

Volume 1: <b>INTEGRATED MANAGEMENT PLAN (IMP)</b>		
Volume 2: <b>IMP - Zoning and Tourism Master Plan</b>		
Volume 3: <b>IMP – Phase 1</b>	Volume 4: <b>IMP – Phase 2</b>	Volume 5: <b>IMP – Phase 3</b>

# **BARBERTON NATURE RESERVE** **OVERARCHING DOCUMENT**

## **INTEGRATED MANAGEMENT PLAN**

**2012 - 2017**



**Barberton Nature Reserve: Overarching Document  
Mpumalanga Province,  
South Africa**

**Integrated Management Plan:  
2012-2017**

Facilitated and edited by

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Citation

Mpumalanga Tourism and Parks Agency (MTPA), 2012. *Integrated Management Plan: Barberton Nature Reserve, Mpumalanga Province, South Africa*. MTPA, Nelspruit.

## AUTHORISATION

### In terms of the National Environmental Management Act: Protected Areas Act 57 of 2003 (NEM:PAA)

This Integrated Management Plan for the Barberton Nature Reserve was compiled by the Reserve Planning Committee, a multi-disciplinary team consisting of:

#### **Mpumalanga Tourism and Parks Agency**

Protected Areas Management Units  
Scientific Services Units  
Social Ecology Unit  
Tourism and Development Unit

#### **Land Owners / Custodians / Management Agencies**

MTPA  
De Kaap Valley Conservancy  
Chariessa Conservancy  
Crocodile Gorge Conservancy  
Founding Members – Mountainlands Nature Reserve

#### **Barberton Tourism and Biodiversity Corridor (BATOBIC)**

Programme Manager: Mr. Godfrey Mogoane  
Relationships Manager: Mr. Mark Ngwenyama

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#### **Recommended: Mpumalanga Tourism and Parks Agency**

TITLE and NAME	SIGNATURE	DATE
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Senior Manager: <u>Scientific Services</u> Dr Marisa Coetzee		
Senior Manager: <u>Social Ecology</u> Ms Marinda Marais		
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Chief <u>Biodiversity Conservation</u> Officer Mr Reuben Ngwenya		
Acting Chief Executive Officer (CEO) Dr Nthabiseng Motete		
Head of Department: Mpumalanga Department of Economic Development, Environment and Tourism Dr Vusanani Dlamini		

In terms of Section 39 (2) of NEM:PAA I hereby approve this Integrated Management Plan; and confirm the Mpumalanga Tourism and Parks Agency as the Assigned Management Authority in terms of section 38 (2)(b) of the Act.

APPROVED: Member of Executive Council Mpumalanga Department of Economic Development, Environment and Tourism Mr Norman Mokoena		
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By virtue of Phase 3 of Barberton Nature Reserve (also known as Mountainlands Nature Reserve) being comprised of State, Community and Privately owned land; and having been formalised through a signed Memorandum of Understanding, it is appropriate that the Founding Members consent to the adoption of this Management Plan.

The Founding Members, having been consulted in terms of section 39(3) of NEM:PAA, hereby consent to the approval of this Integrated Management Plan; and confirmation of the assignment of the Management Authority to the Mpumalanga Tourism and Parks Authority (MTPA) in terms of Section 38(2)b of NEM:PAA.

**Consented:**

<b>TITLE and NAME</b>	<b>SIGNATURE</b>	<b>DATE</b>
<b>Lomshiyo Trust: Chairperson</b> <b>Mr Gilbert Zulu</b>		
<b>Simply See (Pty) Ltd: Director</b> <b>Mr Nico Oosthuizen</b>		
<b>Wayprop Two (Pty) Ltd: Director</b> <b>Mr Eric Oosthuizen</b>		
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## PREFACE

Nestled to the east and north of the town of Barberton lies an extent of State land measuring approximately 27 000 ha. Historically, Barberton was established as a gold mining town and to this day several active gold mines are found in the surrounding areas. The area includes the Fairview mine and famous Sheba mine reputed to be the richest gold mine per unit ore in South Africa. The surface use of the land has remained relatively unaltered through the years and was earmarked for conservation as early as 1982.

The reserve is situated in an area of great landscape beauty with very high plant species diversity. Barberton Nature Reserve is part of the Barberton Mountain Land (or Range), greatly valued for its ruggedness, panoramic vistas and unspoilt wilderness. These factors contribute to its conservation importance and value.

The Mpumalanga Tourism and Parks Agency has been appointed as custodian of this prime conservation land. Through co-operative management agreements with surrounding private and communal land owners, the fragmented portions of state land have been consolidated into more ecologically and economically viable entities.

The development of a wildlife economy holds great potential, in that it will help to address many of the threats and challenges that have thwarted and stalled conservation management and expansion in this area.

From a development and user's perspective the vital competitive advantage of this reserve is the priority it has received from Government by means of the Provincial Tourism Growth Plan. The area was identified in both the 'Grant Thornton/Kessel Feinstein' and the 'KPMG' Tourism reports as an under-utilised tourism destination in Mpumalanga, which offers a vast number of development and investment opportunities. The area also forms part of a tri-national initiative between South Africa, Mozambique and Swaziland, which strives to establish a Tourism and Biodiversity Corridor through this area.

Potential developments and activities include game lodges, day visitor facilities, adventure tourism, niche-market tourism (geology, botanical), cultural tourism and environmental education.

# **PROTECTED AREA MANAGEMENT PLANNING PROCESS FRAMEWORK FOR BARBERTON NATURE RESERVE**

## **Overview**

The Protected Area Management Planning process used for Barberton Nature Reserve has two Integrated Planning components and two Operational Planning components, each with a five-year timeframe and reviewed annually.

They are:

## **Integrated Planning Components**

1. An Integrated Management Plan (IMP) which is the primary overarching protected area planning document that describes the administrative and legal framework, contextual background, public participation processes followed, vision/mission statements, prioritised management objectives, zonation as well as a management policy framework and guidelines. The IMP forms the framework within which all the other planning components are developed.
2. Within the framework of the IMP, a Conceptual Development Plan (CDP) provides a strategic guideline for the development and maintenance of conservation management infrastructure and visitor facilities / activities within the constraints of the receiving environment.

Operational plans, programmes and procedures that support the IMP and CDP are either in place or will be compiled where these do not exist.

## **Authorisation of IMP and CDP**

These plans are authorised by the Mpumalanga Provincial MEC for Economic Development and Tourism on the recommendation of the Mpumalanga Tourism and Parks Agency Board and are operationalised through the following two operational planning components.

## **Operational Planning Components:**

1. A five-year Strategic Management Plan (SMP) is high level management database developed from the Project Implementation Plan (PIP), encapsulated in the Integrated Management Plan. The PIP operationalises (or actions) the Barberton Nature Reserve's management objectives and any projects identified through its IMP, CDP and Business Plans.

The SMP is an operational management component that identifies the activities and tasks that need to be undertaken in the achievement of Barberton Nature Reserve management objectives and attaches key performance areas, responsibilities, timeframes, budgets and resources to each activity. The SMP is a key planning document that also informs the Barberton Nature Reserve's Annual Budgeting Estimates and provides information for Annual Reports.

2. With five-year expenditure estimates drawn from the SMP, an Annual Performance Plan (APP) is developed for Barberton Nature Reserve. The APP is primarily aimed at describing the manner in which the IMP and CDP are to be financially resourced. It may address issues of operational efficiency and the optimisation of income generation opportunities in order to bridge any possible shortfalls between required operational expenditure and committed provincial government budget allocations.

## Legal

This management planning process has been implemented in compliance of the requirements of the National Environmental Management: Protected Areas Act (Act No. 57 of 2003).

The compilation of the IMP also gives effect to the Memorandum of Understanding entered into between the founding members of Phase 3, which called for the compilation of an IMP.

## Public Participation

While the Mpumalanga Tourism and Parks Agency remains the responsible Authority for the development and implementation of the Integrated Management Plan and its sub-components, Barberton Tourism and Biodiversity Corridor (BATOBIC) has taken the lead role in funding and driving the process of development of the plans. BATOBIC has also adopted the role of facilitating stakeholder participation in the process. BATOBIC played these roles by virtue of their regional developmental drive to underpin the development of community based tourism in general and Lomshiyo Trust (who contributed land to the Barberton Nature Reserve) in particular.

- The process was initiated with a workshop in Barberton between the consultants, BATOBIC and the MTPA. During this workshop the scope of the project was redefined and the study area confirmed. Agreement was reached regarding the definition and identification of stakeholder groupings.
- A site visit was undertaken by the consultants, MTPA, BATOBIC and landowners on the 25th and 26th of May 2011. Introductory meetings were also held with some key stakeholders and surrounding conservancies.
- The first drafts of the Biophysical Sensitivity Analysis and Tourism Concepts was presented to Key Stakeholders at a capacity building workshop in Barberton on the 5th July 2011.
- Meetings were held with Barberton Mines on 19th July 2011 and Vantage Goldfields 12th August 2011.
- A meeting was held with Umjindi Local Municipality on the 10th August 2011.
- On the 24th of August 2011 a group including key biodiversity specialists of the MTPA Scientific Services, the Regional Manager and the Tourism/GIS representative for the consultants met at the MTPA offices to review completed steps in the sensitivity process, identify gaps in available data, discuss scores and weightings and potential conflicts with development nodes.
- On the 31st August 2011 a planning session for Mountainlands Nature Reserve (Phase 3 of BNR) and more specifically the Lomshiyo Trust and private landowners was convened in Barberton by BATOBIC.
- Numerous working sessions have been held between the consultants, MTPA, and BATOBIC representatives and relevant key stakeholders to verify information and to plan the reserve.
- The draft IMP documents were made available to the primary stakeholders for comments and re-view. Plans were circulated by e-mail, CD and posted on an online repository. This process commenced in early February 2012, with the final comments being received in early May 2012.
- On 7 March 2012 a workshop was held at the MTPA offices with the MTPA to discuss all comments and changes that had been proposed by the different sections. Changes were adopted into the documents.

- On 3 February 2012 a workshop was held in Louisville with the Lomshiyo Trust. At this workshop the complete draft IMP document was presented to the Lomshiyo Trust. The workshop was conducted in siSwati. The Trust indicated that they were satisfied the contents of the IMP, since they had been party to its development. They indicated that, should they have any further comments, they would bring these to the facilitators attention via the BATOBIC Liaison officer.
- On 9 March 2012 a workshop was held at the De Kaap Conservancy to present the draft IMP to Phase 2 Stakeholders. Comments were accepted during this meeting, with changes being adopted into the documents during the following two weeks.
- The final version of Integrated Management Plan (IMP) for Barberton Nature Reserve, incorporating all adopt changes was formally released to the primary stakeholders on the 1<sup>st</sup> June 2012.
- This final IMP was made available for a public review period of 2 weeks from 1<sup>st</sup> June 2012

### **Action Projects**

To assist with the achievement of the Nature Reserve's management objectives, the IMP identifies critical Action Projects for operationalisation. These Action Projects are highlighted in text blocks and referenced in accordance with the relevant paragraphs in the text. The Action Projects are then listed numerically and aligned with the Nature Reserve's management objectives of the IMP. As a subset of the IMP, the CDP identifies actions relating to infrastructure maintenance and development.

Project Implementation Plans (PIPs) are presented at the end of each IMP. Action Projects are aligned with objectives and assigned implementation time frames and responsibilities.

### **Parts of the IMP**

The Barberton Nature Reserve is fragmented in nature and therefore has been divided into three different phases, including:

- Phase 1: Barberton Nature Reserve (State Owned)
- Phase 2: Barberton Nature Reserve, comprising three separate portions of state land (State Owned)
- Phase 3: Mountainlands Nature Reserve (Privately owned and State owned)

In order to effectively allocate budget and management actions to each individual phase, the IMP has been separated into five volumes including the following:

- Volume 1: Overarching IMP Document (This Document): Including overall management objectives and action projects which are common to all three phases of the BNR. The IMP includes an Integrated Zoning and Tourism Master Plan which forms a separate volume;
- Volume 2: Integrated Zoning and Tourism Master Plan: Includes zoning and tourism development opportunities for the BNR.
- Volume 3: Phase Specific Document, Phase 1: Including management objectives and action projects which are specific to Phase 1 of the BNR;
- Volume 4: Phase Specific Document, Phase 2: Including management objectives and action projects which are specific to Phase 2 (3 Areas) of the BNR;
- Volume 5: Phase Specific Document, Phase 3: Including management objectives and action projects which are specific to Phase 3 (Mountainlands Nature Reserve) of the BNR.

## DEFINITIONS

**Alien Species:**

Means species or genotypes that are not indigenous to the Barberton Nature Reserve, including hybrids and genetically altered organisms.

**Authority:**

Means the management authority for the Barberton Nature Reserve established by Government as defined and required by the National Environmental Management: Protected Areas Act (NEMPAA).

**Biodiversity / Biological Diversity:**

Means 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, 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, No. 10 of 2004).

**Board:**

Means the Mpumalanga Tourism and Parks Agency Board as defined by the Mpumalanga Tourism and Parks Agency Act (Act 5 of 2005).

**Buffer Zone:**

Means an area surrounding the Reserve which has restrictions placed on its use or where collaborative projects and programmes are undertaken to afford additional protection to the Reserve. Listing Notice #3 (GN 546) of the Environmental Impact Assessment Regulation of 2010 (GN 543) defines a buffer area extending 10km from the proclaimed boundary of a World Heritage Site or National Park and 5km from the proclaimed boundary of a Nature Reserve, respectively, or that defined as such for a biosphere.

**Co-management:**

Means managing in such a way as to take into account the needs and desires of stakeholders, neighbours and partners, and incorporating these into decision making through, amongst others, the promulgation of a local board.

**Convention:**

Means the Convention concerning the Protection of the World Cultural and Natural Heritage, adopted by the General Conference of United Nations Education, Scientific and Cultural Organisation (UNESCO) on 16 November 1972 and ratified by the Republic of South Africa on 10 July 1997 (as per World Heritage Convention Act, No. 49 of 1999).

**Cultural Heritage:**

As defined in Article 1 of the World Heritage Convention Act, 49 of 1999: 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 outstanding universal 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 outstanding universal value 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 outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.” For the purpose of this IMP features of living heritage such as mountains, pools, rivers, boulders, etc. as well as palaeontological features is also included under this definition.(Ref: Frans Prins of MDTP; 26/10/04).

**Ecotourism:**

Means the travel to natural areas to learn about the natural history of the environment, the way of life and cultural history of people, while taking care not to change the environment and contributing to the economic welfare of the local people (*MDTP - adapted from a definition of ecotourism by Hecto Ceballos Lascurain*).

**Ecosystem:**

Means a dynamic complex of animal, plant and micro-organism communities and their non-living environment interacting as a functional unit (as per National Environmental Management: Protected Areas Act, No. 57 of 2003).

**Ecosystem Services:**

As defined in Section 1 of the National Environmental Management: Protected Areas 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; and
- (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.

**Heritage-based Resources:**

Means natural and / or cultural resources.

**Interested Parties:** (See stakeholders )

**Local Community:**

Means any community of people living or having rights or interests in a distinct geographical area (as per the National Environmental Management: Protected Areas Act, No. 57 of 2003).

**Songimvelo-Malolotja Transfrontier Conservation Area:**

Means the collaborative initiative between South Africa and the Kingdom of Swaziland to protect the exceptional biodiversity of the area through conservation, sustainable resource use, and land-use and development planning.

**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, No. 57 of 2003) and its regulations promulgated in Dec 2011, for proper administration of nature reserves.

**Management Unit:**

Means the specific geographic area/sector of the reserve for which a manager has been appointed that is responsible for conservation management in that area/sector – normally each management unit will be provided with its own budget and associated management infrastructure. The boundaries of these areas do not necessarily follow original protected area boundaries.

**Minister:**

Means the National Minister of the Department of Environmental Affairs.

**Nature Conservation:**

Means the conservation of naturally occurring ecological systems, the sustainable utilization of indigenous plants and animals therein, and the promotion and maintenance of biological diversity.

**Natural Heritage:**

As defined in Article 2 of the World Heritage Convention Act, 49 of 1999: “natural heritage” is considered as consisting of physical and biological formations or groups of such formations, which are of outstanding universal 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 outstanding universal value from the point of view of science or conservation, natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.

**Reserve:**

Means Phase 1, 2 and 3 of the Barberton Nature Reserve.

**Partnership/s:**

Means a co-operative and/or collaborative arrangement/s, between Reserve management /MTPA and a third party that supports the achievement of Reserve objectives.

**Protected Area:**

Means any of the protected areas referred to in section 9 of the National Environmental Management: Protected Areas Act No. 57 of 2003.

**Stakeholders / Interested Parties<sup>1</sup>:**

These are interested individuals or groups concerned with or affected by an activity and its consequences. These include the authorities, landowners, local communities, investors, work force, consumers, environmental interest groups and the general public. According to the National Environmental Management: Biodiversity 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).

**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, No. 10 of 2004).

**Wilderness Area:**

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<sup>1</sup> Defined in Guideline Document EIA Regulations, DEAT, April 1998

Means “an area designated .....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 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).

## **ABBREVIATIONS**

BATOBIC	Barberton Tourism and Biodiversity Corridor
BEEP	Biodiversity Environmental Education Programme
BNR	Barberton Nature Reserve
BML	Barberton Mountain Land
BMC	Biological Management Committee
BMWHS	Barberton Mountain Land World Heritage Site
BP	Business Plan
CDP	Concept Development Plan
CMC	Conservancy Management Committee
DEA	National Department of Environmental Affairs
DoT	National Department of Tourism
DWA	National Department of Water Affairs
GIS	Geographical Information Systems
IDP	Integrated Development Plan
IMP	Integrated Management Plan
IUCN	World Conservation Union (as commonly referenced)
JMC	Joint Management Committee
MPB	Mpumalanga Parks Board (replaced by MTPA)
MTPA	Mpumalanga Tourism and Parks Agency
SMTFCA	Songimvelo-Malolotja TFCA

MOU	Memorandum of Understanding
RPC	Reserve Planning Committee
RSA	Republic of South Africa
SAHRA	South African Heritage Resources Agency
SMP	Strategic Management Plan
UNESCO	United Nations Educational, Scientific and Cultural Organisation

### **ABBREVIATIONS USED FOR STATUTES (ACTS)**

CARA	Conservation of Agricultural Resources Act, No. 43 of 1983
NEMBA	National Environmental Management: Biodiversity Act, No. 10 of 2004
NEMPAA	National Environmental Management: Protected Areas Act, No. 57 of 2003
PFMA	Public Finance Management Act, No. 1 of 1999
NHRA	National Heritage Resources Act, No. 25 of 1999
WHCA	World Heritage Convention Act, No. 49 of 1999

### **LIST OF MAPS**

Map 14:	Land Use Zoning
Map 15:	Land Use Zoning and Special Management Overlays

### **LIST OF PLANS**

Plan 1:	Study Area
Plan 6:	Concept Development Plan
Plan 7:	Tourism Master Plan



## 1 PURPOSE AND SIGNIFICANCE OF BARBERTON NATURE RESERVE

### 1.1 PURPOSE

The primary objective for the three phases of Barberton Nature Reserve is to ensure the continued conservation of its rich biodiversity and landscape through ecologically sustainable economic activities, based on joint ecotourism ventures including the Mpumalanga Tourism and Parks Agency, the private sector and the local communities for the benefit of the landowners and the people in the region. The conservation of the area is also of importance for the Republic and by virtue of its WHS attributes to all humanity.

### 1.2 SIGNIFICANCE

The Barberton Mountain Land (or range) is world renowned for the oldest exposed rock in the world dating back 3.4 billion years. Numerous studies have been conducted in this area and the area is still visited annually by geologists from across the globe.

The Barberton Mountain range has a **rich history of gold mining**, dating back from the Dravidian era; the well-known Barberton gold rush in the late 1800's to present day mining operations. A museum displaying this history is situated in Barberton. The area includes the famous Sheba Mine, alleged to be the richest gold mine per unit ore in South Africa, the Fairview, Barbrook and Makhonjwa Mines.

Due to the richness in soil minerals, the BNR provides for an **extremely rich flora**. It is partly situated within the Barberton Centre for plant Endemism, with some 80 endemic species identified to date. The reserve covers part of the 2531CC Barberton quarter degree map square which harbours the highest known plant species diversity for any map square in the Province. The biodiversity value of the BNR, and immediately adjacent areas, is ranked very highly in the Mpumalanga Biodiversity Conservation Plan with the majority of areas being scored Irreplaceable, Highly Significant or Important & Necessary.

In 2008, Tentative World Heritage Site status was awarded to the Barberton Mountain Land both nationally through DEA and internationally through UNESCO, based on the global uniqueness of the exposed geological formations. The BNR forms part of the core of this World Heritage Site.

This validates the area as having outstanding universal value for all humanity. Virtually the entire reserve was also placed on the "National list of ecosystems that are threatened and in need of protection" in Government Gazette No. 34809 on 9 December 2011, issued in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004)

This includes the Noordkaap Greenstone Bushveld, and Legogote Sour Bushveld.

Also significant is the fact that part of BNR is regarded as the most important **refugium** in Mpumalanga province in terms of climate change response of certain threatened plant species. The extent of the regional refugium identified in the Barberton Mountains appears to be small, but a significant proportion of species expressed as a percentage of modelled species richness, could be lost for this region, making this an important regional refugium. Modelling has shown that the Barberton Mountains region to have the highest number of conservation important plant species showing decline between 31 % and 47 % of the species on an area of 210 square km. (MODELLING THE IMPACTS OF CLIMATE CHANGE ON THREATENED PLANT SPECIES IN MPUMALANGA, SOUTH AFRICA; Charles Hopkins, 2010.)

Notable is Phase 3 of BNR, which is earmarked as the second development phase of the established Songimvelo–Malolotja Transfrontier Conservation Area. There is no doubt that this second phase will greatly contribute to the expansion and success of the S-MTFCA.

**Stone packing sites** consisting of circular rock packings dating back many hundreds of years are also scattered throughout the area. A number of hypothesis have been developed to explain these ranging from Dravidian (Hromnik) to indigenous miners (Thornton).

**The Lubombo Tourism Route** received formal recognition by the Mozambique, Swaziland and South Africa Trilateral Ministerial Committee at the Tourism Indaba in Durban, May 2006. The BNR is located along the established Lubombo Tourism Route and once developed to the stage where the protected area will allow for visitors, it will greatly contribute towards the success of the Lubombo Tourism Route that span from Kruger National Parks via Swaziland to the KZN Coast.

**Scenic panorama's** are abundant due to the topography of the Barberton Mountain Land. It is also regarded as a **malaria free** area due to its altitude and proper control measures over many years. The BML can provide a wide variety of nature activities such as **game viewing, unguided hiking trails, specialised guided walks** to interpret for example the geology and specialist flora on serpentine of the Barberton Mountain Land.

## **2 ADMINISTRATIVE AND LEGAL FRAMEWORK**

### **2.1 INSTITUTIONAL ARRANGEMENTS**

The Management of Barberton Nature Reserve includes the management of the three relevant phases within the reserve. The designated Management Authority of all three phases is the MTPA.

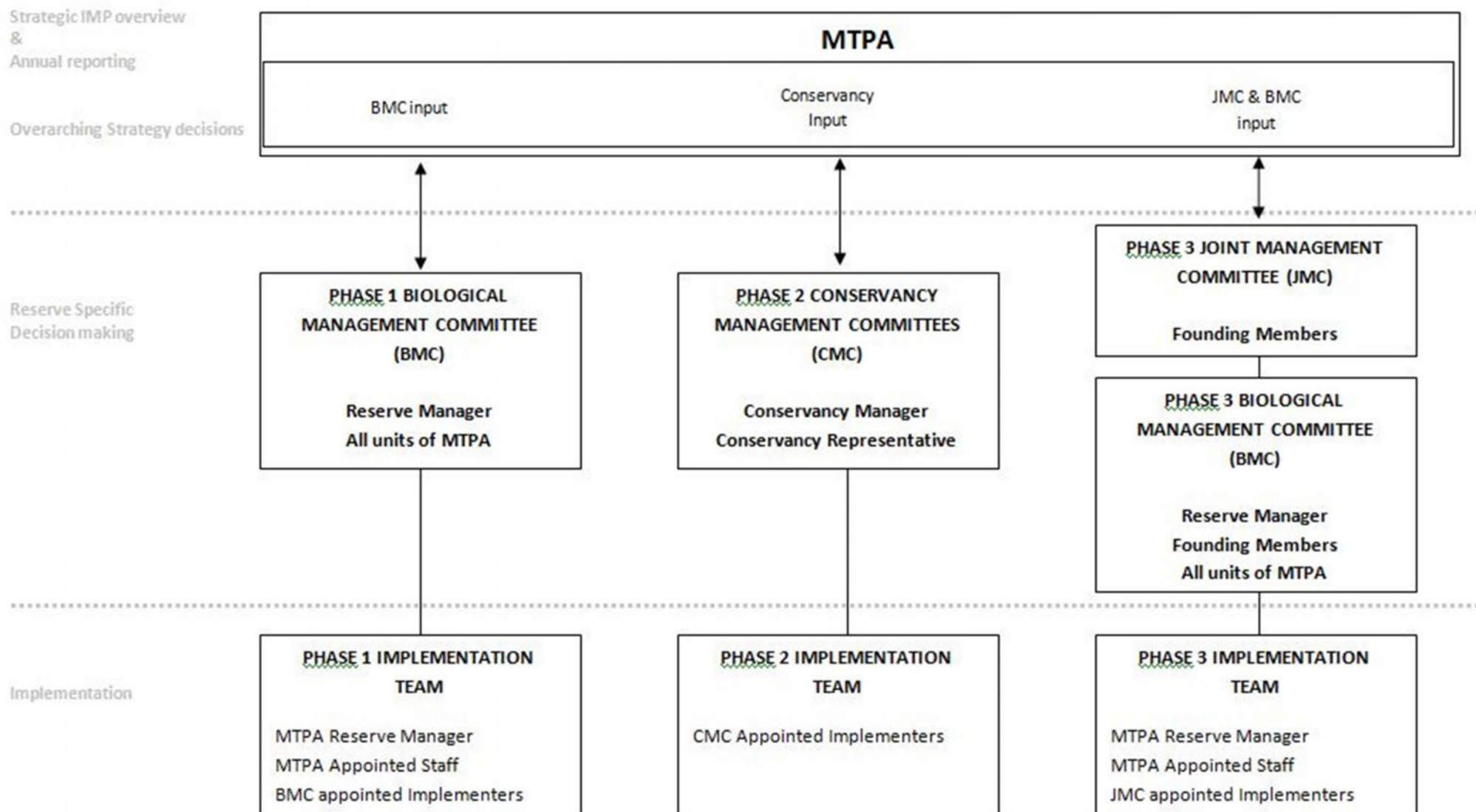
Phase 1 is fully state owned and the MTPA has not entered into any co-management agreements on this reserve.

In the case of Phase 2 management agreements are in place with two adjoining conservancies and another is being pursued due to the fragmented nature of the landholdings. The adjoining conservancies or portions thereof are potential future expansions to the Protected Area as part of the Protected Area Expansion Strategy of MTPA.

In the case of Phase 3 (also branded as Mountainlands Nature Reserve), in terms of a Memorandum of Understanding between the founding members of Phase 3, the founding members have formed a joint management committee to oversee the implementation of the IMP and management of the reserve.

The institutional structure of the Barberton Nature Reserve includes a range of committees and teams that will be functional in the various Phases.

The image overleaf illustrates the institutional structure of the Barberton Nature Reserve,



## **2.2    *Legislation Guiding the Administration of the Reserve***

The Reserve is subject to the following key statutes – it is acknowledged that this list is not exhaustive.

### **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]
- Mpumalanga Nature Conservation Act [No. 9 of 1998]
- Mpumalanga Tourism and Parks Agency Act [2005]
- 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]
- World Heritage Convention Act [Act No, 49 of 1999]

### **General Management:**

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

### **Financial Management; and**

- 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]

**Action Project 2.2 [1]:** Develop thorough understanding applicable to objectives and functionality of various statutes relevant to all stakeholders in the BNR.

### **2.3 REGIONAL PLANNING CONTEXT AND PRINCIPLES**

BNR is a core conservation area forming part of the MTPA protected area network. The Nature Reserve is also an integral part of local and regional planning initiatives. As with all MTPA protected areas, the intention is to continually improve management effectiveness of BNR in line with the levels adopted for all protected areas within the MTPA protected area network.

In terms of the requirements of NEMPAA and the Local Government: Municipal Systems Act there must be appropriate planning alignment between the Nature Reserve and the surrounding area which should be recognised through the Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the relevant municipality.

The MTPA must ensure that all management objectives of the reserve should be incorporated in the IDP and SDF for the surrounding area. The MTPA should also identify other planning initiatives in the region and ensure planning processes are aligned. In particular local authorities should be sensitised to the buffer areas of the reserve and the attendant planning requirements therein.

**Action Project 2.3 [1]:** Identify other planning initiatives in the region and ensure alignment with these processes.

**Action Project 2.3 [2]:** Ensure alignment with all local government IDPs and SDF's as these are developed and reviewed. Ensure local government are familiar with buffer area requirements.

### **2.4 DEFINING RESERVE BOUNDARIES, DISCREPANCY BETWEEN FENCE LINES AND PROCLAIMED PROTECTED AREA**

The proclamation of the Protected Area is defined along cadastral boundaries, whereas the fence has been aligned for practical purposes, largely due to mountainous terrain and to take cognizance of current and historical land uses that may be incompatible with the wildlife component inside the fence. The current alignment of the fence thus does not follow the actual proclaimed protected Area and while this is common practice and acceptable in terms of NEMPA it requires management attention.

Phase 1 fence line follows the proclamation very closely with only minor deviations to account for difficult topography.

The fence line of Phase 2 is currently being constructed. There are expected to be significant deviations from the cadastral boundaries. This is likely to occur around existing mining infrastructure and other incompatible landuses currently occurring within the proclaimed area. When the landuse type is altered in the future to be compatible with the rest of the nature reserve, the fencelines may be adjusted .

**Action Project 2.4 [1]:** Map the Phase 2 fence lines and compile a document capturing the current arrangements that define the fence placement.

Phase 3 fenceline does not follow the proclaimed boundaries. A document capturing these discrepancies and the agreements that are in place has been compiled. This document forms part of the Phase specific IMP for Phase 3.

## **2.5 PROCLAMATION STATUS OF THE RESERVE**

The reserve is proclaimed in terms of Proclamation No 12 of the Provincial Gazette no 132 on 29 March 1996.

The Protected Area was designated first by Resolution 137 of the Transvaal Provincial Executive Committee on 17 January 1985.

The reserve is acknowledged by NEMPAA as a Nature Reserve and Provincial Protected Area (per sections 9, 12 and 23(5) of NEMPAA).

The reserve is also a core part of the Barberton Makhonjwa Mountain Land World Heritage Site placed on the tentative list of the Republic in terms of section 1(xxiv)(a)(ii) of the World Heritage Convention Act (Act 49 of 1999) on 6 March 2008 by the Minister of Environmental Affairs and Tourism and on 6 June 2008 by UNESCO.

Virtually the entire reserve was also placed on the “National list of ecosystems that are threatened and in need of protection” in Government Gazette No. 34809 on 9 December 2011, issued in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004)

The total Protected Area (excluding conservancies) covers approximately 27 500ha and includes the following components:

COMPONENT	SIZE	DESCRIPTION	LAND OWNER
Barberton Nature Reserve Phase 1	2422 Ha	The reserve lies to the west of the R40, below Hilltop Pass. It comprises the steep densely vegetated south facing slopes adjacent to the Noordkaap River. It also has areas undulating bushveld that are more easily accessible.	Department of National Public Works (RSA). MTPA Custodianship
Barberton Nature Reserve Phase 2 Area 1	1237Ha	Area to the east of the R40, and predominantly north of the Noord Kaap River. This area abuts De Kaap Valley Conservancy and a management agreement is in place whereby the area is maintained and co-managed by the conservancy.	Department of National Public Works (RSA). MTPA Custodianship
Barberton Nature Reserve Phase 2 Area 2	1634 Ha	Area to the south of the Noord Kaap River. This area abuts Chariessa Conservancy and a management agreement is in place whereby the area is maintained and co-managed by the conservancy.	Department of National Public Works (RSA). MTPA Custodianship

Barberton Nature Reserve Phase 2 Area 3	2543Ha	Area to the east of New Consort Mine, and predominantly north of the Noord Kaap River. The area provides an important link to Phase 3 (Mountainlands). This area abuts the Crocodile Gorge Conservancy which provides an important future biodiversity corridor between BNR and the KNP. A management agreement is being pursued with the conservancy to maintain and co-manage this area.	Department of National Public Works (RSA). MTPA Custodianship
Barberton Nature Reserve Phase 3 (Mountainlands)	19646 Ha	One of the most impressive mountain parks in Southern Africa, with spectacular scenery and great variety of fauna and flora. The reserve is dominated by steep topography, however a tongue of bushveld extends into the plains areas in the north-east providing contrast .	<ol style="list-style-type: none"> <li>1. Department of National Public Works (RSA). MTPA Custodianship</li> <li>2. Lomshiyo Trust</li> <li>3. Simply See (Pty) Ltd</li> <li>4. Way Prop Two (Pty)Ltd</li> <li>5. Mountainlands Estate Owners Association</li> <li>6. Other small Land Owners</li> </ol>

The following conservancies are adjacent to the Protected Area:

COMPONENT	SIZE	DESCRIPTION	LAND OWNER
De Kaap Valley Conservancy	3200 Ha	Adjacent conservancy. In an existing agreement with MTPA to manage Phase 2 Area 1	Multiple Private Land Owners in association
Chariessa Conservancy	4650Ha	Adjacent conservancy. In an existing agreement with MTPA to manage Phase 2 Area 2	Multiple Private Land Owners in association
Crocodile Gorge Conservancy	30000 Ha	Adjacent conservancy. Pursuing an agreement with MTPA to manage Phase 2 Area 3	Multiple Private Land Owners in association

## 2.6 LOCAL AGREEMENTS, SERVITUDE ARRANGEMENTS, SETTLEMENT AGREEMENTS, CO-MANAGEMENT AGREEMENTS AND MOUS

The formal documentation and maintenance of all local agreements, leases, servitude arrangements, Settlement Agreements, Co-Management Agreements and MoUs concerning the authorised use of BNR area by beneficiaries other than MTPA are signed off by the office of the MTPA CEO.

All BNR management structures should be aware of all such formal documents and ensure their proper implementation. Copies of all documentation must also be kept on file at reserve level. These copies must be updated in accordance with any authorised amendments.

**Action Project 2.6 [1]:** Update the database of local agreements, servitude agreements Settlement Agreements, Co-Management Agreements and Mou's.

## **2.7 BROADENING CONSERVATION LAND USE MANAGEMENT IN AREAS SURROUNDING THE RESERVE**

Opportunities may arise that will enable the establishment of new formally protected areas or other conservation management areas on land bordering or in vicinity of the Reserve in collaboration and co-operation with the relevant communities and landowners. This would contribute to the SMTFCA conservation and development objectives through more effective biodiversity conservation and mountain catchment management. Indirectly, new ecotourism opportunities could develop with the resulting socio-economic benefits.

All MTPA staff associated with the Reserve should remain sensitive to these opportunities in terms of protected area expansion and be ready to engage with the relevant role-players, assisting them with the most appropriate options for establishing conservation areas. This may be in the form of conservancies, private or local authority protected areas, community conservation areas, contractual protected areas or even incorporation of land into the reserve and in so doing increasing the extent of core protected areas within the Reserve on a local scale and within the SMTFCA and WHS initiative on a regional scale. Alignment with the municipal IDP must also be actively sought to ensure appropriate land use on the borders of the reserve and in maintaining the appropriate buffer areas around the reserve.

**Action Project 2.7 [1]:** Annually explore and investigate opportunities to broaden conservation land use in and surrounding the Reserve.

**Action Project 2.7 [2]:** Implement MTPA Expansion Strategy and Processes when opportunities have been identified.

## **3 BACKGROUND**

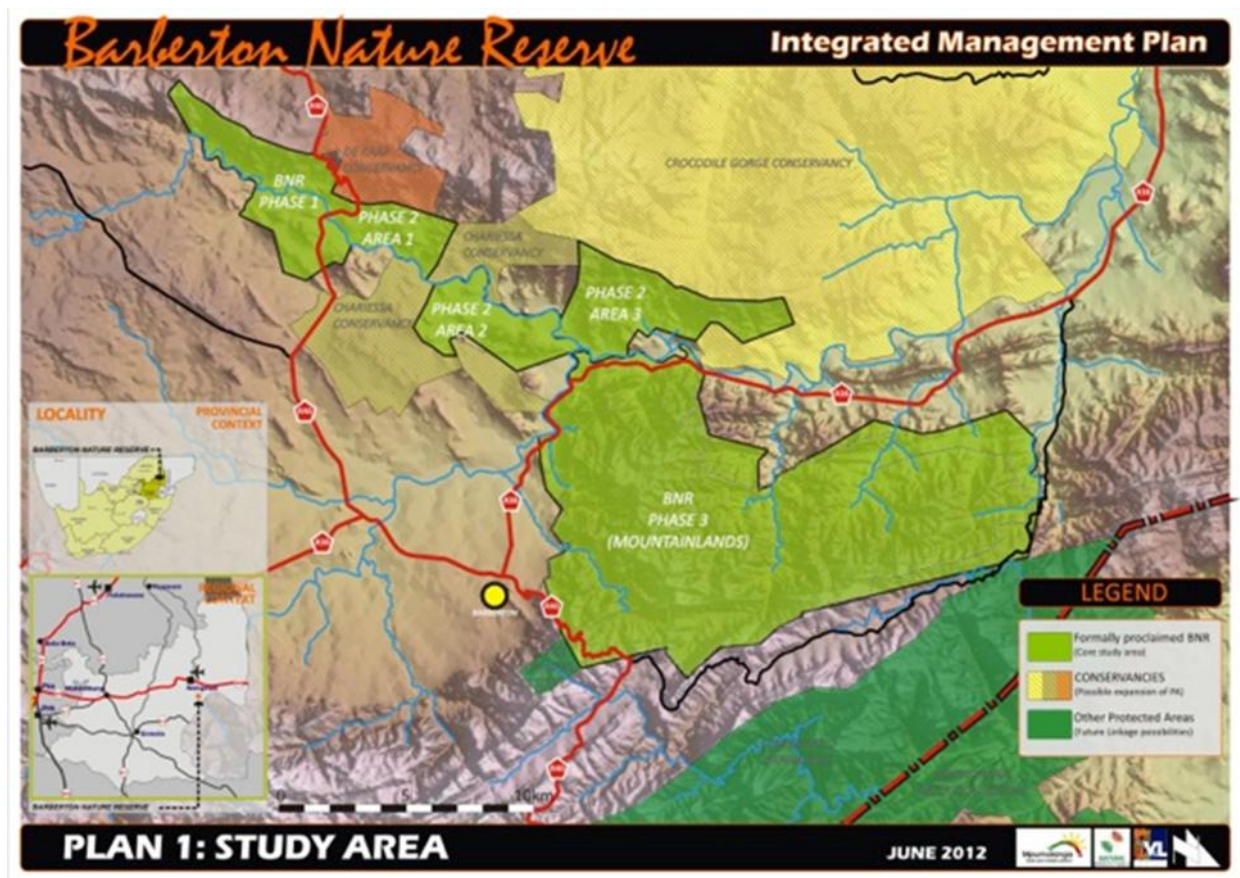
### **3.1 ORIGINS OF THE NAME OF THE RESERVE**

The Barberton Nature Reserve is named after the nearby town of Barberton. The reserve was given this name for the sole reason of its close proximity to the town.

The town Barberton is named after the two Barber brothers, Fred and Harry, whose mother, Mary Elizabeth Barber was a keen amateur naturalist who collected plants and insects and painted them. Although she was an amateur, she corresponded with the great Charles Darwin and some of her articles were published in London.

Phase 3 of the reserve has also been branded Mountainlands Nature Reserve as a consequence of the more advanced developmental initiatives on that area and in cognisance of its individual character and landholdings as distinct from the rest of the reserve. The name derives from the world renowned geological formations that underlie that part of the reserve and its mountainous topography.

### 3.2 Location of the Reserve



### 3.3 HISTORY OF CONSERVATION

The area today known as the Barberton Nature Reserve was first identified as worthy of protection in the late 1960's by the then Transvaal Provincial Administration. A range of planning and several scientific surveys were done, which gave rise to the 1985 resolution by the Transvaal Provincial Executive Committee to reserve the area for nature conservation. The area was then nominally managed to conserve its natural status.

Custodianship of the area fell to the Eastern Transvaal Parks Board (later Mpumalanga/MPB) in 1995 and later still Mpumalanga Tourism and Parks Agency in 2005. In the mid 1990's more formal planning for the management and development of the reserve was done under the auspices of the MPB who continually managed the reserve. Around the same time Phase 1, which is fully State land, was game fenced and game was re-introduced by MPB.

Further impetus was gained when in 2002 Phase 3 was game fenced with funding from the national Department of Environmental Affairs and Tourism (DEAT) and a contribution from the Oosthuizen family. Game introductions commenced in Phase 3 in 2003 with founder members contributing towards stocking. Game introduction has been ongoing, mostly with game sourced from other MTPA reserves.

In 2006 a Memorandum of Understanding was signed between the former MPB, Lomshiyo Trust, Way Prop Two (Pty) Ltd and Simply See (Pty) Ltd for the joint management of Phase 3, thus formalising the province's first Community, Public and Private Partnership (CPPP) nature reserve.

Roads were created on Phase 1 in mid 1990's and again in 2005 when DEAT funded some management infrastructure (gate, picket and office) and a day visitor centre. Also in 2005 an integrated road network was jointly established on Phase 3 by the former MPB and the Oosthuizen's. Maintenance of this network is still jointly done.

Phase 2 consists of three State land areas, of which area 1 & 2 are part of a formal management agreement with De Kaap Valley Conservancy and Chariessa Conservancy signed in 2008 & 2010 respectively. Similarly, Area 3 of this Phase is to be formalized with Crocodile Gorge Conservancy in the near future. All three Conservancies are adjacent to the respective Areas of Phase 2 and the cooperation with the Conservancies made practical sense due to the fragmented nature of the Areas.

In 2001 the negotiations for the placement of the Phase 3 game fence included agreement with Lomshiyo Trust and Tribal Authority for the removal of their people and livestock from their land as well as State land inside the reserve. Agreement was reached with the Sheba Siding community. This was followed by the affected parties programme (MGRAPP) in conjunction with Department of Land Affairs which sought to achieve the removal of all families resident in the reserve through equitable redress and the provision of security of tenure outside the reserve. The removal of all residents and livestock was achieved for the Lomshiyo and Oosthuizen farms in 2005. Subsequent process confirmed the formalisation of the Sheba Siding area with Umjindi Local Municipality and the various government departments and that the remaining 8 families resident on State Land inside Phase 3 will be relocated to this formal area. This agreement regarding the state land families included the provision of grazing areas for them which is the area north of Sheba mine and south of farm Camelot which was not game fenced to provide for this. It is thus expected that the remaining 8 families resident on State land will relocate soon.

Thus through this cooperative management approach with surrounding communal and private land owners, and a range of agreements the fragmented portions of State land have been consolidated into an ecologically and economically viable entity which is today one of South Africa's highest priority conservation areas.

Phase 1 has the potential to expand towards the west and negotiations are ongoing to increase the size of the conservation potential of this phase.

### **3.4 DESCRIPTION**

#### **3.4.1 Climate and weather**

Barberton normally receives about 672mm of rain per year, with most rainfall occurring during summer. The chart below (lower left) shows the average rainfall values for Barberton per month. It receives the lowest rainfall (1mm) in June and the highest (126mm) in December. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Barberton range from 20.2°C in June to 26.8°C in January. The region is the coldest during June when the mercury drops to 5.7°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures.

#### **3.4.2 Topography**

The BNR has a very mountainous and rugged topography rising sharply from an elevation of 380m in the Kaap River Valley to the Saddleback hill on the Makhonjwa Mountains reaching 1640m. The area

is also interspersed with deep riverine valleys. Gradients are steep and a difference of a 800m in elevation is experienced across only 4km from Barberton town to the Saddleback beacon.

### **3.4.3 Geology**

The Barberton Mountainland represents an early Precambrian greenstone belt.

The Makhonjwa Mountains have defined the Swazi frontier for as long as human memory. They stretch from Jeppe's Reef to Oshoek and all the hills between, from Shiyalongubo to Queen's River and Jambila to Songimvelo and Elukwatini. Geologists and historians refer to this area as the Barberton Greenstone or Barberton Mountain Land. They are renowned for their ancient green rocks with their unique scientific record of the pre-history of the earth and for the human stories in pursuit of freedom and riches.

This small and beautiful mountain range has a global reputation. Also referred to as the 'Genesis of Life', its geology includes the best preserved truly ancient rocks on earth. Despite the rocks being 3.5 billion years old they are so well preserved that their fossils faithfully record the earliest life forms and the very formative stages of the planet as well as evidence of ancient massive meteorite impacts. Here, when gold was discovered over 120 years ago it was the site of one of the milestones marking the industrial development of South Africa. And those mines are still producing the oldest gold on the planet.

The geology ranges from ultra-mafic serpentine, to acidic granites and gneisses, mainly in the northern parts. Soils include red-yellow apedal, freely drained and yellow and red soils without water tables on the northern plateau; and lithocutanic, rocky soils in the east and south. Soils are generally well drained and the texture ranges from sandy loam to clayey.

<b>Action Project 3.4.3 [1]:</b> Consolidate and Maintain a database of geology and geological sites
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### **3.4.4 Hydrology**

The total area of the BNR is traversed by a number of rivers and streams. The most important of these include the following:

- De Kaap River; with its tributaries
- Suidkaap River;
- Noordkaap River;
- Hysslops Creek;
- Figtree Creek;
- Honeybird Creek; Lows creek.

The BNR forms part of a major catchment area and it is critical that the area is conserved for the purposes of water generation and water quality management. Most riverine areas within the BNR are affected by alien plant encroachment and need to be effectively managed.

### 3.4.5 Fauna and Flora

The BNR is situated within the Barberton Centre of floristic endemism, which is one of 18 centres of floristic endemism in southern Africa identified by Van Wyk and Smith (2001). 2210 species of plants are known to occur, with over 80 endemic taxa. The BNR is highly heterogeneous in terms of its geology, topography, soils and climatic conditions. This translates into highly diverse vegetation which is illustrated by three out of nine biomes found in South Africa and ten vegetation types (out of 435) occurring within this relatively small area.

The highly heterogeneous nature of the area provides a wide range of different habitats for both fauna and flora to occur. It is estimated that the BNR holds more than 27 amphibian species, 415 bird species, 134 mammal species, 23 fish species and 106 reptile species. The 68 identified butterfly species include 1 endemic species, 3 red data species and 1 possibly new species of the genus *Orachysops*

The high levels of both faunal and floral biodiversity and the relatively untransformed vegetation provide both a magnificent setting and greatly enhance the overall experience of the BNR.

Combined with this virtually all of BNR was gazetted in 2011 as containing threatened ecosystems in need of protection and is regarded as the most important refugium for threatened species in terms of climate change response.

<b>Action Project 3.4.5 [1]:</b> Update species lists and GIS database for the BNR.
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### 3.4.6 Socio-Economic Environment

Mining, forestry, agriculture and tourism are the dominant sectors in the local economy, although the relative importance of mining has declined as the economic base has diversified. The region is known for its cattle farms, and for deciduous fruit and sugar cane production. Farm stalls selling fruit and vegetables can be found on the main roads to and from Barberton. Game farming is on the increase and many new macadamia nut orchards are being established. Some of the most beautiful agricultural land, interspersed with natural savanna, can be seen in Barberton's De Kaap Valley.

Other types of business include estate agents, construction, transport, services & training, education, engineering services, building supplies, legal and medical practices, nurseries, supermarkets and many more. There are several new property developments in the area and with the regional road network being actively upgraded an economic boom is in the making.

Barberton is the only town in the Umjindi Municipality and it serves a large rural/ agricultural population. An executive mayor is elected with a full time mayoral committee and part time councillors to assist in the exercise of political powers. A municipal manager is in charge of the administration. The Umjindi Local Municipality has won several awards for service delivery, prudent management and financial competence.

The Umjindi Local Municipality is acknowledged as one of the most well managed in the province and offers investment incentives to businesses. The town also has three business chambers who serve the interests of the business community.

### **3.4.7 Socio-Cultural History**

According to some historical accounts; the first group of people to settle around the area were the Swazi people, in 1864 after the defeat of Mswati forces by the Mpumalanga at Mariepskop. Rock paintings in the mountains and the caves of the area provide evidence to the earlier existence of the San group. These paintings include familiar features of the San rock art paintings, which are prevalent in South African rock art.

These paintings are representative of the lives of the San hunters and gatherers, who inhabited the area before the arrival of the Nguni people from the north of the Mpumalanga province. As part of their survival, the San mined Red Ochre in an area known as Dumaneni. Apart from the existence of the San people, archaeologists have also found stone terraced walls, religious icons and gravesites that date back over a thousand years. Stone artefacts have also been found in the area dating back 30 000 years.

In 1881 gold in the Barberton area was discovered by Tom McLachlan who found alluvial gold at Jamestown. However due to the location (the hot lowveld region was rife with malaria) no-one wanted to go there until Auguste Roberts (French Bob) discovered gold in Concession Creek in 20 June 1883. This discovery resulted in a gold rush to the area.

On 21 June 1884, Graham Barber wrote a letter to the State Secretary to inform him that he and his two cousins Fred and Harry discovered payable gold on state land where the Umvoti Creek entered the De Kaap valley. The State Secretary then asked the Magistrate in Lydenburg to investigate the matter and for David Wilson, the Gold Commissioner, to submit a report. Wilson investigated on 24 July 1884 and declared the township of Barberton.

At first it was just a simple mining camp but grew when Edwin Bray, a prospector discovered gold in the hills above Barberton in 1885 in what is today BNR and with 14 partners started the Sheba Reef Gold Mining Company.

Large amounts of money flowed into Barberton and the first Stock Exchange to operate in the then Transvaal opened its doors. More buildings were erected, billiard saloons and music halls established. The Criterion and Royal Standard hotels were opened.

Barberton flourished for only a brief period and soon the inhabitants began to move away to the newly discovered gold fields on the Reef in and around Johannesburg.

### **3.4.8 Tourism Environment**

The relatively new tourism sector, including accommodation and food establishments are performing well. This is attributable to private sector developments, marketing initiatives and a general increase in visitors and business. The growing tourism market is boosting growth in eco- and adventure tourism opportunities. Barberton's sound infrastructure includes good communication systems, health care and rail and road networks.

Barberton is primarily reached by road. Rail links to the town are limited to goods. Local people make use of their own motor cars or minibus taxi services to get around the area. The town is linked to Nelspruit, Gauteng Province, Mozambique and Swaziland through intercity bus services. The Barberton airstrip is located off the R40 Snyman'sburg road and is clearly indicated by traffic signs. The Kruger Mpumalanga International Airport, 25 km north east of Nelspruit, is an easy 40 minute drive from Barberton.

From a tourism and development perspective, the BNR is situated within a development node of the Maputo Corridor, a development initiative linking Gauteng to Maputo and encouraging associated business and tourism development along the corridor. It also forms part of the Biodiversity and Tourism Corridor (BATOBIC), a private and public tourism initiative linking the Barberton Makhonjwa Mountains to conservation areas within Swaziland, through to Mozambique and northern KwaZulu-Natal. The recent upgrading of the R40 from Nelspruit to Barberton and the upgrading from dirt to tar of the Bulembu Road from Barberton to Swaziland have removed critical constraints to the development of these areas.

These roads and the Biodiversity and Tourism Corridor also link the BNR to the Lubombo Spatial Development Initiative, which includes the iSimangaliso World Heritage Site. The Songimvelo Game Reserve and the Malolotja Nature Reserves have been formally accepted through the Tri-lateral agreement (2009) as a Transfrontier Conservation Area (TFCA), which also includes the Ebhutsini Community in South Africa and the Maguga Dam, Phophonyane Nature Reserve and Makhonjwa in Swaziland. BNR forms part of the second phase of the TFCA and lies on the main entry axis into the TFCA.

## **4 VISION, MISSION, MANAGEMENT OBJECTIVES AND CONSERVATION TARGETS**

### **4.1 INTRODUCTION**

BATOBIC has taken the lead role in funding the IMP process, while the MTPA remains the responsible Authority for the development and implementation of the Integrated Management Plan and its sub-components.

The following 4 Principles guide the development of Barberton Nature Reserve:

**Principle #1:** Ensure sound **resource management** and **conservation** of biodiversity, biophysical processes, landscapes, cultural, historical and archaeological resources.

**Principle #2:** Foster **sustainable management** and **good governance** in developing Barberton Nature Reserve into a leading Protected Area.

**Principle #3:** Promote the sustainable **development of a wildlife and tourism economy** within and surrounding BNR

**Principle #4:** Provide **benefits** to adjacent communities through sustainable **resource utilisation**.

A number of stakeholder engagement sessions were held in an effort to transparently determine the overarching vision and management objectives of the reserve.

### **4.2 VISION**

The MTPA acknowledges its vision for the BNR as the following:

*‘BNR will strive towards developing into a leading Protected Area based on sound resource management and business principles.’*

#### **4.3 OVERARCHING MANAGEMENT OBJECTIVES**

The overarching management objectives of the Barberton Nature Reserve have been acknowledged as the following:

- To ensure effective co-operative management of the various components of the reserve to achieve the objectives of the Protected Area;
- To achieve responsible management and maintenance of biodiversity and ecological processes, within the different landscape units;
- To manage and maintain floral composition including endemic and priority species;
- To effectively control and manage invasive species, both alien and indigenous;
- To manage viable populations of fauna, including priority game and threatened species, that are specifically adapted to this habitat;
- To manage and preserve features of geological, archaeological, cultural, and historical significance;
- To manage catchment areas and natural aquatic systems to ensure the continued yield of high quality water;
- To ensure that the reserve capitalises from and contributes to regional economic development through synergistic approaches;
- To allow sustainable utilization within the greater conservation objectives so as to optimize benefits to stakeholders;
- To promote awareness, research and interpretation of the reserve and its unique attributes;
- To build positive relations with interested and affected parties through effective participation in matters of mutual interest;
- To manage activities of all individuals with rights within the reserve, in such a way that conflict with other objectives is minimized; and
- To prevent and control illegal or unauthorised activities within the Protected Area.

#### **4.4 CONSERVATION TARGETS FOR THE RESERVE**

Conservation targets are essential in identifying areas with high conservation value. Due to the endemism associated within and surrounding the BNR, it is critical that conservation targets are actively pursued for the reserve.

Provincial conservation targets and goals have been identified through the Mpumalanga Biodiversity Conservation Plan (MBCP) of 2006. The MBCP is currently (2012) being revised.

The Reserve Manager and Regional Manager develop strategic objectives linked to a performance plan for the reserve.

There is annual review and revision of strategic objectives and the linked performance plan.

**Action Project 4.4 [1]:** Annually review strategic conservation objectives and revise the linked performance plan.

## **5 ZONATION (CONSERVATION DEVELOPMENT FRAMEWORK)**

### **5.1 INTRODUCTION**

The development of a Conservation Development Framework (CDF) was used as the vehicle for establishing a zoning plan for the BNR. This approach to visitor use zoning has been adopted by SANParks and used in Protected Areas across Southern Africa as a precursor to the development of a tourism master plan with great success. The MTPA has adopted this approach for the Provincial Nature Reserves in Mpumalanga.

### **5.2 ZONATION METHODOLOGY**

The sensitivity-value analysis and initial draft zoning exercise which was undertaken for the BNR can be divided into six stages:

- **Stage One:** Data synthesis and compilation for key biodiversity informants.

- **Stage Two:** Layer interpretation

Summary layers are subject to an expert based process that forces specialists to make assessments on sensitivity and value based on best available information and experience.

- **Stage Three:** Sensitivity-value analysis

Preparation of a summary layer which allows all the input layers to be easily accessed, interrogated, combined in a range of weightings, and then used as a decision support tool in a workshop situation. Different weightings and combinations are explored, the degree of double-counting within the input layers is determined and offset, and the robustness of the sensitivity-value analyses is evaluated.

- **Stage Four:** Work-shopping of first draft zonation

The work-shopping process involved using the outputs of the sensitivity-value analysis as well as a range of other inputs from development plans, reserve management plans, reserve managers etc. to compile a preliminary zoning. A set of zoning definitions was work-shopped and compiled in a detailed spread sheet setting out the characteristics of each zone as well as access and facilities allowed.

- **Stage Six:** Final zonation.

This was undertaken through a participatory process involving focus groups. Formalization of non-biodiversity informants to the Zoning process was done and included in overall zoning.

Two key points need to be emphasized:

- The sensitivity-value analysis, and the zonation plan are all part of an adaptive management system. Although they are strategic documents with legal implications, they will grow and change with time as the reserve develops and an understanding of the landscape and system improves.
- The analysis is broad scale, and in no way replaces the need for detailed site and precinct planning as well as EIA compliance for individual developments irrespective of the zone into which they fall.

### **5.3 ZONATION CATEGORIES**

The zonation categories are aligned with those in the adjacent Songimvelo Panhandle and Nature Reserve which is also managed by the MTPA. This approach was adopted to ensure that management practices and tourism development operate off a similar base. The potential future linkage between these two reserves will be facilitated through well aligned management policies and practices.

The table below describes the range of visitor use zones in terms of their generic characteristics (activities, facilities, access and circulation) and management guidelines.

The zones are split into:

- Visitor use zones – these zones are fixed and have fixed carrying capacities and limits. These zones and their characteristics can only be altered through a formal Integrated Management Plan revision process;
- Special management overlay zones / rehabilitation zones – these zones are dynamic and should be regularly revised by the reserve Biodiversity Management Committee in order to ensure adaptive management.

The visitor use zones are graphically illustrated on Plan 14 below, while the current management overlays are shown on Plan 15.

**Action Project 5.3 [1]:** MTPA to annually review special management overlays and develop management actions accordingly.

Zone	VISITOR USE ZONES			MANAGEMENT GUIDELINES
	Focus	Size (ha)	CHARACTERISTICS	
REMOTE ZONE	CONSERVATION, VERY LOW IMPACT TOURISM	Ph 3 = 2404ha	This zone provides a "wilderness" experience, but does not comply with the criteria for legal designation as Wilderness. Human impacts (evidence of human use / existence) from outside the zone may be visible or audible from certain vantage points. Typically this includes the more secluded landscapes, such as deep incised valley's and gorges in the central portions of the Mountainlands reserve (Phase 3).	Need to mitigate impacts of visible and audible human activities impacting from outside the zone. No mechanised access. "Leave no trace" camping. No new accommodation (eg hiking huts etc).
			<b>ACTIVITIES:</b> "No-trace-left" activities; guided nature observation on non-defined hiking routes, research, bird watching. "pack it in and pack it out" principle. Also defined hiking routes, environmental education. Several groups may be in area at the same time.	<b>USER CARRYING CAPACITY:</b> 1 Party / 500ha Pedestrian access only
			<b>FACILITIES:</b> No facilities. Facilities serving the zone placed in adjoining zones and in particular the Primitive zone and Low Intensity Leisure Zone. No cell phone structures/ coverage/usage.	<b>FACILITY CARRYING CAPACITY:</b> N/A
			<b>ACCESS:</b> Non-motorised. Parking provided in Primitive and Low Intensity Leisure Zones. Non mechanised access determined by management considerations.	<b>TYPE OF ROAD:</b> No new roads, but in some circumstances Tr1 or Tr2 for management purposes only.
			<b>BNR LANDFACETS / COMPONENTS AREAS:</b> The following areas within the BNR have been zoned 'REMOTE': • 2 secluded valley systems to the central and eastern part of Phase 3.	

Zone	Focus	Size (ha)	CHARACTERISTICS	MANAGEMENT GUIDELINES
PRIMITIVE ZONE	CONSERVATION, LOW IMPACT TOURISM	Ph 1 = 1477ha Ph 2 = 2190ha Ph 3 = 9243ha	This zone includes most of the slightly modified to unmodified natural landscape. Typically, this includes the more inaccessible mountain peaks, ridge lines, steeper slopes and visually exposed areas. Views of human activities and development outside of the reserve may be visible from this zone, although the zone is largely undisturbed. In the context of the BNR, disturbances such as old mine pits, dumps and tracks may occur within this zone, and should be identified for rehabilitation.	Roads or other infrastructure limited to minimum required for both recreation and management. Minimum contact between users
			<b>ACTIVITIES:</b> Guided walks, hiking trails, mountain bike trails, horseback safaris, guided motorised game viewing, picnicking, adventure activities, cultural historical tours.	<b>USER CARRYING CAPACITY:</b> 1 party / 250ha Maximum of 40% motorized
			<b>FACILITIES:</b> All the above, as well as small rustic permanent "touch the earth lightly" camps. Also picnic and view sites.	<b>FACILITY CARRYING CAPACITY:</b> Maximum 24 beds per camp/lodge; No more than 1 bed/50 ha in this zone
			<b>ACCESS:</b> Limited and controlled mechanised access on designated routes. Max 11 seater capacity vehicles (typically game viewing vehicles). No busses.	<b>TYPE OF ROAD:</b> Predominantly 2-spoor tracks. Also 3m gravel tracks. G2, Tr2 & Tr3
			<b>BNR LANDFACETS / COMPONENTS AREAS:</b> The following areas within the BNR have been zoned 'PRIMITIVE': <ul style="list-style-type: none"> <li>Mountainous areas of Phase 1 north of the Noordkaap River; inaccessible and sensitive areas of Phase 2; Steep sensitive areas with lower road density in Phase 3.</li> </ul>	

Zone	Focus	Size (ha)	CHARACTERISTICS	MANAGEMENT GUIDELINES
LOW INTENSITY LEISURE	BALANCE BETWEEN TOURISM AND CONSERVATION	Ph 1 = 975ha / Ph 2 = 2606ha / Ph 3 = 6688ha	Accessible, natural areas for leisure and recreation. Landscapes that can absorb larger concentrations of people. Limited sensitive basic infrastructure for accessibility and enjoyment of the area. Slightly modified landscapes. Motorised self-drive access on designated routes (game viewing & 4x4 routes) preferably gravel roads. 11 seater capacity vehicles. No busses.	Limited, sympathetic development linked to recreation, tourism and management of the reserve. A range of low impact leisure activities. Development limited to visitor sites. May be considered for concession areas with limited access.
			<b>ACTIVITIES:</b> All of the above plus self-drive motorised game viewing, 4x4 routes, unguided walks	<b>USER CARRYING CAPACITY:</b> 1 party / 50ha Maximum of 40% motorized
			<b>FACILITIES:</b> Picnic sites, view sites, and small camps/lodges, 4x4 trails possible. Cell phone coverage in vicinity of camps. Also day visitor sites. Camps. Also picnic and view sites.	<b>FACILITY CARRYING CAPACITY:</b> Max 48 beds per camp/lodge; No more than 1 bed/20ha in this zone
			<b>ACCESS:</b> Motorised using only low impact roads. All vehicle access.	<b>TYPE OF ROAD:</b> Tr1, Tr2, Tr3, G1,G2.
			<b>BNR LANDFACETS / COMPONENTS AREAS:</b> The following areas within the BNR have been zoned 'LOW INTENSITY LEISURE': <ul style="list-style-type: none"> <li>• Less sensitive plains areas south of the Noordkaap River in Phase 1; Less sensitive and easily accessible areas in Phase 2; Main tourism corridors and less sensitive areas that are less steep.</li> </ul>	

Zone	Focus	Size (ha)	CHARACTERISTICS	MANAGEMENT GUIDELINES
HIGH INTENSITY LEISURE	PRIMARYLY TOURISM FOCUSED AREA	Ph 1 = 22.5ha Ph 2 = 538ha Ph 3 = 1102ha	This zone primarily includes areas previously disturbed and highly modified natural landscapes (e.g. areas currently or previously mined, under cultivation). Placed on periphery of the reserve with easy main road access. Accessible by motorised transport (car/bus) on high volume transport routes. More concentrated activities than Low Intensity Leisure Zone. Range of infrastructure and facilities. High density tourist development nodes with modern amenities	Should reflect ethos and character of reserve. Preferable to locate high order facilities such as staff accommodation, workshops inside urban areas. Visitor and traffic management required.
			<b>ACTIVITIES:</b> Restaurants, shops, education centres, picnicking and braais, etc.	<b>USER CARRYING CAPACITY:</b> 1 party / 10ha Maximum of 40% motorized
			<b>FACILITIES:</b> High density camps providing tourist accommodation with modern amenities (lodges, hotels etc.). Restaurants, shops, day visitor sites, botanical gardens, edutainment etc. Staff villages and administrative centres restricted to core staff. Non-essential staff housing and administration positioned outside of the reserve. Industrial type facilities outside of the reserve. Cell phone coverage in camps.	<b>FACILITY CARRYING CAPACITY:</b> Hotels/lodges up to 144 beds No more than 1bed/ha in this zone
			<b>ACCESS:</b> Highly motorised including busses and delivery vehicles.	<b>TYPE OF ROAD:</b> T1 & T2
			<b>BNR LANDFACETS / COMPONENTS AREAS:</b> The following areas within the BNR have been zoned 'HIGH INTENSITY LEISURE': • All areas of low sensitivity and heavy disturbances near to the periphery and main access points on all phases	

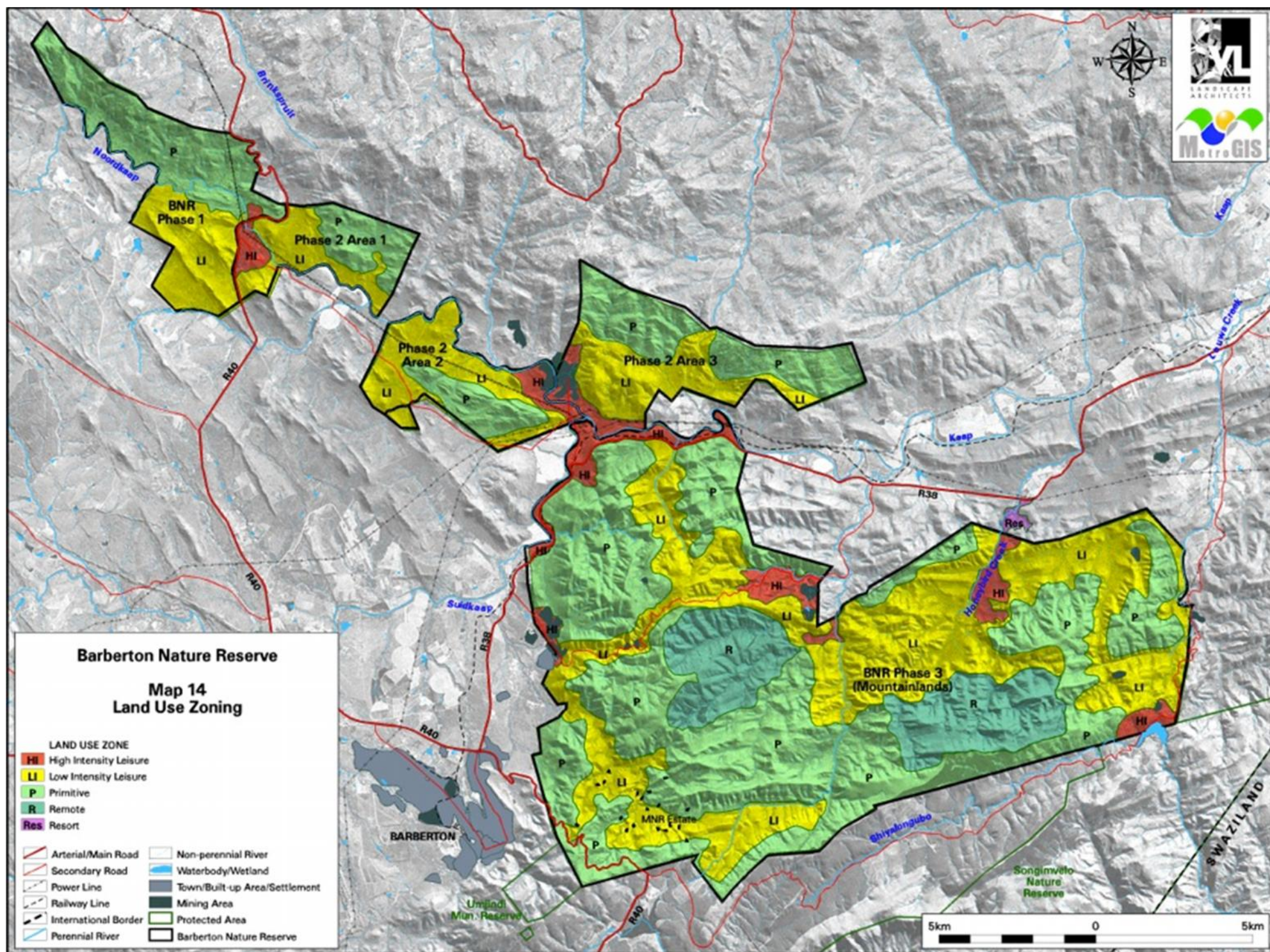
Zone	Focus	Size (ha)	CHARACTERISTICS	MANAGEMENT GUIDELINES
RESORT	PERIPHERAL TOURISM DEVELOPMENT AREA	Peripheral to Ph 3 = 58ha	This zone falls outside the proclaimed Protected Area, but is ideally located on an access between a main tourism feeder route and the PA. Impacts in this zone are beyond thresholds acceptable in the PA, hence it is placed peripherally. Access to the reserve is facilitated through the adjacent High Intensity Leisure Zone. <b>Where this zone adjoins a High Intensity Leisure Zone, a maximum of 250 beds may be developed across the 2 zones. i.e.: The development of a 250 bed resort in this Resort Zone will preclude development in the adjacent High Intensity Leisure Zone.</b>	Option to have this zone open to the reserve on condition that the resort fenceline around the Resort Zone is maintained according to Reserve specifications. Access control must be properly enforced by the resort. Use of adjacent reserve zones must not exceed thresholds.
			<b>ACTIVITIES:</b> Swimming pools, sport facilities, Theme park, Restaurants, shops, education centres, picnicking and braais, etc.	<b>USER CARRYING CAPACITY:</b> N/A
			<b>FACILITIES:</b> High density camps providing tourist accommodation with modern amenities (lodges, hotels etc.). Restaurants, shops, day visitor sites, botanical gardens, edutainment etc. Staff villages and administrative centres restricted to core staff. Non-essential staff housing and administration positioned outside of the reserve. Industrial type facilities outside of the reserve. Cell phone coverage in camps.	<b>FACILITY CARRYING CAPACITY:</b> Hotels/lodges up to 250 beds
			<b>ACCESS:</b> Highly motorised including busses and delivery vehicles.	<b>TYPE OF ROAD:</b> T1 & T2
			<b>BNR LANDFACETS / COMPONENTS AREAS:</b> <ul style="list-style-type: none"> <li>This is a special category reserved for the portion of land immediately to the north of the currently proclaimed boundary and south of the R38 on Honeybird Creek. This 'zone' is not a formal zone and would only be implemented on the conditions stipulated above.</li> </ul>	

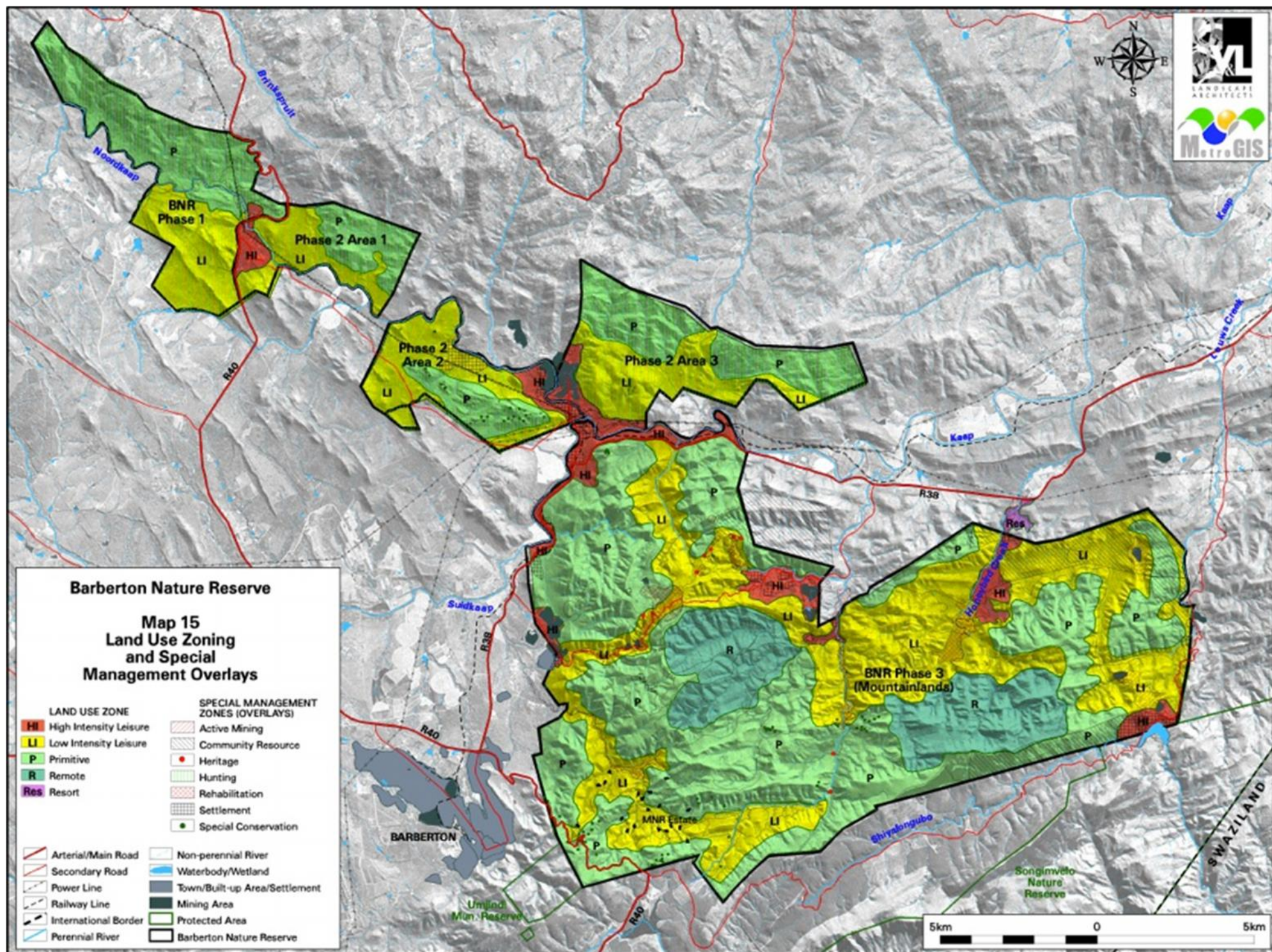
Special Management Overlays		
	CHARACTERISTICS	MANAGEMENT GUIDELINES
HERITAGE	Area of at least national significance. Areas that will be managed for the preservation, protection and interpretation of cultural resources. Cultural resources that are key to the purposes of the reserve will be included in this zone. Features that can be used for education purposes (geo sites). This could include Eureka City and all historical mining features of tourism interest. All Geosites can also be included.	No destructive scientific investigation without national permit. (Eg Excavations). Moratorium on destructive research preferred. Presentation of sites according to the following guidelines: Reversibility, impact control. Secure site against vandalism, treasure hunting or disrespectful behaviour (sacred sites).
	<b>ACTIVITIES:</b> Non-destructive scientific investigation and educational / interpretive visits, geo sites	<b>ACCESS:</b> As per zone.
	<b>FACILITIES:</b> No infrastructural development, except for providing access	<b>TYPE OF ROAD:</b> T1 & T2
ACTIVE MINING	Areas that are actively being mined or used for surface activities relating to mining. These may occur within any zonation category. Will only apply to legally approved mining activities. This overlay will apply to Fairview, Sheba, Barbrook, Consort and Worcester mines and their associated active surface working.	Stringent monitoring by parks authority should be applied to all new activities. Enforced adherence to conditions of EMPR. Management of conflict with Conservation and Tourism objectives. Existing activities must be carefully monitored.
	<b>ACTIVITIES:</b> As per zone, but may be precluded due to Nature of Mining Activity	<b>ACCESS:</b> As per zone
	<b>FACILITIES:</b> As per zone, but may be precluded due to Nature of Mining Activity	<b>TYPE OF ROAD:</b> As per zone
SPECIAL CONSERVATION	Areas of extreme sensitivity (eg. red data and endemic species). Area of exceptional diversity, endemism and rarity. Can be on any scale eg a small area within a camp.	No-go area for visitors. No development of any kind
	<b>ACTIVITIES:</b> Scientific and conservation measures only	<b>ACCESS:</b> Mainly for scientific and conservation measures, but some access for education and interpretation can be considered.
	<b>FACILITIES:</b> None	<b>TYPE OF ROAD:</b> Tr1, Tr2
REHABILITATION	Areas that have been disturbed by humans by means of land use practices. Long term vision to upgrade to another category. This would include all previously mined areas and associated scarred areas. Areas of heavy alien plant infestation also fall within this category.	Use areas for creating public awareness
	<b>ACTIVITIES:</b> Scientific and conservation, some tourism possible for awareness and interpretation purposes.	<b>ACCESS:</b> Primarily for management only, but access for awareness and interpretation can be considered.
	<b>FACILITIES:</b> None	<b>TYPE OF ROAD:</b> Tr1, Tr2.

SETTLEMENT		Areas that are currently temporarily settled. May be legal or illegal settlement. Long term vision to upgrade to another category. This may be historical occupation or linked to operational practices such as mining.	Verify legality of settlement. Manage impacts. Ensure that the footprint of disturbance does not enlarge. Actively engage in programmes of eviction or resettlement to outside the Protected Area.
		<b>ACTIVITIES:</b> As per zone	<b>ACCESS:</b> As per zone
		<b>FACILITIES:</b> As per zone	<b>TYPE OF ROAD:</b> As per zone
COMMUNITY RESOURCE		Cattle grazing, muthi plant collection, limited resource harvesting. Areas falling within the proclaimed area, but outside the established fence.	Ecologist to provide guidance on utilisation quotas. CMC to approve quotas.. Monitor for over utilisation. Maintain register of resources used.
		<b>ACTIVITIES:</b> As above, but no settlement.	<b>ACCESS:</b> As per zone.
		<b>FACILITIES:</b> None	<b>TYPE OF ROAD:</b> As per zone
HUNTING		Seasonal hunting. Both Trophy and meat hunting permitted as a method of population offtake.	Limit tourist activity during hunting seasons
		<b>ACTIVITIES:</b> Normal tourism activities while hunting is not occurring. Limited activity during hunting periods.	<b>ACCESS:</b> As per zone
		<b>FACILITIES:</b> As per zone	<b>TYPE OF ROAD:</b> As per zone
SAFETY AND SECURITY		Safety and security zones define dangerous or no-go areas and are commonly applied to water works, large excavations (mine pits etc.). This could include mined areas that can be considered hazardous to tourists - open pits, mine dumps, prospecting trenches etc.	Management of this zone is aimed at protecting the designated area and to ensure the safety of the public in these and surrounding areas.
		<b>ACTIVITIES:</b> Management activities only.	<b>ACCESS:</b> Management activities only.
		<b>FACILITIES:</b> None	<b>TYPE OF ROAD:</b> As per zone

## 5.1 ADOPTION OF ZONATION PLAN

The two maps which follow represent the Zoning Plan and Management Overlays as adopted.





## 5.2 CARRYING CAPACITIES

Carrying Capacities in terms of numbers of users is defined for each zonation category. The purpose of defining carrying capacities is to maintain the character of each zone and to limit the potential impact of over-utilisation and over-development.

Zone	User Carrying Capacity	Facility carrying capacity
High Intensity Leisure	1 party / 10ha; Maximum of 40% motorized	Hotels/lodges up to 144 beds No more than 1bed/ha in this zone
Low Intensity Leisure	1 party / 50ha ; Maximum of 40% motorized	Max 48 beds per camp/lodge; No more than 1 bed/20ha in this zone
Primitive	1 party / 250ha ; Maximum of 40% motorized	Maximum 24 beds per camp/lodge; No more than 1 bed/50 ha in this zone
Remote	1 Party / 500ha ; Pedestrian access only	N/A
Resort	N/A	Hotels/lodges up to 250 beds

## 5.3 VEHICLE TRAVERSING RIGHTS

The carrying capacities of the various zones have been computed to determine the permissible number of game drive vehicles that can be associated with developments within the reserve. This is of particular importance in defining tourism products within the reserve.

These figures represent the maximum number of game drive vehicles permitted at any given time. The actual usage is likely to be well below this number as a result of occupancy levels. These figures deal specifically with vehicles that will be traversing the various components of the reserve. Guest vehicles and deliveries using access roads are excluded from this calculation.



The distance of road available will also have an impact on the number of vehicles. The building and maintenance of roads is both difficult and expensive, particularly given that the topography of the reserve is steep in some areas. It is acknowledged that road density should be limited in order to curtail management costs, while preserving the character of the different user zones. It is also important that motorized activities be limited to 40% of the carrying capacity defined for each zone.

Vehicle traversing rights are calculated at 1 vehicle/250ha of property within the reserve fence (or traversing area). Areas falling within the defined proclamation, but utilized for other land-uses (grazing, mining, settlement etc.) and subsequently fenced out, are not considered in the calculation of vehicle traversing rights.

The following table indicates current vehicle traversing rights across the BNR based on the area of land falling within the traversing areas. These figures are subject to change should portions of land be included/excluded.

<b>BNR 3 phases</b>	<b>Area within Fence</b>	<b>Number of vehicle rights.</b>
Phase 1	2542.7ha	10
Phase 2 (3 areas)	5414ha	22
Phase 3	16 605.28ha	67
		<b>99</b>

Phase 1 and Phase 2 are State Owned properties under custodianship of the MTPA. As such all traversing rights vest with the MTPA. Phase 3, as a partnership reserve, has vehicle traversing rights vested with the different landowners making up the reserve.

<b>Phase 3 (Mountainlands) Land Owners</b>	<b>Area within Fence</b>	<b>Number of vehicle rights.</b>
MTPA	11104.85ha	44
Mountainlands Estate Owners Assoc	1399.02ha	6
Way Prop Two (Pty) Ltd	1651.74	7
Lomshiyo	2401.55ha	10
Welloch Boerdery (Pty) Ltd	48.1207ha	0 (0.19)
		<b>67</b>

Further to the above, and with particular reference to Phase 3 (Mountainlands), it became critical to distinguish how vehicle traversing rights are applied to different types of tourism operations.

Distinction is made between 2 types of user of the vehicle rights. **Commercial** and **Ownership** based (incl. syndication up to 10). These development types are strictly defined (refer to the Report titled- **BNR: Integrated Zoning and Tourism Master Plan** for detail). Ownership based developments may at peak times have a maximum of **2 x** their vehicle rights, while commercial developments may not exceed their allocated vehicle rights. This factor is based on the impact that the type of operation is anticipated to have both from an environmental perspective and from a user experience perspective

## **6 TOURISM DEVELOPMENT PLAN**

### **6.1 INTRODUCTION**

In the development of this Integrated Management Plan for BNR a definite need was identified for a Tourism Master Plan to be developed.

- The Tourism Master Plan outlines a long term sustainable vision for the Protected Area.
- The Tourism Master Plan aims to guard against the erosion of tourism potential by providing a framework from which the reserve management can assess the impact and value of development proposals.
- The recommendations of the Tourism Master Plan are not set in stone, but provide guidance to the management authority in terms of forward planning. In this regard it is acknowledged that the Tourism Master Plan cannot predict future market forces, and that the implementation of recommendations set out in the plan should be verified through the market prior to initiation.
- It is acknowledged that due to the land ownership model and interdependence of the landowners, changes to the Tourism Master Plan for Phase 3 have to be agreed to by the Joint Management Committee.

## 6.2 CONCEPT DEVELOPMENT PLAN

The concept development plan is the precursor to the Tourism Master Plan and defines the broad level tourism and development concepts identified through the planning process.

While the three phase of the BNR are likely to function as separate entities due to their varied tenure arrangements and physical separation provided by main roads, the attractions within each component are sufficiently different from one another to advocate strong tourism linkages between the components. The concept is illustrated by **Plan 5 – Concept Development Plan**

### Phase 1

The separation of this phase together with the ease of access and proximity to a major staging post such as Nelspruit allows it to be developed in a different way to the rest of the reserve. Aside from its potential for environmental & conservation education, intensive stocking and management can be accommodated. The area offers the opportunity to stock dangerous game, allowing it to be used for high intensity activities such as trophy hunting and game viewing. Seasonal trophy hunting offers potential of generating strong revenue flows during certain periods of the year. Lower intensity utilisation such as game drives can be offered during the off-season should a hunting model be adopted. Day visitor groups can continue to be accommodated at the existing day visitor centre. The North western portion of Phase 1 is characterized by steep topography and dense vegetation. While providing a refuge for wildlife, it holds some potential for hiking trails.

### Phase 2

This area is, and should remain, strongly integrated with the adjacent conservancies - both geographically and as a result of the current co-management agreements. The conservancies provide both a valuable buffer to the reserve, and a strong management and logistical base.

The Noordkaap River forms the core of an ecological corridor through this area that provides a potential for medium impact adventure tourism that can be linked to current activities in the adjacent conservancies. A vehicle and hiking linkage is proposed through phase 2 to link the components together in order to broaden the product that can be offered.

### Phase 3

Phase 3 (Mountainlands Nature Reserve) comprises 5 areas or nodes of **distinct** tourism potential defined by their attractions and likely usage. The concept sees the development of linkages between these nodes and the development of amenities that promote tourism activity across several nodes.

The **Eureka Plateau** with its fascinating mining relics and rich history provides the opportunity for the reconstruction of a 'storyline' based on mining history and utilization of the area. Present mining activities and attractions at Sheba and Fairview can be incorporated into this 'Storyline' through the creation of historical routes for 4x4 vehicles, hikers and cyclists linking the various attractions. Wildlife and remote landscapes add an additional dimension to the 'storyline'.

The secluded environment of the **Dycedale and Wonderscheur Valleys**, with its own access, has rendered it as a good location for the development of the Mountainlands Estate. This valley offers diverse scenery and the potential for a range of activities ranging from hiking to game viewing. While visitors to any part of the reserve may traverse its entirety, it is anticipated that the difficulty of the terrain will impose a natural restriction on the number of visitors moving to different areas. The nature of the Mountainlands Estate development (ownership based) together with the range of activities available on Dycedale is likely to result in only a limited amount of interaction of tourists from this area with other areas and *vice versa*. Hiking linkages into the remote portions of

Wonderscheur are envisaged. Linkage to the Eureka Node will also provide a valuable attraction for day outings.

The **remote mountain lands** areas along the southern portions of phase 3 offer a true sense of mountainous isolation. The development of roads and structures should be limited in order to provide a true sense of 'Wildness' with very little visual or auditory interaction with outside areas. Hiking and non-motorized activities into the core of this area should be limited to ensure an exclusive experience for users. The periphery of this area offers the potential for small exclusive tourist facilities.

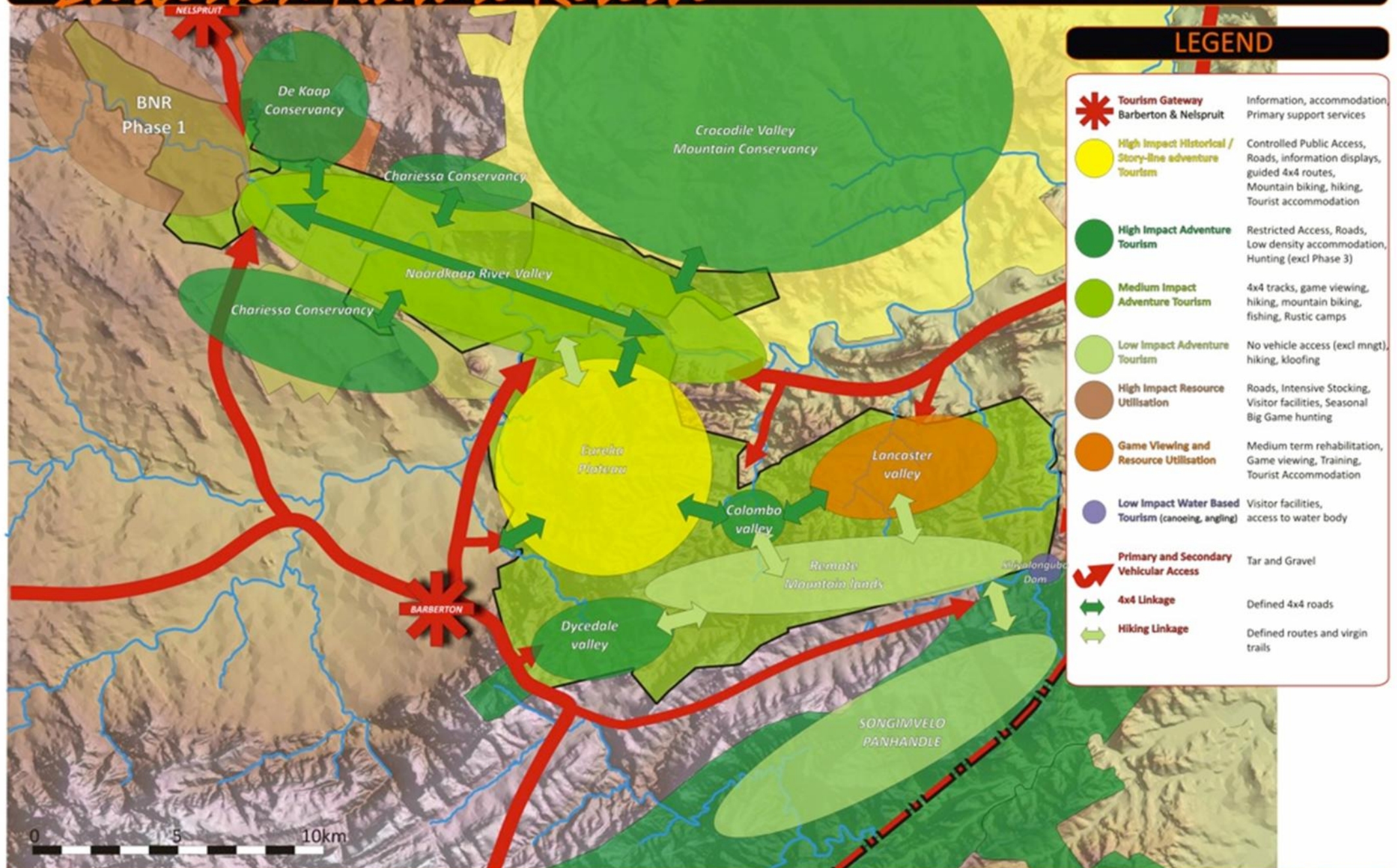
The **Lancaster Valley** (Honeybird Creek) offers a diversity of landscapes from mountains to plains. It also offers the greatest potential in terms of game viewing as a result of the lowveld vegetation type present along the valley floor. Easy, un-encumbered access makes this area attractive for the development of a tourism facility. The focus in this node would be on game viewing and photo-safaris with excursions into the more mountainous terrain. Potential linkages to adjacent nodes broaden the range of activities that can be offered.

The **Colombo Valley** (Figtree Creek) provides a very central location within Phase 3. The valley itself offers the opportunity for adventure activities such as hiking and kloofing. Its real opportunity however lies in the possibility to access the surrounding attractions offered in the adjacent nodes. While the valley is not without its own encumbrances (access & unrehabilitated mining relics) it is believed to offer the most viable location for a family type tourism facility that has access to a wide range of attractions and activities.

The **Shiyalongubo** node provides an important link between the Songimvelo Panhandle (SMTFCA) and BNR. This site together with the Makhonjwa Mine Area, that is currently being rehabilitated offers the opportunity for day visitor facilities centered around water based activities in a natural environment.

# Barberton Nature Reserve

## Integrated Management Plan



### PLAN 6: CONCEPT DEVELOPMENT PLAN

JUNE 2012



### **6.3 TOURISM MASTER PLAN**

The Concept Development Plan and the Zoning Plan inform one another and allow for the development of a Tourism Master Plan. The Tourism Master Plan defines the long term vision for sustainable tourism development of the reserve. It is illustrated below.

The specific actions and proposed developments are detailed in the Report titled- ***BNR: Integrated Zoning and Tourism Master Plan*** and in the Phase specific IMP documents. .

# Barberton Nature Reserve

## Integrated Management Plan

### LEGEND

#### Existing and Proposed Tourism infrastructure

##### EXISTING TOURISM AMENITIES

- Mountainlands Estate (ownership).....18 Sites, 216 beds
- Day visitor / Group facility

##### PROPOSED TOURISM AMENITIES

###### Phase 1

- Noordkaap Safari Lodge (BNR Phase1)..... up to 48 beds

###### Phase 2

- River Camp 1 (BNR Phase2)..... up to 24 beds
- River Camp 2 (BNR Phase2)..... up to 24 beds
- Mountain Camp (BNR Phase2)..... up to 24 beds

###### Phase 3

- Eureka Lodge and Info Center..... up to 24 beds
- Colombo Adventure Lodge..... up to 24 beds
- Lancaster Game Lodge/Resort..... up to 144 beds
- Lancaster Rustic Tented Camp..... up to 24 beds
- Wonderscheur Mountain Retreat..... up to 24 beds
- Exclusive Mountain Camp..... up to 24 beds
- Clutha Rustic Tented Camp..... up to 24 beds

##### OTHER INFRASTRUCTURE

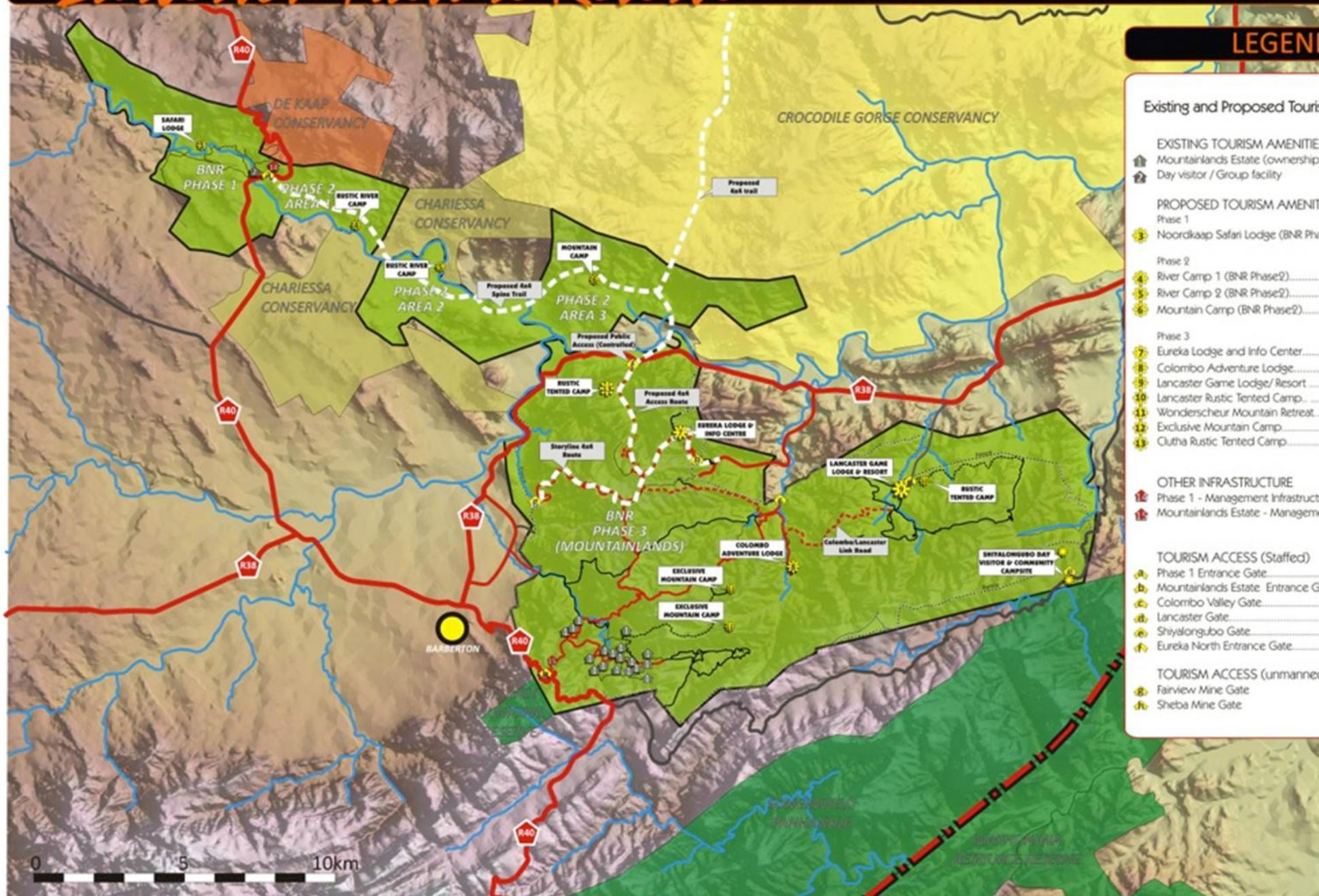
- Phase 1 - Management Infrastructure / Senior Staff
- Mountainlands Estate - Management Infrastructure

##### TOURISM ACCESS (Staffed)

- Phase 1 Entrance Gate.....Burned down
- Mountainlands Estate Entrance Gate.....Newly constructed
- Colombo Valley Gate.....requires upgrading
- Lancaster Gate.....position to be revisited
- Shiyalongubo Gate.....proposed
- Eureka North Entrance Gate.....proposed

##### TOURISM ACCESS (unmanned / operators only)

- Fairview Mine Gate
- Sheba Mine Gate



## PLAN 7: TOURISM MASTER PLAN

JUNE 2012



## **7 POLICY FRAMEWORK & GUIDING PRINCIPLES: RESOURCE MANAGEMENT**

### **7.1 FINANCIAL & HUMAN RESOURCES**

#### **7.1.1 Management of Financial Resources**

MTPA is a Schedule 3B public entity for the purpose of the Public Finance Management Act (Act 1 of 1999) [PFMA]. As such, the MTPA is bound to the provisions of the PFMA which regulates the financial management of all national and provincial governments and agencies; ensures that all revenue, expenditure, assets and liabilities of those governments are managed efficiently and effectively; provides for the responsibilities for those entrusted with financial management in those governments, and governs all matters connected therewith.

Section 50 of the PFMA deals with a number of fiduciary duties placed on the accounting authorities of public entities which are subjected to the provisions of the PFMA, and inter alia requires the accounting authority for a public entity to:

- exercise the duty of utmost care to ensure reasonable protection of assets and records of the public entity;
- act with fidelity, honesty, integrity, and in the best interests of the public entity in managing the financial affairs of the public entity;
- seek, within the sphere of influence of that accounting authority, to prevent any prejudice to the financial interests of the state.

Section 51 deals with a number of general responsibilities of accounting authorities and provides that the accounting authority for a public entity must ensure that a public entity has and maintains inter alia effective, efficient and transparent systems of financial and risk management and internal control as well as an appropriate procurement and provisioning system which is fair, equitable, transparent, competitive and cost effective.

Regulations 16A7.4 and 16A7.5 of the National Treasury Regulations promulgated in terms of section 76 of the PFMA in Government Gazette Notice No. R 225, Government Gazette No. 27388 dated 15 March 2005, and amended by Government Gazette Notice No. R 146, GG 29644 dated 20 February 2007, which Regulations state that:

- Reg. 16A7.4 The letting of immovable state property must be at market – related tariffs, unless the relevant treasury approves otherwise. No state property may be let free of charge without the prior approval of the relevant treasury.
- Reg. 16A7.5 The accounting officer or accounting authority must review, at least annually when finalizing the budget, all fees, charges, rates, tariffs or scales of fees or other charges relating to the letting of state property to ensure sound financial planning and management.

These National Treasury Regulations first came into operation on 25 May 2002 and have applied to the business of the MTPA since its establishment. Hence there is sufficient responsibility placed on MTPA under the PFMA to manage and to lease out all state assets placed under its management and control in the Barberton Nature Reserve in a manner that is fair and equitable to all, is transparent and competitive, and occurs on a basis that is market related and supports sound financial planning and management within MTPA.

It is therefore essential that the Management structures review the current funding strategy and develop a sustainable 5 year Strategic Plan as stipulated in the PFMA, inclusive of an annual performance plan -, to guide funding requirements and to lever funding from external sources.

The Annual Performance Plan should address self-sustaining commercial operations within the reserve, to ensure that the area generates funds optimally and effectively to supplement financial requirements. A sound constitution should be in place in order to address all benefit sharing models.

The value of ecosystem services provided by the reserve and the level of economic contribution which the reserve makes to the local economy should be determined. This value should then be used to market the reserve and to lever funding from relevant external sources. This value should portray the importance of conserving the area and should make it more attractive for funding organizations to provide funding as and when necessary.

Several infrastructure assets (eg. houses, buildings, etc) are situated on the land in ownership of the Department of National Public Works (DNPW) and under custodianship of the MTPA, and are situated mostly next to main roads and external development nodes and outside the game fenced areas. These assets are being utilised by outside parties and the income derived, if any, is not accruing to MTPA. The DNPW is currently investigating the history of these properties and MTPA will over time specify its needs accordingly as accommodation and management needs arise.

**Action Project 7.1.1 [1]:** Develop 5 Year Strategic Plan and Annual Performance Plan

**Action Project 7.1.1 [2]:** Undertake evaluation of ecosystem services and contribution to the local economy by the reserve.

**Action Project 7.1.3 [3]:** Implement Annual Strategic Performance Planning and Audits in accordance with the PFMA.

**Action Project 7.1.4 [4]:** Obtain info from DNPW once their investigation of available assets is complete and do needs analyses and implement accordingly.

### **7.1.2 Management of Human Resources**

A staff organogram has been approved by the MTPA for the Barberton Nature Reserve. This organogram has been developed in compliance with relevant Labour Legislation and Best Practice Guidelines.

In order to effectively address the full spectrum of BNR management functions it is imperative that the Human Resource needs are fully investigated with a view of adapting the existing organogram should it be required. All National, Provincial and MTPA labour management policies should be addressed.

Where possible, staff should be sourced from local and affected communities. MTPA has developed a Skills Development Plan for the organisation as a whole and this plan should be implemented in the BNR.

**Action Project 7.1.2 [1]:** Investigate human resource requirements in the BNR and adapt the existing staff organogram with a view to improving effectiveness and efficiency in achieving BNR objectives and informing the Business Plan.

**Action Project 7.1.2 [2]:** Implement MTPA official skills development plan and strategy within the BNR.

## **7.2 SAFETY AND SECURITY**

Due to the fragmented nature of the land parcels incorporated into the proclaimed area of the BNR, management of safety and security is challenging.

MTPA recognises that illegal activities within and around BNR can be a severe threat to the integrity of its natural and cultural heritage, as well as the safety of BNR users, neighbouring communities and the attainment of its stated Mission and Management Objectives

It is essential that the MTPA strategically review all security and safety threats within and surrounding the reserve in a comprehensive security audit. The potential threats should be identified and mapped and an Integrated Safety and Security Plan should then be developed for the reserve.

**Action Project 7.2 [1]:** Wildlife Protection Services Unit to undertake comprehensive Security Audit to identify and quantify all safety and security threats to the reserve.

**Action Project 7.2 [2]:** Develop and implement Integrated Security Plan for the BNR

### **7.2.1 Control over Illegal Activities and Use of Natural Resources**

Illegal activities within the Reserve and illegal utilisation of the Reserve's natural resources are realities that are present, but not well quantified. It must be assumed that these threats have the potential to increase significantly.

It is policy to maintain an ongoing vigilance through cost-effective surveillance, monitoring programmes and reaction capabilities. Direct illegal use of natural resources will be dealt with by Reserve management while high risk criminal activities will be monitored and communicated to the relevant security forces as part of a broader co-operative security strategy.

The main effort towards resolving illegal utilisation of natural resources by neighbouring communities for purposes of subsistence will be to create understanding and awareness through pro-active education amongst these communities.

**Action Project 7.2.1 [1]:** Develop Illegal Utilisation Monitoring Strategy

## **7.3 BIODIVERSITY CONSERVATION MANAGEMENT**

### **7.3.1 Fire Management**

Fire plays a critical role in the management and maintenance of ecosystems in the BNR. The fragmented nature of the land parcels included in the proclaimed area makes fire management in the reserve a challenge.

An ecological assessment should be undertaken annually to determine veld burning requirements within the BNR. Based on the outcomes of this assessment, a comprehensive veld burning programme should be implemented.

The MTPA is a member of the Lowveld and Escarpment Fire Protection Association.

The relevant management structures (BMC/JMC/CMC) will meet annually, preferably at the beginning of the year. Monitoring and evaluation of the effectiveness of the veld burning programme and fire prevention strategy should be undertaken annually, after the end of the rainy season by the Biological Management Committee.

A Risk Assessment should be undertaken to determine areas of high threat of fire. These areas would include the following:

- Human settlements adjacent to the reserve;
- Main roads which traverse the reserve or are located adjacent to the reserve;
- Areas around mines;
- Runaway fires from forestry areas; and
- Areas which are prone to natural fires.

**Action Project 7.3.1 [1]:** Undertake annual ecological assessment to determine veld burning requirements.

**Action Project 7.3.1 [2]:** Undertake fire risk assessment and develop fire prevention strategy

### **7.3.2 Alien and Invasive Species**

#### **7.3.2.1 Alien Plants**

Alien plant species have been planted or have established themselves within the Reserve over time. They can, to varying degrees impact negatively on water production, the natural environment and biodiversity as well as the natural landscape character of the Reserve. Their control and management is considered a management priority. Wherever possible and appropriate these plants should be removed from the Reserve. The overall management of alien species should be included in the Annual Performance Plan by the Biological Management Committee.

**Action Project 7.3.1.1 [1]:** Include Alien Plant eradication and management in Annual Performance Plan.

A baseline analysis of alien plant coverage over certain sections of the reserve has been undertaken and problem areas have been identified and plotted on a GIS system. Most alien plant populations occur along waterways within the reserve and in areas previously impacted on by historic activities.

The following management guidelines apply:

#### **– Alien Plant Introductions**

The introduction of alien plants in the reserve will not be allowed and all landowners should be capacitated to ensure that they understand the importance of not introducing alien vegetation. A support system should be implemented whereby landowners can confirm whether or not plant species are exotic or aliens before introducing them.

A monitoring programme should be implemented to monitor future introductions of alien species by identifying areas where new alien plant communities have been established.

– **Existing Non-invasive Alien Plants**

Populations of non-invasive aliens have established themselves in the reserve and they need to be managed accordingly. In some instances, the non-invasive alien plants provide additional value to tourism products as they contribute to the 'sense of place' for tourists. These species should be managed accordingly and the MTPA should ensure that the numbers of these plants do not increase.

Due consideration must be given to the need for maintaining communities of alien plants. Many non-invasive aliens may have quite a long "incubation" period and then they become rapidly invasive. Unless there is a very specific reason to keep particular alien plants, it is much simpler and more strategic to remove them immediately.

A rehabilitation strategy needs to be developed for areas where non-invasive alien plants are removed.

– **Declared Alien Weeds and Invasive Plants**

Declared weeds and invader plants according to section 29 of CARA (Act No. 43 1983) are a serious threat to the ecological functioning of natural systems as well as water production and must be strictly controlled in terms of the relevant CARA regulations. An ongoing time-bound programme to effectively control these alien weeds and invader plants within the Reserve and 1km (buffer area) of the Reserve boundary must be developed. State poverty relief programmes such as 'Landcare', 'Working for Water', 'Working on Fire' and 'Working for Wetlands' should be used to full effect to complement the Reserve budget for this management task.

The BNR Biological Management Committee should review all existing Alien Plant Strategies in the BNR based on updated information and technologies. This should include mechanical, chemical and biological control mechanisms.

<b>Action Project 7.3.1.1 [2]:</b> Develop Alien Plant inventory and species lists for BNR.
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<b>Action Project 7.3.1.1 [3]:</b> Annually review Alien Plant Management and Monitoring Programme for BNR.
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#### 7.3.2.2 Alien Animals

Alien animal species can threaten the ecological, genetic or natural aesthetic integrity of the reserve and can be vectors for the spread of diseases. Their control and management are considered a management priority. Wherever possible and appropriate these animals must be removed from the reserve.

The following management guidelines apply:

##### **Alien Animal Introductions**

Introductions of alien animals to the Reserve will not be tolerated except:

- as part of culture-based, community-based or management projects approved by the Biodiversity Management Committee; or

- for domestic animals and livestock (incl. donkeys and horses) kept for official purposes or privately by staff according to specific rules for each management centre.

It is critically important that these exceptions do not negatively influence the integrity and sustainability of the Reserve's biodiversity and ecological processes.

A new, standardised and equitable Reserve policy for keeping domestic animals and livestock is needed and must also include procedures to deal in a consistent manner with alien animals that stray into the reserve. This policy must, inter alia clearly address:

Threats to biodiversity conservation as a priority.

- Reducing the numbers of such animals to an absolute minimum.
- Designating areas where these animals must be kept. They must not be allowed to roam or feed in the nature reserve (except for official patrol horses when on patrol) or interfere in any way with tourists.
- The proper and hygienic care of these animals.
- Minimum standards (aesthetic acceptability, sizes, neatness and cleanliness) of facilities housing these animals e.g. stable, camps cages etc.
- Regulations relating to pets (eg. All pets should be neutered/spayed)

**Action Project 7.3.1.2 [1]:** Develop a new, equitable policy for keeping personal and official domestic animals and livestock in the Reserve that includes procedures for dealing in a consistent manner with alien animals that stray into the Reserve.

#### **Alien Animals Present in the Reserve**

Alien animals that are present and are a threat / potential threat to the ecological processes / tourism experience in the Reserve will be dealt with as necessary according to a control programme developed and approved by the Biodiversity Management Committee.

A management strategy is needed to monitor and manage the impact of alien fish species in the Reserve.

Mallard ducks, alien wild ungulates, 'domesticated' guinea fowl and feral species are all potential threats and will be found in the Reserve sporadically. They must be destroyed as soon as possible after their presence is detected (humanely as practical and with due regard for the tourist experience).

**Action Project 7.3.1.2 [2]:** Develop a control programme for alien animals present in the Reserve.

#### **7.3.3 Catchment Management**

The Makhonjwa Mountains and the 'bowl' surrounding Barberton, including the BNR, is a significant water catchment area for the region. Recognizing the importance of this resource to the sustained livelihoods of people in the region, it is essential that Reserve management practices do not threaten sustained natural flow regimes of good quality water with low sediment loads.

**Action Project 7.3.2 [1]:** Develop and implement Integrated Catchment Management Strategy in association with the National Department of Water Affairs and other relevant water agencies.

It is important that water flow and quality are effectively monitored over the long-term and this must be included in the reserve monitoring programme.

#### **7.3.4 Erosion and Control**

Due to the hilly and mountainous topography of the BNR, various areas experience soil erosion problems. Some areas are more gradually affected than others but the potential impacts of soil erosion throughout the reserve are significant.

Special consideration should be taken when developing roads and other developments within the BNR to ensure human-induced erosion does not take place. Natural erosion processes should be allowed to continue to an extent where they do not affect the Management Objectives of the BNR.

In order to effectively address problems associated with erosion in the BNR, a baseline assessment should be undertaken to identify areas currently affected by erosion, along with areas which could potentially be affected. Problem areas need to be prioritised and a soil erosion rehabilitation strategy needs to be developed for the reserve.

**Action Project 7.3.3 [1]:** Undertake baseline soil erosion assessment to identify problem areas.

**Action Project 7.3.3 [2]:** Prioritise problem areas.

**Action Project 7.3.3 [3]:** Develop soil erosion rehabilitation programme for the reserve which will be updated on an annual basis.

#### **7.3.5 Wildlife Management**

The primary objective of wildlife management at BNR will be to maintain, within the ecological carrying capacity of the Nature Reserve, viable indigenous wildlife populations that historically occurred in the area and are suited to the particular habitats offered by BNR.

Only species known to have historically occurred in the Reserve will be permitted.

Management interventions for indigenous wildlife biodiversity will therefore be minimised except for any management strategies that may be agreed to by the Biodiversity Management Committee to safeguard populations of rare or endangered species, to meet the set conservation targets or to meet the following specific management guidelines:

**Action Project 7.3.4 [1]:** Develop Species Specific Introduction Plan for the BNR based on Ecological Carrying Capacities.

##### **7.3.5.1 Problem Animal Management**

Animals that become a danger or excessive nuisance to persons and property due to either habituation or aberrant behaviour may be destroyed humanely or captured and removed from Reserve. This also applies to animals that escape or leave and return periodically and cause damage outside the Reserve.

To minimize the need to control problem animals, pro-active and preventative measures (e.g. fencing, proper handling and removal of waste and baboon-proof bins) should be considered a priority, while affected public or neighbours need to be informed appropriately regarding the relevant animal behaviour and / or dangers. Where the only solution to the problem lies in

destroying or capturing animals, the methods decided upon must be applied with due regard for animal welfare and possible public criticism.

Operational policy and procedures, dealing with problem animals in and on the boundaries of the Reserve need to be developed which are in line with any MTPA Problem Animal Management Manual that is developed and taking into consideration the National Policy and Strategy for Problem Animal Control in South Africa.

**Action Project 7.3.4.1 [1]:** Develop operational policies and procedures to address problem animal management in alignment with MTPA manuals and national legislation.

#### 7.3.5.2 Introduction of Indigenous Species

The introduction of indigenous species into the Reserve must be considered in terms of their natural distribution range, genetic compatibility, social behaviour characteristics, impacts on existing populations, habitat requirements, practical management and possible interaction with human communities adjacent to the Reserve.

The introduction of any species (individual or group) must be done in collaboration with the responsible Ecological Advice staff, with the approval of the Biodiversity Management Committee and meet the requirements of any MTPA Wildlife Translocation policy and protocol adopted for the bioregion. The introductions must be adequately documented. A species introduction policy for the Reserve is needed for the effective application of this policy guideline.

**Action Project 7.3.4.2 [1]:** Develop Species Introduction Policy and Strategy for the Reserve and ensure keeping of introduction registers.

#### 7.3.6 Land Expansion and Incorporation

An integral part of the conservation and tourism model of the BNR includes the potential linkage of the reserve to adjacent conservation estates.

Apart from the value to biodiversity conservation and as a buffer for climate change ramifications, expansion and linkages raise awareness of the BNR as well as providing additional opportunities for tourism linkages.

The BNR is currently greatly overshadowed by regional attractions such as the Kruger National Park. The fragmented nature of the reserve and lack of facilities and amenities results in very low visitation.

The pending formalization of the Barberton Makhonjwa World Heritage Site will provide an important vehicle for driving the establishment of linkages to surrounding areas and vice versa. BNR and other formally conserved areas form the core of the WHS. Many areas identified for linkages fall within the proposed boundary of the WHS. Formalisation of these linkages strengthens the World Heritage Site which will in turn be advantageous in terms of awareness.

Logical links to adjacent conservation worthy areas shows how the BNR can be linked northwards in to the GLTP through Crocodile Valley Mountain Conservancy and southwards to the Songimvelo-Malolotja TFCA through the Songimvelo Panhandle. Expansion and linkages of the TFCA network will ultimately facilitate the establishment of a 'mountainlands to coastline' biodiversity corridor, via the Ndumo – Tembe – Futi TFCA.

An immediate link can be formed with the Umjindi Municipal Reserve. This link is of importance as the Umjindi Municipal Reserve has the potential to provide a gateway from Barberton directly into the rest of the World Heritage Site. Incorporation of this Reserve into BNR should be investigated.

There is also current potential within BNR Phase 1 & 2 to expand to incorporate adjacent properties that have similar objectives of conservation.

**Action Project 7.3.5 [1]:** Develop and Implement a range expansion strategy for the BNR which is in alignment with MTPA range expansion policies.

#### **7.4 CULTURAL RESOURCE MANAGEMENT**

Due to the rich history of the area, BNR holds many cultural heritage features. Management of these Cultural Heritage Features is guided by the National Heritage Resources Act, 1999 (Act No. 25 of 1999) and must aim to promote the conservation and public appreciation of the cultural heritage features found in the BNR.

A database/inventory of all cultural heritage features in the BNR must be established and maintained for effective management of these features. A comprehensive Cultural Heritage Management Plan must be developed for the BNR in alignment with the National Heritage Resources Act and that meets other national requirements.

The Cultural Heritage Management Plan must incorporate the following principles of Cultural Heritage Management:

- Identification of Cultural Heritage Features
- Documentation
- Protection
- Interpretation
- Utilisation

**Action Project 7.4 [1]:** Develop Comprehensive Cultural Heritage Management Plan, inclusive of a database/inventory of all Cultural Heritage Features and Resources in the BNR.

### **8 POLICY FRAMEWORK & GUIDING PRINCIPLES: UTILISATION MANAGEMENT**

#### **8.1 TOURISM MANAGEMENT**

The BNR will serve a wide range of markets, using a variety of activities including but not limited to fly fishing of indigenous fish, game drives, guided walks and hikes, special interest excursions, 4x4 expeditions, environmental education programmes and horse trails. A variety of accommodation options will also be provided in the BNR.

This approach reduces both the risks associated with single tourism markets as well as impacts associated with tourism activities. Intensive visitor management will reduce environmental pressures and focuses marketing initiatives within target markets.

##### **8.1.1 Marketing**

The branding and marketing of the destination is essential to the success of the BNR, especially in light of the very limited exposure the area has on the international tourism stage. It can be expected that the

development of the WHS will significantly boost the 'desirability' of the destination amongst tour operators and tourists, but the area needs to be clearly differentiated from competitor destinations.

The visibility and awareness of BNR as a destination diverse attractions, activities and amenities needs to be improved.

The BNR should have a uniform umbrella Brand under which the various operations can maintain autonomy. This must be captured in a Joint Marketing Strategy to be developed by the primary stakeholders.

Signage for the Reserve should also conform to the uniform branding.

**Action Project 8.1.1 [1]:** Develop a Joint Marketing Strategy for BNR.

### **8.1.2 Linkages with other tourism initiatives**

Various tourism initiatives are being implemented in the region surrounding the BNR. In order to effectively capture a larger tourism market share, it is essential to establish links with these initiatives. The MTPA will annually investigate and explore all potential linkages with other tourism initiatives being implemented in the region.

The MTPA will establish a single point of contact which will constantly address any enquires from other tourism initiatives in the region.

**Action Project 8.1.2 [1]:** Annually identify and explore potential linkages with tourism initiatives.

**Action Project 8.1.2 [2]:** Establish single point of contact to address any enquiries from tourism initiatives in the region.

**Action Project 8.1.2 [3]:** Align marketing plan with any linkages made with other tourism initiatives.

### **8.1.3 Tourism Infrastructure**

Tourism infrastructure in the BNR will be developed in an aesthetically pleasing, environmentally friendly and cost effective manner, based on the vision of the reserve.

The primary objective is to ensure that all infrastructural development enhances the sense of place of the reserve, while complying with all environmental and related legislation. Secondly, all infrastructural development must be planned to ensure that it is cost effective, appropriate and contributes to attaining the objectives of the reserve.

The MTPA in conjunction with the relevant management structures, will be responsible for all planning, development and maintenance of infrastructure developed within state owned land in the reserve. Development will be based on clear standards and quality and will be developed within budgetary constraints. Plans will be developed for all infrastructural developments and approved by the MTPA.

**Action Project 8.1.3 [1]:** Develop clear standards for all infrastructural development in the BNR.

**Action Project 8.1.3 [2]:** Establish approval process for proposed infrastructure development in the BNR.

#### 8.1.4 Operational Guidelines and Standards

The MTPA in conjunction with the relevant management structures, will provide operational guidelines and standards for the reserve in a Tourism Operations Plan for the reserve. The Tourism Operations Plan will be implemented by all landowners and product owners within the BNR. The fragmented nature of the reserve allows for variant operational standards which need to be managed by the MTPA.

The Tourism Operations Plan will apply mainly to the following on state owned land:

- Traversing rights;
- Visitor Densities;
- Catered vs. Self-catered Activities;
- Guided vs. Self-Guided Activities; and
- *Visitor Monitoring.*

**Action Project 8.1.4 [1]:** Develop Tourism Operations Plan

#### 8.1.5 Environmental Management

All infrastructural development will comply with formal Environmental Impact Assessment Regulations and other authorizations where applicable. All buildings will comply with the applicable ordinances. Integrated Environmental Management Policies must be considered in all future development within the BNR.

The MTPA in conjunction with the relevant management structures, must constantly apply a monitoring programme to identify any Environmental Management issues within the reserve. A reporting system must be established which will allow for stakeholders to report any Environmental Management Issues in the reserve to reserve management.

The MTPA in conjunction with the relevant management structures, must endeavour to resolve any Environmental Management Issues as effectively and efficiently as possible and within the parameters of relevant legislation.

**Action Project 8.1.5 [1]:** Implement strategy whereby all proposed developments in the BNR are reviewed in terms of Environmental Legislation and ensure that all relevant Environmental Authorisations are obtained.

**Action Project 8.1.5 [2]:** Establish a reporting system whereby stakeholders can report any environmental issues within the BNR to the Biodiversity Management Committee or relevant management structure.

#### 8.1.6 Tourism Monitoring

BNR will encourage feedback from guests in the form of questionnaires and personal interviews. Constant monitoring of visitor attitudes and satisfaction towards staff, facilities and activities will be reviewed against industry trends.

A tourism monitoring strategy will be developed and implemented across all phases of the BNR. All landowners and product owners will be capacitated to implement the strategy and provide feedback to MTPA.

**Action Project 8.1.6 [1]:** Develop and Implement Tourism Monitoring Strategy

**Action Project 8.1.6 [2]:** Capacitate Landowners and Product Owners to implement Monitoring Strategy

## **8.2 NATURAL RESOURCE UTILISATION**

### **8.2.1 Harvesting**

Extractive resource use applications must be considered within the framework of MTPA board policies. Harvesting of natural resources will be allowed in the BNR. Harvesting should however not compromise other management objectives in the reserve.

The relevant management structure (BMC/JMC/CMC) must evaluate applications according to accepted guidelines that ensure:

- sustainable and wise use of the resource,
- ecological and social acceptability,
- benefit to neighbouring communities,
- equitable access to the resource,
- that the transaction is within the PFMA framework,
- that the harvesting operations are effectively controlled and monitored,
- a written agreement stipulating resource price and conditions of harvest, and
- due consideration of alternatives.

**Action Project 8.2.1 [1]:** Develop Guideline and Policies for the sustainable harvesting of resources.

### **8.2.2 Hunting and Live Sales**

Ecological Carrying Capacities need to be determined and annual animal off-take numbers need to be approved by the Biodiversity Management Committee. Off-take will be undertaken by means of hunting and live sales.

All hunting operations need to be undertaken ethically and within the parameters of this IMP, relevant MTPA policies and national legislation. Hunting will be allowed in specific areas of the BNR and in specific hunting seasons. All hunting operations need to ensure the safety of other users of the reserve.

**Action Project 8.2.2 [1]:** Develop hunting guidelines and policies for the BNR.

Live sales will be used to control animal numbers in terms of the ecological carrying capacity. All live sales will be undertaken in terms of relevant MTPA policies and within the PFMA framework. Professional and experienced capture teams will be used to ensure that the health and safety of the animals being captured and sold is a priority.

A game management model needs to be developed as private landowners will also stock animals in the BNR. It is therefore essential to develop a sales strategy which ensures income from sales are divided equitably between all parties involved in animal stocking in the reserve.

**Action Project 8.2.2 [2]:** Develop Game Management Model to address equitable division of income from live sales between relevant landowners.

**Action Project 8.2.2 [3]:** Develop Annual Live Sales Strategy based on Ecological Carrying Capacities

### 8.2.3 Bio-Propecting

Requests to collect biological material / samples from the Reserve will only be considered by the Biodiversity Management Committee in accordance with MTPA policies, from *bone fide* South African research institutions until national and provincial legislation governing bio-prospecting is in place.

Clear distinction should be made between bio-prospecting activities and those of biological research.

Bio-prospecting activities within the Reserve must be closely monitored and regulated in terms of present environmental legislation.

**Action Project 8.2.3 [1]:** Develop Bio-prospecting Policies and Guidelines for the BNR.

### 8.2.4 Mining

The Barberton Greenstone has historically held high value mineral deposits. The primary mining activities in the past have centered around gold. Mining activities in the sensitive habitat of the reserve is highly destructive and mostly incapable of rehabilitation for full ecosystem functions. A risk averse approach should be taken on all mining aspects.

Currently two mining groups have active operations within the Protected Area. Through the planning process these mining houses were consulted and have provided information relating to permits and rights that they claim to hold. This information was inconsistent with information held by the MTPA and information provided by Department of Mineral Resources.

**Action Project 8.2.4 [1]:** Verify, compile and map lawfully held current mining rights as well as past mining rights within the reserve for the purposes of reserve management, access arrangements and rehabilitation plans per further Action Projects below. Develop additional management overlay/s.

Mining is a consumptive activity that eventually consumes its resource which means that mining will end at some point. The Makhonjwaan Mine is an example and is currently in a closure phase. Mining areas thus have to be managed with a view to eventual closure and monitored for compliance with their rehabilitation and closure obligations.

While much of the mining activities are subsurface, some activities are present at the surface and have to be managed within the reserve. In most cases the placement of reserve fence lines have taken above ground infrastructure of mines into account but these should be moved back to the proclaimed boundary as the mines close.

Mining, prospecting and reconnaissance within a Protected Area is regulated by Section 48 of NEM:PAA (53 of 2003 as amended)

While Section 48 (1) prohibits commercial prospecting and mining activities, Section 48(2)/(3) provides the mechanism for reviewing and regulating existing lawful mining operations.

It is imperative that the MTPA in conjunction with the relevant management structures, takes an active role in ensuring that the provisions of these sections are met and in managing all aspects related to mining in the reserve and its buffer areas.

It is acknowledged that the unlawful awarding of new prospecting rights in Protected Areas has been highlighted as a province wide problem and that this is the subject of national ministerial interactions. MTPA cannot allow new prospecting and mining activities in its Nature Reserves in compliance with the prohibition contained in NEMPAA and the MPRDA, both sections 48.

**Action Project 8.2.4 [2]:** MTPA to follow up with the Minister and ensure that provisions of NEM:PAA section 48(2) and section 48 (3) are effected.

**Action Project 8.2.4 [3]:** MTPA in conjunction with the relevant management structures, to implement recommendations emanating from a determination by the Minister in terms of Section 48 (3)

There are a large number of mining relics such as old mines, dumps and adits spread throughout the reserve. While certain of these features can be utilized as tourism attractions, others are unsightly scars on the landscape that degrade the conservation value of the area. Mine workings have also historically introduced alien plants and these infestations are still evident around present and abandoned mining areas and are undermining biodiversity and water resources. The responsibility for rehabilitation of old mines and attendant impacts rests with the mines or their successors in title.

**Action Project 8.2.4 [4]:** Prioritise rehabilitation of different mining areas. MTPA in conjunction with the relevant management structures, to engage mines on their rehabilitation obligations and agree on firm plans to be implemented according to reserve priorities. Review on an annual basis, and monitor implementation to acceptable standards congruent with reserve status.

**Action Project 8.2.4 [5]:** MTPA in conjunction with the relevant management structures, to monitor compliance with EMPRs for mining operations and engage mines on transgressions.

Uncontrolled access by mines and their employees can lead to problems. Mines have in the past made roads and initiated workings without coordination with the reserve management or compliance with acceptable standards. Security of the reserve is compromised and activities cannot be monitored. While access cannot be prohibited for existing mining rights it must not be uncontrolled. Placement and nature of activities allowed should take a risk averse approach and use all available scientific data available in this report, the MBCP and other resources in determining acceptability or not. The Mining and Biodiversity Guidelines, once adopted by MINTECH, should also be applied.

**Action Project 8.2.4 [6]:** Establishing access control mechanism with the mines which enables effective control by the reserve and monitoring of all mining activities.

### **8.3 INFRASTRUCTURE**

#### **8.3.1 Entrance Gates**

All entrance points to the Nature Reserve will be under the control of the BNR management, including private co-management partners. The fragmented nature of the reserve will make this challenging and an access control strategy will need to be developed. Certain functions may however be outsourced. It is critical that all access points to the BNR are controlled at all times

Exceptions in this case will be the transport corridors (public roads and railways) that transect the reserve. It is important that the MTPA ensures that fences along these corridors are secure to prevent animals from escaping from the reserve and illegal trespassers from accessing the reserve. A monitoring system should be implemented to ensure the reserve's boundaries are secure.

**Action Project 8.3.1 [1]:** Develop Access Management Strategy for the BNR.

#### **8.3.2 Signage**

All access roads to the reserve should be sign posted with official tourism attraction signage.

Signage is an important aspect of tourism and reserve management. Four groups of signage are identified, namely:

### **Public Entrance Gate and Boundary Signage**

A standard for this signage must be developed that clearly depicts the fact that one is entering the BNR with specific landmark/camp names in a secondary position. Other recommended emblems and wording should also be included at public entrance points.

### **Tourist Camp or Management Infrastructure Area Signage**

Interpretation, directional and information signage in the Reserve must have a standardised format and design which is sensitive to, and visually compatible with the surrounding environment.

### **Trail Signage**

The trail signage format will be standardised and implemented in a manner which has minimal visual impact and environmental damage on the environment. Primary Trail signage will include signage at the start of trails and will include relevant trail information. Secondary trail signage will include the reassurance markers along the trails.

Trail development and signage must be accredited by the Green Flag Trails accreditation body. Environmentally friendly materials will be used to install reassurance markers along trails.

### **Remembrance Plaques**

No policy on the use of remembrance plaques exists at present. Ad hoc or uncontrolled placing of such plaques in the Reserve can have considerable negative aesthetic, equity and maintenance implications and should only be allowed if it is within the framework of an authorised policy.

**Action Project 8.3.2 [1]:** Develop Signage Manual for the BNR which includes guidelines and policies on all relevant signage requirements.

### **8.3.3 Roads, Tracks and Paths**

Reserve Management must ensure that the existing access network is effectively maintained to the appropriate standards to support relevant use and to avoid soil erosion as well as other negative impacts on the environment.

Proposed development of new or the closure of roads, tracks and paths must follow the set procedures for authorization by the Biodiversity Management Committee in terms of relevant MTPA policies. Roads need to be developed in accordance with the zonation plan for the reserve which stipulates which type of roads can be constructed in which zones.

Roads and tracks that are heavily used by vehicles should either be tarred, paved or all-weather gravel roads that have been treated with a dust repellent (sealer).

Hiking trail paths need to be designed and constructed by a trail development professional. These paths need to be accurately mapped, marked for maintenance purposes, assessed and maintained on an annual basis.

**Action Project 8.3.3 [1]:** Develop Road Construction manual for the BNR, including policies and guidelines for road development in the reserve.

**Action Project 8.3.3 [2]:** Engage with trail development professional to design and develop trails within the BNR, inclusive of mapping and marking.

#### **8.3.4 Fencing**

The purpose of the boundary fence is to keep game in and farm stock out of the reserve, while demarcating reserve boundaries to assist in preventing illegal entry. Fences are to be maintained at the required MTPA standard for non-dangerous game.

Continuous maintenance of the boundary fence in respect of repairs and upgrades will be required. Any electrified sections must be monitored and voltages recorded on a regular basis

**Action Project 8.3.4 [1]:** Develop Fence Patrol and Maintenance Strategy

All internal fences in the reserve will be kept to a minimum and fences will only be approved for specific management activities.

**Action Project 8.3.4 [2]:** Develop internal fence approval criteria.

#### **8.3.5 Services**

Installations for services such as electricity, telephone, water etc. should be located so as to minimise their aesthetic and environmental impacts. Memorandums of Understanding and Servitudes need to be registered for all bulk services accessing the reserve.

**Action Project 8.3.5 [1]:** Develop bulk services development policy and servitude registration protocol.

#### **8.3.6 Radio Communication and Other Communication Equipment**

Reserve management requires a two-way radio system for efficient management. Any radio repeater stations or other similar communication towers must comply with Environmental Impact Assessment (EIA) regulations / conditions and will be subject to formal agreements entered into with relevant authorities.

All management and maintenance units will have access to radio communication equipment for effective communication and overall management efficiency and reaction.

**Action Project 8.3.6 [1]:** Develop and implement radio operation protocol.

#### **8.3.7 Waste Management**

MTPA will adopt a responsible and environmentally friendly waste management plan, which will address liquid as well as solid waste. Liquid waste will be treated on-site according to relevant site development plans, and the impact of waste treatment closely monitored.

Solid waste should be separated and sorted, with biodegradable waste being composted, recyclables stockpiled, combustibles incinerated and disposed of in a responsible manner. Research will be undertaken to identify the Best Practicable Environmental Opinion (BPEO) regarding each type of waste stream. Catering facilities must investigate option to reduce waste volume through changes to the procurement policy.

**Action Project 8.3.7 [1]:** Develop Integrated Waste Management Plan for BNR.

### **8.3.8 Water and Energy Saving Measures**

It is important once again that the MTPA in conjunction with the relevant management structures, leads by way of example. Infrastructure in the reserve should incorporate modern water and energy-saving (electricity) devices or measures (e.g. signage). Environmental consciousness should be incorporated into plans and policies. Not only will such an approach and implementation demonstrate an environmentally friendly attitude but it has the potential to bring about significant financial savings on energy over time.

**Action Project 8.3.7 [2]:** Develop Water and Energy Saving Plan and Strategy.

### **8.3.9 Air Space and Aircraft Landing Fields**

As a matter of general policy, no airstrips will be allowed inside the reserve except helicopter pads (helipads) maintained to the minimum aviation standards at selected management units. These will primarily be for emergency purposes or for other such purposes as the MTPA in conjunction with the relevant management structures, may decide after taking into account the effect on biodiversity and the environment, 'sense of place' values and tourist disturbance aspects.

The legislation regarding air space can, however, result in various practical difficulties considering the Reserve's steep topography, the fact that tourist facility surrounded by the reserve may have "fly in" clients and the increase in "flying safari" tourist-type businesses. If this matter is not firmly addressed it is envisaged that the air space legislation will be ignored, which could have detrimental effects on the reserve. It is therefore important that the Authority formulates a practical, enforceable Air Space Policy in collaboration with the Aviation authorities and tourism and other relevant stakeholders.

**Action Project 8.3.9 [1]:** Develop Air Space Policy in alignment with aviation legislation policies and tourism stakeholders.

## **9 POLICY FRAMEWORK & GUIDING PRINCIPLES: BENEFIT FLOW MANAGEMENT**

### **9.1 COMMUNITY PARTICIPATION**

The MTPA will strive to work collaboratively with institutions and adjacent landowners / communities to improve communication as well as conservation management in and around the Reserve for the benefit of all. Neighbour relations and partnerships are guided by MTPA policies and the PFMA framework.

The MTPA encourages community involvement in the management of the reserve through collaboration with adjoining communities in various programmes and projects.

**Action Project 9.1 [1]:** Develop annual community participation strategy and plan, inclusive of relevant programmes and projects.

A database of local service providers will be established to ensure that local businesses are used to provide service to the BNR. This database should also include skilled people for potential part-time work offered by the BNR.

**Action Project 9.1 [2]:** Develop database of local service providers and skilled people.

## 9.2 **EXTERNAL FUNDING**

From time to time, BNR procures external funding for specific Nature Reserve related projects. When possible, priority will be given to training members of the community and the creation of community small, micro and medium enterprise (SMME) business and employment opportunities. A standard policy which addresses the management of external funds should be developed for the BNR.

External funding also allows for additional development projects to be undertaken in the BNR. These projects will very often not have been developed if it weren't for external funding. A strategy should therefore be developed to leverage additional, external funding for the BNR.

**Action Project 9.2 [1]:** Develop policy to address the management of external funding for specific projects.

**Action Project 9.2 [2]:** Develop strategy to lever additional external funding for specific development projects in the BNR.

## 9.3 **LAND CLAIMS**

It is important for the MTPA in conjunction with the relevant management structures, to continually be vigilant for potential land claims and address them accordingly.

The MTPA Social Ecology Department in conjunction with the Regional Land Claims Commission (RLCC) will take note of, and consult on any potential claims. This consultation should not infer any rights onto potential claimant groups.

A land claim only receives legal status once the claim has been gazetted. Prior to this, management structures should proceed with management as if there was no land claim.

Only once a claim has been gazetted and verified, should the claimant group be engaged into management structures.

All land claims associated with the BNR have been addressed to date. There are currently (May 2012) no gazetted land claims that are pending, although there is one application on Phase 2 and one application on Phase 3 that are being researched.

**Action Project 9.3 [1]:** Annually review any land claims lodged and gazetted within the BNR.

## 9.4 **ENVIRONMENTAL AWARENESS, EDUCATION AND INTERPRETATION**

Environmental awareness, education and interpretation, of BNR's natural and cultural resources will be aimed at creating an awareness, understanding and appreciation of the value of these resources among the general public and visitors to the Nature Reserve.

An environmental awareness and education programme must be developed to pro-actively engage, inform and benefit the Nature Reserve's range of neighbouring communities and visitors. Ideally such programmes should not only be primarily aimed at children, but provision should be made for developing various programmes, applicable to a wide spectrum of ages and education levels.

Where and whenever possible members of the local community (e.g. community tour guides) should be empowered and used to run appropriate environmental education tours.

**Action Project 9.4 [1]:** Develop a BNR environmental awareness education programme specifically for surrounding neighbouring communities and the general public interest groups.

An interpretation programme using signage, displays and information media must be developed to effectively direct and inform visitors in respect of appropriate natural and cultural features of the area. The format of these signs must be standardised throughout the reserve.

**Action Project 9.4 [2]:** Develop an interpretation programme in a standard format for the Nature Reserve.

## **9.5 RESEARCH**

The biodiversity components, the functioning of the ecosystems and the cultural heritage that the reserve was proclaimed to conserve are presently inadequately understood. Research is necessary to provide information that will assist in ensuring that the biodiversity and cultural objectives of the reserve are realised.

Priority will be given to research that provides information and understanding that is of direct benefit to the Reserve and will guide the management interventions required to achieve the protected area's biodiversity and cultural heritage conservation objectives in the most cost-effective manner. Opportunities will, however, be considered and provided for both applied and theoretical research.

Long term research and monitoring (e.g. factors affecting the sustained flow of good quality water from the Reserve) is desirable and necessary as a result of the dynamic and stochastic nature of the ecosystem and to ascertain whether management actions are having their desired effect in terms of achieving the biodiversity and cultural heritage conservation objectives.

Partnerships and agreements with appropriate academic and research institutions will be promoted to stimulate and encourage the desired research in the Reserve. In order to achieve this, the following will be undertaken:

- Management and scientific staff as well as external researchers must identify and prioritise research requirements. This research priority list will then be circulated to tertiary research institutions and made available on the web site.
- All baseline abiotic and biotic data collected must be collated and stored in databases as well as GIS data layers to assist researchers in the planning of research projects and interpretation of data.
- Appropriate permanent research facilities must be developed within or bordering the reserve in order to facilitate research work.
- To motivate for the establishment of the reserve as part as a South African Ecological Observatory Network (SAEON) site.

**Action Project 9.5 [1]:** Develop research strategy for the BNR, inclusive of list of prioritised research projects.

**Action Project 9.5 [2]:** Appropriate permanent research facilities must be developed for the BNR.

**Action Project 9.5 [3]:** Motivate for the establishment of the reserve as part of South African Ecological Observatory Network.

All proposals to undertake research within the Reserve will be submitted and evaluated using the procedures outlined in the Guidelines for the Registration and Administration of Research Projects. Where research requires the collection of biological material, a collection permit will also be required.

A copy of all publications must be lodged within the Reserve, the Regional Office as well as the Head Office library and details captured using appropriate keywords into BNR's bibliography.

<b>Action Project 9.5 [4]:</b> Established Reserve Library and Document Database.
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## **10 ACTION PROJECTS AND IMPLEMENTATION PLANNING**

### **10.1 LIST OF ACTION PROJECTS**

**Action Project 2.2 [1]:** Develop thorough understanding applicable to objectives and functionality of various statutes relevant to all stakeholders in the BNR.

**Action Project 2.3 [1]:** Identify other planning initiatives in the region and ensure alignment with these processes.

**Action Project 2.3 [2]:** Ensure alignment with all local government IDPs and SDF's as these are developed and reviewed. Ensure local government are familiar with buffer area requirements.

**Action Project 2.4 [1]:** Map the Phase 2 fence lines and compile a document capturing the current arrangements that define the fence placement.

**Action Project 2.6 [1]:** Update the database of local agreements, servitude agreements Settlement Agreements, Co-Management Agreements and Mou's.

**Action Project 2.7 [1]:** Annually explore and investigate opportunities to broaden conservation land use in and surrounding the Reserve.

**Action Project 2.7 [2]:** Implement MTPA Expansion Strategy and Processes when opportunities have been identified.

**Action Project 3.4.3 [1]:** Consolidate and Maintain a database of geology and geological sites.

**Action Project 3.4.5 [1]:** Update species lists and GIS database for the BNR.

**Action Project 4.4 [1]:** Annually review strategic conservation objectives and revise the linked performance plan.

**Action Project 5.3 [1]:** MTPA to annually review special management overlays and develop management actions accordingly.

**Action Project 7.1.1 [1]:** Develop 5 Year Strategic Plan and Annual Performance Plan.

**Action Project 7.1.1 [2]:** Undertake evaluation of ecosystem services and contribution to the local economy by the reserve.

**Action Project 7.1.3 [3]:** Implement Annual Strategic Performance Planning and Audits in accordance with the PFMA.

**Action Project 7.1.4 [4]:** Obtain info from DNPW once their investigation of available assets is complete and do needs analyses and implement accordingly.

**Action Project 7.1.2 [1]:** Investigate human resource requirements in the BNR and adapt the existing staff organogram with a view to improving effectiveness and efficiency in achieving BNR objectives and informing the Business Plan.

**Action Project 7.1.2 [2]:** Implement MTPA official skills development plan and strategy within the BNR.

**Action Project 7.2 [1]:** Wildlife Protection Services Unit to undertake comprehensive Security Audit to identify and quantify all safety and security threats to the reserve.

**Action Project 7.2 [2]:** Develop and implement Integrated Security Plan for the BNR.

**Action Project 7.2.1 [1]:** Develop Illegal Utilisation Monitoring Strategy.

**Action Project 7.3.1 [1]:** Undertake annual ecological assessment to determine veld burning requirements.

**Action Project 7.3.1 [2]:** Undertake fire risk assessment and develop fire prevention strategy

**Action Project 7.3.1.1 [1]:** Include Alien Plant eradication and management in Annual Performance Plan.

**Action Project 7.3.1.1 [2]:** Develop Alien Plant inventory and species lists for BNR.

**Action Project 7.3.1.1 [3]:** Annually review Alien Plant Management and Monitoring Programme for BNR.

**Action Project 7.3.1.2 [1]:** Develop a new, equitable policy for keeping personal and official domestic animals and livestock in the Reserve that includes procedures for dealing in a consistent manner with alien animals that stray into the Reserve.

**Action Project 7.3.1.2 [2]:** Develop a control programme for alien animals present in the Reserve.

**Action Project 7.3.2 [1]:** Develop and implement Integrated Catchment Management Strategy in association with the National Department of Water Affairs and other relevant water agencies.

**Action Project 7.3.3 [1]:** Undertake baseline soil erosion assessment to identify problem areas.

**Action Project 7.3.3 [2]:** Prioritise problem erosion areas.

**Action Project 7.3.3 [3]:** Develop soil erosion rehabilitation programme for the reserve which will be updated on an annual basis.

**Action Project 7.3.4 [1]:** Develop Species Specific Introduction Plan for the BNR based on Ecological Carrying Capacities.

**Action Project 7.3.4.1 [1]:** Develop operational policies and procedures to address problem animal management in alignment with MTPA manuals and national legislation.

**Action Project 7.3.4.2 [1]:** Develop Species Introduction Policy and Strategy for the Reserve and ensure keeping of introduction registers.

**Action Project 7.3.5 [1]:** Develop and Implement a range expansion strategy for the BNR which is in alignment with MTPA range expansion policies.

**Action Project 7.4 [1]:** Develop Comprehensive Cultural Heritage Management Plan, inclusive of a database/inventory of all Cultural Heritage Features and Resources in the BNR.

**Action Project 8.1.1 [1]:** Develop a Joint Marketing Strategy for BNR.

**Action Project 8.1.2 [1]:** Annually identify and explore potential linkages with tourism initiatives.

**Action Project 8.1.2 [2]:** Establish single point of contact to address any enquiries from tourism initiatives in the region.

**Action Project 8.1.2 [3]:** Align marketing plan with any linkages made with other tourism initiatives.

**Action Project 8.1.3 [1]:** Develop clear standards for all infrastructural development in the BNR.

**Action Project 8.1.3 [2]:** Establish approval process for proposed infrastructure development in the BNR.

**Action Project 8.1.4 [1]:** Develop Tourism Operations Plan.

**Action Project 8.1.5 [1]:** Implement strategy whereby all proposed developments in the BNR are reviewed in terms of Environmental Legislation and ensure that all relevant Environmental Authorisations are obtained.

**Action Project 8.1.5 [2]:** Establish a reporting system whereby stakeholders can report any environmental issues within the BNR to the Biodiversity Management Committee or relevant management structure.

**Action Project 8.1.6 [1]:** Develop and Implement Tourism Monitoring Strategy.

**Action Project 8.1.6 [2]:** Capacitate Landowners and Product Owners to implement Monitoring Strategy.

**Action Project 8.2.1 [1]:** Develop Guideline and Policies for the sustainable harvesting of resources.

**Action Project 8.2.2 [1]:** Develop hunting guidelines and policies for the BNR.

**Action Project 8.2.2 [2]:** Develop Game Management Model to address equitable division of income from live sales between relevant landowners.

**Action Project 8.2.2 [3]:** Develop Annual Live Sales Strategy based on Ecological Carrying Capacities.

**Action Project 8.2.3 [1]:** Develop Bio-prospecting Policies and Guidelines for the BNR.

**Action Project 8.2.4 [1]:** Verify, compile and map lawfully held current mining rights as well as past mining rights within the reserve for the purposes of reserve management, access arrangements and rehabilitation plans per further Action Projects below. Develop additional management overlay/s.

**Action Project 8.2.4 [2]:** MTPA to follow up with the Minister and ensure that provisions of NEM:PAA section 48(2) and section 48 (3) are affected.

**Action Project 8.2.4 [3]:** MTPA in conjunction with the relevant management structures, to implement recommendations emanating from a determination by the Minister in terms of Section 48 (3)

**Action Project 8.2.4 [4]:** Prioritise rehabilitation of different mining areas. MTPA in conjunction with the relevant management structures, to engage mines on their rehabilitation obligations and agree on firm plans to be implemented according to reserve priorities. Review on an annual basis, and monitor implementation to acceptable standards congruent with reserve status.

**Action Project 8.2.4 [5]:** MTPA in conjunction with the relevant management structures, to monitor compliance with EMPRs for mining operations and engage mines on transgressions.

**Action Project 8.2.4 [6]:** Establishing access control mechanism with the mines which enables effective control by the reserve and monitoring of all mining activities.

**Action Project 8.3.1 [1]:** Develop Access Management Strategy for the BNR.

**Action Project 8.3.2 [1]:** Develop Signage Manual for the BNR which includes guidelines and policies on all relevant signage requirements.

**Action Project 8.3.3 [1]:** Develop Road Construction manual for the BNR, including policies and guidelines for road development in the reserve.

**Action Project 8.3.3 [2]:** Engage with trail development professional to design and develop trails within the BNR, inclusive of mapping and marking.

**Action Project 8.3.4 [1]:** Develop Fence Patrol and Maintenance Strategy.

**Action Project 8.3.4 [2]:** Develop internal fence approval criteria.

**Action Project 8.3.5 [1]:** Develop bulk services development policy and servitude registration protocol.

**Action Project 8.3.6 [1]:** Develop and implement radio operation protocol.

**Action Project 8.3.7 [1]:** Develop Integrated Waste Management Plan for BNR.

**Action Project 8.3.7 [2]:** Develop Water and Energy Saving Plan and Strategy.

**Action Project 8.3.9 [1]:** Develop Air Space Policy in alignment with aviation legislation policies and tourism stakeholders.

**Action Project 9.1 [1]:** Develop annual community participation strategy and plan, inclusive of relevant programmes and projects.

**Action Project 9.1 [2]:** Develop database of local service providers and skilled people.

**Action Project 9.2 [1]:** Develop policy to address the management of external funding for specific projects.

**Action Project 9.2 [2]:** Develop strategy to lever additional external funding for specific development projects in the BNR.

**Action Project 9.3 [1]:** Annually review any land claims lodged and gazetted within the BNR.

**Action Project 9.4 [1]:** Develop a BNR environmental awareness education programme specifically for surrounding neighbouring communities and the general public interest groups.

**Action Project 9.4 [2]:** Develop an interpretation programme in a standard format for the Nature Reserve.

**Action Project 9.5 [1]:** Develop research strategy for the BNR, inclusive of list of prioritised research projects.

**Action Project 9.5 [2]:** Appropriate permanent research facilities must be developed for the BNR.

**Action Project 9.5 [3]:** Motivate for the establishment of the reserve as part of South African Ecological Observatory Network.

**Action Project 9.5 [4]:** Established Reserve Library and Document Database.

## **10.2 ALIGNMENT OF ACTION PROJECTS WITH OVERARCHING MANAGEMENT OBJECTIVES AND GUIDING PRINCIPLES**

<b>Principle #1:</b>	Ensure sound <b>resource management</b> and <b>conservation</b> of biodiversity, biophysical processes, landscapes, cultural, historical and archaeological resources.
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### **To achieve responsible management and maintenance of biodiversity and ecological processes, within the different landscape units.**

**Action Project 7.3.3 [1]:** Undertake baseline soil erosion assessment to identify problem areas.

**Action Project 7.3.3 [2]:** Prioritise problem erosion areas.

**Action Project 7.3.3 [3]:** Develop soil erosion rehabilitation programme for the reserve which will be updated on an annual basis.

### **To manage and maintain floral composition including endemic and priority species.**

**Action Project 7.3.1 [1]:** Undertake annual ecological assessment to determine veld burning requirements.

**Action Project 7.3.1 [2]:** Undertake fire risk assessment and develop fire prevention strategy

**Action Project 3.4.5 [1]:** Update species lists and GIS database for the BNR.

### **To effectively control and manage invasive species, both alien and indigenous.**

**Action Project 7.3.1.1 [1]:** Include Alien Plant eradication and management in Annual Performance Plan.

**Action Project 7.3.1.1 [2]:** Develop Alien Plant inventory and species lists for BNR.

**Action Project 7.3.1.1 [3]:** Annually review Alien Plant Management and Monitoring Programme for

BNR.

**Action Project 7.3.1.2 [1]:** Develop a new, equitable policy for keeping personal and official domestic animals and livestock in the Reserve that includes procedures for dealing in a consistent manner with alien animals that stray into the Reserve.

**Action Project 7.3.1.2 [2]:** Develop a control programme for alien animals present in the Reserve.

**To manage viable populations of fauna, including priority game and threatened species, that are specifically adapted to this habitat.**

**Action Project 7.3.4 [1]:** Develop Species Specific Introduction Plan for the BNR based on Ecological Carrying Capacities.

**Action Project 7.3.4.1 [1]:** Develop operational policies and procedures to address problem animal management in alignment with MTPA manuals and national legislation.

**Action Project 7.3.4.2 [1]:** Develop Species Introduction Policy and Strategy for the Reserve and ensure keeping of introduction registers.

**Action Project 7.3.5 [1]:** Develop and Implement a range expansion strategy for the BNR which is in alignment with MTPA range expansion policies.

**To manage and preserve features of geological, archaeological, cultural, and historical significance.**

**Action Project 3.4.3 [1]:** Consolidate and Maintain a database of geology and geological sites.

**Action Project 7.4 [1]:** Develop Comprehensive Cultural Heritage Management Plan, inclusive of a database/inventory of all Cultural Heritage Features and Resources in the BNR.

**To manage catchment areas and natural aquatic systems to ensure the continued yield of high quality water.**

**Action Project 7.3.2 [1]:** Develop and implement Integrated Catchment Management Strategy in association with the National Department of Water Affairs and other relevant water agencies.

**Principle #2:** Foster **sustainable management** and **good governance** in developing Barberton Nature Reserve into a leading partnership reserve.

**To ensure effective co-operative management of the various components of the reserve to achieve the objectives of the Protected Area.**

**Action Project 2.2 [1]:** Develop thorough understanding applicable to objectives and functionality of various statutes relevant to all stakeholders in the BNR.

**Action Project 2.4 [1]:** Map the Phase 2 fence lines and compile a document capturing the current arrangements that define the fence placement.

**Action Project 2.6 [1]:** Update the database of local agreements, servitude agreements Settlement Agreements, Co-Management Agreements and Mou's.

**Action Project 2.7 [1]:** Annually explore and investigate opportunities to broaden conservation land use in and surrounding the Reserve.

**Action Project 2.7 [2]:** Implement MTPA Expansion Strategy and Processes when opportunities have been identified.

**Action Project 4.4 [1]:** Annually review strategic conservation objectives and revise the linked performance plan.

**Action Project 5.3 [1]:** MTPA to annually review special management overlays and develop management actions accordingly.

**Action Project 7.1.1 [1]:** Develop 5 Year Strategic Plan and Annual Performance Plan.

**Action Project 7.1.3 [3]:** Implement Annual Strategic Performance Planning and Audits in accordance with the PFMA.

**Action Project 7.1.4 [4]:** Obtain info from DNPW once their investigation of available assets is complete and do needs analyses and implement accordingly.

**Action Project 7.1.2 [2]:** Implement MTPA official skills development plan and strategy within the BNR.

**Action Project 7.1.2 [1]:** Investigate human resource requirements in the BNR and adapt the existing staff organogram with a view to improving effectiveness and efficiency in achieving BNR objectives and informing the Business Plan.

**To manage activities of all individuals with rights within the reserve, in such a way that conflict with other objectives is minimized.**

**Action Project 8.2.4 [1]:** Verify, compile and map lawfully held current mining rights as well as past mining rights within the reserve for the purposes of reserve management, access arrangements and rehabilitation plans per further Action Projects below. Develop additional management overlay/s.

**Action Project 8.2.4 [2]:** MTPA to follow up with the Minister and ensure that provisions of NEM:PAA section 48(2) and section 48 (3) are affected.

**Action Project 8.2.4 [3]:** MTPA in conjunction with the relevant management structures, to implement recommendations emanating from a determination by the Minister in terms of Section 48 (3)

**Action Project 8.2.4 [4]:** Prioritise rehabilitation of different mining areas. MTPA in conjunction with the relevant management structures, to engage mines on their rehabilitation obligations and agree on firm plans to be implemented according to reserve priorities. Review on an annual basis, and monitor implementation to acceptable standards congruent with reserve status.

**Action Project 8.2.4 [5]:** MTPA in conjunction with the relevant management structures, to monitor compliance with EMPRs for mining operations and engage mines on transgressions.

**Action Project 8.2.4 [6]:** Establishing access control mechanism with the mines which enables effective control by the reserve and monitoring of all mining activities.

**To prevent and control illegal or unauthorised activities within the Protected Area.**

**Action Project 7.2 [1]:** Wildlife Protection Services Unit to undertake comprehensive Security Audit to identify and quantify all safety and security threats to the reserve.

**Action Project 7.2 [2]:** Develop and implement Integrated Security Plan for the BNR.

**Action Project 7.2.1 [1]:** Develop Illegal Utilisation Monitoring Strategy.

**Action Project 8.3.4 [1]:** Develop Fence Patrol and Maintenance Strategy.

**To build positive relations with interested and affected parties through effective participation in matters of mutual interest.**

**Action Project 9.1 [1]:** Develop annual community participation strategy and plan, inclusive of relevant programmes and projects.

**Action Project 9.1 [2]:** Develop database of local service providers and skilled people.

**Action Project 9.2 [1]:** Develop policy to address the management of external funding for specific projects.

**Action Project 9.2 [2]:** Develop strategy to lever additional external funding for specific development projects in the BNR.

**Action Project 9.3 [1]:** Annually review any land claims lodged and gazetted within the BNR.

**Principle #3:** Promote the sustainable **development of a wildlife and tourism economy** within and surrounding BNR

**To ensure that the reserve capitalises from and contributes to regional economic development through synergistic approaches.**

**Action Project 2.3 [1]:** Identify other planning initiatives in the region and ensure alignment with these processes.

**Action Project 7.1.1 [2]:** Undertake evaluation of ecosystem services and contribution to the local economy by the reserve.

**Action Project 2.3 [2]:** Ensure alignment with all local government IDPs and SDF's as these are developed and reviewed. Ensure local government are familiar with buffer area requirements.

<b>Principle #4:</b>	Provide <b>benefits</b> to adjacent communities through sustainable <b>resource utilisation</b> .
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**To allow sustainable utilization within the greater conservation objectives so as to optimize benefits to stakeholders.**

**Action Project 8.1.3 [1]:** Develop clear standards for all infrastructural development in the BNR.

**Action Project 8.1.3 [2]:** Establish approval process for proposed infrastructure development in the BNR.

**Action Project 8.1.4 [1]:** Develop Tourism Operations Plan.

**Action Project 8.1.5 [1]:** Implement strategy whereby all proposed developments in the BNR are reviewed in terms of Environmental Legislation and ensure that all relevant Environmental Authorisations are obtained.

**Action Project 8.1.5 [2]:** Establish a reporting system whereby stakeholders can report any environmental issues within the BNR to the Biodiversity Management Committee or relevant management structure.

**Action Project 8.1.6 [1]:** Develop and Implement Tourism Monitoring Strategy.

**Action Project 8.1.6 [2]:** Capacitate Landowners and Product Owners to implement Monitoring Strategy.

**Action Project 8.2.1 [1]:** Develop Guideline and Policies for the sustainable harvesting of resources.

**Action Project 8.2.2 [1]:** Develop hunting guidelines and policies for the BNR.

**Action Project 8.2.2 [2]:** Develop Game Management Model to address equitable division of income from live sales between relevant landowners.

**Action Project 8.2.2 [3]:** Develop Annual Live Sales Strategy based on Ecological Carrying Capacities.

**Action Project 8.2.3 [1]:** Develop Bio-prospecting Policies and Guidelines for the BNR.

**Action Project 8.3.1 [1]:** Develop Access Management Strategy for the BNR.

**Action Project 8.3.2 [1]:** Develop Signage Manual for the BNR which includes guidelines and policies on all relevant signage requirements.

**Action Project 8.3.3 [1]:** Develop Road Construction manual for the BNR, including policies and guidelines for road development in the reserve.

**Action Project 8.3.3 [2]:** Engage with trail development professional to design and develop trails within the BNR, inclusive of mapping and marking.

**Action Project 8.3.4 [2]:** Develop internal fence approval criteria.

**Action Project 8.3.5 [1]:** Develop bulk services development policy and servitude registration protocol.

**Action Project 8.3.6 [1]:** Develop and implement radio operation protocol.

**Action Project 8.3.7 [1]:** Develop Integrated Waste Management Plan for BNR.

**Action Project 8.3.7 [2]:** Develop Water and Energy Saving Plan and Strategy.

**Action Project 8.3.9 [1]:** Develop Air Space Policy in alignment with aviation legislation policies and tourism stakeholders.

**To promote awareness, research and interpretation of the reserve and its unique attributes.**

**Action Project 8.1.1 [1]:** Develop a Joint Marketing Strategy for BNR.

**Action Project 8.1.2 [1]:** Annually identify and explore potential linkages with tourism initiatives.

**Action Project 8.1.2 [2]:** Establish single point of contact to address any enquiries from tourism initiatives in the region.

**Action Project 8.1.2 [3]:** Align marketing plan with any linkages made with other tourism initiatives.

**Action Project 9.4 [1]:** Develop a BNR environmental awareness education programme specifically for surrounding neighbouring communities and the general public interest groups.

**Action Project 9.4 [2]:** Develop an interpretation programme in a standard format for the Nature Reserve.

**Action Project 9.5 [1]:** Develop research strategy for the BNR, inclusive of list of prioritised research projects.

**Action Project 9.5 [2]:** Appropriate permanent research facilities must be developed for the BNR.

**Action Project 9.5 [3]:** Motivate for the establishment of the reserve as part of South African Ecological Observatory Network.

**Action Project 9.5 [4]:** Established Reserve Library and Document Database.

### 10.3 IMPLEMENTATION PLAN

**Principle #1:** Ensure sound resource management and conservation of biodiversity, biophysical processes, landscapes, cultural, historical and archaeological resources.

**Overarching Objective 2:** To achieve responsible management and maintenance of biodiversity and ecological processes, within the different landscape units.

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Outcomes	Funding requirements
	1	2	3	4	5					
<b>Action Project 7.3.3 [1]:</b> Undertake baseline soil erosion assessment to identify problem areas.							Reserve Managers	Problem areas mapped in a GIS management overlay.		Annual operating budget
<b>Action Project 7.3.3 [2]:</b> Prioritise problem erosion areas.							Reserve Manager/Ecologist	Problem areas are prioritised and allocated timeframes/budgets accordingly.	0	Annual operating budget
<b>Action Project 7.3.3 [3]:</b> Develop soil erosion rehabilitation programme for the reserve which will be updated on an annual basis.							Reserve Manager/Ecologist	Based on baseline assessment and prioritisation exercise, a soil erosion rehabilitation programme is continuously implemented and reviewed on an annual basis.	Annually updated programme	-

**Overarching Objective 3:** To manage and maintain floral composition including endemic and priority species.

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 7.3.1 [1]:</b> Undertake annual ecological assessment to determine veld burning requirements.							Reserve manager / ecologist	Burning areas are identified on an annual basis and captured in a GIS system for monitoring purposes.	0	-
<b>Action Project 7.3.1 [2]:</b> Undertake fire risk assessment and develop fire prevention strategy							Reserve manager	Areas of high fire risk are identified on a GIS management overlay and a strategy to reduce the risk is being implemented.	0	-
<b>Action Project 3.4.5 [1]:</b> Update species lists and GIS database for the BNR.							Ecologist	Species list is updated in the first year to include all known species in the BNR. The species list is then continually updated as additional species are identified. This data should be captured in a GIS system.	0	-

**Overarching Objective 4:** To effectively control and manage invasive species, both alien and indigenous.

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 7.3.1.1 [1]:</b> Include Alien Plant eradication and management in Annual Performance Plan.							Reserve Manager	Alien plant eradication and management is assessed in annual performance plan and management interventions adjusted accordingly.	0	-
<b>Action Project 7.3.1.1 [2]:</b> Develop Alien Plant inventory and species lists for BNR.							Ecologist	A GIS based alien plant inventory is developed in year 1 and maintained as an ongoing management action.	0	-
<b>Action Project 7.3.1.2 [2]:</b> Develop a control programme for alien animals present in the Reserve.							Reserve managers	Alien plan control programme is approved by scientific services of the MTPA for implementation.	0	-
<b>Action Project 7.3.1.2 [1]:</b> Develop a new, equitable policy for keeping personal and official domestic animals and livestock in the Reserve that includes procedures for dealing in a consistent manner with alien animals that stray into the Reserve.							Reserve Managers	Equitable policy regarding personal and official domestic animals in the BNR is understood by all relevant stakeholders and being enforced by the MTPA.	0	-
<b>Action Project 7.3.1.1 [3]:</b> Annually review Alien Plant Management and Monitoring Programme for BNR.							Reserve manager/ ecologist	GIS overlays are used to monitor alien plant management on an annual basis. Management interventions are then adjusted accordingly.	0	-

**Overarching Objective 5:** To manage catchment areas and natural aquatic systems to ensure the continued yield of high quality water.

Overarching Action Projects (Refer to Document 1):	Timeframe					Responsibility	Indicators	Budget	Funding source
	1	2	3	4	5				
<b>Action Project 7.3.2 [1]:</b> Develop and implement Integrated Catchment Management Strategy in association with the National Department of Water Affairs and other relevant water agencies.						Scientific services/NDWA	Integrated Catchment Management Strategy is implemented throughout the BNR and adopted by all relevant stakeholders.	0	-

**Overarching Objective 6:** To manage viable populations of fauna, including priority game and threatened species, that are specifically adapted to this habitat.

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 7.3.4 [1]:</b> Develop Species Specific Introduction Plan for the BNR based on stocking rates and Ecological Carrying Capacities.							Ecologist	Species specific introduction plan is developed based on ecological carrying capacities and conservation objectives.	0	-
<b>Action Project 7.3.4.1 [1]:</b> Develop operational policies and procedures to address problem animal management in alignment with MTPA manuals and national legislation.							Reserve managers	All incidences associated with problem animals are managed in a uniform manner in terms of the policies relating to problem animal control in the BNR.	0	-
<b>Action Project 7.3.4.2 [1]:</b> Develop Species Introduction Policy and Strategy for the Reserve and ensure keeping of introduction registers.							Ecologist	Based on the species specific introduction plan, all relevant species are introduced in terms of MTPA wildlife relocation policies and all introductions	0	-

								are recorded in introduction registers for the BNR.		
<b>Action Project 7.3.5 [1]:</b> Develop and Implement a range expansion strategy for the BNR which is in alignment with MTPA range expansion policies.							PA Expansion unit/ Reserve managers	A well planned long terms range expansion strategy is implemented which aims at achieving the MTPA desired state in terms of range expansion for the BNR.	0	-

Overarching Objective 13: To manage and preserve features of geological, archaeological, cultural, and historical significance.										
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
MANAGEMENT OF UNIQUE FEATURES (GEOLOGICAL, CULTURAL, HERITAGE)										
Action Project 3.4.3 [1]: Consolidate and Maintain a database of geology and geological sites.							Reserve Managers / ecologist		0	-
Action Project 7.4 [1]: Develop Comprehensive Cultural Heritage Management Plan, inclusive of a database/inventory of all Cultural Heritage Features and Resources in the BNR.							Reserve manager / social ecology	A comprehensive GIS based cultural heritage management plan is implemented which maintains	0	Investigate need for external funds based on scope

**Principle #2: Foster sustainable management and good governance in developing Barberton Nature Reserve into a leading Protected Area.**

**Overarching Objective 1:** To ensure effective co-operative management of the various components of the reserve to achieve the objectives of the Protected Area.

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 2.2 [1]:</b> Develop thorough understanding applicable to objectives and functionality of various statutes relevant to all stakeholders in the BNR.							BMC/CMC/JMC	All management staff and primary stakeholders understand overarching objectives and statutes relevant to BNR.	0	-
<b>Action Project 2.4 [1]:</b> Map the Phase 2 fence lines and compile a document capturing the current arrangements that define the fence placement.							Reserve manager	Phase 2 fencelines are mapped and a document describing placement arrangements is compiled and presented to management staff and relevant primary stakeholders.	0	-
<b>Action Project 2.6 [1]:</b> Update the database of local agreements, servitude agreements, Settlement Agreements, Co-Management Agreements and Mou's.							Reserve manager / social ecology	All existing local agreements, servitude agreements, etc. are reviewed, updated and included in a well maintained database. Legal reviews should also be undertaken wherever necessary.	0	Social Ecology Operational budget
<b>Action Project 2.7 [1]:</b> Annually explore and investigate opportunities to broaden conservation land use in and surrounding the Reserve.							PA Expansion unit / Regional and Reserve Manager	All options to broaden conservation land use in and surrounding the reserve are explored on an annual basis and implemented where possible.	0	-

<b>Action Project 2.7 [2]:</b> Implement MTPA Expansion Strategy and Processes when opportunities have been identified.						PA Expansion unit / Regional and Reserve Manager	Opportunities to implement the MTPA expansion strategy are explored and progressed annually.	0	-
<b>Action Project 4.4 [1]:</b> Annually review strategic conservation objectives and revise the linked performance plan.						Reserve / Regional Manager	Strategic conservation objectives are reviewed and the associated linked performance plan revised accordingly.	0	-
<b>Action Project 5.3 [1]:</b> MTPA to annually review special management overlays and develop management actions accordingly.						Ecologist	All management overlays are reviewed on annual basis and management actions in the IMP are revised accordingly. New management overlays should also be developed as and when required.	0	-
<b>Action Project 7.1.1 [1]:</b> Develop 5 Year Strategic Plan and Annual Performance Plan.						MTPA	5 year strategic plan and associated annual performance plan is used to review annual performance of the management team in terms of the IMP.	0	-
<b>Action Project 7.1.3 [3]:</b> Implement Annual Strategic Performance Planning and Audits in accordance with the PFMA.						MTPA	Annual strategic performance planning is done in alignment with the requirements of the Integrated Management Plan and in compliance with the PFMA.	0	-
<b>Action Project 7.1.4 [4]:</b> Obtain info from DNPW once their investigation of available assets is complete and do needs analyses and implement						BMC/CMC/JMC/DNPW	Information regarding available assets is obtained from DNPW and needs analysis	0	-

accordingly.										
<b>Action Project 7.1.2 [1]:</b> Investigate human resource requirements in the BNR and adapt the existing staff organogram with a view to improving effectiveness and efficiency in achieving BNR objectives and informing the Business Plan.							MTPA	Existing staff organogram is revised according to actual management requirements in terms of the IMP and in compliance with MTPA Human Resource Management Policies.	0	-
<b>Action Project 7.1.2 [2]:</b> Implement MTPA official skills development plan and strategy within the BNR.							MTPA HR	Official MTPA skills development strategy is continually being implemented.	0	-

Overarching Objective 7: To prevent and control illegal or unauthorised activities within the Protected Area.											
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements	
	1	2	3	4	5						
SAFETY AND SECURITY											
Action Project 8.3.4 [1]: Develop Fence Patrol and Maintenance Strategy.							Reserve Managers	A strategy is developed which minimises illegal access to the reserve and ensures that breaches in perimeter fences are reacted to effectively.	0	-	
Action Project 7.2 [2]: Develop and implement Integrated Security Plan for the BNR.							Reserve Managers / Wildlife Protection Services	A uniformed approach is taken by all primary stakeholders in responding to and managing security issues in the BNR.	0	-	
Action Project 7.2.1 [1]: Develop Illegal Utilisation Monitoring Strategy.							Reserve Manager	A monitoring strategy which engages all primary is implemented which ensures a uniform front is formed in	0	-	

								response to illegal activities in the BNR. All illegal utilisation is recorded on a central database.		
<b>Action Project 7.2 [1]:</b> Wildlife Protection Services Unit to undertake comprehensive Security Audit to identify and quantify all safety and security threats to the reserve.							WPS	Security threats are identified and quantified and then integrated into the security plan for the BNR.	0	-

**Overarching Objective 8:** To manage activities of all individuals with rights within the reserve, in such a way that conflict with other objectives is minimized.

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
MINING RIGHTS										
Action Project 8.2.4 [2]: MTPA to follow up with the Minister and ensure that provisions of NEM:PAA section 48(2) and section 48 (3) are affected.							Regional Manager	Provisions of Section 48 (2) and Section 48 (3) are affected.	0	-
Action Project 8.2.4 [1]: Verify, compile and map lawfully held current mining rights as well as past mining rights within the reserve for the purposes of reserve management, access arrangements and rehabilitation plans per further Action Projects below. Develop additional management overlay/s.							Reserve Managers / Regional Manager	All mining rights are reviewed and verified. Map lawful and unlawful mining activities on specific management overlays. Access arrangements and rehabilitation plans are confirmed and agreed upon accordingly.	0	-
Action Project 8.2.4 [3]: MTPA in conjunction with the relevant management structures, to implement recommendations emanating from a determination by the Minister in terms							BMC/CMC/JMC	Recommendations emanating from a determination by the Minister in terms of Section 48 (3) are implemented.	0	-

of Section 48 (3)									
<b>Action Project 8.2.4 [4]:</b> Prioritise rehabilitation of different mining areas. MTPA in conjunction with the relevant management structures, to engage mines on their rehabilitation obligations and agree on firm plans to be implemented according to reserve priorities. Review on an annual basis, and monitor implementation to acceptable standards congruent with reserve status.						BMC/CMC/JMC	Mining areas are prioritised for rehabilitation and mines engaged in terms of their obligations to rehabilitate their specific areas.	0	-
<b>Action Project 8.2.4 [5]:</b> MTPA in conjunction with the relevant management structures, to monitor compliance with EMPRs for mining operations and engage mines on transgressions.						BMC/CMC/JMC	Mine are engaged with on transgressions in terms of their compliance to their relevant EMPR's.	0	-
<b>Action Project 8.2.4 [6]:</b> Establishing access control mechanism with the mines which enables effective control by the reserve and monitoring of all mining activities.						BMC/CMC/JMC	Access control mechanism is established with mines and all mining activities are monitored.	0	-

Overarching Objective 9: To build positive relations with interested and affected parties through effective participation in matters of mutual interest.										
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
COMMUNITY ENGAGEMENT										
Action Project 9.1 [1]: Develop annual community participation strategy and plan, inclusive of relevant programmes and projects.							Social Ecology	Community programmes and projects are planned annually, based on a BNR community participation strategy.	0	-
Action Project 9.1 [2]: Develop database of local service providers and skilled people.							Social Ecology	Service providers for specific projects are selected from a database of local service providers.	0	-
Action Project 9.2 [1]: Develop policy to address the management of external funding for specific projects.							BMC/CMC/JMC	All external funding is well managed to address specific project funding requirements in terms of a funding policy.	0	-
Action Project 9.2 [2]: Develop strategy to lever additional external funding for specific development projects in the BNR.							BMC/CMC/JMC	External funding for specific development projects is obtained.	0	-
Action Project 9.3 [1]: Annually review any land claims lodged and gazetted within the BNR.							Social Ecology / Regional Manager	Land claims are reviewed and addressed on an annual basis.	0	-

**Principle #3: Promote the sustainable development of a wildlife and tourism economy within and surrounding BNR**

Overarching Objective 12: To ensure that the reserve capitalises from and contributes to regional economic development through synergistic approaches.										
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
CONTRIBUTION TO REGIONAL ECONOMIC GROWTH										
Action Project 2.3 [1]: Identify other planning initiatives in the region and ensure alignment with these processes.							BMC/CMC/JMC	Potential linkages are identified and explored on an annual basis.	0	-
Action Project 7.1.1 [2]: Undertake evaluation of ecosystem services and contribution to the local economy by the reserve.							Scientific Services / External SP	Ecosystem services are evaluated and a quantified contribution to the economy is determined.	0	Determine funding requirement. Source internal/external
Action Project 2.3 [2]: Ensure alignment with all local government IDPs and SDF's as these are developed and reviewed. Ensure local government are familiar with buffer area requirements.							Regional and Reserve Manager / Social Ecology / BMC/CMC/JMC	All government IDP's and SDF's incorporate the BNR planning initiatives as and when they are reviewed.	0	-

**Principle #4: Provide benefits to adjacent communities through sustainable resource utilisation.**

Overarching Objective 10: To promote awareness, research and interpretation of the reserve and its unique attributes.										
Overarching Action Projects (Refer to Document 1):	Timeframe						Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5	Priority				
AWARENESS, INTERPRETATION AND RESEARCH										
Action Project 8.1.1 [1]: Develop a Joint Marketing Strategy for BNR.							BMC/CMC/JMC	All joint marketing activities and actions are aligned in a Joint Marketing Strategy.	0	-
Action Project 8.1.2 [1]: Annually identify and explore potential linkages with tourism initiatives.							BMC/CMC/JMC	Potential linkages with tourism initiatives are identified and explored on an annual basis.	0	-
Action Project 8.1.2 [2]: Establish single point of contact to address any enquiries from tourism initiatives in the region.							BMC/CMC/JMC	Single point of contact is established to address any enquiries from tourism initiatives in the region.	0	-
Action Project 8.1.2 [3]: Align marketing plan with any linkages made with other tourism initiatives.							BMC/CMC/JMC	All linkages made with other tourism initiatives are included in the marketing plan and the marketing plan is updated accordingly on an annual basis.	0	-
Action Project 9.4 [1]: Develop a BNR environmental awareness education programme specifically for surrounding neighbouring communities and the general public interest groups.							Social Ecology	All awareness and education activities are implemented in a well-developed plan which includes all relevant stakeholders.	0	-
Action Project 9.4 [2]: Develop an interpretation programme in a							Social Ecology	Interpretation is standardised throughout	0	-

standard format for the Nature Reserve.								the reserve, guided by an interpretation plan.		
<b>Action Project 9.5 [1]:</b> Develop research strategy for the BNR, inclusive of list of prioritised research projects.							Ecologist / Scientific Services	All research projects are identified and implemented according to an official research strategy based on prioritises research projects as determined by the management team and other relevant professionals.	0	-
<b>Action Project 9.5 [2]:</b> Appropriate permanent research facilities must be developed for the BNR.							MTPA	Researchers have access to permanent research facilities.	0	-
<b>Action Project 9.5 [3]:</b> Motivate for the establishment of the reserve as part of South African Ecological Observatory Network.							Scientific Services	The reserve is established as part of the South African Ecological Observatory Network.	0	-
<b>Action Project 9.5 [4]:</b> Established Reserve Library and Document Database.							Reserve Manager	Reserve library is established and a database of all scientific and management documents is maintained.	0	-

Overarching Objective 11:To allow sustainable utilization within the greater conservation objectives so as to optimize benefits to stakeholders.										
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
UTILISATION AND INFRASTRUCTURE										
Action Project 8.1.3 [1]: Develop clear standards for all infrastructural development in the BNR.							BMC/CMC/JMC	All developments undertaken in the BNR are done so in terms of clear development standards.	0	-
Action Project 8.1.3 [2]: Establish							BMC/CMC/JMC	All proposed development	0	-

approval process for proposed infrastructure development in the BNR.							in the BNR is subject to an approval process before development can proceed.		
<b>Action Project 8.1.4 [1]:</b> Develop Tourism Operations Plan.						BMC/CMC/JMC	Tourism Operations in the BNR are well structured and compatible with each other in terms of a Tourism Operations Plan.	0	-
<b>Action Project 8.1.5 [1]:</b> Implement strategy whereby all proposed developments in the BNR are reviewed in terms of Environmental Legislation and ensure that all relevant Environmental Authorisations are obtained.						BMC/CMC/JMC	All proposed developments in the BNR are compliant with relevant Environmental Legislation.	0	-
<b>Action Project 8.1.5 [2]:</b> Establish a reporting system whereby stakeholders can report any environmental issues within the BNR to the Biodiversity Management Committee or relevant management structure.						BMC/CMC/JMC	All environmental issues within the BNR are reported to the relevant management structures by Stakeholders and issues are effectively addressed.	0	-
<b>Action Project 8.1.6 [1]:</b> Develop and Implement Tourism Monitoring Strategy.						BMC/CMC/JMC	Tourism activities in the BNR are successfully monitored through a consolidated management strategy.	0	-
<b>Action Project 8.1.6 [2]:</b> Capacitate Landowners and Product Owners to implement Monitoring Strategy.						BMC/CMC/JMC	Landowners and Product Owners are capacitated and empowered to implement monitoring strategy.	0	-
<b>Action Project 8.2.1 [1]:</b> Develop Guideline and Policies for the sustainable harvesting of resources.						Scientific Services	Resources in the reserve are harvested in a manner which do not compromise any of the overarching	0	-



<b>Action Project 8.3.3 [1]:</b> Develop Road Construction manual for the BNR, including policies and guidelines for road development in the reserve.						Tourism Business Development / PAM	All roads in the BNR are upgraded and constructed to a set standard as determined by road construction manual.	0	-
<b>Action Project 8.3.3 [2]:</b> Engage with trail development professional to design and develop trails within the BNR, inclusive of mapping and marking.						Wildlife Business Development / PAM	Hiking trails and mountain biking trails are developed and established according to industry norms and standards.	0	-
<b>Action Project 8.3.4 [2]:</b> Develop internal fence approval criteria.						Reserve Managers	All internal fences are subject to an approval process before construction.	0	-
<b>Action Project 8.3.5 [1]:</b> Develop bulk services development policy and servitude registration protocol.						Scientific Services / PAM	All bulk service installation must be in alignment with a service development policy and in compliance with national and provincial guidelines and policies.	0	-
<b>Action Project 8.3.6 [1]:</b> Develop and implement radio operation protocol.						Reserve Managers	Radio communication in the BNR is well structured and communication protocol is maintained.	0	-
<b>Action Project 8.3.7 [1]:</b> Develop Integrated Waste Management Plan for BNR.						Reserve Manager / Ecologist	Waste is effectively managed in the BNR in compliance with relevant waste and environmental legislation.	0	-
<b>Action Project 8.3.7 [2]:</b> Develop Water and Energy Saving Plan and Strategy.						BMC/CMC/JMC	Water and Energy Saving Targets are set for the BNR and achieved through the use of a Water and Energy Saving Plan.	0	-
<b>Action Project 8.3.9 [1]:</b> Develop Air						BMC/CMC/JMC	All aircraft activities in the	0	-

Space Policy in alignment with aviation legislation policies and tourism stakeholders.							area are managed in accordance with relevant aviation policies and relevant sections in environmental statutes.		
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## **11 PERFORMANCE REVIEW ON AN ANNUAL BASIS**

### **11.1 ANNUAL PERFORMANCE PLAN**

The overarching strategy regarding financial management in the BNR will be to manage funds according to an Annual Operational Budget and an Annual Project Implementation budget.

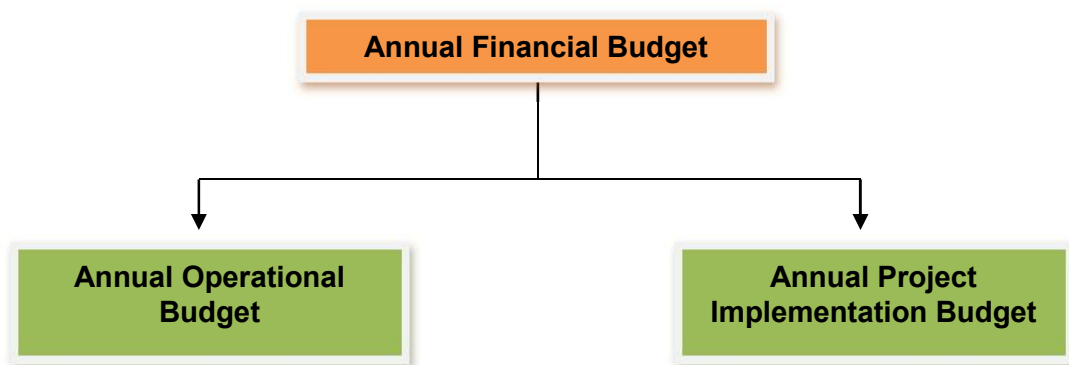
The annual operations budget will include all operational expenditure including but not limited to the following:

- Staff salaries;
- Fixed costs such as insurances;
- Operational equipment requirements and operation thereof;
- Existing infrastructure maintenance;
- Administration expenditure;
- Vehicles and maintenance thereof;
- Fuel;
- Etc.

The annual operational budget must be reviewed at the end of every financial year to determine expenditure effectiveness and performance. This will allow the MTPA Management Team to amend operational budgets on an annual basis and assess the financial performance of the BNR.

The Project Implementation Budget is directly related to the Implementation Plan of the Integrated Management Plan for the BNR. This budget is determined by identifying and costing all required Action Projects on an annual basis and identifying Action Projects which were not completed in the previous year, which need to be carried over to the current year.

This will ensure that operations can proceed independently, without being impacted on by financial requirements associated with the implementation of the Project Implementation Plan.



### **11.2 PERFORMANCE REVIEW**

The Implementation Plan must be reviewed on an annual basis to determine progress made in the implementation of Action Projects for a specific year. This review can be used to monitor management performance and expenditure. All relevant projects which weren't achieved within the specific timeframe provided must be investigated to determine what the challenges were in their implementation. These projects will then be carried over to the following year for implementation.

The Implementation Plan is amended on an annual basis and the Project Implementation Budget determined for each year based on implementation requirements. The Management Team is accountable for the effective and successful implementation of the Implementation Plan.

The Implementation Plan should be reviewed at the end of each financial year and the overall performance must then be included in an annual report.

### **11.3 5 YEAR STRATEGIC REVIEW**

An Integrated Management Plan is a 5 year plan, reviewed annually from an Implementation point of view. After 5 years, the plan must be completely reviewed to determine if planning fundamentals and objectives are still relevant and to update Action Projects and Management Policies.