment opportunities. It also states that the population distribution is characterised by relatively high population density in the town of Kokstad and lower densities in the agricultural areas.

Information sourced from Statistics South Africa's 2001 census, Community Survey of 2007 and the Demarcation Board data is indicative of a population that is relatively young with high levels of illiteracy.

The Sisonke District Municipality 2011/2012 IDP acknowledges the potential for tourism in the Kokstad area and recognises that greater diversity of tourism in the district through a greater variety of tourism facilities and activities.

2.9 Operational management within Mount Currie Nature Reserve

2.9.1 Infrastructure

Infrastructure located in MCNR is indicated on MAP E – INFRASTRUCTURE

Management Infrastructure:

- Office
- Checkpoint Office
- Workshop
- Storeroom x 2
- Shed x 3
- Stable
- Field Ranger outpost
- Fencing 150cm non-electrified 20km
- Roads – gravel 6km

Staff accommodation:

- Communal kitchen/ bathroom Staff
- Bachelor Flat Staff x 9
- 3 bedroom house Staff
- Double garage Staff

Tourism Infrastructure:

- Picnic Site with ablutions.
- Camp site with capacity of 60 and one ablution block.
- Slipway
- Squaredavel (4 visitors)
- Cottage (2 visitors)

2.9.2 Staffing establishment

Currently there are 12 permanent employees based at MCNR and temporary workers are occasionally employed as required.

The permanent staff compliment consists of:

- District Conservation Officer
- Senior Admin Clerk
- Principal Field Ranger
- Field Ranger X 4
- Labour Supervisor
- General Assistant X 3
- Tractor Driver

See also 5) Administrative structure for the proposed staffing establishment for MCNR.

The staffing is currently inadequate and there is a great need for specifically a handyman as well as additional Field Rangers and general Assistants as per Figure 5.1 to be appointed.

Carbutt and Goodman (2010) reflect the staffing level of MCNR as 0.0069 per hectare. This compare favourable to other protected areas in KZN of similar size such as Oribi Gorge with 0.0063/ hectare on 1917. Due to the visitor facilities and the need identified by management as well as key stakeholders to improve the standards of visitor facilities staff requirements needs to be adjusted.

2.9.3 Funding levels at Mount Currie Nature Reserve

Carbutt and Goodman (2010) indicated the funding levels at MCNR as operational budget R 96.86 per hectare and total budget of R 115.72 per hectare. This is much lower than other protected areas in the province of similar size such as Vernon Crookes (2 189 hectares) at R 174.05 per hectare operational budget and Wagendrift Dam (1 098 hectares) at R 217.28 operational budget in 2010.

2.9.4 Management effectiveness in Mount Currie Nature Reserve

In 2010 Ezemvelo KZN Wildlife conducted management effectiveness assessments for all of its protected areas (Carbutt and Goodman 2010). This assessment has 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. 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.

The MCNR achieved a relatively high management effectiveness score of 68.15 in the 2012 assessment; this is above the minimum required score of 67% for Ezemvelo KZN Wildlife protected areas.

The following issues were highlighted in the 2012 assessment:

- Cultural Heritage Values have been identified, additional information is now required to inform planning and management of these cultural heritage sites.
- The design of the reserve currently limits the achievement of its objectives; additional land that could potentially address this issue has been identified and is currently being negotiated.
- The reserve is not buffered and potential incompatible land-uses in areas surrounding the reserve are currently a concern.
- Environmental awareness is currently limited with no facilities, signage or programmes implemented.
- Research needs for the MCNR has not been established and critical information requirements have not been addressed.
- The staff establishment is below the optimal level for the achievement of critical management functions and reserve vision and objectives.
- The financial resources allocated for the management of the reserve is insufficient.
- The current tourism infrastructure needs to be improved both in quality and capacity.
- Infrastructure and fleet maintenance at the reserve is taking place on an ad hoc basis with no formalised maintenance schedule.

2.10 Summary of management issues, challenges and opportunities

Table 2.9.1 Management challenges and issues

Key performance area	Issue that must be addressed
Legal compliance and law enforcement	▪ Access D623 –implement access control in order to improve security of visitors to the reserve and general security in the area.
	▪ Poaching and illegal harvesting of medicinal plants
Stakeholder engagement	▪ Communication with stakeholders needs to be improved, especially in terms of collaboration in tourism and security.
	▪ Local security in the reserve and surrounding area
	▪ Improve public awareness of the PA. Currently there is only an out dated brochure and there is a need to improve, stakeholders, visitors

	and the youth understands of the importance of the nature reserve.
	▪ Information sharing between stakeholders to improve tourism and security in the area.
Buffer zone protection and regional management	▪ Increased pressure in terms of developments. Adjacent land-use and water-use planning do not always take into account the long term objectives of the reserve.
	▪ PA expansion opportunities to incorporate 600 hectares of commonage need to be implemented.
	▪ The requirements for the protection of the reserve have not been clearly incorporated into the IDP's of local and district municipalities.
	▪ Maintenance of water service infrastructure is the responsibility of the Sisonke District Municipality and a clear mechanism to facilitate communication and collaboration has to implemented.
Eco-cultural tourism development	▪ Upgrade and expand picnic & camp sites & minimize conflict – with various user groups.
	▪ There is limited ad hoc education & awareness – no signage or interpretation available to visitors. (Water Use awareness, sustainable resource use specifically medicinal plants)
	▪ Nature based tourism opportunities e.g. hiking, mountain bike trails etc. needs to be investigated.
	▪ Maintenance of current tourism facilities must be improved.
	▪ There is a need for an interpretation centre in the reserve.
	▪ Update the information brochures for visitors.
	▪ Cultural asset management needs to be implemented with input from AMAFA.
	▪ Directional & interpretive signage linked to nature based tourism opportunities and environmental interpretation must be established.
Conservation management	▪ Monitoring priorities for the reserve includes Oribi, Bearded Vulture and Blesbok and these programmes need to be fully implemented.
	▪ Relevant research needs to be identified and prioritised.
	▪ Potential future animal introduction: Cost implication – fencing etc. needs to be investigated.
	▪ Human/animal conflict
	▪ Fire management: firebreaks and controlled fires
	▪ Wetland rehabilitation
	▪ Invasive species (plants and animals) control must be implemented.
	▪ Water quality to reserve visitors and to the people of Kokstad.
	▪ Determine the economic value of ecosystem services.
Operational management	▪ Staff establishment is below optimal level for effective management of the reserve.
	▪ Upgrade waste management (recycling system).
	▪ Communication system requires upgrade (internet, landlines etc.)
	▪ State of the road to the Adam Kok memorial site.

3) STRATEGIC MANAGEMENT FRAMEWORK

In an effort to ensure that MCNR 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 nature reserve over the next five years and has been prepared collaboratively through a process involving stakeholders within Ezemvelo KZN Wildlife, the communities around the nature reserve, local and provincial government departments and other stakeholders.

The vision describes the overall long-term goal for the operation, protection and development of MCNR. 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.

3.1 Mount Currie Nature Reserve vision

To protect the unique biodiversity, cultural and natural landscapes of Mount Currie Nature Reserve by conserving ecosystem services while striving towards excellence in nature based tourism for the benefit of the people of the region.

In order to achieve the vision and objectives of MCNR and to manage the reserve effectively adequate human and financial resources are critical issues that need to be addressed.

3.2 Objectives and strategic outcomes

An objective has been identified for each of MCNR 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 3.1 sets out the key performance areas, the objective for each key performance area and the strategic outcomes, required to realise the objectives.

Table 3.1 Objectives and strategic outcomes for Mount Currie Nature Reserve

Key performance area	Objective	Strategic outcome
Legal compliance and law enforcement	Comply with and enforce legislation pertaining to the protection, development and management of MCNR.	▪ Ensure that there is adequate law enforcement within the nature reserve.
Stakeholder engagement	Enable neighbouring landowners and communities to make inputs into and derive socio-economic benefits from MCNR without compromising conservation objectives.	▪ Constructive community involvement in the nature reserve's management through an effectively functioning liaison forum.
Buffer zone protection and regional management	Protect the biodiversity and cultural assets of MCNR from incompatible activities, processes or land use outside of its boundaries.	▪ Determination of the buffer zone requirements around the nature reserve. ▪ Capture the buffer zone considerations in municipal IDP's and SDF's and establishing local operational requirements in terms of water and waste services. ▪ Formalised access control to improve access, law enforcement and general security for the reserve as well as its key stakeholders.
Eco-cultural tourism development and Environmental awareness	Grow sustainable eco-tourism at MCNR whilst protecting the natural and cultural values of the reserve.	▪ Determination of a tourism market profile, through visitor market research for the nature reserve. ▪ Enhance the eco-tourism facilities of the reserve to a level that it can be marketed as a provincial and national destination. ▪ Development and implementation of an environmental interpretation and awareness programme.
Conservation management	Protect the ecosystem functioning, ecological integrity and species of MCNR through active interventions based on principles of adaptive management.	▪ Development of a comprehensive fire management plan for the nature reserve. ▪ Adequate fire safety within the nature reserve is ensured. ▪ Achievement of maintenance level of invasive plant infestations in the nature reserve. ▪ 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 nature reserve.

		▪ If extractive resource use is undertaken, it is done legally, sustainable and conforms to Ezemvelo KZN Wildlife Norms and Standards. ▪ If bioprospecting is undertaken, it is done legally and conforms to national legislation (NEMBA Act No 10 of 2004 Chapter 6). ▪ Investigate and effectively communicate the value of MCNR's ecosystem goods and services to the relevant stakeholders. ▪ Development of a strategy for the introduction and management of wildlife into the nature reserve in accordance with Ezemvelo KZN Wildlife Norms and Standards. ▪ Development and implementation of measures for human/wildlife conflict based on Ezemvelo KZN Wildlife policy. ▪ Processes are established to determine the success of management interventions in protecting the ecosystems, communities and species of the nature reserve. ▪ Critical ecological processes and functions are maintained within MCNR. ▪ Rare and endangered species management is undertaken using the best available scientific knowledge. ▪ Ensure the protection and the improved awareness of the cultural heritage values of MCNR.
Operational management	Provide adequate human resources, equipment, infrastructure and funding to enable the effective protection, development and management of Mount Currie Nature Reserve.	▪ Development of a five-year financial plan that identifies the resource needs to achieve the objectives for the nature reserve. ▪ Ensure that the nature reserve is adequately staffed for its effective management and operation. ▪ All facilities and infrastructure in the nature reserve 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 Mount Currie Nature Reserve

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.

General principles of zonation

- 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 all 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.
- Any application for activities that are not recommended for a specific zone will have to be approved by the Operations Committee: West and if necessary would be referred to the Executive Director Operations.

The criteria used to determine each zone are described as:

Key feature protection overlay	▪ An area that is vulnerable or scientifically important where specific additional controls are imposed in order to prevent undesirable impacts. ▪ This zone overlay other zones instituting site specific rules and regulations in addition to the restrictions of the underlying zone.
Low use zone	▪ An area where the ecotourism principles of low human impact will prevail. ▪ This area is characterised by facilities of a rustic nature such as overnight hiking huts. ▪ Motorised access is low key and there are limited management roads and tracks.
Moderate use zone	▪ This is also an area in which the ecotourism principles of low human impact will prevail, but higher levels of usage are permitted. ▪ This area includes the main tourism road network, including access and game viewing roads. ▪ Infrastructure is accessible by motorised access in this area.
Tourism development node	▪ This is a node within the moderate use zone, which includes commercial tourism developments such as lodges, picnic and camping sites.
Park management node	▪ This is a node within the moderate use zone, which includes facilities for staff accommodation, administrative offices and operational infrastructure.
Preliminary buffer zone	▪ This is outside of a protected area, where actions and agreements are taken to protect its integrity. ▪ It is an area in which the protected area managers work collaboratively with neighbours and municipalities to try to ensure land uses that are compatible with the protected area.

4.2 Concept development guidelines

The purpose of the zonation of MCNR 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.

4.2.1 Key Feature Protection Overlay

Description:

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 palaeontological sites.

Objective:

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.*

Permissible activities: (Activities that could be allowed subject to the management unit standard rules and regulation in terms of authorisation)

1. The zone may overlay other zones so a range of infrastructure may already exist.

2. In addition to restrictions of the underlying zone site specific rules and regulations will apply.

Constraints and implementation:

- 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.

4.2.2 Low Use Zone

Description:

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.

Objective:

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.

Permissible activities: (Activities that could be allowed subject to the management unit standard rules and regulation in terms of authorisation)

- 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.

Constraints and implementation:

- 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.

4.2.3 Moderate Use Zone

Description:

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.

Objective:

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.

Permissible activities: (Activities that could be allowed subject to the management unit standard rules and regulation in terms of authorisation)

- 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.
- 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.

Constraints and implementation:

- 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
  - Interpretation centre.

Park Administrative Node (within the Moderate use zone) cater 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.

4.2.4 Protected Area Buffer Zone

Description:

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.

Objective:

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.

Permissible activities:

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

Constraints and implementation:

- It is desirable for the intensity of land use to decrease closer to the nature reserve.
- Discourage activities that are not compatible with the adjacent reserve zonation.

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 MCNR is set out in Figure 5.1. The figure represents the staff complement and positions that are required to enable the effective operation, management and protection of MCNR. See also 2.9.2 Staffing establishment.

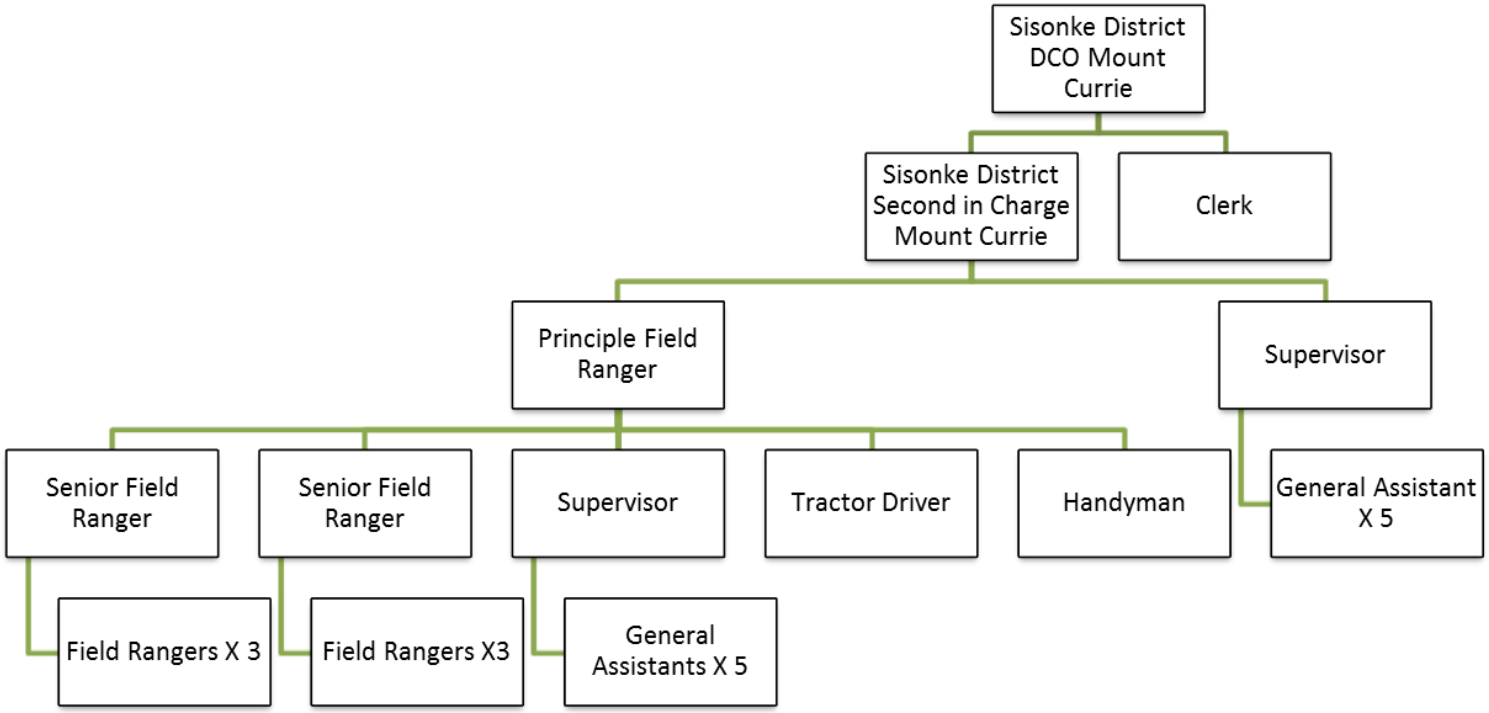

Figure 5.1 Recommended organisational structure for Mount Currie Nature Reserve

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 MCNR.
Priority 2:	A management target that addresses an aspect of management that contributes towards community involvement and support for the conservation of MCNR, 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 MCNR and/or its surrounding local communities.

The priorities are presented in the tables below using the colour system above, which depicts the level of priority shown for the particular management target. In addition, a date is indicated in the priorities column, which is intended to convey the end date by which the management target must have been achieved.

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 MCNR 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 nature reserve.
- 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 nature reserve 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 nature reserve and its managers. The following guiding principles should be adhered to:

- Efforts should be made to ensure that the communities living around the nature reserve 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 nature reserve, within the communities, and support for its biodiversity conservation objectives.
- A common understanding of the issues that affect both the nature reserve and the surrounding communities should be developed and efforts to resolve them should be undertaken cooperatively.

The operational requirements for legal compliance and enforcement, and stakeholder engagement are set out in Table 6.1 below.

Table 6.1 Framework for legal compliance and law enforcement, and stakeholder engagement

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
LAW ENFORCEMENT					
Ensure there is adequate law enforcement within the nature reserve.	▪ Develop an integrated security strategy linked to the contingency plan for the nature reserve, which ensures collaboration with all relevant institutions.	▪ Creation of cooperative structures with local communities and law enforcement officials.	▪ Frequent recovery of snares. ▪ Arson fires. ▪ Recorded losses of game species. ▪ Recorded losses of known rare and endangered plant species.	***Year 1***	Officer in Charge
	▪ Ensure that staff are equipped and trained to undertake patrols within the nature reserve for law enforcement purposes. ▪ Implement a programme of patrols of the nature reserve and its boundaries. ▪ Ensure security of infrastructure and equipment by incorporating them into the programme patrol. ▪ Ensure security of visitors to the reserve by maintaining effective law enforcement and access control.	▪ Regular patrols covering the full extent of the nature reserve. ▪ Prosecution of any offender caught committing an offence.		***Ongoing***	Officer in Charge

STAKEHOLDER ENGAGEMENT					
Constructive community involvement in the nature reserve's management through an effectively functioning liaison forum.	▪ Ensure open lines of communication through the implementation of an effective stakeholder liaison and neighbour relations forum that maintains regular meetings and active involvement in stakeholder - related management issues.	▪ Annual meetings of the Stakeholder liason and Neighbour Relations Liaison forum.	▪ Lack of regular meetings and community dissatisfaction with the nature reserve.	***Year 1 and then ongoing***	Officer in Charge

6.4 Buffer zone protection and regional management

6.4.1 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 nature reserve. In order to safeguard the biodiversity within the nature reserve 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 6.4.2 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 the nature reserve.
- Threatening processes and edge effects on the nature reserve's boundary and beyond it must be identified.
- Appropriate actions must be taken to manage threatening processes and edge effects on the nature reserve's boundary and beyond it.

6.4.2 Local and regional planning

It is important, in managing the buffer areas around the nature reserve, that Ezemvelo KZN Wildlife work with local government authorities to ensure that their land use planning considers the biodiversity conservation imperatives of MCNR. In this regard it is necessary to ensure that buffer zone considerations are captured in planning tools such as IDPs and SDFs. 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 nature reserve.
- 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 6.2 below.

Table 6.2 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 nature reserve.	▪ Determine the ecological impacts and edge effects influencing the biodiversity of the nature reserve on its boundary and negotiate (mitigate and formalise) these with stakeholders.	▪ Identification of key threatening processes on the nature reserve's boundary.	▪ Edge effects such as invasive plant encroachment along the nature reserve's boundary.	***Year 1***	Ezemvelo KZN Wildlife Ecological Advice Unit and Officer in Charge.
	▪ Negotiate an updated long term lease with the Greater Kokstad Municipality to incorporate the 600 hectare of commonage into the reserve.	▪ Updated lease agreement and increase in land under conservation.	▪ Loss of land with high biodiversity value that would also improve the design of the reserve.	***Year 1***	Officer in Charge and legal Unit.
LOCAL AND REGIONAL PLANNING					
Capture the buffer zone considerations in municipal IDP's and SDF's and establishing local operational requirements in terms of water and waste services.	▪ Make inputs into the development of local and district municipality IDPs and SDFs in an effort to avoid environmentally harmful land uses in MCNR's buffer zones.	▪ Adoption of environmentally appropriate land uses in IDPs and SDFs in the areas immediately surrounding the nature reserve. ▪ Retention of existing benign land uses in the areas immediately surrounding the nature reserve.	▪ Identification/approval of environmentally harmful land uses on the boundaries of the nature reserve.	***Annually***	Ezemvelo KZN Wildlife Planning Unit and Officer in Charge
	▪ Negotiate and implement an agreement with the Sisonke District Municipality in terms of	▪ Adoption of a formalised agreement with the	▪ Lack of an agreed process for water use	***Year 1***	Officer in

	water and waste services.	Sisonke District Municipality.	and waste removal.		Charge
Formalised access control to improve access, law enforcement and general security for the reserve as well as its key stakeholders.	▪ Negotiate with relevant stakeholders and implement an access control point on the D 623 road.	▪ Adoption of a formalised agreement in terms of access control. ▪ Established access control point and improved general security.	▪ Uncontrolled access with increased incidents of poaching and other illegal activities.	***Year 1***	Officer in Charge and

6.5 Eco-cultural tourism development and environmental interpretation and awareness

6.5.1 Tourism product development

Ezemvelo KZN Wildlife has the mandate to sustainably develop MCNR 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 nature reserve and there is the potential to further develop eco-tourism products. In further developing tourism within the nature reserve, the following guiding principles should be adhered to:

- Tourism products developed within the nature reserve must be appropriate to the values and purpose for which the nature reserve has been proclaimed and must not threaten its biodiversity, cultural heritage 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 nature reserve.
- Tourism products should be developed in response to tourism market demands and opportunities within the nature reserve and should be carefully assessed to determine their viability.
- The development of tourism products within the nature reserve 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 nature reserve.

6.5.2 Environmental interpretation and awareness

Environmental interpretation and awareness of MCNR will be aimed at creating awareness, understanding and appreciation of its biodiversity, cultural heritage 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 interpretation and education are set out in Table 6.3 below.

Table 6.3 Framework for eco-cultural tourism and Environmental interpretation and awareness

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
TOURISM PRODUCT DEVELOPMENT					
Determination of a tourism market profile, through visitor market research for the nature reserve.	▪ Capture visitor information and statistics in order to better understand the nature reserve's tourist numbers and market. ▪ Develop an understanding of tourism in the region in order to collaborate with other tourism providers.	▪ An understanding of annual tourist numbers and a tourism market profile for the nature reserve.	▪ Declining tourist numbers. ▪ Unprofitable occupancy rates in accommodation within the nature reserve.	***Year 1***	Ezemvelo KZN Wildlife Ecotourism and Marketing Unit and Officer in Charge
Enhance the eco-tourism facilities of the reserve to a level that it can be marketed as a provincial and national destination.	▪ Initiate a feasibility study in order to determine the sustainability of potential tourism facilities and activities. ▪ Develop a Concept Development Plan in collaboration with stakeholders based on the feasibility study.	▪ An understanding of sustainable potential tourism products.	▪ Products that are developed but that are unsustainable and not used.	***Year 1***	Ezemvelo KZN Wildlife Ecotourism and Marketing Unit and Officer in Charge
	▪ Expand the picnic and camping site to a higher capacity.	▪ Improved capacity of tourism facilities with improved income generation potential.	▪ Not capitalizing on income generation potential of the reserve.	***Year 2***	Officer in Charge
	▪ Update the old information brochure that will serve to inform and direct tourist as well as serving as marketing material that could be displayed at alternate points of interest such as the Kokstad Museum to encourage visitors to the reserve.	▪ An updated brochure providing information on the reserve, its values and activities.	▪ Uninformed visitors.	***Year 2***	Officer in Charge and Design Studio.

	▪ Develop and install directional and interpretive signage for visitors.	▪ Improve visitor orientation and disseminate important information.	▪ Uninformed visitors.	***Year 2***	Officer in Charge and Design Studio.
	▪ Develop and implement a maintenance schedule for all tourism facilities.	▪ Regular scheduled maintenance resulting in well maintained facilities.	▪ Poorly maintained facilities. ▪ Decline in visitor numbers.	***Year 1 and then ongoing***	Officer in Charge

ENVIRONMENTAL INTERPRETATION AND AWARENESS					
Development and implementation of an environmental interpretation and awareness programme.	▪ Focus on environmental interpretation and awareness amongst the nature reserve's neighbouring communities, visitors and school groups.	▪ Provision of an environmental interpretation and education tour to each school in the neighbouring communities.	▪ Lack of interest in implementing the programme.	***Year 1***	Officer in Charge and CCO
	▪ Design and establish an environmental interpretation and awareness centre in the reserve.	▪ A Facility that can be used to improve the stakeholders, community and youth's knowledge and understanding of the reserve, its values and general environmental issues.	▪ Lack of understanding of the reserve, its values and general environmental issues.	***Year 2***	Officer in Charge and Design Studio.

6.6 Conservation management

6.6.1 Fire management

See also 2.6.7 Fire regime.

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 nature reserve, 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 nature reserve and the need to protect rare and endangered species.
- Burning and fire management must be undertaken in a safe manner that is legally 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 nature reserve) 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 nature reserve 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 6.4 below.

Table 6.4 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 nature reserve.	▪ 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 nature reserve.	***Year 1***	Officer in Charge and Ecological Advice Unit
Adequate fire safety within the nature reserve is ensured.	▪ Maintain a system of firebreaks within the nature reserve 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 nature reserve. ▪ Maintain membership of the East Griqualand Fire Protection Association.	▪ 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 nature reserve to neighbouring properties.	***Ongoing***	Officer in Charge

6.6.2 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 on-going 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.

6.6.3 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 nature reserve 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 6.5 below.

Table 6.5 Framework for conservation management – invasive plant control and soil erosion control

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
INVASIVE PLANT CONTROL					
Achievement of maintenance level of invasive plant infestations in the nature reserve.	▪ Implement the control plan in collaboration with IASP for the nature reserve. ▪ 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. ▪ Implement a phased programme to replace and remove identified alien trees with indigenous species. ▪ Maintain vigilance for any emerging invasive and alien species.	▪ Maintain maintenance levels for all species.	▪ Emerging weeds establishing in the reserve. ▪ Increased levels of invasive species in the reserve.	***Year 4***	Ezemvelo KZN Wildlife Alien Plant Control Unit and Officer in Charge
	▪ Establish if the encroachment of *Leucosidea sericea* into the grasslands is a threat and develop and implement a strategy to control it should it be a problem.	▪ Strategy to control bush encroachment into the grassland.	▪ Unacceptable levels of bush encroachment in the grassland.	***Ongoing***	Officer in Charge and Ecological Advice Unit
SOIL EROSION CONTROL					
Implementation of procedures to identify, rehabilitate and manage areas that have been significantly impacted by	▪ Undertake a detailed survey of the nature reserve to identify the extent and severity of soil erosion. ▪ Identify the causes of soil erosion and the requirements needed for rehabilitation within the nature reserve.	▪ A detailed map depicting areas of soil erosion within the nature reserve. ▪ Implementation of soil erosion control	▪ Further erosion of impacted areas. ▪ Sedimentation impacts in watercourses and wetland areas.	***Year 5***	Officer in Charge and Ecological Advice Unit

accelerated soil erosion.	▪ Implement soil erosion control and rehabilitation 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.	measures in areas in which plant cover is low, which are susceptible to erosion.			

6.6.4 Alien animal control

Alien animal species can threaten the ecological, genetic or natural aesthetic integrity of MCNR 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 nature reserve 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 nature reserve 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).

6.6.5 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 nature reserve will be considered, based on the following guiding principles:

- The context of the nature reserve'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 nature reserve.
- 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 ability of the nature reserve's managers to effectively control and monitor such resource use.

The detailed operational requirements for alien animal control and resource utilisation are set out in Table 6.6 below.

Table 6.6 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 nature reserve.	▪ Develop a Standing Operating Procedures to address the use of domestic animals such as pets and horses for patrolling purposes. ▪ Develop a Standing Operating Procedures to address the control of feral animals and alien fish found within the nature reserve and communicate this to all relevant stakeholders.	▪ Control of any alien animals found within the nature reserve.	▪ Uncontrolled access of domestic animals or livestock within the nature reserve.	***Ongoing***	Officer in Charge
RESOURCE UTILISATION					
If extractive resource use is undertaken, it is done legally, sustainable and conforms to Ezemvelo KZN Wildlife Norms and Standards.	▪ Develop and implement a Natural Resource Use Plan for MCNR. ▪ Consider, with relevant scientific and management staff, requests for extractive use in accordance with accepted norms and standards and resource use guidelines. ▪ If extractive use is approved, agree on the approach to sustainably extract resources from nature reserve with applicants. ▪ Ensure that any approved extractive resource use is managed, monitored and reported on. ▪ Ensure that any approved extractive resource use is in line with the concept development guidelines and zonation of the reserve.	▪ An agreed upon approach to any extractive resource use. ▪ Approved extractive resource use is managed, monitored and reported on.	▪ Uncontrolled or unsustainable resource extraction	***If required***	Officer in Charge and Ecological Advice Unit
If bioprospecting is undertaken, it is done legally and conforms	▪ Only allow the collection of biological materials or samples if the appropriate written permission has been given in accordance with	▪ No illegal collection of biological material or samples.	▪ Illegal collection of biological material or samples.	***If required***	Officer in Charge and Resource Use

to national legislation (NEMBA Act No 10 of 2004 Chapter 6).	national legislation (NEMBA Act No. 10 of 2004, Chapter 6) and appropriate permit/s issued by Ezemvelo KZN Wildlife.				Ecologist
Investigate and effectively communicate the value of MCNR's ecosystem goods and services to the relevant stakeholders.	▪ Initiate a study to identify, assess and value ecosystem goods and services of MCNR. ▪ Communicate and interpret these to the broader stakeholders of MCNR.	▪ Knowledge of the value of ecosystem goods and services on which funding requirements etc. could be motivated.	▪ Lack of an understanding of the value of ecosystem services provided by the nature reserve.	***Year 1***	Officer in Charge and Resource Use Ecologist

6.6.6 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 nature reserve and meeting set provincial conservation targets for species and vegetation types.
- The introduction of indigenous species into the nature reserve 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 nature reserve.
- 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.

6.6.7 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 MCNR 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.

Table 6.7 Systematic biodiversity planning conservation targets to which Mount Currie contributes

Feature	Description	Percentage of target located within Mount Currie Nature Reserve	Notes
Drakensberg Foothill Moist Grassland	Vegetation Type	1.06	Vulnerable
East Griqualand Grassland	Vegetation Type	0.46	Vulnerable
Ourebia ourebi	Mammal	0.72	Endangered
Leptopelis xenodactylus	Amphibian	40.33	
Proandricus armstrongi	Annelid	100	
Gypaetus barbatus	Ave	1.10	Endangered
Hypenetes argothrix	Diplopoda	33.33	
Eremidium erectus	Grasshopper	3.66	
Transvaaliana draconis	Grasshopper	2.84	
Centrobolus tricolor	Millipede	1.01	
Doratogonus montanus	Millipede	0.46	
Spinotarsus triangulosus	Millipede	40.97	
Opisthopatus herbertorum	Velvet Worm	100	
Euonyma lymneaeformis	Mollusc	2.11	
Bowiea volubilis	Plants	10	Vulnerable
Dierama tysonii	Plants	5.29	Least Concern
Encephalartos friderici-guilielmi	Plants	2.43	Vulnerable
Kniphofia albomontana	Plants	8.15	Least Concern

The detailed operational requirements for wildlife management and the achievement of conservation targets are set out in Table 6.8 below.

Table 6.8 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 nature reserve in accordance with Ezemvelo KZN Wildlife Norms and Standards.	▪ Ensure that any proposals for the introduction of wildlife species conform to Ezemvelo KZN Wildlife Norms and Standards. ▪ For future introductions only species known to have historically occurred in the nature reserve will be considered. ▪ Ensure that species introductions are adequately documented.	▪ An agreed upon approach to future wildlife species introductions.	▪ *Ad hoc* introductions of species, particularly those that may not have historically occurred in the nature reserve.	***Year 2***	Ezemvelo KZN Wildlife Ecological Advice Unit and Officer in Charge
	▪ Ensure that adequate population control measures are included in the strategy for the management of wildlife in the nature reserve.	▪ 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 measures for human/wildlife conflict based on Ezemvelo KZN Wildlife policy.	▪ Communicate the Standard Operating Procedures for human/wildlife conflict to reserve neighbours and stakeholders. ▪ Provide advice and assistance to reserve stakeholders and neighbours to deal with human/wildlife conflict. ▪ Apply appropriate humane methods, if animals must be destroyed or captured.	▪ Effective procedures and relationships with neighbours in dealing with human/wildlife conflict.	▪ Frequent complaints from neighbours with no clear response.	***Year 1 and then Ongoing***	Officer in Charge

CONSERVATION TARGETS					
Processes are established to determine the success of management interventions in protecting the ecosystems, communities and species of the nature reserve.	▪ Develop surveillance and monitoring plans for key management interventions in accordance with the Ezemvelo KZN Wildlife policies and norms and standards.	▪ 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
Critical ecological processes and functions are maintained within MCNR.	▪ Ensure that wetland rehabilitation works undertaken within the nature reserve are continuing to achieve their desired outcomes.	▪ Photographic records of the continued success of wetland rehabilitation structures.	▪ Ecological degradation of the wetlands.	***Year 5***	Ezemvelo KZN Wildlife Ecological Advice Unit
Rare and endangered species management is undertaken using the best available scientific knowledge.	▪ Arrange a bio-blitz survey to improve understanding of the biodiversity in MCNR and to identify further research requirements. ▪ Adopt procedures for the management of rare and endangered species within the nature reserve, particularly those for which specific conservation targets have been set, based on available literature and known best practices.	▪ Maintenance of optimum population numbers of rare and endangered species within the nature reserve. ▪ Improved understanding of biodiversity research and monitoring requirements.	▪ Declining numbers of rare and endangered species that occur within the nature reserve.	***Ongoing***	Ezemvelo KZN Wildlife Ecological Advice Unit and Officer in Charge
	▪ Undertake monitoring of key, rare and endangered species including Oribi, Blesbok and Bearded Vulture.	▪ Monitoring of flagship species. ▪ Integration of the nature reserve within EWT's species monitoring	▪ Lack of understanding of the status of flagship species.	***Annually***	Ezemvelo KZN Wildlife Ecological Advice Unit and Officer in

		programmes.			Charge

6.6.8 Cultural asset management

The MCNR has both natural and cultural values that need to be protected. In addressing wildlife 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 must be cleared of excess vegetation to reduce fire risk.

The detailed operational requirements for wildlife management and the achievement of conservation targets are set out in Table 6.9 below.

Table 6.9 Framework for conservation management – Cultural Heritage Management

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
CULTURAL HERITAGE MANAGEMENT					
Ensure the protection and the improved awareness of the cultural heritage values of MCNR.	▪ Develop and implement a strategy for the maintenance of the Adam Kok Memorial Site and the Boy Scout War Memorial with the assistance of AMAFA.	▪ Secure and protected cultural heritage sites.	▪ Cultural heritage sites not protected and presentable.	***Year 1***	Officer in Charge
	▪ Upgrade the access road to the heritage sites and implement access control measures in order to secure these sites but still allowing access by stakeholders and public.	▪ Safe access and efficient procedures to control access to the cultural heritage sites.	▪ Un-safe access to heritage sites. ▪ Vandalism of heritage sites due to inefficient access control.	***Year 2***	Officer in Charge
	▪ Include the cultural values of the reserve in interpretation, awareness and marketing material.	▪ Increased awareness of cultural values.	▪ Lack of understanding of the importance of the reserve cultural heritage values.	***Year 2***	Officer in Charge and Design Studio

6.7 Operational management

6.7.1 Financial and human resources

MCNR cannot be effectively managed without adequate sustained funding and sufficient human resources. In addressing the financial and human resource needs of the nature reserve, the following guiding principles should be adhered to:

- Adequate funding must be provided for the management of the nature reserve to ensure the protection of its biodiversity and cultural values and the continued provision of its ecosystem services.
- Commercial operations within the nature reserve must be self-sufficient and, if profitable, should be used to subsidise its conservation and community programmes.
- A capable, experienced administrator and leader is required to fulfil the position of nature reserve manager.
- Adequate, properly trained and experienced staff must be employed at the nature reserve to undertake the operations required for its effective management.

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 IUCN Best Practice Protected Area Guideline Series No 5: Financing Protected Areas; define a financial plan as a tool to determine the protected area's funding requirement and to match that with appropriate income sources.

"Ensuring effective management and securing sufficient financial resources are vital if protected areas are to continue to provide benefits and fulfil their role in biodiversity conservation."

The guidelines also indicate that the Financial Plan should be developed in the context of the management plan and should be tied in with management priorities.

The Department of Environmental Affairs' Guidelines for the Development of a Management Plan for Protected Areas in terms of the National Environmental Management: Protected Areas Act requires the costing of the plan to reflect capital cost, operational cost as well as financial resources and shortfalls that needs to be addressed.

Current income generating activities include:

- Camp site with a capacity of 60 people.
- Day visitor picnic site
- Self-catering facility

During the five year implementation period of this plan alternate tourism opportunities will be investigated and implemented based on a feasibility study.

Based on the analysis of past expenditure and income levels the following table indicating projected cost of implementing the management plan has been developed. See **Appendix F – Financial requirements for MCNR.**

6.7.2 Facilities and infrastructure

In order for MCNR 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 nature reserve, 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 nature reserve.
- Facilities and infrastructure must be provided to ensure the effective management and operation of the nature reserve.
- Practical solutions to the provision of electricity should be sought at the nature reserve based on available renewable energy technologies.
- Facilities and infrastructure must be provided to support the eco-cultural tourism activities in the nature reserve.

The detailed operational requirements for financial and human resource, and facilities and infrastructure development and management are set out in Table 6.9 below.

Table 6.9 Framework for operational management – financial and human resources, and facilities and infrastructure

Strategic outcome	Management activities	Management targets	Indicators of Concern	Priority	Responsibility
FINANCIAL RESOURCES					
Development of a five-year financial plan that identifies the resource needs to achieve the objectives for the nature reserve.	▪ Undertake an assessment of past income and expenditure trends in the nature reserve. ▪ Develop a five-year projection of income and expenditure targets that will allow for the effective achievement of the nature reserve's objectives.	▪ Adequate funding to achieve the objectives of the nature reserve.	▪ Inadequate funding to effectively protect and operate the nature reserve.	***Year 1***	Ezemvelo KZN Wildlife Regional Management Unit
HUMAN RESOURCES					
Ensure that the nature reserve is adequately staffed for its effective management and operation.	▪ Employ sufficient, appropriately skilled staff to meet the management and operational requirements of the nature reserve. ▪ Undertake regular training and skills development to ensure that staff is able to effectively complete their duties.	▪ Appointment of staff in all positions in the nature reserve.	▪ Inadequate staff numbers or skills for the effective management of the nature reserve.	***Year 2***	Ezemvelo KZN Wildlife Regional Management Unit and Officer in Charge
FACILITIES AND INFRASTRUCTURE					
All facilities and infrastructure in the nature reserve are adequately maintained.	▪ Develop and implement a schedule maintenance programme to maintain facilities and infrastructure in a condition that meets relevant environmental, health and safety requirements.	▪ Regular scheduled maintenance of all facilities and infrastructure.	▪ Environmental, health or safety incidents associated with inadequately maintained facilities and infrastructure.	***Ongoing***	Officer in Charge

	▪ Investigate with key stakeholder's options to upgrade the communication system including telephones and internet options.	▪ Effective communication system.	▪ OiC not able to communicate with internal and external stakeholders due to incapacity of the communication system.		Officer in Charge

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 schedule. Most 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 MCNR is set out in Table 7.1.

Table 7.1 Annual surveillance and monitoring schedule for Mount Currie Nature Reserve

Management issue	Parameters to be monitored	Monitoring measures	Monitoring frequency	Responsibility	Reporting requirements
Law enforcement	Schedule of patrols	Written record	Weekly	Officer in Charge	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 liaison forum	Written record	Bi-annually	Officer in Charge	Annual report
Buffer zone management	Influx of listed invasive vegetation on the nature reserve's boundaries.	Surveillance plan	To be determined	Officer in Charge supported by Ecological Advice Unit	Annual report
Local and regional planning	Land uses that are approved in the areas around the nature reserve in local and regional IDPs and SDFs	Written record	Annually	Regional Management Level	Annual report
Eco-cultural tourism	Visitor statistics	Completion of questionnaire/entry form	Ongoing	Officer in Charge	Annual report
Fire management	Burning of firebreaks as part of fire management	Written record/map/photography	Annually	Officer in Charge	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	Officer in Charge supported by Ecological Advice Unit	Annual report
	State of areas in which invasive plants have been eradicated				
	Records of labour hours/days	Written record	Annually		Annual report
	Herbicide usage	Written record	Annually		Annual report

Table 7.1 (cont.)

Management issue	Parameters to be monitored	Monitoring measures	Monitoring frequency	Responsibility	Reporting requirements
Soil erosion control	Areas subject to erosion control	Monitoring plan	To be determined	Officer in Charge 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	Officer in Charge	Record of event
	Status of key rare and endangered species, particularly those for which conservation targets have been set	Monitoring plan	To be determined	Officer in Charge supported by Ecological Advice Unit	Annual report
Resource utilisation	Extraction of resources from the nature reserve	Photographs/written records	Per event	Officer in Charge	Annual report
Human resources	Staffing levels	Number of full-time staff	Annually	Officer in Charge	Annual report
Facilities and infrastructure	State of roads, 4x4 tracks and paths	Photographs/written records	Quarterly	Officer in Charge	Annual report
	State of facilities and service infrastructure	Maintenance schedule/written records	Monthly		Annual report
	Pollution events	Photographs/written records	Per event	Officer in Charge	Record of event

As set out in Table 7.1 the following issues require a surveillance plan:

- The influx of listed invasive vegetation on the nature reserve's boundaries.
- The capture of weather data – This is captured through an automatic weather station at MCNR.

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 Oribi and Bearded Vulture and those for which conservation targets have been set.
- The status of the wetland rehabilitation structures within the nature reserve.

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 Operations Committee: West, prior to the annual management meeting for Mount Currie Nature Reserve, for its review and comment. Records of recommendations for update/changes to the plan should be kept so that when the review is done, 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 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.
- The results of an evaluation of the management effectiveness achieved for the protected area.

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

8) MOUNT CURRIE NATURE RESERVE 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

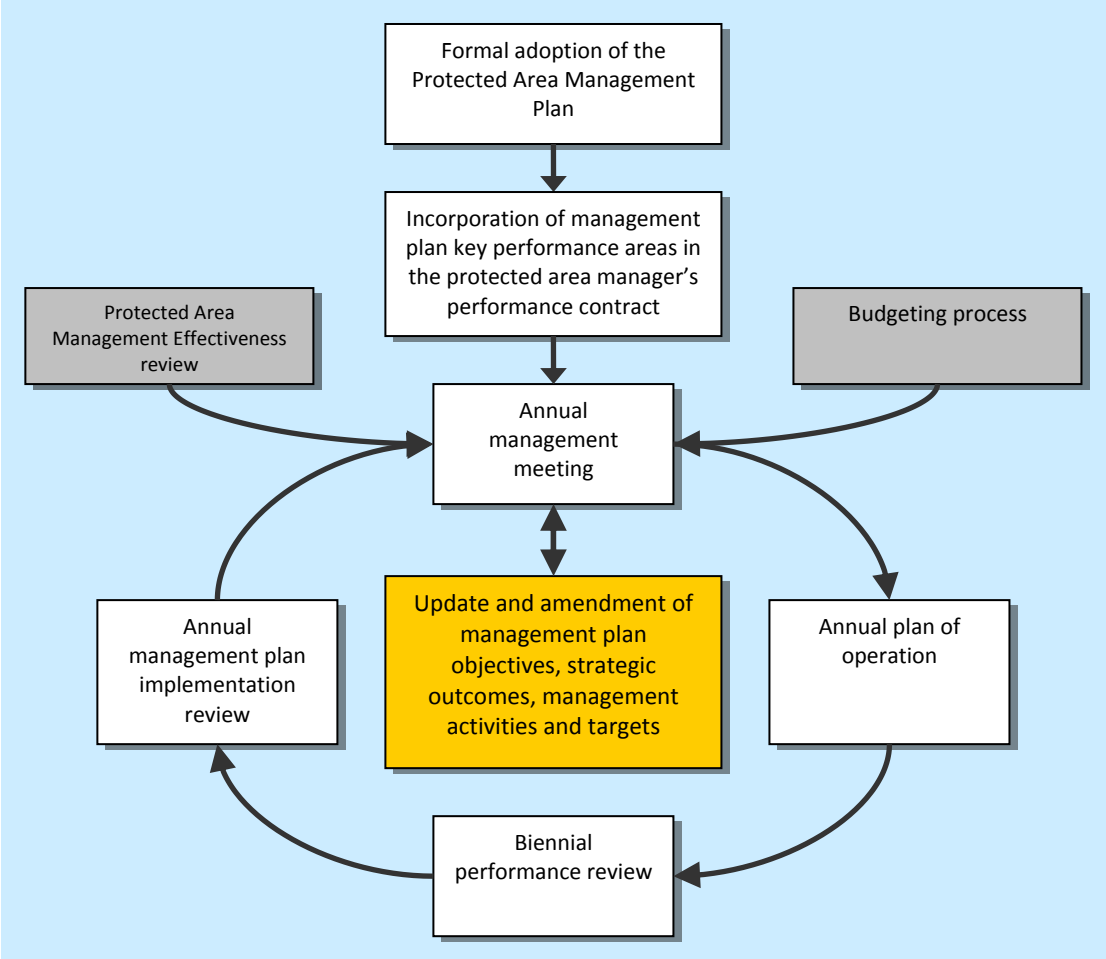

Figure 8.1 Process for the implementation of Protected Area Management Plans

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 MCNR 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 MCNR 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 G.**

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 Operations Committee: West and the Operations Committee (OPSCOM) in order to assign responsibility for the completion of the management activity. In this instance an action of the annual management meeting would be to refer this management activity to the OPSCOM so that the correct unit can be assigned responsibility to complete the management activity.

8.3 Mount Currie Nature Reserve resource requirements

In developing annual plans of operation for Mount Currie Nature Reserve 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 nature reserve.

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 nature reserve.
- Patrolling of the nature reserve 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 nature reserve.
- Maintenance of facilities and infrastructure within the nature reserve.
- Capture of visitor information and statistics.
- Admitting visitors to the nature reserve 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 an interpretation centre in the nature reserve.
- Feasibility study to investigate eco-tourism opportunities.
- Installation of communications infrastructure and purchase of equipment to enable effective communication between staff within the nature reserve and with other Ezemvelo KZN Wildlife operations.
- Installation of signage directing tourists to the nature reserve.
- Installation of directional and interpretive signage within the nature reserve.
- Development of facilities and infrastructure to support new tourism products identified in the concept development plan.
- The possible re-introduction of game species into the nature reserve.
- Upgrade picnic and campsite.
- Recycling facility.
- Internal road upgrade.

8.4 Annual financial plan

The annual plan of operation must contain a financial plan, which must be approved by the Operations Committee: West. 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 Operations Committee.

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DEFINITIONS OF TERMS

Alien species	Species or genotypes, which are not indigenous to Mount Currie Nature Reserve 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 Mount Currie Nature Reserve that has restrictions placed on its use or where collaborative projects and programmes are undertaken to afford additional protection to the nature reserve.
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 services	As defined in Section 1 of the National Environmental Management: Protected 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 IMP, 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 authority	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 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 Nature Reserve.
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 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 OIC.
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).

LIST OF STATUTES TO WHICH THE MOUNT CURRIE NATURE RESERVE 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]
- Occupational Health and Safety Act [No. 85 of 1993]
- 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

MOUNT CURRIE NATURE RESERVE PROCLAMATION

[*Engelse teks deur die Administrateur ondertekend*]

***No. 141, 1981**

PROKLAMASIE

van die Administrateur van die Provinsie Natal

KRAGTENS my bevoegdhede ingevolge artikel 2 (1) van die Ordonnansie op Natuurbewaring, 1974 (Ordonnansie No. 15 van 1974), proklameer, verklaar en maak ek hierby bekend dat die eiendom omskryf as Erf 1697 ('n gedeelte van Erf 1) Kokstad, groot 1 540,780 4 ha, geleë in die Munisipaliteit Kokstad, administratiewe distrik Mount Currie, Provinsie Natal, soos aangetoon op goedgekeurde diagram No. 426/1981 van die Landmeter-generaal, met ingang van die afkondigingsdatum hiervan 'n natuurtuin is en as die Natuurtuin Mount Currie bekend moet staan.

Gegee onder my handtekening te Pietermaritzburg, Natal, op hede die 2de dag van September eenduisend negehonderd een-en-tagtig.

J. C. G. BOTHA
Administrateur

[*English text signed by the Administrator*]

***No. 141, 1981**

PROCLAMATION

by the Administrator of the Province of Natal

UNDER the powers vested in me by section 2 (1) of the Nature Conservation Ordinance, 1974 (Ordinance No. 15 of 1974), I do hereby proclaim, declare and make known that, with effect from the date of publication hereof, the property described as Erf 1697 (portion of Erf 1) Kokstad, situate in the Borough of Kokstad, Administrative District of Mount Currie, Province of Natal, in extent 1 540,780 4 ha as shown on approved Surveyor-General Diagram No. 426/1981, shall be a nature reserve and shall be known as the Mount Currie Nature Reserve.

Given under my hand at Pietermaritzburg, Natal this 2nd day of September, one thousand nine hundred and eighty-one.

J. C. G. BOTHA
Administrator

Mt. Currie

LIST OF POLICIES, UNPUBLISHED AND SUPPORTING DOCUMENTATION

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

Item:

1. Ezemvelo Corporate Strategic Plan and Performance Plan for 2009 - 2014.
2. Ezemvelo Corporate Policies and Procedures (Norms & Standards) listed in the table below.
3. Ezemvelo Biodiversity Database Checklists for Mount Currie Nature Reserve.
4. Proclamations of Mount Currie Nature Reserve
5. Mount Currie Nature Reserve Public Participation Report, January 2011.
6. MOA between the Greater Kokstad Municipality and the KwaZulu-Natal Nature Conservation Board trading as Ezemvelo KZN Wildlife.
7. Agreement of lease between the Borough Council of Kokstad and the Natal Provincial Administration.

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 CORPORATE POLICIES (NORMS & STANDARDS)	
Policy 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.
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.
Policy File No.	**INTERNAL AUDIT**
C 5	➢ Management Control
	BIODIVERSITY CONSERVATION OPERATIONS
	1. NATURAL RESOURCE SUSTAINABILITY
Policy 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.
EZEMVELO CORPORATE POLICIES (NORMS & STANDARDS)	
	BIODIVERSITY CONSERVATION OPERATIONS
	1. NATURAL RESOURCE SUSTAINABILITY
Policy 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.
	➢
Policy 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
Policy 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.
Policy 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.
Policy 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).
Policy 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.
EZEMVELO CORPORATE POLICIES (NORMS & STANDARDS)	
	BIODIVERSITY CONSERVATION OPERATIONS
	2. CONSERVATION EFFECTIVENESS
Policy 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.
Policy File No.	**Environmental Awareness**
D 2.34	➢ Environmental Education Policy.
	3. BIODIVERSITY PROTECTION
Policy 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
Policy 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.
Policy 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.
EZEMVELO CORPORATE POLICIES (NORMS & STANDARDS)	
Policy 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.

LISTED ACTIVITIES REQUIRING ENVIRONMENTAL AUTHORISATION IN TERMS OF REGULATION R.546, LISTING NOTICE NO.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 250m^3.
- 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 250m^3.
- 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.

SPECIES LISTS

Plant list of Mount Currie Nature Reserve:

Acalypha peduncularis
Acalypha punctata
Acalypha punctata var. punctata
Acalypha schinzii
Agapanthus campanulatus
Agapanthus campanulatus campanulatus
Ajuga ophrydis
Albuca setosa
Alectra sessiliflora
Alloteropsis semialata
Aloe ecklonis
Aloe maculata
Anthericum cooperi
Anthospermum herbaceum
Apodolirion buchananii
Argyrolobium harveyanum
Aristida junciformis
Asclepias flava
Asclepias gibba
Asplenium monanthes
Asplenium trichomanes
Aster bakeranus
Aster perfoliatus
Athrixia phylicoides
Berkheya erysithales
Berkheya multijuga
Berkheya setifera
Berkheya speciosa
Bowiea volubilis
Brachiaria serrata
Brownleea galpinii
Brownleea parviflora
Brunsvigia grandiflora
Brunsvigia natalensis
Buchnera sp.
Bulbostylis hispidula
Bulbostylis schoenoides
Calpurnia sericea
Canthium ciliatum
Chaetacanthus burchellii
Cheilanthes quadripinnata
Cineraria dieterlenii
Cineraria geraniifolia
Cineraria grandibracteata
Cliffortia paucistaminea
Cliffortia serpyllifolia
Coccinia hirtella
Commelina africana
Conyza albida
Conyza sp.

Corycium nigrescens
Crabbea acaulis
Crassula obovata var. dregeana
Crassula rubicunda
Crassula umbraticola
Crassula vaginata
Craterocapsa tarsodes
Crocosmia pottsii
Cucumis zeyheri
Cussonia paniculata
Cymbopogon validus
Cyperus schlechteri
Cyperus sphaerocephalus
Cyphia elata
Cyphia elata var. elata
Cyrtanthus breviflorus
Cystopteris fragilis
Dicoma anomala
Dierama dissimile
Dierama sp.
Dierama trichorhizum
Digitaria tricholaenoides
Diheteropogon amplectens
Diheteropogon filifolius
Dioscorea rupicola
Dryopteris athamantica
Elaphoglossum acrostichoides
Elionurus muticus
Eragrostis capensis
Eragrostis curvula
Eragrostis racemosa
Erica algida
Erica alopecurus var. alopecurus
Erica frigida
Erica schlechteri
Eriosema kraussianum
Eriosema simulans
Eriospermum sp.
Euclea coriacea
Eulophia clavicornis var. clavicornis
Eulophia foliosa
Eulophia sp.
Eulophia zeyheriana
Euphorbia bupleurifolia
Euphorbia ericoides
Euphorbia striata
Euryops tysonii
Felicia filifolia filifolia
Ficinia sp.
Ficinia stolonifera

Galium capense
Garuleum sonchifolium
Gazania krebsiana
Geranium schlechteri
Geranium wakkerstroomianum
Gerbera ambigua
Gerbera piloselloides
Gerbera viridifolia natalensis
Gladiolus crassifolius
Gladiolus ecklonii
Gladiolus oppositiflorus
Gladiolus sp.
Gnidia baurii
Gnidia kraussiana
Gomphostigma virgatum
Graderia scabra
Greyia sutherlandii
Gunnera perpensa
Habenaria ciliosa
Habenaria dregeana
Habenaria lithophila
Habenaria sp.
Haemanthus humilis hirsutus
Haplocarpha scaposa
Harpochloa falx
Harveya speciosa
Helichrysum acutatum
Helichrysum anomalum
Helichrysum aureonitens
Helichrysum cephaloideum
Helichrysum dasycephalum
Helichrysum glomeratum
Helichrysum herbaceum
Helichrysum miconiifolium
Helichrysum nudifolium
Helichrysum pallidum
Helichrysum pilosellum
Helichrysum rugulosum
Helichrysum spiralepis
Helichrysum tenax
Helichrysum umbraculigerum
Helictotrichon turgidulum
Heliophila rigidiuscula
Hermannia cristata
Hermannia depressa
Hermannia gerrardii
Hermannia woodii
Hesperantha baurii
Hesperantha baurii baurii
Hesperantha schelpeana
Hesperantha tysonii
Heteropogon contortus
Hibiscus aethiopicus

Hibiscus aethiopicus var. aethiopicus
Hibiscus trionum
Hypericum lalandii
Hypochaeris radicata
Hypoestes aristata var. alba
Hypoxis argentea
Hypoxis costata
Hypoxis iridifolia
Hypoxis rigidula
Indigofera dimidiata
Indigofera woodii var. intermedia
Indigofera zeyheri
Inulanthera calva
Ipomoea simplex
Ischaemum fasciculatum
Ischyrolepis schoenoides
Kiggelaria sp.
Kniphofia albomontana
Kniphofia angustifolia
Kniphofia fluviatilis
Kniphofia laxiflora
Kniphofia linearifolia
Koeleria capensis
Kohautia amatymbica
Lactuca inermis
Leonotis leonurus
Leucosidea sericea
Lithospermum papillosum
Lobelia flaccida flaccida
Lobelia laxa
Lotononis corymbosa
Lotononis eriantha
Mentha aquatica
Microchloa caffra
Miraglossum pulchellum
Mohria caffrorum
Monocymbium ceresiiforme
Monsonia grandifolia
Monsonia natalensis
Moraea sp.
Muraltia flanaganii
Myrica brevifolia
Nemesia silvatica
Neobolusia tysonii
Oenothera tetraptera
Ornithogalum paludosum
Oxalis obliquifolia
Oxalis semiloba
Oxalis smithiana
Pachycarpus campanulatus
Pachycarpus grandiflorus var. chrysanthus
Pachycarpus natalensis
Panicum ecklonii

Passerina montana
Pelargonium alchemillifolium
Pelargonium alchemilloides
Pelargonium luridum
Pellaea calomelanos var. calomelanos
Pentanisia angustifolia
Pentanisia prunelloides
Pimpinella caffra
Polygala gracilenta
Polygala hottentotta
Potamogeton pusillus
Protea caffra
Protea caffra caffra
Protea roupelliae
Pteridium aquilinum
Pteris cretica
Pterygodium leucanthum
Rabdosia calycina
Rabdosiella calycina
Ranunculus multifidus
Rhodohypoxis baurii var. platypetala
Rhus dentata
Rhus discolor
Rhus pyroides var. pyroides
Rhus rigida var. dentata
Rhynchosia adenodes
Rhynchosia totta
Rubus ludwigii
Rubus ludwigii ludwigii
Rumex woodii
Satyrium parviflorum
Satyrium sp.
Scabiosa columbaria
Schistostephium crataegifolium
Schistostephium hippiifolium
Schizoglossum cordifolium
Scilla natalensis
Scilla nervosa
Scleria dieterlenii
Sebaea filiformis
Sebaea sedoides
Senecio bupleuroides
Senecio coronatus
Senecio glaberrimus
Senecio hastatus
Senecio inornatus
Senecio macrocephalus
Senecio polyodon
Senecio speciosus
Setaria pallide-fusca
Silene burchellii
Solanum nigrum
Sonchus nanus

Sporobolus pectinatus
Stachys aethiopica
Striga elegans
TaxonName
Tephrosia macropoda
Tetraria sp.
Thalictrum rhynchocarpum
Themeda triandra
Trachypogon spicatus
Trimeria trinervis
Tristachya leucothrix
Ursinia alpina
Vernonia hirsuta
Vernonia natalensis
Wahlenbergia cuspidata
Wahlenbergia fasciculata
Wahlenbergia krebsii
Watsonia confusa
Watsonia densiflora
Watsonia gladioloides
Watsonia pillansii
Woodsia montevidensis var. burgessiana
Xysmalobium stockenstromense

Threatened plants list of Mount Currie Nature Reserve:

Taxon Name	English Name	South Africa Red Data Book Status	Natal Nature Conservation Ordinance No. 15 of 1974
Agapanthus campanulatus campanulatus	Bell Agapanthus	Not Evaluated	Controlled
Crassula obovata var. dregeana	Stonecrop	Vulnerable	Protected
Lotononis corymbosa		Not Evaluated	Controlled
Euphorbia bupleurifolia		Lower Risk	Protected
Protea roupelliae			Specially protected
Graderia scabra	Wild Penstemon, Pink Ground-Bells	Not Evaluated	Controlled
Hesperantha tysonii			Specially protected
Dierama sp.			Specially protected
Dierama trichorhizum			Specially protected
Gladiolus oppositiflorus	Salmon Gladiolus, Transkei Gladiolus;	Lower Risk	Specially protected
Crocosmia pottsii	Slender crocosmia;		Specially protected
Leonotis leonurus	Cape Hemp, Lion's Ear, Minaret Flower, Wild Dagga	Not Evaluated	Controlled
Dioscorea rupicola	Wild Yam	Not Evaluated	Controlled
Cucumis zeyheri	Wild Cucumber	Not Evaluated	Controlled
Monsonia grandifolia		Endangered	
Monsonia natalensis			Protected
Ranunculus multifidus	Common Buttercup	Not Evaluated	Controlled
Aloe maculata	Soap Aloe,White Spotted Aloe	Not Evaluated	Controlled
Kniphofia angustifolia	Grass-leaved Poker		Specially protected
Tetraria sp.			Protected
Pachycarpus natalensis			Protected
Gnidia baurii		Not Evaluated	Controlled
Gerbera piloselloides	Small Yellow Gerbera	Not Evaluated	Controlled
Aster bakeranus	Wild Aster	Not Evaluated	Controlled
Helichrysum aureonitens	Golden Everlasting	Not Evaluated	Controlled
Polygala hottentotta	Small Purple Broom	Not Evaluated	Controlled
Scilla natalensis	Large Blue Scilla, blue Hyacinth, Blue Squill	Vulnerable	Specially protected
Bowiea volubilis		Vulnerable	Specially protected
Silene burchellii	Bladder Campion, Gunpowder Plant	Not Evaluated	Controlled

Appendix F

Animal List of Mount Currie Nature Reserve:

Taxon Name	English Name
Amphibians	
Bufo rangeri	Raucous toad
Kassina senegalensis	Bubbling kassina
Breviceps verrucosus	Plaintive rain frog
Cacosternum boettgeri	Boettger's caco
Strongylopus fasciatus	Striped stream frog
Cacosternum nanum nanum	Bronze caco
Earthworms	
Dendrobaena octaedr (alien species)	
Proandricus armstrongi	Armstrong's Earthworm
Pheretima (complex)(alien species)	
Gastropods	
Achatina zebra	Zebra agate snail
Mammals	
Aonyx capensis capensis	Cape clawless otter, African clawless otter
Atilax paludinosus paludinosus	Water mongoose
Canis mesomelas mesomelas	Black-backed jackal
Caracal caracal caracal	Caracal
Damaliscus pygargus phillipsi	Blesbok
Equus quagga antiquorum	Plains Zebra
Felis silvestris cafra	African wild cat
Galerella pulverulenta	Cape grey mongoose
Herpestes ichneumon cafer	Large grey mongoose
Ichneumia albicauda grandis	White-tailed mongoose
Leptailurus serval serval	Serval
Orycteropus afer afer	Aardvark
Ourebia ourebi ourebi	Oribi
Papio hamadryas	Chacma baboon
Parahyaena brunnea	Brown hyaena
Pelea capreolus	Grey rhebuck
Poecilogale albinucha	African striped weasel
Proteles cristatus cristatus	Aardwolf
Redunca arundinum arundinum	Southern reedbuck
Redunca fulvorufula fulvorufula	Mountain reedbuck
Sylvicapra grimmia	Common duiker, Grey duiker
Tragelaphus scriptus	Bushbuck
Millipedes	
Sphaerotherium sp.	
Ulodesmus sp.	
Gnomeskelus sp 1	
Gnomeskelus sp 2	
Centrobolus tricolor	Three-coloured millipede
Doratogonus sp. nov.	
Doratogonus xanthopus	Yellow-footed black millipede
Platytarropus sp.	
Orthoporoides pyrhocephalus	
Onycophora	
Opisthopatus herbertorum	Herbert's velvet worm

Threatened animals of Mount Currie Nature Reserve:

Taxon Name	English Name	South African Red data Book Status	Threatened or Protected Species
Amphibians			
Bufo rangeri	Raucous toad		
Cacosternum nanum nanum	Bronze caco		
Birds			
Accipiter melanoleucus	Black sparrowhawk		
Accipiter rufiventris	Rufous-chested Sparrowhawk, Red-breasted Sparrowhawk		
Accipiter tachiro	African Goshawk		
Alcedo semitorquata	Half-collared Kingfisher	Near Threatened	
Anthropoides paradiseus	Blue Crane	Vulnerable	Endangered
Aquila verreauxii	Verreauxs' Eagle, Black Eagle		
Balearica regulorum	Grey Crowned Crane, Crowned Crane	Vulnerable	Endangered
Bubo africanus	Spotted Eagle-Owl		
Bubo capensis	Cape Eagle-Owl		
Bucorvus leadbeateri	Southern Ground-Hornbill, Ground Hornbill	Vulnerable	Endangered
Buteo rufofuscus	Jackal Buzzard		
Chaetops aurantius	Drakensberg Rockjumper, Orange-breasted Rockjumper		
Ciconia nigra	Black Stork	Near Threatened	Vulnerable
Circus maurus	Black Harrier	Near Threatened	
Circus pygargus	Montagu's Harrier		
Circus ranivorus	African Marsh-Harrier	Vulnerable	Vulnerable
Cossypha dichroa	Chorister Robin-Chat, Chorister Robin		
Crex crex	Corn Crake	Vulnerable	
Elanus caeruleus	Black-shouldered Kite		
Falco biarmicus	Lanner falcon	Near Threatened	
Falco naumanni	Lesser Kestrel	Vulnerable	Vulnerable
Falco rupicolus	Rock Kestrel		
Falco subbuteo	Eurasian Hobby, Hobby Falcon		

Geocolaptes olivaceus	Ground Woodpecker		
Gypaetus barbatus	Bearded Vulture	Endangered	Endangered
Gyps coprotheres	Cape Vulture	Vulnerable	Endangered
Haliaeetus vocifer	African Fish-Eagle		
Lioptilus nigricapillus	Bush Blackcap	Near Threatened	
Lophaetus occipitalis	Long-crested Eagle		
Milvus migrans	Black Kite,Yellow-billed Kite		
Monticola explorator	Sentinel Rock-Thrush		
Oenanthe bifasciata	Buff-streaked Chat		
Pandion haliaetus	Osprey		
Ploceus capensis	Cape Weaver		
Polemaetus bellicosus	Martial Eagle	Vulnerable	Vulnerable
Polyboroides typus	African Harrier-Hawk, Gymnogene		
Prinia hypoxantha	Drakensberg Prinia		
Sagittarius serpentarius	Secretarybird	Near Threatened	
Sarothrura affinis	Striped Flufftail	Vulnerable	
Schoenicola brevirostris	Broad-tailed Warbler	Near Threatened	
Spreo bicolor	Pied Starling		
Strix woodfordii	African Wood-Owl, Wood Owl		
Tyto alba	Barn Owl		
Tyto capensis	African Grass-Owl, Grass Owl	Vulnerable	Vulnerable
Earthworms			
Proandricus armstrongi	Armstrong's earthworm		
Insects			
Aloeides henningi	Henning's Copper		
Aloeides oreas	Oreas Copper		
Aloeides penningtoni	Pennington's Copper		
Bittacus peringueyi	Peringuey’s hanging fly		
Chrysoritis lycegenes	Mooi River Opal		
Dasophrys fortis	Strong robberfly		
Dasophrys montanus	Montane robberfly		
Dira oxylus	Pondoland Widow		
Durbania amakosa amakosa	Amakosa Rocksitter		

Eremidium erectus	Erect-cercus wingless grasshopper		
Eretis umbra umbra	Small Marbled Elf		
Gegenes hottentota	Marsh Hottentot Skipper	Indeterminate	
Hypenetes argothrix	White-haired robber fly		
Kedestes chaca	Chaka's Ranger		
Orachrysops lacrimosa	Restless Blue		
Orachrysops nasutus remus	Nosy Blue		
Orachrysops subravus	Grizzled Blue		
Pachypaederus wendeleri	Wendeler's rove beetle		
Pseudonympha magoides	False Silver-bottom Brown		
Serradinga clarki dracomontana	Clark's Widow		
Stygionympha wichgrafi williami	Wichgraf's Brown		
Mammals			
Aonyx capensis capensis	Cape clawless otter, African clawless otter		Protected
Caracal caracal caracal	Caracal		
Damaliscus pygargus phillipsi	Blesbok		
Felis silvestris cafra	African wild cat		
Galerella pulverulenta	Cape grey mongoose		
Leptailurus serval serval	Serval	Near Threatened	Protected
Orycteropus afer afer	Aardvark		
Ourebia ourebi ourebi	Oribi	Endangered	Endangered
Papio hamadryas	Chacma baboon		
Parahyaena brunnea	Brown hyaena	Near Threatened	Protected
Pelea capreolus	Grey rhebuck		
Poecilogale albinucha	African striped weasel	Data Deficient	
Proteles cristatus cristatus	Aardwolf		
Redunca arundinum arundinum	Southern reedbuck		Protected
Millipedes			
Centrobolus tricolor	Three-coloured millipede		
Doratogonus xanthopus	Yellow-footed black millipede		

Reptiles			
Pseudocordylus langi	Lang's crag lizard	Restricted	
Slugs, snails, limpets			
Achatina zebra	Zebra agate snail		
Velvet worms			
Opisthopatus herbertorum	Herbert's velvet worm		

Bird list of Mountain Currie Nature Reserve:

Taxon Name	English Name
Accipiter melanoleucus	Black sparrowhawk
Accipiter rufiventris	Rufous-chested Sparrowhawk, Red-breasted Sparrowhawk
Accipiter tachiro	African Goshawk
Acrocephalus arundinaceus	Great Reed-Warbler
Acrocephalus baeticatus	African Reed-Warbler, African Marsh Warbler
Acrocephalus gracilirostris	Lesser Swamp-Warbler, Cape Reed Warbler
Acrocephalus palustris	Marsh Warbler, European Marsh Warbler
Acrocephalus schoenobaenus	Sedge Warbler, European Sedge Warbler
Actitis hypoleucos	Common Sandpiper
Alcedo cristata	Malachite Kingfisher
Alcedo semitorquata	Half-collared Kingfisher
Alopochen aegyptiaca	Egyptian Goose
Amaurornis flavirostris	Black Crake
Anas erythrorhyncha	Red-billed Teal
Anas hottentota	Hottentot Teal
Anas smithii	Cape Shoveler, Cape Shoveller
Anas sparsa	African Black Duck
Anas undulata	Yellow-billed duck
Andropadus importunus	Sombre Greenbul, Sombre Bulbul
Anhinga rufa	African Darter, Darter
Anomalospiza imberbis	Cuckoo Finch
Anthropoides paradiseus	Blue Crane
Anthus cinnamomeus	African Pipit, Grassveld Pipit
Anthus leucophrys	Plain-backed Pipit
Anthus similis	Long-billed Pipit
Apalis flavida	Yellow-breasted Apalis
Apalis thoracica	Bar-throated Apalis
Apus affinis	Little Swift
Apus barbatus	African Black Swift, Black Swift
Apus caffer	White-rumped Swift
Apus horus	Horus Swift
Aquila verreauxii	Verreauxs' Eagle, Black Eagle
Ardea cinerea	Grey Heron
Ardea goliath	Goliath Heron
Ardea melanocephala	Black-headed Heron
Ardea purpurea	Purple Heron
Balearica regulorum	Grey Crowned Crane, Crowned Crane
Batis capensis	Cape Batis
Bostrychia hagedash	Hadeda Ibis
Bradypterus baboecala	Little Rush-Warbler, African Sedge Warbler
Bradypterus barratti	Barratt's Warbler
Bubo africanus	Spotted Eagle-Owl
Bubo capensis	Cape Eagle-Owl
Bubulcus ibis	Cattle Egret
Bucorvus leadbeateri	Southern Ground-Hornbill, Ground Hornbill
Burhinus capensis	Spotted Thick-knee, Spotted Dikkop
Buteo rufofuscus	Jackal Buzzard
Buteo vulpinus	Steppe Buzzard
Calandrella cinerea	Red-capped Lark

Calidris minuta	Little Stint
Campephaga flava	Black Cuckooshrike
Caprimulgus pectoralis	Fiery-necked Nightjar
Centropus burchellii	Burchell's Coucal
Cercomela familiaris	Familiar Chat
Ceryle rudis	Pied Kingfisher
Chaetops aurantius	Drakensberg Rockjumper, Orange-breasted Rockjumper
Chalcomitra amethystina	Amethyst Sunbird, Black Sunbird
Charadrius tricollaris	Three-banded Plover
Chlidonias hybrida	Whiskered Tern
Chloropeta natalensis	Dark-capped Yellow Warbler, Yellow Warbler
Chrysococcyx caprius	Diederick Cuckoo, Diederik Cuckoo
Chrysococcyx klaas	Klaas's Cuckoo
Ciconia ciconia	White Stork
Ciconia nigra	Black Stork
Cinnyricinclus leucogaster	Violet-backed Starling, Plum-coloured Starling
Cinnyris afer	Greater Double-collared Sunbird
Cinnyris chalybeus	Southern Double-collared Sunbird, Lesser Double-collared Sunbird
Circus maurus	Black Harrier
Circus pygargus	Montagu's Harrier
Circus ranivorus	African Marsh-Harrier
Cisticola aberrans	Lazy Cisticola
Cisticola ayresii	Wing-snapping Cisticola, Ayres' Cisticola
Cisticola cinnamomeus	Pale-crowned Cisticola
Cisticola fulvicapilla	Neddicky
Cisticola juncidis	Zitting Cisticola, Fan-tailed Cisticola
Cisticola lais	Wailing Cisticola
Cisticola textrix	Cloud Cisticola
Cisticola tinniens	Levaillant's Cisticola
Clamator jacobinus	Jacobin Cuckoo
Coccopygia melanotis	Swee Waxbill
Colius striatus	Speckled Mousebird
Columba arquatrix	African Olive-Pigeon, Rameron Pigeon
Columba guinea	Speckled Pigeon, Rock Pigeon
Coracias garrulus	European Roller
Coracina caesia	Grey Cuckooshrike
Corvus albicollis	White-necked Raven
Corvus albus	Pied Crow
Corvus capensis	Cape Crow, Black Crow
Cossypha caffra	Cape Robin-Chat, Cape Robin
Cossypha dichroa	Chorister Robin-Chat, Chorister Robin
Coturnix coturnix	Common Quail
Creatophora cinerea	Wattled Starling
Crex crex	Corn Crake
Crithagra gularis	Streaky-headed Seedeater, Streaky-headed Canary
Crithagra mozambicus	Yellow-fronted Canary, Yellow-eyed Canary
Crithagra sulpuratus	Brimstone Canary, Bully Canary
Cuculus canorus	Common Cuckoo, European Cuckoo
Cuculus clamosus	Black Cuckoo
Cuculus solitarius	Red-chested Cuckoo
Delichon urbicum	Common House-Martin, House Martin
Dendrocygna viduata	White-faced Duck

Dendropicos fuscescens	Cardinal Woodpecker
Dendropicos griseocephalus	Olive Woodpecker
Dicrurus adsimilis	Fork-tailed Drongo
Dryoscopus cubla	Black-backed Puffback, Puffback
Egretta alba	Great Egret, Great White Egret
Elanus caeruleus	Black-shouldered Kite
Emberiza capensis	Cape Bunting
Emberiza flaviventris	Golden-breasted Bunting
Emberiza tahapisi	Cinnamon-breasted Bunting, Rock Bunting
Estrilda astrild	Common Waxbill
Euplectes afer	Yellow-crowned Bishop, Golden Bishop
Euplectes ardens	Red-collared Widowbird, Red-Collared Widow
Euplectes axillaris	Fan-tailed Widowbird, Red-shouldered Widow
Euplectes capensis	Yellow Bishop, Yellow-rumped Widow
Euplectes orix	Southern Red Bishop, Red Bishop
Euplectes progne	Long-tailed Widowbird, Long-tailed Widow
Falco biarmicus	Lanner falcon
Falco naumanni	Lesser Kestrel
Falco rupicolus	Rock Kestrel
Falco subbuteo	Eurasian Hobby, Hobby Falcon
Fulica cristata	Red-knobbed Coot
Gallinago nigripennis	African Snipe, Ethiopian Snipe
Gallinula chloropus	Common Moorhen
Geocolaptes olivaceus	Ground Woodpecker
Gypaetus barbatus	Bearded vulture
Gyps coprotheres	Cape vulture
Halcyon albiventris	Brown-hooded Kingfisher
Haliaeetus vocifer	African Fish-Eagle
Hedydipna collaris	Collared Sunbird
Hippolais icterina	Icterine Warbler
Hirundo albigularis	White-throated Swallow
Hirundo cucullata	Greater Striped Swallow
Hirundo fuligula	Rock Martin
Hirundo rustica	Barn Swallow, European Swallow
Indicator indicator	Greater Honeyguide
Ixobrychus minutus	Little Bittern
Jynx ruficollis	Red-throated Wryneck
Lagonosticta rubricata	African Firefinch, Blue-billed Firefinch
Lamprotornis nitens	Cape Glossy Starling, Glossy Starling
Laniarius ferrugineus	Southern Boubou
Lanius collaris	Fiscal Shrike
Lioptilus nigricapillus	Bush Blackcap
Lophaetus occipitalis	Long-crested Eagle
Lybius torquatus	Black-collared Barbet
Macronyx capensis	Cape Longclaw, Orange-throated Longclaw
Megaceryle maximus	Giant Kingfisher
Milvus migrans	Black Kite,Yellow-billed Kite
Monticola explorator	Sentinel Rock-Thrush
Monticola rupestris	Cape Rock-Thrush
Motacilla capensis	Cape Wagtail
Muscicapa adusta	African Dusky Flycatcher, Dusky Flycatcher
Myrmecocichla formicivora	Ant-eating Chat

Nectarinia famosa	Malachite Sunbird
Netta erythrophthalma	Southern Pochard
Numida meleagris	Helmeted guineafowl
Nycticorax nycticorax	Black-crowned Night-Heron
Oena capensis	Namaqua Dove
Oenanthe bifasciata	Buff-streaked Chat
Oenanthe monticola	Mountain Wheatear, Mountain Chat
Onychognathus morio	Red-winged Starling
Oriolus larvatus	Black-headed Oriole
Ortygospiza atricollis	African Quailfinch, Quail Finch
Oxyura maccoa	Maccoa Duck
Pandion haliaetus	Osprey
Parus niger	Southern Black Tit
Passer diffusus	Southern Grey-headed Sparrow, Grey-headed Sparrow
Passer domesticus	House Sparrow
Passer melanurus	Cape Sparrow
Petronia superciliaris	Yellow-throated Petronia, Yellow-throated Sparrow
Phalacrocorax africanus	Reed Cormorant
Phalacrocorax lucidus	White-breasted Cormorant
Phoeniculus purpureus	Green Wood-Hoopoe, Red-billed Woodhoopoe
Phylloscopus ruficapilla	Yellow-throated Woodland-Warbler, Yellow-throated Warbler
Phylloscopus trochilus	Willow Warbler
Platalea alba	African Spoonbill
Plectropterus gambensis	Spur-winged goose
Ploceus capensis	Cape Weaver
Ploceus cucullatus	Village Weaver, Spotted-backed Weaver
Polemaetus bellicosus	Martial eagle
Polyboroides typus	African Harrier-Hawk, Gymnogene
Porphyrio madagascariensis	African Purple Swamphen, Purple Gallinule
Porzana pusilla	Baillon's Crake
Prinia hypoxantha	Drakensberg Prinia
Prodotiscus regulus	Brown-backed Honeybird, Sharp-billed Honeyguide
Promerops gurneyi	Gurney's Sugarbird
Psalidoprocne holomelaena	Black Saw-wing, Black Saw-wing Swallow
Pternistis afer	Red-necked Spurfowl, Red-necked Francolin
Pycnonotus tricolor	Dark-capped Bulbul, Black-eyed Bulbul
Quelea quelea	Red-billed Quelea
Rallus caerulescens	African Rail
Riparia cincta	Banded Martin
Riparia paludicola	Brown-throated Martin
Riparia riparia	Sand Martin
Sagittarius serpentarius	Secretarybird
Sarothrura affinis	Striped flufftail
Sarothrura elegans	Buff-spotted Flufftail
Sarothrura rufa	Red-chested Flufftail
Saxicola torquatus	African Stonechat, Stonechat
Schoenicola brevirostris	Broad-tailed Warbler
Scleroptila africanus	Grey-winged Francolin
Scleroptila levaillantii	Red-winged Francolin
Scopus umbretta	Hamerkop
Serinus canicollis	Cape Canary
Spermestes bicolor	Red-backed Mannikin

Sphenoeacus afer	Cape Grassbird, Grassbird
Sporaeginthus subflavus	Orange-breasted Waxbill
Spreo bicolor	Pied Starling
Stenostira scita	Fairy Flycatcher
Streptopelia capicola	Cape Turtle-Dove
Streptopelia semitorquata	Red-eyed Dove
Streptopelia senegalensis	Laughing Dove
Strix woodfordii	African Wood-Owl, Wood Owl
Sturnus vulgaris	Common Starling, European Starling
Tachybaptus ruficollis	Little Grebe, Dabchick
Tachymarptis melba	Alpine Swift
Tadorna cana	South African Shelduck
Telophorus olivaceus	Olive Bush-Shrike
Telophorus zeylonus	Bokmakierie
Terpsiphone viridis	African Paradise-Flycatcher, Paradise Flycatcher
Thalassornis leuconotus	White-backed Duck
Threskiornis aethiopicus	African Sacred Ibis, Sacred Ibis
Tringa glareola	Wood Sandpiper
Tringa nebularia	Common Greenshank, Greenshank
Turdus olivaceus	Olive Thrush
Turnix sylvaticus	Kurrichane Buttonquail
Tyto alba	Barn Owl
Tyto capensis	African Grass-Owl, Grass Owl
Upupa africana	African Hoopoe, Hoopoe
Vanellus armatus	Blacksmith Lapwing, Blacksmith Plover
Vanellus senegallus	African Wattled Lapwing, Wattled Plover
Vidua macroura	Pin-tailed Whydah
Zosterops virens	Cape White-eye

PRO FORMA ANNUAL PLAN OF OPERATION

NOTES OF A MANAGEMENT MEETING FOR MOUNT CURRIE NATURE RESERVE 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 MCNR Conservation Manager and the second sets out all of the management targets that are the responsibility of other units or individuals.

Appendix G

Table 1 Progress and goals set for the Mount Currie Nature Reserve Conservation Manager

Management target	2011/12 Progress	2012/13 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT					
Creation of cooperative structures with local communities and law enforcement officials.		▪	Year 1	Officer in Charge	
Regular patrols covering the full extent of the nature reserve.		▪	Ongoing	Officer in Charge	
Prosecution of any offender caught committing an offence.		▪	Ongoing	Officer in Charge	
STAKEHOLDER ENGAGEMENT					
Annual meetings of the liaison forum.		▪	Year 1 - Ongoing	Officer in Charge	
CONSERVATION MANAGEMENT					
Adoption and implementation of A fire management plan.		▪	Year 1	Officer in Charge and Ecological Advice Unit	Requires support from the Ecological Advice Unit
Burning according to the annual plan in accordance with ecological advice.		▪	Annually	Officer in Charge and Ecological Advice Unit	
Compliance with the National Veld and Forest Fires Act.		▪	Ongoing	Officer in Charge	
Compliance with the Biodiversity Act in terms of the preparation of an invasive species control plan.		▪	Year 1	Officer in Charge	Requires support from the Ecological Advice and Alien Plant Control Units

Management target	2011/12 Progress	2012/13 goals	Completion date	Responsibility	Action
CONSERVATION MANAGEMENT					
Maintenance level of all invasive species.		▪	Ongoing	Officer in Charge	Requires support from the Ecological Advice and Alien Plant Control Units
A detailed map depicting areas of soil erosion within the nature reserve. Implementation of soil erosion control measures in areas in which plant cover is low, which are susceptible to erosion.		▪	Ongoing	Officer in Charge	Requires support from the Ecological advice unit
Control of any alien animals found within the nature reserve.		▪	Year 2 - ongoing	Officer in Charge	
An agreed upon approach to any extractive resource use.		▪	If required	Nature Reserve Manager	Requires support from the Senior Conservation Manager
No illegal collection of biological material or samples.		▪	If required	Nature Reserve Manager	Requires support from the Resource Use Ecologist
An agreed upon approach to future wildlife species introductions.		▪	Year 5	Ezemvelo KZN Wildlife Ecological Advice Unit and Nature Reserve Manager	Requires guidance from the ecological advice unit
Control of population numbers of species that are exceeding identified carrying capacities.		▪	Ongoing		
Effective procedures and relationships with neighbours in dealing with problem animal control.		▪	Year 1	Nature Reserve Manager	
Maintenance and increase in population numbers of rare and endangered species within the nature reserve.		▪	Ongoing	Ezemvelo KZN Wildlife Ecological Advice Unit and Nature Reserve Manager	Requires guidance from the ecological advice unit

Management target	2011/12 Progress	2012/13 goals	Completion date	Responsibility	Action
OPERATIONAL MANAGEMENT					
Regular scheduled maintenance of all facilities, assets and infrastructure.		▪	Ongoing	Officer in Charge	
Sufficient facilities, assets, infrastructure and equipment to support the effective management and operation of the nature reserve.		▪	Year 3	Officer in Charge	
Appropriately functioning service infrastructure and systems that do not cause harm to the environment.		▪	Year 3	Officer in Charge	

Appendix G

Table 2 Progress and goals set for all other units and individuals within Ezemvelo KZN Wildlife

Management target	2011/12 Progress	2012/13 goals	Completion date	Responsibility	Action
LEGAL COMPLIANCE AND ENFORCEMENT					
STAKEHOLDER ENGAGEMENT					
		▪			
Identification of threats on the nature reserve's boundary.		▪	Year 2	Ezemvelo KZN Wildlife Ecological Advice Unit	
Legal protection of key buffer zone areas through establishment of biodiversity management plans or protected environments.		▪	Year 5	Ezemvelo KZN Wildlife Stewardship Unit and DCO	Refer management activity to Stewardship Unit
Adoption of environmentally appropriate land uses in IDPs and SDFs in the areas immediately surrounding the nature reserve.		▪	Annually	Ezemvelo KZN Wildlife Planning Unit	Refer management activity to Planning Unit
ECO-CULTURAL TOURISM					
An understanding of annual visitor numbers and a tourism market profile for the nature reserve.		▪	Year 3	Ezemvelo KZN Wildlife Ecotourism and Marketing Unit	Refer management activity to Ecotourism and Marketing Unit

Management target	2011/12 Progress	2012/13 goals	Completion date	Responsibility	Action
ECO-CULTURAL TOURISM					
A feasibility study to guide the development of facilities and infrastructure within the nature reserve.		▪	Year 2	Ezemvelo KZN Wildlife Biodiversity Conservation Coordinator	
Provide facilities and services as per the feasibility study.		▪	Year 5		
Provision of an environmental interpretation centre.		▪	Year 3	Ezemvelo KZN Wildlife Community Conservation Unit	Refer management activity to Community Conservation Unit
CONSERVATION MANAGEMENT					
Adoption and implementation of A fire management plan.		▪	Year 1	Ecological Advice Unit	With Nature Reserve Manager
Adoption of current best practices in fire management.		▪	Ongoing	Ezemvelo KZN Wildlife Ecological Advice Unit	
An agreed upon approach to future wildlife species introductions.		▪	Year 5	Ezemvelo KZN Wildlife Ecological Advice Unit	With Nature Reserve Manager
Control of population numbers of species that are exceeding identified carrying capacities.		▪	Ongoing		
Maintenance and increase in population numbers of rare and endangered species within the nature reserve.		▪	Ongoing	Ezemvelo KZN Wildlife Ecological Advice Unit	With Nature Reserve Manager
Monitoring of flagship species.		▪	Annually	Ezemvelo KZN Wildlife Ecological Advice Unit	Ecological advice unit to interact with EWT
Surveillance and monitoring plans for key threatening processes. Monitoring plans for key rare and		▪	Year 3	Ezemvelo KZN Wildlife Ecological Advice Unit and Officer in Charge	

endangered species.					
Management target	**2011/12 Progress**	**2012/13 goals**	**Completion date**	**Responsibility**	**Action**
OPERATIONAL MANAGEMENT					
Adequate funding to achieve the objectives of the nature reserve.		▪	Year 1	Ezemvelo KZN Wildlife Regional management	Refer management activity to Operations Committee: West
Adequate funding for completion of the actions set out in the annual plan of operation.		▪	Annually	Ezemvelo KZN Wildlife Regional management	Refer management activity to Operations Committee: West
Appointment of staff in all positions in the nature reserve.		▪	Year 2	Ezemvelo KZN Wildlife Regional management	Refer management activity to Operations Committee: West

Appendix H

FINANCIAL REQUIREMENTS FOR MOUNT CURRIE NATURE RESERVE

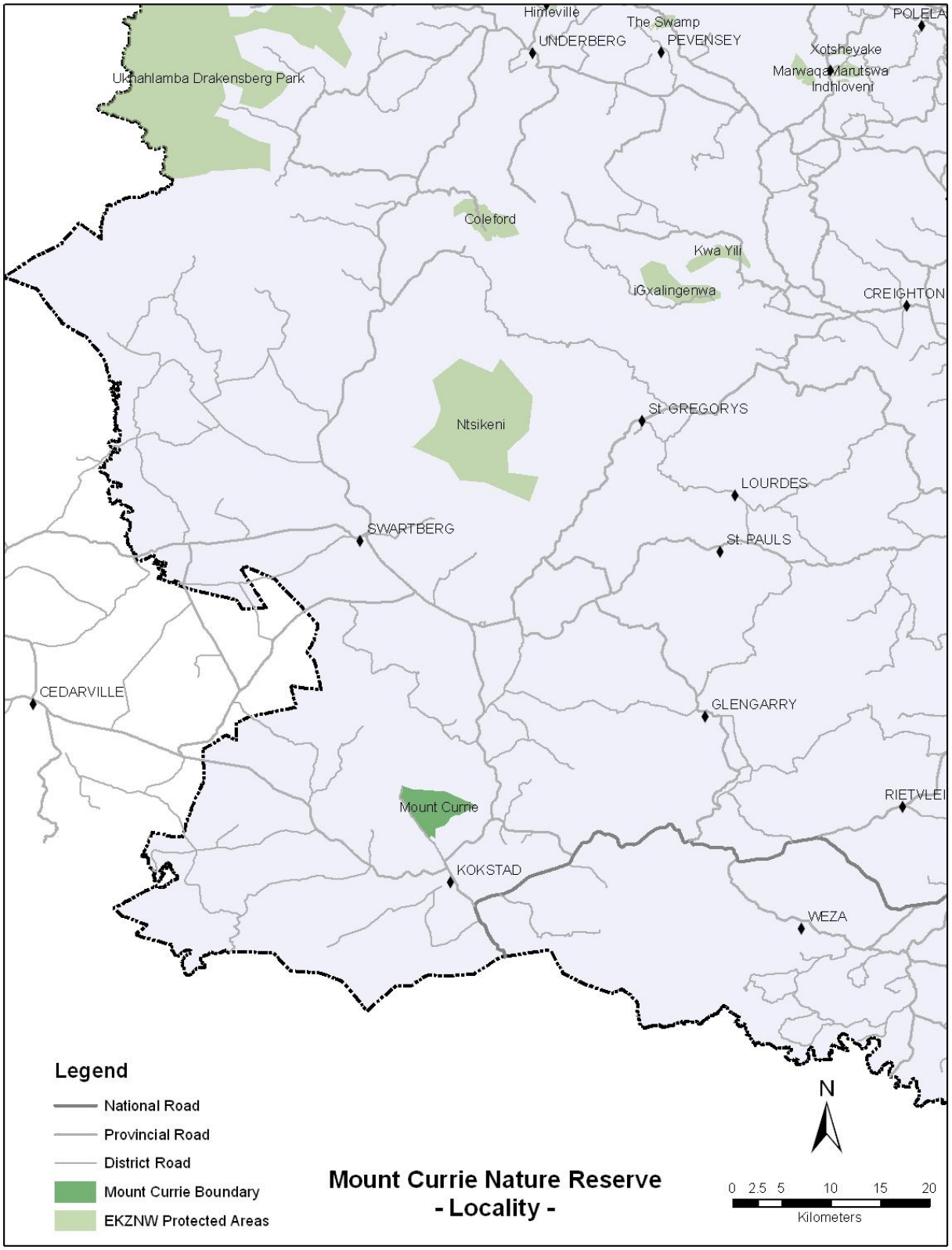
Current Financials

Operational Cost	R 318 301
Internal Projects	R 83 500
Fire	R 171 008
Payroll	R 1 694 703

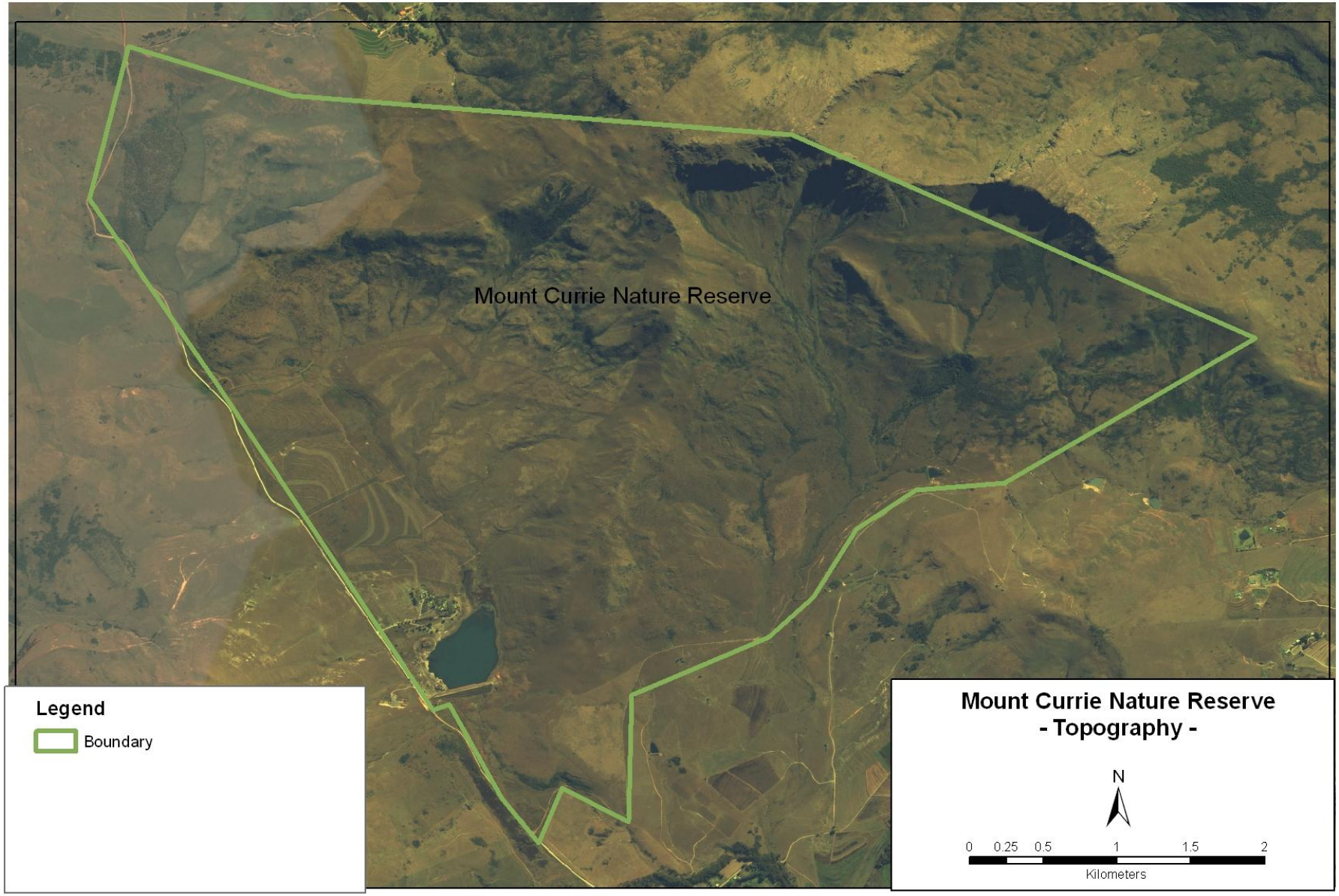
Projects planned over the next five years:

Environmental awareness centre:	R 1 000 000.00
Upgrade Picnic Site:	R 18 000.00
Upgrade campsite:	R 11 000.00
Concrete strip roads in picnic area and campsite:	R 100 000.00
Re-thatch staff accommodation 6 units:	R 80 000.00
New staff accommodation 6 units:	R 2 300 000.00
Refuse management facility:	R 80 000.00
Gas stove:	R 70 000.00
Path upgrade and signage:	R 10 000.00
Extent boat launch slipway:	R 60 000.00

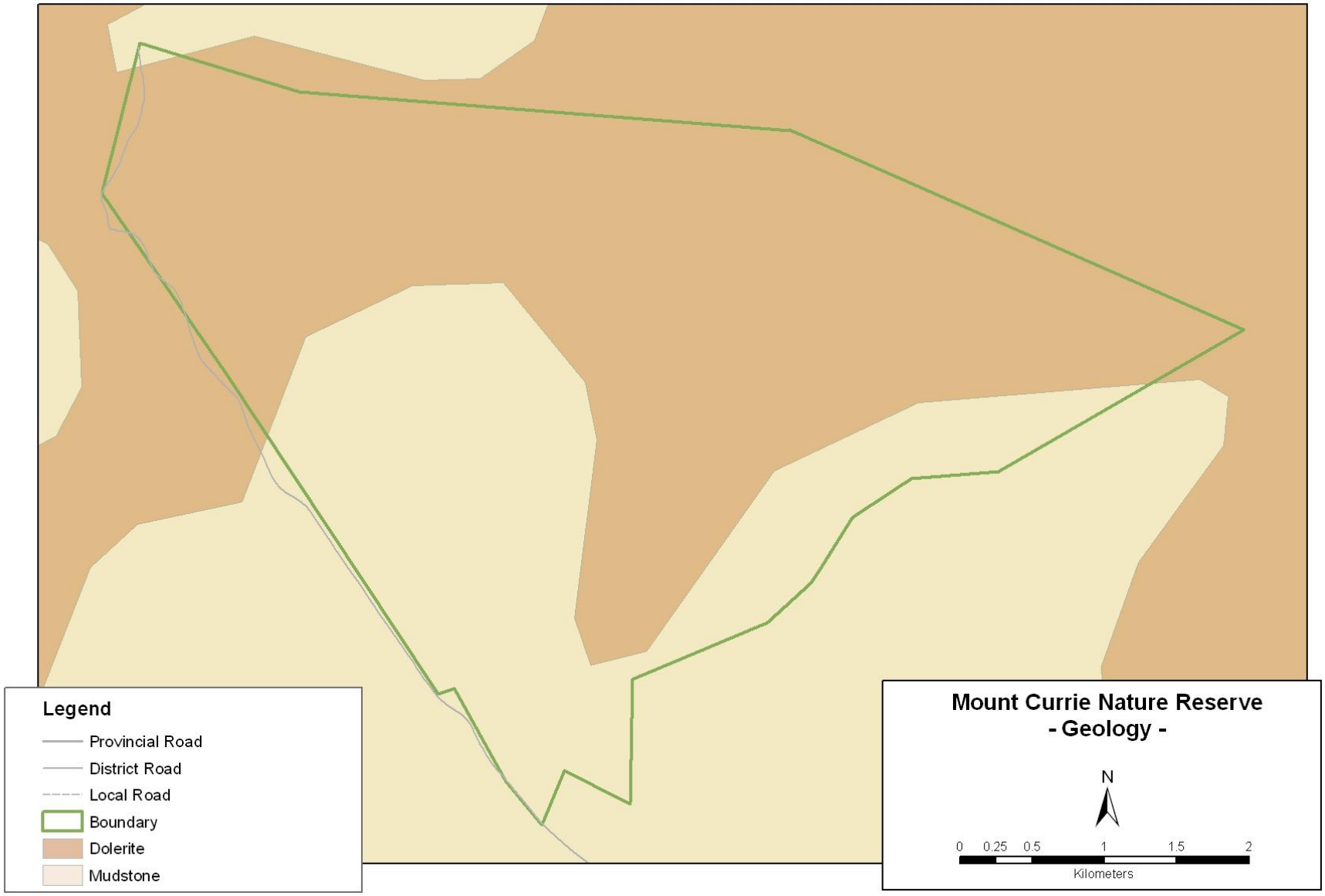
MAP A - LOCATION



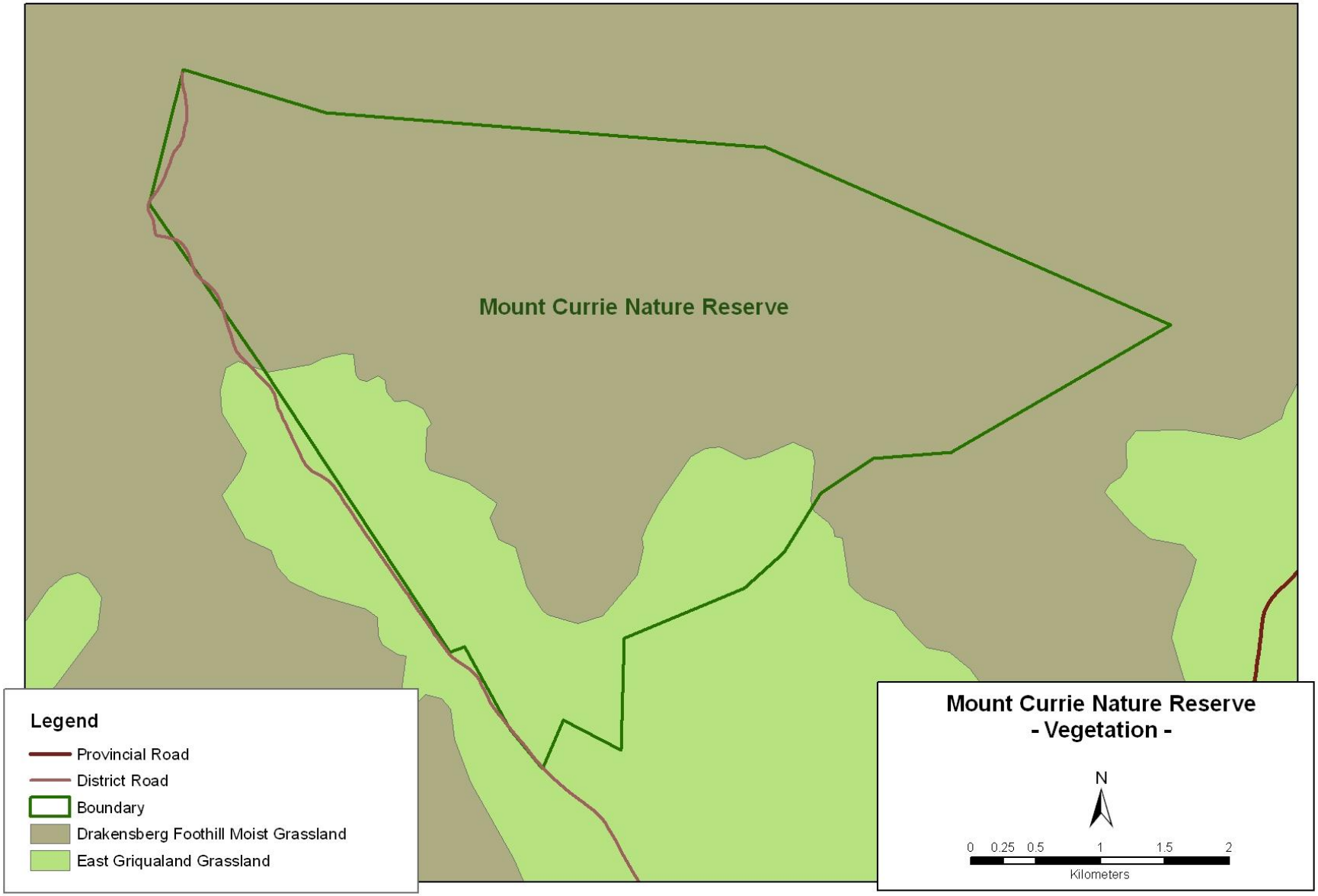
MAP B - TOPOGRAPHY



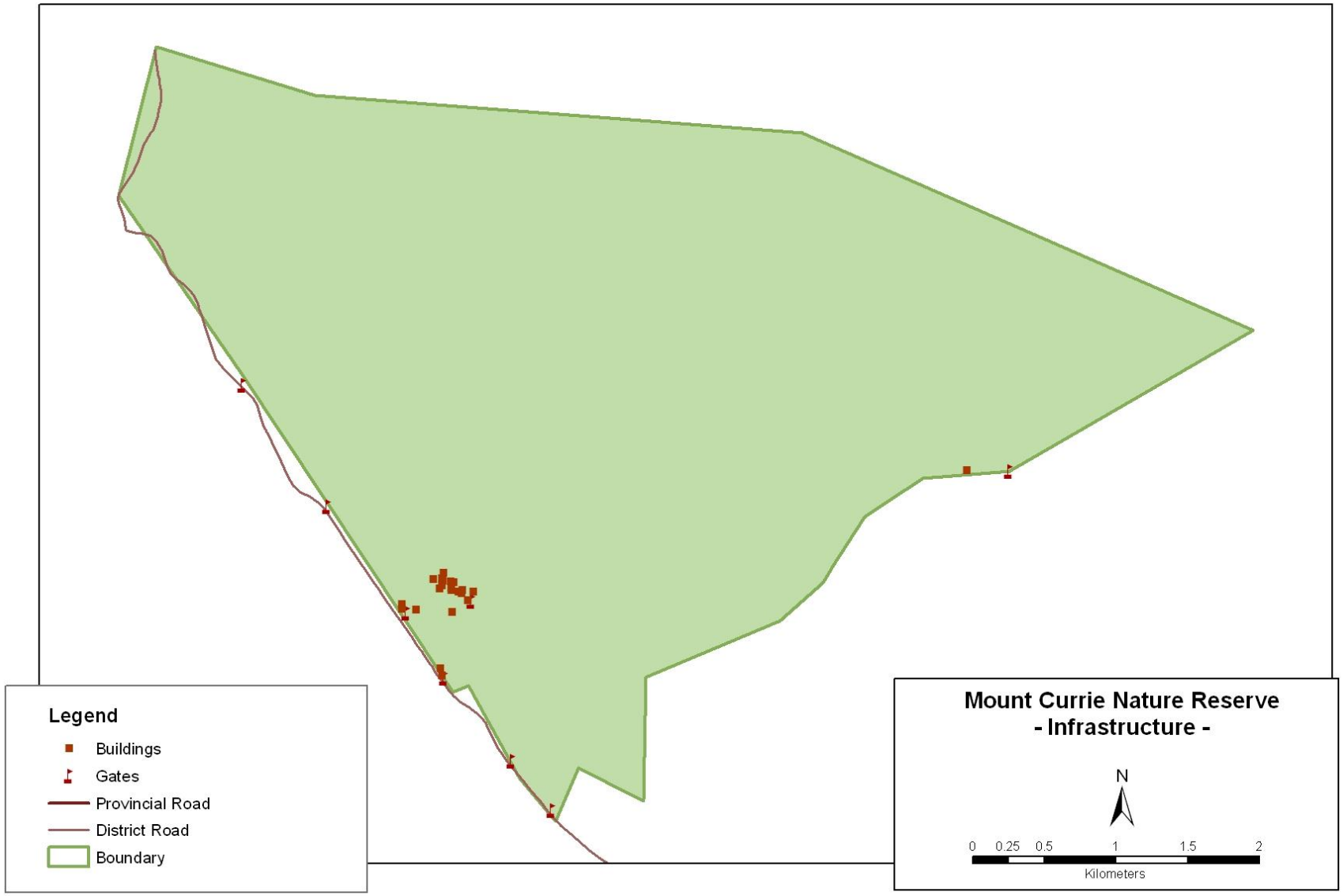
MAP C - GEOLOGY



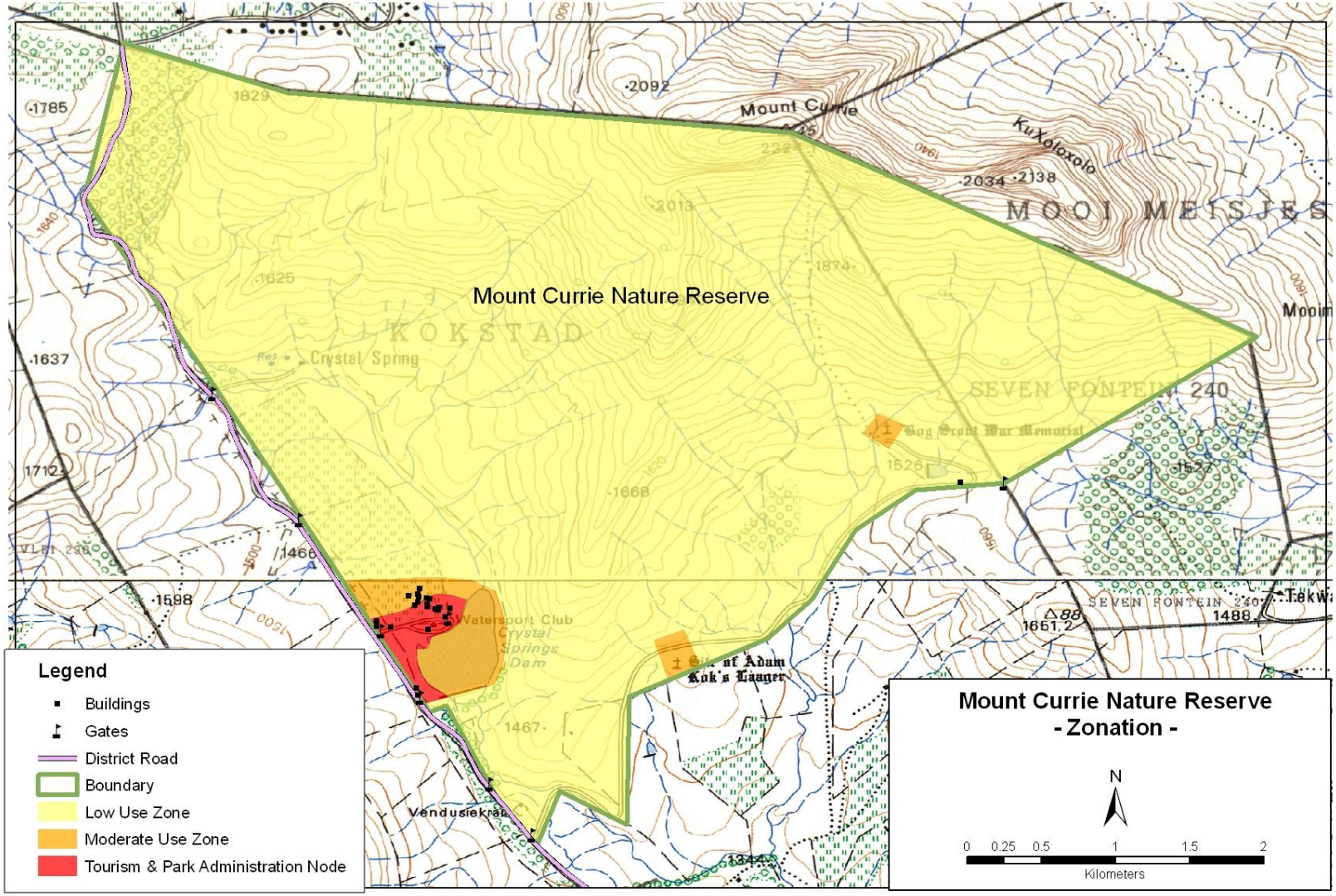
MAP D - VEGETATION



MAP E – INFRASTRUCTURE



MAP F – ZONATION



MAP G – BUFFER ZONE