

**BMM WHS NOMINATION DOSSIER
APPENDIX E:
MOUNTAINLANDS INTEGRATED MANAGEMENT PLAN**

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

BARBERTON NATURE RESERVE **OVERARCHING DOCUMENT**

INTEGRATED MANAGEMENT PLAN

2012 - 2017



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

**Integrated Management Plan:
2012-2017**

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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 1st June 2012.
- This final IMP was made available for a public review period of 2 weeks from 1st 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 Parties¹:

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:

¹ Defined in Guideline Document EIA Regulations, DEAT, April 1998

Means “an area designatedfor 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)

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| 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

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LIST OF PLANS

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| 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.

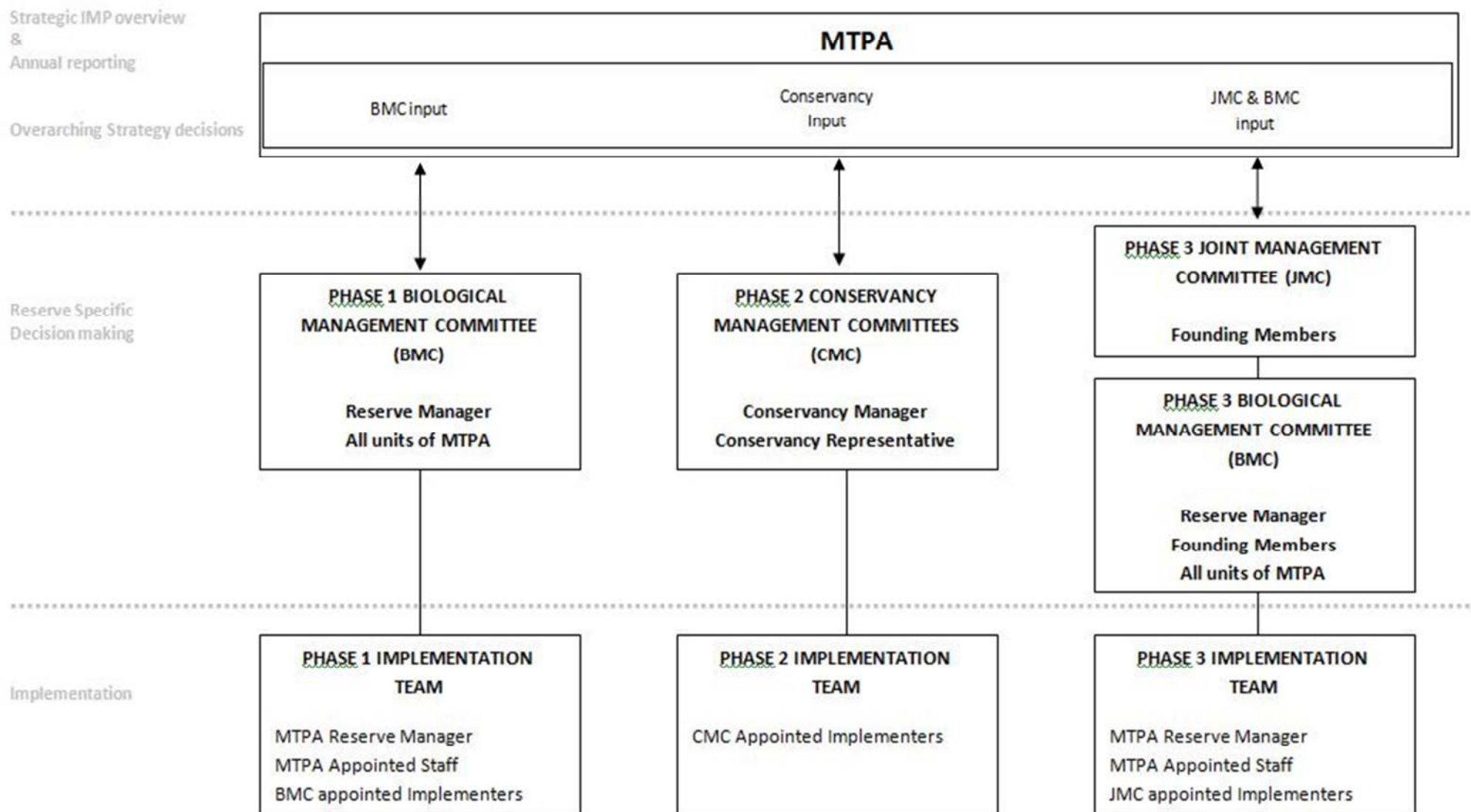
Phase 1 is fully state owned and the MTPA has not entered into any co-management agreements on this reserve.

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 Management Act [No. 9 of 1997]
- National Environmental Management Act [No. 107 of 1998]
- National Environmental Management: Biodiversity Act [No. 10 of 2004]
- National Environmental Management: Protected Areas Act [No. 57 of 2003]
- National Forests Act [No. 84 of 1998]
- National Heritage Resources Act [No. 25 of 1999]
- National Water Act [No. 36 of 1998]
- National Water Amendment Act [No. 45 of 1999]
- National Veld and Forest Fire Act [No 101 of 1998]
- Nature Conservation Ordinance [No. 15 of 1974]
- 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"> 1. Department of National Public Works (RSA). MTPA Custodianship 2. Lomshiyo Trust 3. Simply See (Pty) Ltd 4. Way Prop Two (Pty)Ltd 5. Mountainlands Estate Owners Association 6. Other small Land Owners |

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.

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

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.

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

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's built 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.

| | VISITOR USE ZONES | | | |
|-------------|---------------------------------------|---------------|--|--|
| Zone | Focus | Size (ha) | CHARACTERISTICS | MANAGEMENT GUIDELINES |
| 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). |
| | | | ACTIVITIES: “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. | USER CARRYING CAPACITY: 1 Party / 500ha Pedestrian access only |
| | | | FACILITIES: 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. | FACILITY CARRYING CAPACITY: N/A |
| | | | ACCESS: Non-motorised. Parking provided in Primitive and Low Intensity Leisure Zones. Non mechanised access determined by management considerations. | TYPE OF ROAD: No new roads, but in some circumstances Tr1 or Tr2 for management purposes only. |
| | | | BNR LANDFACETS / COMPONENTS AREAS: 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 |
| | | | ACTIVITIES: Guided walks, hiking trails, mountain bike trails, horseback safaris, guided motorised game viewing, picnicking, adventure activities, cultural historical tours. | USER CARRYING CAPACITY: 1 party / 250ha Maximum of 40% motorized |
| | | | FACILITIES: All the above, as well as small rustic permanent "touch the earth lightly" camps. Also picnic and view sites. | FACILITY CARRYING CAPACITY: Maximum 24 beds per camp/lodge; No more than 1 bed/50 ha in this zone |
| | | | ACCESS: Limited and controlled mechanised access on designated routes. Max 11 seater capacity vehicles (typically game viewing vehicles). No busses. | TYPE OF ROAD: Predominantly 2-spoor tracks. Also 3m gravel tracks. G2, Tr2 & Tr3 |
| | | | BNR LANDFACETS / COMPONENTS AREAS: The following areas within the BNR have been zoned 'PRIMITIVE': <ul style="list-style-type: none"> 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. | |

| 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. |
| | | | ACTIVITIES: All of the above plus self-drive motorised game viewing, 4x4 routes, unguided walks | USER CARRYING CAPACITY: 1 party / 50ha Maximum of 40% motorized |
| | | | FACILITIES: 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. | FACILITY CARRYING CAPACITY: Max 48 beds per camp/lodge; No more than 1 bed/20ha in this zone |
| | | | ACCESS: Motorised using only low impact roads. All vehicle access. | TYPE OF ROAD: Tr1, Tr2, Tr3, G1,G2. |
| | | | BNR LANDFACETS / COMPONENTS AREAS: The following areas within the BNR have been zoned 'LOW INTENSITY LEISURE': ☐ 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. | |

| Zone | Focus | Size (ha) | CHARACTERISTICS | MANAGEMENT GUIDELINES |
|------------------------|--------------------------------|--|--|---|
| HIGH INTENSITY LEISURE | PRIMARILY 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. |
| | | | ACTIVITIES: Restaurants, shops, education centres, picnicking and braais, etc. | USER CARRYING CAPACITY: 1 party / 10ha Maximum of 40% motorized |
| | | | FACILITIES: 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. | FACILITY CARRYING CAPACITY: Hotels/lodges up to 144 beds No more than 1bed/ha in this zone |
| | | | ACCESS: Highly motorised including busses and delivery vehicles. | TYPE OF ROAD: T1 & T2 |
| | | | BNR LANDFACETS / COMPONENTS AREAS: 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 | |

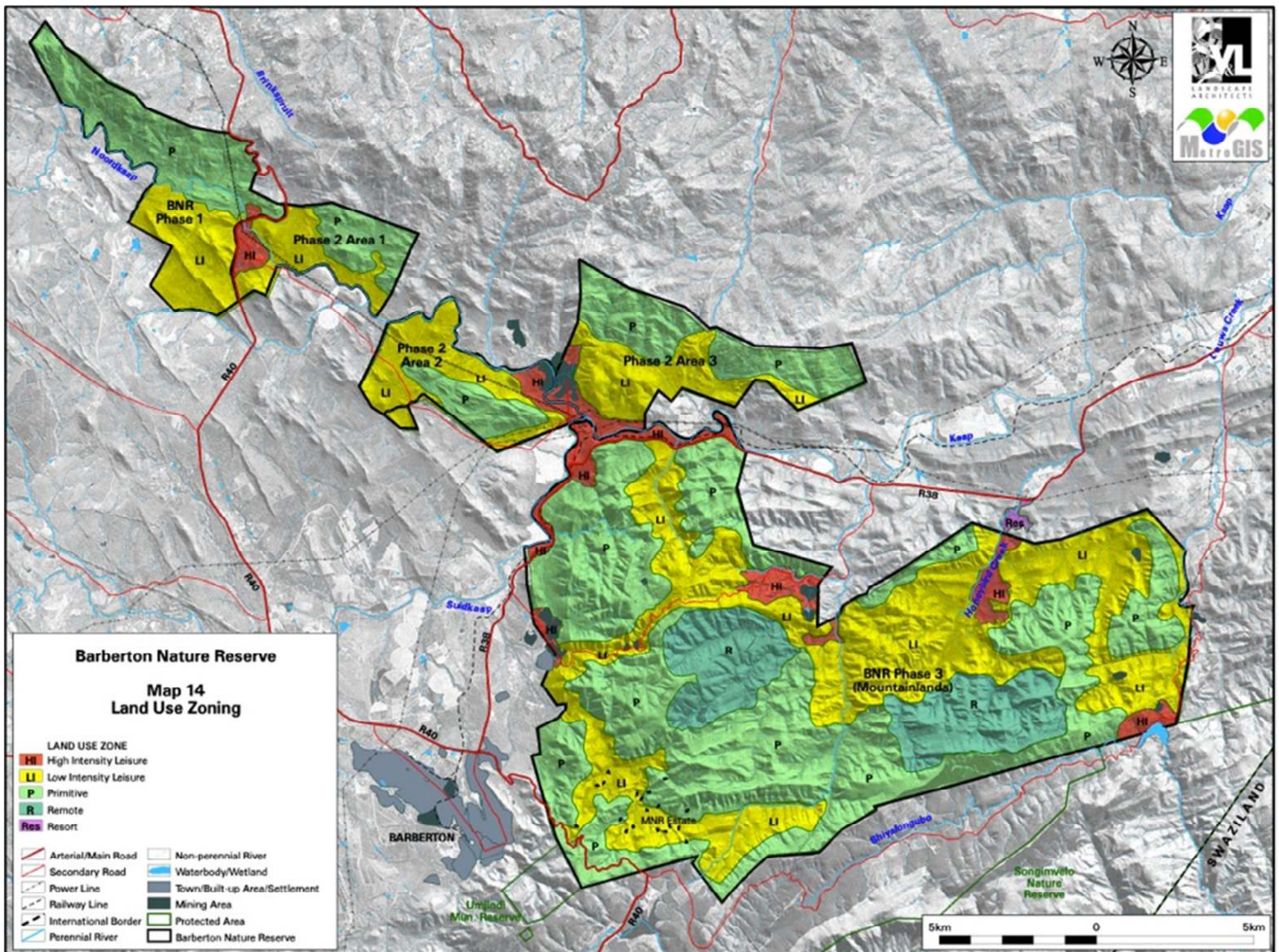
| Zone | Focus | Size (ha) | CHARACTERISTICS | MANAGEMENT GUIDELINES |
|--------|-------------------------------------|---------------------------|---|---|
| RESORT | PERIPHERAL TOURISM DEVELOPMENT AREA | Peripheral to Ph 3 = 58ha | This zone falls outside the proclaimed Protected Area, but is ideally 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. 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. | 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. |
| | | | ACTIVITIES: Swimming pools, sport facilities, Theme park, Restaurants, shops, education centres, picnicking and braais, etc. | USER CARRYING CAPACITY: N/A |
| | | | FACILITIES: 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. | FACILITY CARRYING CAPACITY: Hotels/lodges up to 250 beds |
| | | | ACCESS: Highly motorised including busses and delivery vehicles. | TYPE OF ROAD: T1 & T2 |
| | | | BNR LANDFACETS / COMPONENTS AREAS: ☐ 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. | |

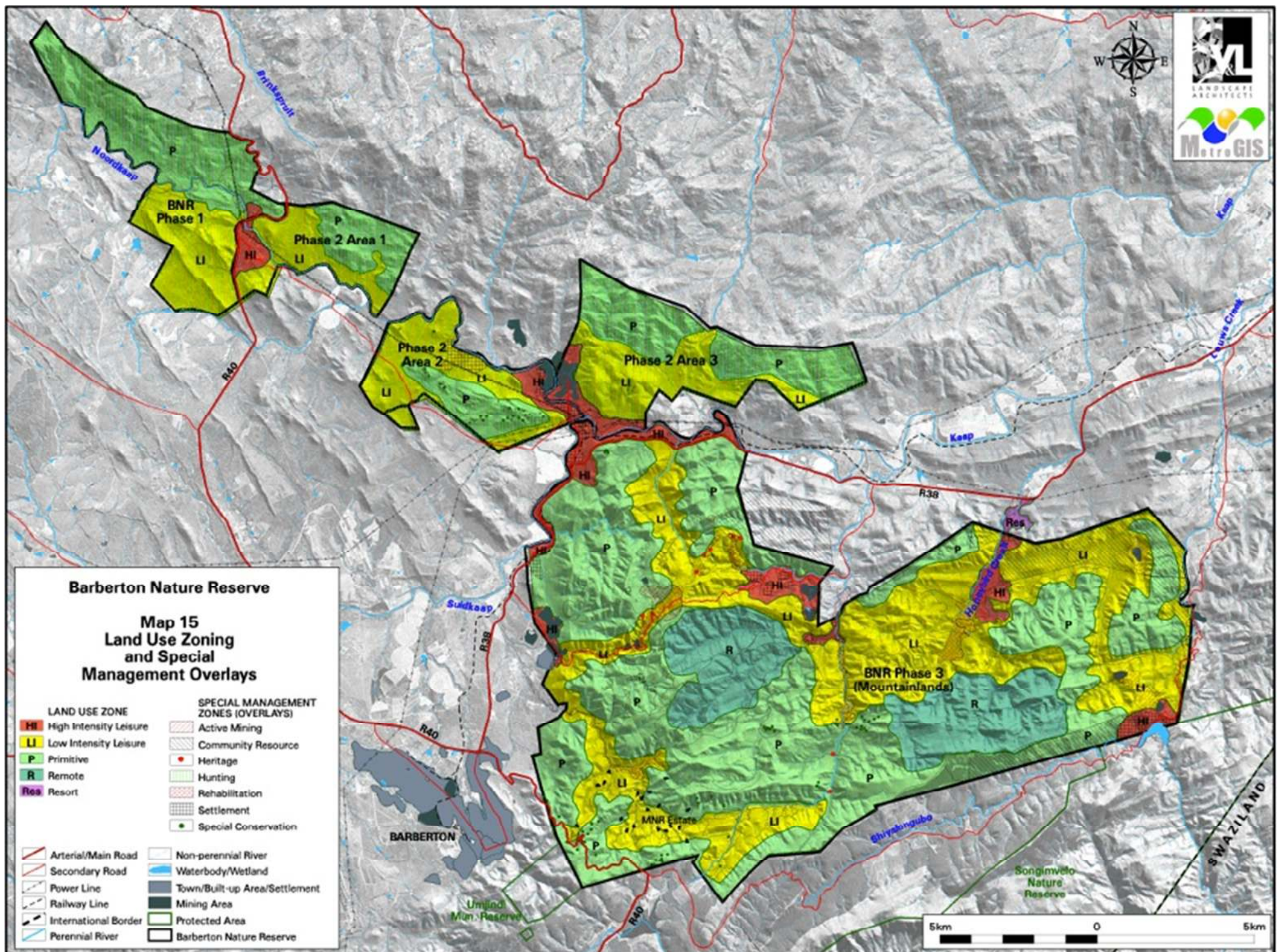
| Special Management Overlays | | |
|-----------------------------|---|---|
| | CHARACTERISTICS | MANAGEMENT GUIDELINES |
| HERITAGE | Area of at least national significance. Areas that will be managed for the preservation, protection and interpretation of cultural resources. Cultural resources that 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). |
| | ACTIVITIES: Non-destructive scientific investigation and educational / interpretive visits, geo sites | ACCESS: As per zone. |
| | FACILITIES: No infrastructural development, except for providing access | TYPE OF ROAD: 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. |
| | ACTIVITIES: As per zone, but may be precluded due to Nature of Mining Activity | ACCESS: As per zone |
| | FACILITIES: As per zone, but may be precluded due to Nature of Mining Activity | TYPE OF ROAD: 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 |
| | ACTIVITIES: Scientific and conservation measures only | ACCESS: Mainly for scientific and conservation measures, but some access for education and interpretation can be considered. |
| | FACILITIES: None | TYPE OF ROAD: 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 |
| | ACTIVITIES: Scientific and conservation, some tourism possible for awareness and interpretation purposes. | ACCESS: Primarily for management only, but access for awareness and interpretation can be considered. |
| | FACILITIES: None | TYPE OF ROAD: 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. |
| | ACTIVITIES: As per zone | ACCESS: As per zone |
| | FACILITIES: As per zone | TYPE OF ROAD: 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. |
| | ACTIVITIES: As above, but no settlement. | ACCESS: As per zone. |
| | FACILITIES: None | TYPE OF ROAD: As per zone |
| HUNTING | Seasonal hunting. Both Trophy and meat hunting permitted as a method of population offtake. | Limit tourist activity during hunting seasons |
| | ACTIVITIES: Normal tourism activities while hunting is not occurring. Limited activity during hunting periods. | ACCESS: As per zone |
| | FACILITIES: As per zone | TYPE OF ROAD: 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. |
| | ACTIVITIES: Management activities only. | ACCESS: Management activities only. |
| | FACILITIES: None | TYPE OF ROAD: 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.

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

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.

| Phase 3 (Mountainlands) Land Owners | Area within Fence | Number of vehicle rights. |
|--|--------------------------|----------------------------------|
| 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) |
| | | 67 |

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.

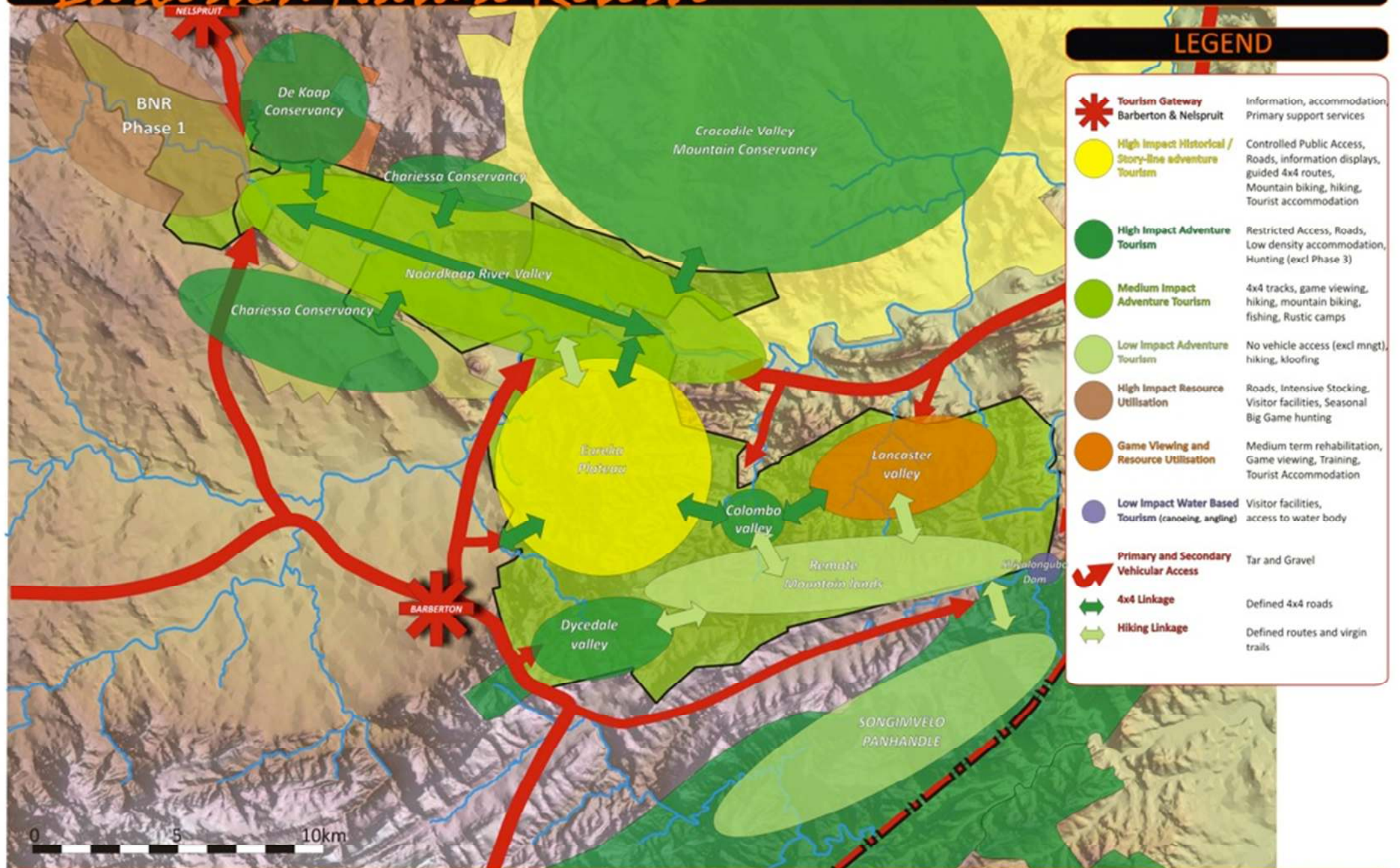
The **Lancaster Valley** (Honeybird Creek) offers a diversity of landscapes from mountains to plains. It also offers the greatest potential in terms of game viewing as a result of the lowveld vegetation type present along the valley floor. Easy, un-encumbered access makes this area attractive for the 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

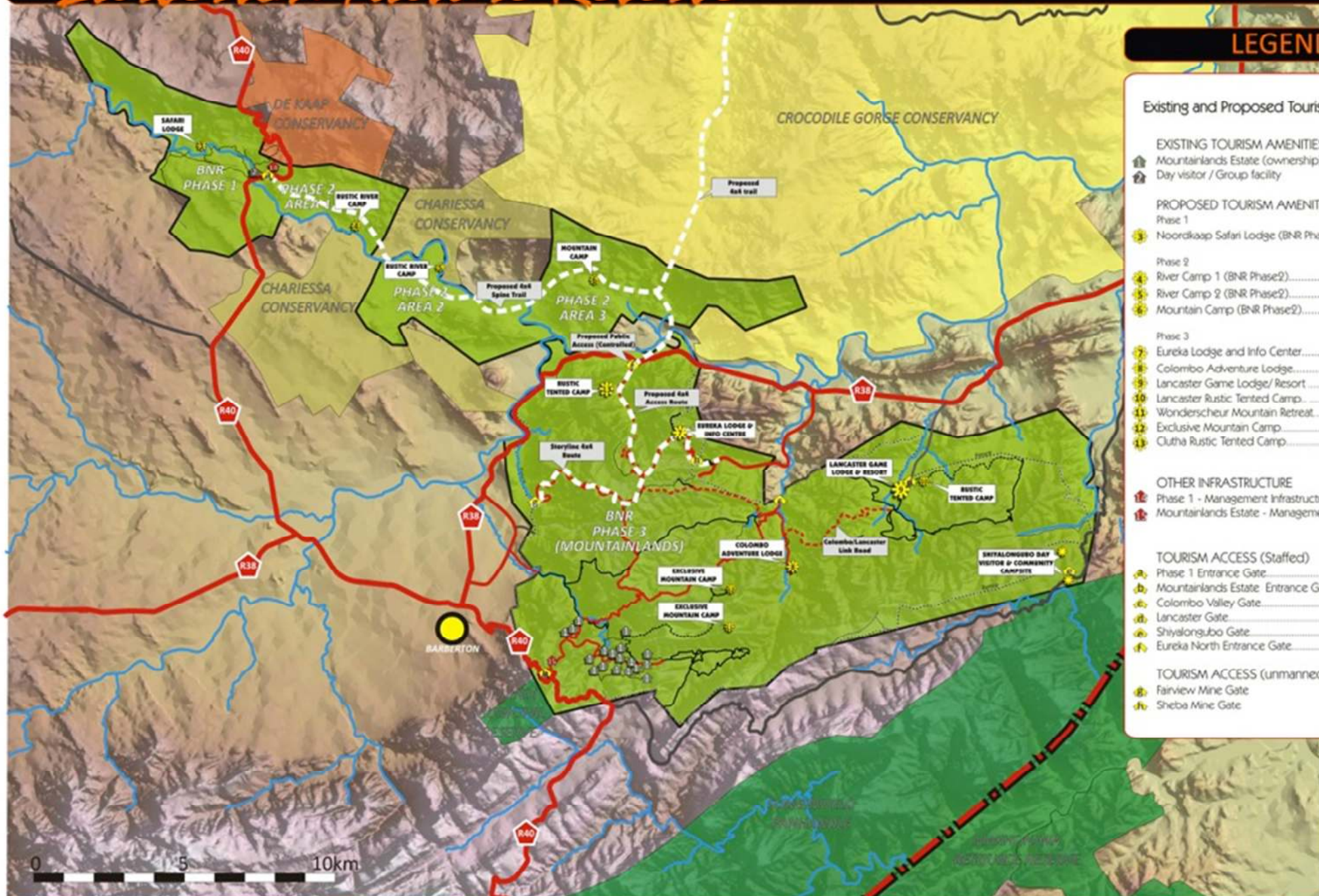
- Phase 1 - Management Infrastructure / Senior Staff
- Mountainlands Estate - Management Infrastructure

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.

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| Action Project 7.1.1 [1]: Develop 5 Year Strategic Plan and Annual Performance Plan |
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| Action Project 7.1.1 [2]: Undertake evaluation of ecosystem services and contribution to the local economy by the reserve. |
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| Action Project 7.1.3 [3]: Implement Annual Strategic Performance Planning and Audits in accordance with the PFMA. |
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| 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. |
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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.

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| Action Project 7.3.1.1 [2]: Develop Alien Plant inventory and species lists for BNR. |
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| Action Project 7.3.1.1 [3]: 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.

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| Action Project 7.3.3 [1]: Undertake baseline soil erosion assessment to identify problem areas. |
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| Action Project 7.3.3 [2]: Prioritise problem areas. |
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| Action Project 7.3.3 [3]: Develop soil erosion rehabilitation programme for the reserve which will be updated on an annual basis. |
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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:

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

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

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| 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. |
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| 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. |
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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.

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

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

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| 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. |
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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.

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| Action Project 9.2 [1]: Develop policy to address the management of external funding for specific projects. |
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| Action Project 9.2 [2]: Develop strategy to lever additional external funding for specific development projects in the BNR. |
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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.

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

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| Action Project 9.5 [4]: 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

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| Principle #1: | Ensure sound resource management and conservation 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.

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| Principle #4: | Provide benefits to adjacent communities through sustainable resource utilisation . |
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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 | | | | | |
| Action Project 7.3.3 [1]: Undertake baseline soil erosion assessment to identify problem areas. | | | | | | | Reserve Managers | Problem areas mapped in a GIS management overlay. | | Annual operating budget |
| Action Project 7.3.3 [2]: Prioritise problem erosion areas. | | | | | | | Reserve Manager/Ecologist | Problem areas are prioritised and allocated timeframes/budgets accordingly. | 0 | Annual operating budget |
| Action Project 7.3.3 [3]: 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 | | | | | |
| Action Project 7.3.1 [1]: 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 | - |
| Action Project 7.3.1 [2]: 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 | - |
| Action Project 3.4.5 [1]: 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 | | | | | |
| Action Project 7.3.1.1 [1]: 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 | - |
| Action Project 7.3.1.1 [2]: 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 | - |
| Action Project 7.3.1.2 [2]: 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 | - |
| 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. | | | | | | | 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 | - |
| Action Project 7.3.1.1 [3]: 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 | | | | | |
| 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. | | | | | | | 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 | | | | | |
| Action Project 7.3.4 [1]: 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 | - |
| 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. | | | | | | | 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 | - |
| Action Project 7.3.4.2 [1]: 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. | | |
| 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. | | | | | | 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 | | | | | |
| Action Project 2.2 [1]: 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 | - |
| Action Project 2.4 [1]: 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 | - |
| Action Project 2.6 [1]: 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 |
| Action Project 2.7 [1]: 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 | - |

| | | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|---|---|
| Action Project 2.7 [2]: 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 | - |
| Action Project 4.4 [1]: 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 | - |
| Action Project 5.3 [1]: 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 | - |
| Action Project 7.1.1 [1]: 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 | - |
| Action Project 7.1.3 [3]: 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 | - |
| Action Project 7.1.4 [4]: 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. | | | | | | | | | | | |
| 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. | | | | | | | | 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 | - |
| Action Project 7.1.2 [2]: 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. | | |
| 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. | | | | | | | 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) | | | | | | | | | |
| 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. | | | | | | BMC/CMC/JMC | Mining areas are prioritised for rehabilitation and mines engaged in terms of their obligations to rehabilitate their specific areas. | 0 | - |
| 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. | | | | | | BMC/CMC/JMC | Mine are engaged with on transgressions in terms of their compliance to their relevant EMPR's. | 0 | - |
| 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. | | | | | | 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 | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| 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. | | |
| Action Project 9.5 [1]: 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 | - |
| Action Project 9.5 [2]: Appropriate permanent research facilities must be developed for the BNR. | | | | | | | MTPA | Researchers have access to permanent research facilities. | 0 | - |
| Action Project 9.5 [3]: 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 | - |
| Action Project 9.5 [4]: 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. | | |
| Action Project 8.1.4 [1]: 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 | - |
| 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. | | | | | | BMC/CMC/JMC | All proposed developments in the BNR are compliant with relevant Environmental Legislation. | 0 | - |
| 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. | | | | | | BMC/CMC/JMC | All environmental issues within the BNR are reported to the relevant management structures by Stakeholders and issues are effectively addressed. | 0 | - |
| Action Project 8.1.6 [1]: Develop and Implement Tourism Monitoring Strategy. | | | | | | BMC/CMC/JMC | Tourism activities in the BNR are successfully monitored through a consolidated management strategy. | 0 | - |
| Action Project 8.1.6 [2]: 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 | - |
| Action Project 8.2.1 [1]: 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 | - |

| | | | | | | | | | | |
|---|--|--|--|--|--|--|--|---|---|---|
| | | | | | | | | objectives for BNR. | | |
| Action Project 8.2.2 [1]: Develop hunting guidelines and policies for the BNR. | | | | | | | WPS / PAM | Hunting is effectively managed through a uniformed approach in the BNR, based on well-structured and established guidelines and policies for the sustainable harvesting of resources. | 0 | - |
| Action Project 8.2.2 [2]: Develop Game Management Model to address equitable division of income from live sales between relevant landowners. | | | | | | | BMC/CMC/JMC | Income from live sales is equitably divided between relevant landowners in terms of an approved Game Management Model for the BNR. | 0 | - |
| Action Project 8.2.2 [3]: Develop Annual Live Sales Strategy based on Ecological Carrying Capacities. | | | | | | | Scientific Services / Wildlife Business Development unit | Live sales quotas are determined and processed on an annual basis. | 0 | - |
| Action Project 8.2.3 [1]: Develop Bio-prospecting Policies and Guidelines for the BNR. | | | | | | | Scientific Services / WPS | Bio-prospecting in the reserve is handled in terms of specific guidelines and policies to ensure that these activities do not compromise any of the objectives of the BNR. | 0 | - |
| Action Project 8.3.1 [1]: Develop Access Management Strategy for the BNR. | | | | | | | BMC/CMC/JMC | All access to the BNR is managed in a uniformed approach and access is effectively controlled and managed. | 0 | - |
| Action Project 8.3.2 [1]: Develop Signage Manual for the BNR which includes guidelines and policies on all relevant signage requirements. | | | | | | | BMC/CMC/JMC | All signage in the BNR is uniformly designed and installed. | 0 | - |

| | | | | | | | | | |
|--|--|--|--|--|--|-------------------------------------|--|---|---|
| Action Project 8.3.3 [1]: 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 | - |
| Action Project 8.3.3 [2]: 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 | - |
| Action Project 8.3.4 [2]: Develop internal fence approval criteria. | | | | | | Reserve Managers | All internal fences are subject to an approval process before construction. | 0 | - |
| Action Project 8.3.5 [1]: 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 | - |
| Action Project 8.3.6 [1]: Develop and implement radio operation protocol. | | | | | | Reserve Managers | Radio communication in the BNR is well structured and communication protocol is maintained. | 0 | - |
| Action Project 8.3.7 [1]: 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 | - |
| Action Project 8.3.7 [2]: 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 | - |
| Action Project 8.3.9 [1]: 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. | | |
|--|--|--|--|--|--|--|---|--|--|

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.

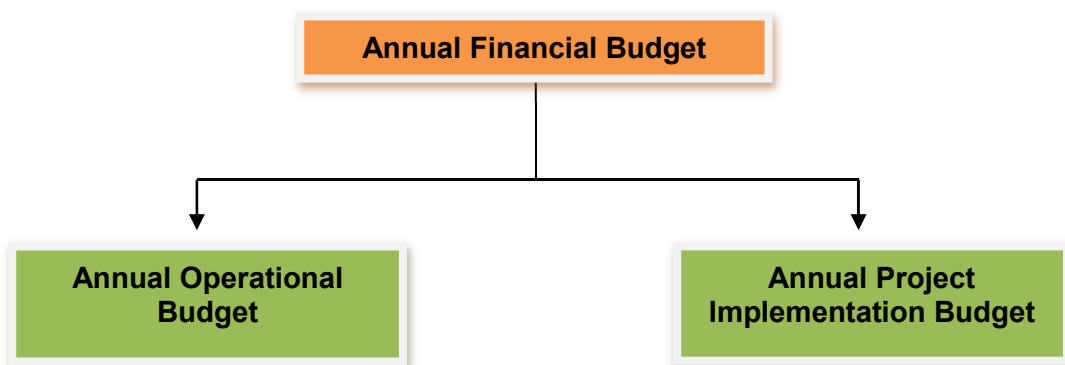
The annual operations budget will include all operational expenditure including but not limited to the following:

- 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 determined 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.

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

BARBERTON NATURE RESERVE,

PHASE 3

INTEGRATED MANAGEMENT PLAN

2012 - 2017



**Barberton Nature Reserve: Phase 3,
Mpumalanga Province,
South Africa**

**Integrated Management Plan:
2012-2017**

Facilitated and edited by

**Craig Gebhardt and Dereck Milburn
V&L Landscape Architects**

Citation

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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 [in the process of promulgation] 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 Mpumalanga Tourism and Parks Agency Act (Act No. 20 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 way of life and cultural history of people, the natural history of the environment, while taking care not to change the environment and contributing to the economic welfare of the local people (*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).

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.

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.

Ramsar¹:

Means: “The Convention on Wetlands of International Importance, signed in Ramsar, Iran, in 1971, is an intergovernmental treaty, which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.” (There are presently 141 Contracting Parties to the Convention, with 1387 wetland sites, totaling 122.7 million hectares, designated for inclusion in the Ramsar List of Wetlands of International Importance. Over the years, however, the Convention has broadened its scope to cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities.)

¹ <http://www.ramsar.org>

Stakeholders / Interested Parties²:

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

Means “an area designatedfor 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

| | |
|----------|---|
| BEEP | Biodiversity Environmental Education Programme |
| BMML WHS | Barberton Makhonjwa Mountain Land World Heritage Site |
| BNR | Barberton Nature Reserve |
| BP | Business Plan |
| CDP | Concept Development Plan |
| 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 |

² Defined in Guideline Document EIA Regulations, DEAT, April 1998

| | |
|--------|--|
| IUCN | World Conservation Union (as commonly referenced) |
| 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 APPENDICES

| | |
|--------------------|--|
| Appendix 1: | Barberton Nature Reserve Phase 3: Discrepancy between fencelines and proclaimed Protected Area |
|--------------------|--|

1 VISION, MISSION, MANAGEMENT OBJECTIVES AND CONSERVATION TARGETS

1.1 INTRODUCTION

Situated to the east of the town of Barberton lies an extent of land measuring approximately 18 000 ha (Barberton Nature Reserve Phase 3 – also referred to as Mountainlands Nature Reserve). 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 famous Sheba mine, reputed to be the richest gold mine per unit ore in South Africa along with the Fairview, Barbrook and Makhonjwa mine. 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. These factors contribute to its conservation importance.

The Mpumalanga Tourism and Parks Agency (MTPA) has been appointed as custodian of the approximate 12 000 ha of State land in this area. Through co-operative management agreements with surrounding private and communal land owners, the fragmented portions of state land have been consolidated into a single ecologically and economically viable entity.

The MTPA has identified the greater Barberton area as having great potential as a tourism growth area. Several private sector initiatives have recently been launched in developing surrounding properties for ecotourism. The reserve therefore forms an important link between Nelspruit and the whole ecotourism development south of the Barberton Mountainlands which has been identified as a provincial priority area. It therefore has a high tourism potential especially with respect to special interest tours, bird watching, game viewing and adventure activities.

In terms of the most appropriate land use, it is quite clear that conservation of the rich biodiversity and different landscapes through ecologically sustainable economic activity, is the most viable and sustainable option. The key elements of the mission are thus conservation and sustainable utilisation (including eco-tourism and education).

1.2 VISION

The management team of Phase 3 of the Barberton Nature Reserve acknowledges its vision as being the following:

‘To Ensure financially sustainable conservation of the reserve through co-operation for the benefit of Founding Members, stakeholders and the public at large’

1.3 PHASE 3: SPECIFIC MANAGEMENT OBJECTIVES

The specific management objectives of Phase 3 of the Barberton Nature Reserve have been identified as follows:

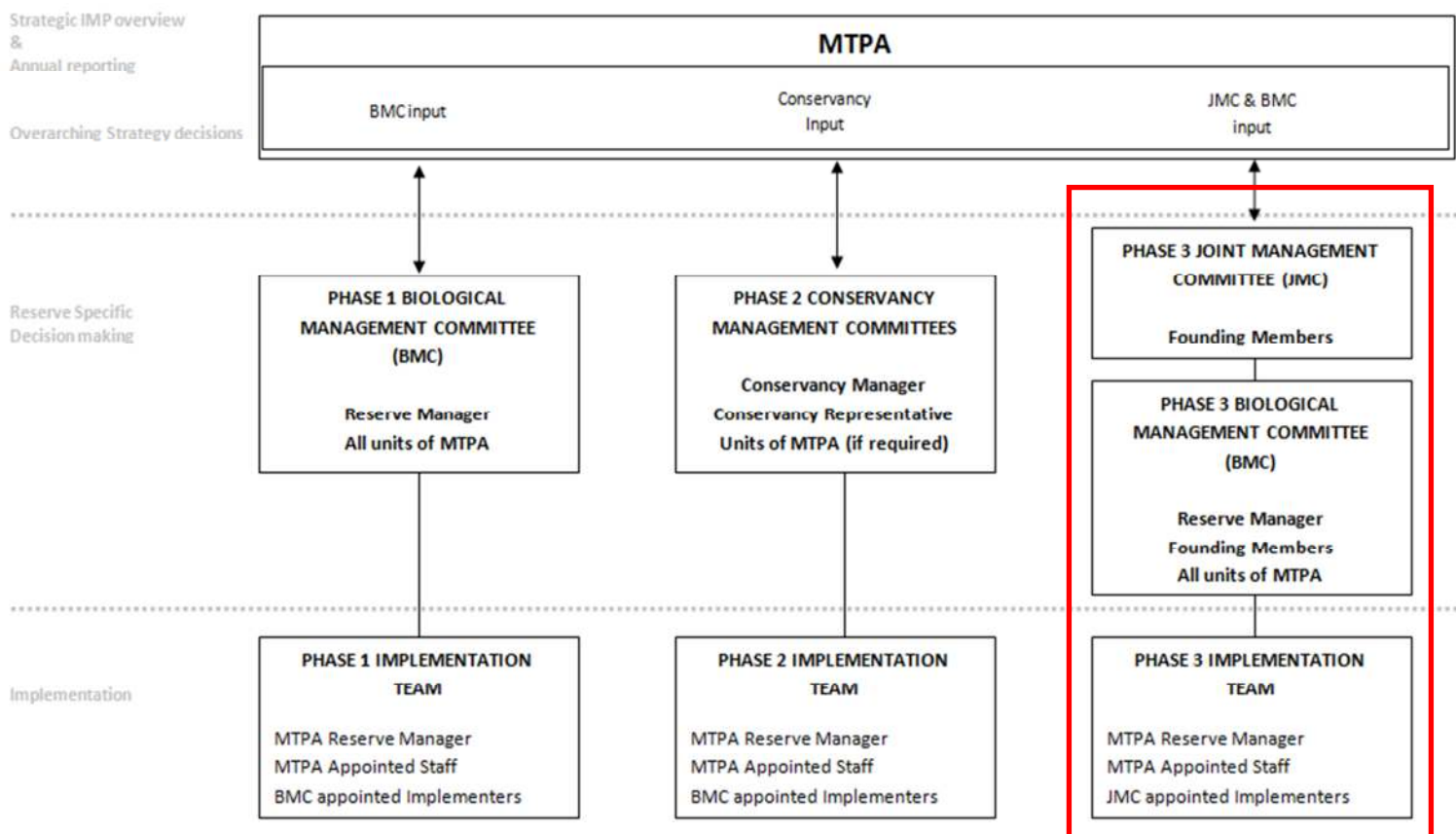
1. To create a single, viable nature reserve with an associated wildlife;
 - i. To manage the dynamic vegetation structure, compositional and plant species diversity, and the ecological processes involved.
 - ii. To ensure the survival and increased viability of threatened plant populations.
 - iii. To manage viable populations of threatened animals and/or priority game species.

2. To conserve its rich biodiversity and maintain (or where required restore) ecological functions and processes;
 - i. To manage populations of game species suited to the available habitat and according to broad historical distribution in such a way that there is no conflict with higher priority objectives.
 - ii. To ensure the continued yield of high-quality water, including natural and artificial aquatic systems, through proper catchment management.
3. To strive towards financial independence of the project through income generation that is based on certain common assets;
4. To benefit Founding Members and stakeholders through responsible and sustainable resource utilization and development.
5. To manage and preserve sites of archaeological, cultural, geological and historical significance.
6. In the interim, pending resettlement outside the reserve, to manage human settlement, domestic animals and agricultural cultivation in such a way that conflict with higher priority objectives is minimised.
7. To develop positive relations with local communities through effective participation in matters of mutual interest and in so doing contribute to the sustainability of the protected area.
8. To develop and implement environmental awareness and interpretation programs.

1.4 INSTITUTIONAL ARRANGEMENTS

Also see Section 2 of the Overarching IMP document.

Integrated Management Plan Implementation Structure (Phase 3 structures highlighted)



In terms of a Memorandum of Understanding signed in June 2004 between the founding members of Phase 3, the founding members have formed an interim joint management committee to oversee the implementation of the IMP and management of the reserve.

While defining the relationship between the founding members, the MoU stipulates that a Integrated Management Plan (this IMP.) will be compiled to guide the development of detailed agreement . This detailed agreement defines responsibilities and commitments of each participant. It will also spell out all issues related to land ownership, Asset ownership (including wildlife), management and maintenance of joint assets to ensure compliance with all relevant legislative and best practice guidelines (including this IMP).

The detailed agreement must address the funding model and benefit flows to be adopted by the founding members. While it is proposed that the MTPA reserve manager and staff will be responsible for the implementation of much of this IMP, contributions and funding are expected to be derived from all founding members.

Action Project 1.4 (1): Founding members to develop and ratify the detailed agreement for the reserve.

A final Joint management Committee must be established to oversee the implementation of the Integrated Management Plan in Phase 3 of the reserve.

Action Project 1.4 (2): Establish a final Joint Management Committee for phase 3 of the reserve.

Given the unique attributes, ownership model and fragmented nature of the BNR the Joint Management Committee in consultation with MTPA may reconsider the future institutional model for Phase 3.

Action Project 1.4 (3): Joint Management Committee to reconsider institutional model options, including merits and demerits of potentially separating Phase 3 from the rest of BNR and proclamation as a separate Nature Reserve, and management as a distinct management unit.

1.5 *DEFINING RESERVE BOUNDARIES, DISCREPANCY BETWEEN FENCELINES 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.

A document capturing these discrepancies and the agreements that are in place has been compiled. This document is attached as ***Appendix 1 – BNR Phase3: Discrepancy between fencelines and proclaimed Protected Area***

Action Project 1.5 (1): Actively manage portions of the proclaimed area excluded from the game fence, according to the recommendations of the report on fenceline discrepancies.

| |
|--|
| Action Project 1.5 (2): Annually review fenceline positioning and update the report on fenceline discrepancies accordingly. |
|--|

2 BACKGROUND

2.1 HISTORY OF UTILISATION

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.

Early (approximately 1 million to 200 000 years ago), Middle (125 000 to 75 000 years) and Late Stone Age (between 30 000 and 40 000 years ago until about 20 000 years ago) implements have been found in dongas on the reserve

Scattered throughout the rock formations of Mountainlands are deposits of reef and alluvial gold, and also iron, talc, asbestos and nickel. Not only did the rich gold reefs attract attention in the 1880's, but the early evidence of historic civilizations mining for minerals was described in writings by the Europeans.

Gold fever was set off during a hunting trip in the Valley of the Kaap – instead of elephant they found gold. Within days, hundreds of other diggers heard the news of what was known either as Barber's Reef or the Inkenkisa Reef, from the African name, *Nkhenkesa* or The Gap, for the ravine in which it was found. Some ten thousand diggers descended on the Kaap Valley. They came from far and wide: the Klondike in Alaska, Cornwall, Ireland, Scotland, California, Russia and from all corners of South Africa.

The discovery of the Sheba Reef north east of Barberton and bordering Mountainlands was destined to become the most famous gold mine in the world. It was sensational in its richness and became at once the greatest blessing and curse of Barberton. It turned a gold frenzy into utter mania. Yields of twenty ounces to the ton were quite common and by 1898 this wonder mine had returned 519, 565 ounces of gold, valued then at over £2, 000, 000.

In the center of the numerous companies on Sheba Hill, an ex-Durban butcher named J. Sherwood established a butchery and hotel in December 1885. His establishment became the nucleus of what became Eureka City, which is today nearly in the centre of the Mountainlands Game Reserve.

Only a few walls of this once flourishing mining town remains in Mountainlands. It was a town, which, at the height of the boom in 1886, held a roaring population of about 650 diggers. It had three stores, three hotels, a dozen canteens, a chemist's shop, a baker, a racetrack and a music hall.

2.2 GEOLOGY

The geology of the area is extremely complex and of great interest. The Barberton Mountainland represents a typical early Precambrian greenstone belt with some exposures dating back more than 3 billion years. Numerous studies have been conducted in this area and the area is visited annually by geologists from across the globe.

About 4 600 million years ago the Earth was born and this formative phase of the planet is called the Hadean Eon. The embryonic Earth was a hot place during which time the inner and outer core, mantle and crusts took shape. The Archaean Eon followed the Hadean Eon and this is where Mountainlands fits into the picture due to the Barberton Greenstone Belt - a geological formation that is world famous for its staggering 3 500 million years of earth's natural history and evolution. And about 3 300 million years ago the first opportunity presented itself for living organisms to evolve and the evidence can be found in Mountainlands. There is no other place on Earth where scientists can go to recover information about this important formative period of Earth's history.

For example the hottest volcanic rocks ever to have erupted on the face of the planet, named Komatiites after the Komati River. Mountainlands occur in the center of this important geological formation. The age of the rocks exposed here covers a natural history spanning over 320 million years.

It is therefore not surprising that the area is recognized in the world of earth science as a unique living laboratory, as the sequences in the Barberton Greenstone Belt record the picture of the birth of the early oceans, the first atmosphere, the first life to appear on the planet and evidence of the formation of the first continent. The Barberton Greenstone Belt is also the only place on Earth where the ancient ocean floor can be studied revealing a unique 7-kilometre record of sedimentary rocks showing evidence of the sea and ancient beaches, rivers and sand dunes in Mountainlands. It also shows four layers of impact-produced debris from ancient giant meteorites that struck the Earth. Each of the meteorite impacts evident in this region was larger than the meteorite that struck earth 65 million years ago killing the dinosaurs and it is estimated that one of the impactors was approximately 30 km in diameter.

The Barberton Greenstone Belt has been sub-divided into three major rock sequence units: Onverwacht, Fig Tree and Moodies Group all belonging to the Swaziland Supergroup.

| BARBERTON SUPERGROUP | GROUP | FORMATION |
|----------------------|------------|---|
| | MOODIES | BAVIAANSKOP JOE'S LUCK CLUTHA |
| | FIG TREE | SCHOONGEZICHT BELVUE ROAD SHEBA |
| | ONVERWACHT | ZWARTKOPPIE KROMBERG HOOGGENOEG KOMATI THEESPRUIT SANDSPRUIT |

**Diagram showing the rock units or layers of the Barberton Supergroup.
Produced by RM Frandsen and SC MacRae.**

Action Project 2.2 [1]: Consolidate and Maintain a database of geology and geological sites

2.3 PHYSIOGRAPHY

The Barberton Mountainlands Reserve is located in the Mpumalanga Province of South Africa at latitude 25°40' and longitude 30° 57'. The reserve stretches from the town Barberton and Fairview mine in the west to the town Louisville and Barbrook mine in the East. Sheba mine is more or less centrally situated on the northern border of the reserve. The reserve also lies predominantly to the south of the R 38 Barberton to KaapMuiden road.

2.4 TOPOGRAPHY

(See Document 2 – BNR Integrated Zoning and Tourism Master Plan - Map 7)

The terrain varies between low-lying bushveld, high mountains, scenic valleys and rolling grasslands. The majority of vegetation belongs to the Sour Lowveld Bushveld of the Savannah Biome. This is mostly tree savannah, with dense riverine fringes along drainage lines and open grassy areas on the ridges and valleys. This vegetation merges into the North Eastern Mountain Grassland of the Grassland Biome at higher elevations.

Generally, the broken landscape makes the reserve aesthetically most attractive. Of particular interest are the spectacular deeply-incised Wonderscheur gorge.

Because of its size and ruggedness, this landscape has great value as one of the wild, open spaces of the Province. Open spaces like these are fast disappearing under agricultural, forestry and urban expansion.

2.5 HYDROLOGY

There are numerous perennial streams that have carved deep ravines with high cliffs and breathtaking waterfalls and pools. All of the streams originate on the reserve, which forms a pollution free and protected catchment area with an abundance of water

With exception of a very small area along the southern perimeter, all catchments drain northwards to the Suidkaap River.

The main streams within the reserve are:

- Hyslops Creek
- Figtree Creek
- Honeybird Creek

2.6 PEDOLOGY

(See Document 2 – BNR Integrated Zoning and Tourism Master Plan - Map 6).

No detailed soil studies have been conducted for the whole of Phase 3. Soils have been mapped at a coarse scale using available data.

Phase 3 is dominated by Soil patterns characterised by shallow depth, on hard wearing rock. Pattern LP2 occurs primarily at lower elevations and along the northern perimeter of the reserve. Lime is a characteristic feature of this soil pattern. Higher lying areas, with drainage to the north are typical of soil pattern LP 1 – again shallow on hard wearing rock, but usually without the presence of lime.

Soil Pattern NT is found in a band along the Suidkaap and Kaap Rivers. This soil pattern is characterised by well drained, dark reddish soils with nutty structure. In addition vertic and melanic soils may be present.

Along the southern perimeter and particularly around the Makhonjwa mine area the soil pattern is characterised by red to yellow soils with a low to medium base status (AC).

Action Project 2.6 (1): Update soils map as better scale data is made available.

2.7 ARCHAEOLOGY

Artifacts collected from open donga sites revealed that material of all ages was mixed on the surface. Where artifacts were found in situ Earlier Stone Age (approximately 1 million to 200 000 years ago) implements were exposed at various depths in the deep dongas, Middle Stone Age (125 000 to 75 000 years) material occurred in the ferricrete overlying the subsoil, and Later Stone Age (between 30 000 and 40 000 years ago until about 20 000 years ago) artifacts were exposed by surface erosion.

The Stone Age is so-called because people in earlier times used stone implements, which they fabricated themselves. Wood, bone and rope were also used but because these were organic materials they disintegrated and vanished in most cases. Stone implements are therefore the characteristic remains of these early inhabitants.

During the Early Stone Age period the implements were in general large. Middle Stone Age smaller and more specialized and tools from the Later Stone Age period even smaller and mounted on wood or bone. A variety of potsherds, which vary considerably in type, composition, colour, thickness, texture, finish, burnishing and decoration, occur widespread on old living sites and in protected shelters in the area.

The rock art in some parts of southern Africa such as the Drakensberg, Cederberg and Limpopo-Shashe Confluence area has been intensively studied, but the Mountainlands not. This was in part due to its inaccessibility. Van Riet Lowe's (1952) catalogue of rock art sites in South Africa lists only ten in the Barberton and Nelspruit Districts. More rock paintings have been documented since then.

These occur on many sites where suitable protected surfaces could be found on granite boulders over the whole area from the Komati Valley, Legogote and in the Kruger National Park.

Paintings are both monochrome and biochrome and in different styles. The colours vary from very dark maroon through different shades of red to brown, yellow and white. In Barberton on a hillside close to the Havelock cableway, rock paintings in dark red and yellow ochre can be found. The number of located sites and the continuous discovery of new ones show that this part of southern Africa deserves to be as well-known as the more intensively studied regions. There is also proof that the Barberton mineral riches have been worked during the Iron Age (from 2000 years ago) before Europeans came looking for their fortune in this area. Small prehistoric iron mines, smelting sites and slag are found in many places. This indicates that iron was exploited on a large scale. Unfortunately the gold miners of the turn of the century were not impressed with such antiquities and destroyed most of the definitive proof of their predecessors' identity through their own mining operations.

Terraces and kraal like structures can be found in the mountains and research by Dr. Cyril Hromnik has it that the Dravidian merchant caste of southern India mined gold here 2000 years ago, resulting in these stone structures, celestial calendars as well as temples. Since 1984 interest in the early history of the Barberton goldfields has been revived by Dr. Hromnik's controversial research and his discovery in this area, of what he claims to be ancient megalithic Dravidian religious structures. Hromnik is of the opinion that an area known as Komati-land was the trading zone of the Dravidians and that their presence in fact predates the appearance of the first Bantu in this part of Africa by centuries. Evidence of dwellings estimated to be some 500 years old are interpreted to be part of a culture that traded gold with eastern (Arabic and Indian) communities in the past. At least one such complete Iron Age "village" is found on Mountainlands as well as various other sites still to be verified.

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| Action Project 2.7 (1): Identify and record sites of archaeological importance |
|---|

2.8 CLIMATE

The climate is frost-free and sub-tropical, with a peak rainfall in summer, starting in October and ending in April. The average long term rainfall is 756mm p.a., ranging from 700mm in the lower-lying areas to 1000mm on the plateau. Temperature ranges between 2°C and 43°C, with an average of 22°C. Mean minimum and maximum monthly temperatures are 16°C in July and 24°C in January.

2.9 WEATHER DATA RECORDINGS

Weather records are obtained from surrounding forestry stations (Highlands, SATIC) and mines (Sheba, Lily, Makhonjwa). It is important to be able to obtain measurements from different altitudes and locations. A full weather monitoring station is in operation at the Mountainlands Estate Visitor Centre.

The size of the reserve, steep topography and the vast range of elevation results in very different weather patterns in different locations.

Temperatures are also influenced by topography of the area, but winters are frost-free.

Action Project 2.9 (1): obtain and maintain weather records from locations at varying altitudes

2.10 FLORA

The diverse landscape and rugged terrain together with wide altitude range contribute towards a high plant diversity.

2.10.1 Vegetation types/veldtypes

There are 3 vegetation types that are predominant in Phase 3:

The vegetation SVI 12 (Kaalrug Mountain Bushveld) of the Savanna Biome according to the classification of Mucina and Rutherford (2006), Characterised by mountain slopes and hills. Altitude 350-950m. Predominantly the northern portions of the reserve.

The vegetation type Gm17 (Barberton Montane Grassland) of the Grassland Biome according to the classification of Mucina and Rutherford (2006), Characterised by high lying grasslands ranging from 760 – 1640m. Predominantly the southern portions of the reserve.

The vegetation type SVI 3 (Granite Lowveld) of the Savanna Biome according to the classification of Mucina and Rutherford (2006), Occuring in a belt along the Suidkaap and Kaap River. Altitude 400-500m.

Two small but important vegetation types of the Forest Biome are also represented in Phase 3:

Northern Mistbelt Forest FOz 4 according to the classification of Mucina and Rutherford (2006), 3 small patches found on cooler south facing slopes in the southern part of the reserve. Characterised by high altitude (1050 – 1650m).

Scarp Forest FOz 5 according to the classification of Mucina and Rutherford (2006), Found along the valley passing through Wonderscheur. Normally limited to altitudes below 600m, this patch extends from 810m -1220m.

Action Project 2.10.1 (1): Update floral distribution map and GIS database as better scale data is made available.

2.10.2 Plant communities

The plant communities have not been identified, but are expected to be similar to those indicated by Mucina and Rutherford (2006) according to vegetation type.

SVI 12

Open to dense, short mountain savannah or thickets, with a more dense grassy layer at higher altitudes. Often steep or very broken mountain slopes.

Endemic taxa:

Euphorbia complexa, *Ledebouria cremnophila*

SVI 3

Tall shrubland with few trees to moderately dense low woodland on the deep sandy uplands with *Terminalia sericea*, *Combretum zeyheri* and *C. apiculatum* and ground layer including *Pogonarthria squarrosa*, *Tricholaena monachne* and *Eragrostis rigidior*. Dense thicket to open savanna in the bottomlands with *Acacia nigrescens*, *Dichrostachys cinerea*, *Grewia bicolor* in the woody layer.

The dense herbaceous layer contains the dominant *Digitaria eriantha*, *Panicum maximum* and *Aristida congesta* on fine—textured soils, while brackish bottomlands support *Sporobolus nitens*, *Urochloa mosambicensis* and *Chloris virgata*. At seep lines, where convex topography changes to concave, a dense fringe of *Terminalia sericea* occurs, with *Eragrostis gummiflua* in the undergrowth.

GM 17

The dominant vegetation is short rocky grassland and gradually becomes woodland along the lower slopes.

Biogeographically important taxa are:

Endemic Succulent Shrubs – *Hemizygia modesta*, *H. thornicroftii*, *Selago stewartii*

Endemic taxa:

Encephalartos heenanii, *Protea caffra* subsp. *falcata*, *P. roupelliae* subsp. *hamiltonii*. Tall Shrub: *Tinnoa barbata*. Herbs: *Euryops discoideus*, *Helichrysum calocephalum*, *Hemizygia stalmansii*, *Holothrix culveri*, *Streptocarpus pogonites*, *Thornicroftia thornicroftii*. Geophytic Herb: *Disa intermedia*. Succulent Herb: *Aloe albida*.

FOz 4

Tall, evergreen afrotemperate mistbelt forests occurring primarily in east-facing fire refugia such as subridge scarps and moist sheltered kloofs where they form small, fragmented patches. The most common canopy trees include *Xymalos monospora*, *Podocarpus latifolius*, *Combretum kraussii*, *Cryptocarya transvaalensis*, *Schefflera umbellifera*, *Syzygium gerrardii*, *Olea capensis* subsp. *macrocarpa*, *Psychotria obovata* subsp. *elliptica*, *Pterocelastrus galpinii*. In the understory *Psychotria zombamontana*, *Canthium kuntzeanum*, *Gymnosporia harveyana*, *Peddiea africana*, *Pavetta inandensis*, *Mackaya bella*, *Sclerochiton harveyanus* etc. are found. The herb layer supports a number of dominating *Acanthaceae* (*isoglossa*), *Lamiaceae* (*Plectranthus*, *Stachys*) and *Rubiaceae* (*Galopina*) herbs and so called 'soft shrubs', geophytic herbs and ferns (*Asplenium*, *Dryopteris*, *Polystichum*). Of lianas and climbers *Dalbergia armata*, *Combretum edwardsii*, *Jasminum abyssinicum*, *Rhoicissus rhomboidea* and *Keetia gueinzii* are the most conspicuous vines, as is the scandent grass *Prosphytochloa prehensilis*.

Endemic taxa;

Duvernoia adhatodoides

FOz 5.

Vegetation & Landscape Features Tall (15-25 m), species-rich and structurally diverse, multilayered forests, with well developed canopy and understory tree layers, but a poorly developed herb layer. Buttressed stems are common in the Scarp Forest. The most conspicuous

trees are *Buxus macovvanii*, *B. natalensis*, *Drypetes gerrardii*, *Englerophytum natalense*, *Harpephyllum caffrum*, *Heywoodia lucens*, *Memecylon natalense*, *Millettia grandis*, *Oricia bachmannii*, *Philenoptera sutherlandii*, *Rinorea angustifolia*, *Rothmannia globosa* and *Umtiza listeriana*.

2.10.3 Plant species list

The red data plant list for Phase 3 currently contains 31 taxa in 21 different families. Many of these are endemic to the area. Known locations of red data species are kept in a GIS database and are used to determine sensitivity overlays.

Action Project 2.10.3 (1): Regularly update floral species list, rare and threatened species and plant communities.

Action Project 2.10.3 (2): Update GIS to reflect localities of rare and vulnerable flora.

2.11 FAUNA

Action Project 2.10.3 (3): Regularly update faunal inventory lists as data becomes available.

2.11.1 Mammal list

The total mammal list currently comprises 16 species. All threatened species lists will be updated when the new Red Data Lists become available.

2.11.2 Game

The table below indicates the current estimates of game numbers in the reserve. In addition to naturally occurring game there have been a number of introductions including Blue Wildebeest, Impala, Eland, Red Hartebeest, Waterbuck, Warthog, Kudu and Zebra.

Five White Rhino have been donated to the reserve from Kruger National Park, however these animals have not yet been introduced due to security concerns over security and population size/viability.

Table – Projected game numbers for BMLNR

| SPECIES | EST | EST | INTRO | EST | TOTAL | COUNT | INTRO | EST | PROJ | PROJ |
|---------------------|------|------|-------|------|-------|-------|-------|--------|-------|-----------|
| Feeding spectrum | 2006 | 2007 | 2008 | 2008 | INTRO | 2009 | 2010 | OCT'10 | APR11 | LAU APR11 |
| BULK FEEDERS | | | | | | | | | | |
| Zebra | 156 | 169 | 40 | 223 | 183 | 162 | | 260 | 280 | 216 |
| Bushpig | 4 | 4 | | 4 | | 0 | | 4 | | |
| Waterbuck | 31 | 34 | | 37 | 27 | 7 | | 43 | 46 | 26 |
| Cattle | 360 | 360 | | 370 | | 230 | | 300 | 336 | 336 |
| | | | | | | | | | | |
| SELECTIVE: | | | | | | | | | | |
| TALL GRASS | | | | | | | | | | |
| Red Hartebeest | 73 | 84 | | 96 | 55 | 29 | | 127 | 146 | 54 |
| Mtn. | 47 | 55 | | 64 | | 72 | | 88 | | |

| | | | | | | | | | | |
|------------------------|-----|-----|----|-----|-----|-----|----|-----|-----|-----|
| Reedbuck | | | | | | | | | 103 | 13 |
| Common Reedb. | 2 | 3 | | 3 | | 0 | | 0 | 3 | |
| | | | | | | | | | | |
| SELECTIVE: | | | | | | | | | | |
| SHORT GRASS | | | | | | | | | | |
| Black wildebeest | 5 | 5 | | 8 | | 0 | | | | |
| Blue wildebeest | 194 | 229 | | 271 | 148 | 118 | 24 | 401 | 473 | 238 |
| Impala | 145 | 166 | 55 | 246 | 166 | 25 | 63 | 389 | 447 | 83 |
| Eland | | | 22 | 22 | 22 | 23 | | 28 | 31 | 37 |
| Warthog | | | 8 | 8 | 8 | 0 | | 10 | 11 | 2 |
| Goat | 135 | 135 | | 150 | | 126 | | 213 | 239 | 46 |
| | | | | | | | | | | |
| BROWZERS | | | | | | | | | | |
| Grey duiker | | | | | | 12 | | 14 | 16 | 1 |
| Red duiker | | | | | | 1 | | 1 | 1 | 1 |
| Kudu | 66 | 79 | 22 | | 68 | 15 | | 168 | 202 | 106 |
| Klipspringer | 10 | 11 | | | | 7 | | 8 | 8 | 1 |
| Bushbuck | 7 | 9 | | | | 10 | | 12 | 14 | 2 |

2.11.3 Predators and Scavengers

List of threatened species: needs to be updated.

In addition carnivores such as leopard, brown hyena, caracal, civet, genet, serval and jackal occur. No major supplementary introductions are needed.

2.11.4 Red Data/priority game species

The objective for this category is to manage viable populations of threatened animals and/or priority game species.

2.11.5 Small mammals

A study of bat fauna was conducted in 2004. The mine addits provide good habitat for a number of bat species.

No other surveys have been conducted as yet.

No introduction of species to the reserve, except those that occurred historically and if the species required habitat is available. Genetics should be taken into consideration.

2.11.6 Birds/Avifauna

The Barberton Bird Club is conducting an ongoing survey of the reserve. More than 300 bird species have been recorded on the reserve.

Special sightings to be recorded in patrol reports. Nest sites of rare species must be plotted.

2.11.7 Reptiles

A checklist of reptiles in the Barberton area has been compiled by the MTPA, however no detailed surveys have been conducted to determine the status of these in the reserve.

2.11.8 Amphibians

A checklist of reptiles in the Barberton area has been compiled by the MTPA, however no detailed surveys have been conducted to determine the status of these in the reserve.

2.11.9 Fish and other Aquatic fauna

No detailed surveys have yet been carried out to determine the status of these in the reserve.

2.11.10 Invertebrates

The Lepidopterists Society has conducted numerous visits to Mountainlands Nature Reserve and has compiled a list of species from observation. This includes the endemic species *Aloeides barbara* and other Red Data species including *Lepidochrysops jefferyi* and *L. swanepoeli*.

3 POLICY FRAMEWORK & GUIDING PRINCIPLES: RESOURCE MANAGEMENT

Since this phase of BNR is a true community-private-public partnership reserve all policies and guiding principles relating to resource management need to take account of the fact that ownership is spread between the founding members. This implies that the founding members have both rights and responsibilities and need to be consulted on all policy.

While existing policies and the legislative framework contained in this IMP will guide in the definition of roles and responsibilities during the development of further agreements, it must be ensured that all policies are adapted to reflect resource ownership rights and responsibilities.

Action Project 3 (1): Ensure that all policies are aligned with the principles of ownership rights and responsibilities.

3.1 FINANCIAL & HUMAN RESOURCES

3.1.1 Management of Financial Resources

Also see Section 7.1.1 of the Overarching IMP document.

All financial management activities and decisions being made in Phase 3 of the BNR, in respect of public finance, need to comply with the Public Finance Management Act (Act 1 of 1999) [PFMA]. This is of particular relevance to activities of the MTPA and to any other party utilizing public funding. A 5 Year Strategic Management Plan and Business Plan will govern the financial management issues in the BNR.

The Joint Management Committee of Phase 3 must ensure that all financial decisions and spending are done in alignment with the above mentioned policies. Financial Performance of Phase 3 will be measured on an annual basis in terms of the Key Performance Areas as determined in the 5 Year Strategic Management Plan.

A biodiversity resource inventory of Phase 3 should be developed and maintained. This inventory will be used by the Biological Management Committee of the BNR to determine the ecological value of the reserve and its contribution to the local and regional economy.

Action Project 3.1.1 (1):Ensure compliance with the Public Finance Management Act.

Action Project 3.1.1 (2):Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 3 to the ecological value and economy of the area and region.

Action Project 3.1.1 (3):Integrate 5 Year Strategic Plan, Business Plan and requirements of the Public Finance Management Act in financial decision making, procurement procedures and spending policies specifically relating to Phase 3 of the BNR.

Action Project 3.1.1 (4):Depending on institutional model used,provide all financial management information to MTPA on an annual basis for Annual Performance Review.

3.1.2 Management of Human Resources

Also see Section 7.1.2 of the Overarching IMP document.

A staff organogram has been approved for all phases of the BNR by the MTPA. The organogram acknowledged the need to manage Phase 3 as a separate management unit with its own Reserve Manager. This staff organogram should be implemented effectively within Phase 3 of the BNR and all future staff appointments must be done on the basis of the requirements of this organogram.

A database of local skills within the communities surrounding Phase 3 of the BNR should be developed and employees should be sourced from the local community wherever possible utilising this database.

All current human resource activities within Phase 3 of the BNR should comply with the requirements of local, provincial and national labor laws. MTPA also has official labor policies which need to be complied with.

A Skills Development Plan will be implemented by the Joint Management Committee and the Reserve Manager of Phase 3 will co-ordinate management activities and availability of staff to meet the requirements of the Skills Development Plan.

Action Project 3.1.2 (1): Ensure current staffing structure of Phase3 complies with the organogram which has been approved by the MTPA.

Action Project 3.1.2 (2):Develop Database/Inventory of local skills within the community surrounding Phase 3 and employ local staff from this database wherever possible.

Action Project 3.1.2 (3): Undertake audit of staff contracts and human resource management

policies within Phase 3 and ensure compliance with relevant legislation and guidelines.

3.2 SAFETY AND SECURITY

Also see Section 7.2 of the Overarching IMP document.

Phase 3 of the BNR has a security risk due to its location in relation to main roads, mines and human settlements. In order to address security needs of Phase 3, a risk assessment needs to be undertaken in alignment with the overarching objectives and operational guidelines of the BNR.

All areas of potential risk need to be identified and logged on a GIS system. This data will then be used by the Biological Management Committee to develop an Integrated Safety and Security plan for total area of the BNR.

A safety audit of all areas accessible to general public needs to be undertaken to ensure the safety of visitors is ensured and all public liabilities are addressed as far as possible. All such areas fall either outside the game fence and where not these areas fall under the control of a tourism operator or owners who should take responsibility for safety on their premises and their activities. As done in the safety audit for public access areas, a safety audit needs to be undertaken to determine and address any safety hazards for MTPA staff and relevant contractors.

It is recognized that due to the nature of the terrain and the intention to maintain the reserve in its natural state, it is impossible to safeguard visitors in all respects. Since Phase 3 does not offer open access to the public it should be ensured that all guided visitors and owners complete the necessary indemnity forms to be developed specifically for this purpose. Appropriate warnings and indemnifying signage to be erected at all operator access gates.

Action Project 3.2 (1): Undertake Risk Assessment of Phase 3 and provide all GIS data to Biological Management Committee for inclusion in Integrated Safety and Security Strategy for the greater BNR.

Action Project 3.2 (2): Wildlife Protection Services unit to undertake safety audit of all public areas and address problem areas.

Action Project 3.2 (3): Compile appropriate indemnity forms and ensure these are signed by all visitors and that such principles are captured in land sale agreements in the case of Mountainlands Estate.

Action Project 3.2 (4): Erect warning and indemnity signs at all operator access gates.

Action Project 3.2 (5): Undertake safety audit to determine safety issues relating to staff activities and address problem areas. Incorporate appropriate legal waivers in staff contracts due to nature of terrain.

3.3 BIODIVERSITY CONSERVATION MANAGEMENT

Biological systems are dynamic and continuously react to factors such as climate changes, veld fires, epidemics, etc. Management interventions for such systems must also be dynamic and need to be updated on an ongoing basis. A Biological Management System has been developed to deal with the dynamic nature of the biological system in Phase 3. Meetings to discuss biological

management issues are held on a quarterly basis by the Biological Management Committee structured by the MTPA. Detailed documentation of all biological issues relevant to Phase 3 is kept in a Biological Management file system.

It is the responsibility of the Phase 3 Reserve Manager to co-ordinate all activities and tasks on Phase 3 of the BNR. Where any particular activity or task has or could have an ecological impact, the Manager must consult with the Biological Management Committee before such an activity may commence. Policies and decisions made by the Biological Management Committee are binding and valid until such time as a specific decision has been re-evaluated and documented by the Committee.

Action Project 3.3 (1):Ensure that management team of Phase 3 is represented on Biological Management Committee

3.3.1 Fire Management

Also see Section 7.3.1 of the Overarching IMP document.

Fire is an important tool in the implementation of the overarching vegetation policies of the BNR in Phase 3, as well as in the provision of adequate grazing for relevant game species. The maintenance of the fire pattern and diversity is therefore essential in the maintenance of vegetation diversity, and to enhance game and game viewing potential in Phase 3.

Point ignition fires should be applied during the growth season in Phase 3. By extending this throughout the year, it can lead to an extremely diverse mosaic both in size, time and return period of fire. Furthermore, fire is applied within the reserve as and when required. Times and areas to be burned will be determined by the ecologist, Biological Management Committee and Reserve Manager. Areas can be burned on a 3-year rotation basis. All fire related activities must be in compliance with the overarching reserve objectives and strategies of the BNR along with all other relevant local, provincial and national legislation/policies.

The MTPA is a member of LEFPA (Lowveld Escarpment Fire Protection Agency) and currently pays annual subscription fees for the entire reserve. A member of the MTPA serves on the LEFPA executive and attends general meetings. Information from these meetings is relayed to the Reserve manager and BMC.

Mapping of fires is essential for digitising by GIS specialist in order for correct fire planning in Phase 3 by the Biological Management Committee.

Reserve management is responsible for the adequate fire-breaks of the Phase 3 perimeter and of infrastructure and tourism facilities for the protection of assets against accidental fires.

Significantly increased risk exists due to proximity of SAPPI plantations on southern boundary and implications of National Veld and Forest Fire Act 1010 of 1998. Current agreements exist that SAPPI takes responsibility for fire-breaks on the shared boundary with them. The continuation of these agreements is advisable to mitigate the risks.

Appropriate rotation of fire-breaks on high lying and sensitive southern boundary is required together with a review of the impact of past practices. This should include provision of sufficient space between cadastral boundary and plantation's to provide for increased fire-break

requirements due to presence of plantations and steep terrain, alternately on either side of the boundary.

Action Project 3.3.1 (1):Implement fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines.

Action Project 3.3.1 (2):Review structure of annual subscriptions to LEFPA to ensure that all Founding Members contribute.

Action Project 3.3.1 (3):Ensure that information from the Local Fire Protection Association (LEFPA) is disseminated to the BMC.

Action Project 3.3.1 (4):Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required.

Action Project 3.3.1 (5):Implement fire break burning programme, approved by the Biological Management Committee.

Action Project 3.3.1 (6):Review impact of fire break practices and agreements with SAPPI to ensure mitigation of risk and appropriate rotation and provision of firebreaks on either side of cadastral boundaries.

3.3.2 Alien and Invasive Species

Also see Section 7.1.1 of the Overarching IMP document.

3.3.2.1 Alien and Invasive Plants

Due to historic settlement and mining activities over a long period of time, numerous disturbed areas have given rise to the establishment of alien plants. Commonly found along the lower lying drainage lines towards the north, are Lantana, Chromolaena, Mexican poppy and other alien plants. Wattle, Eucalyptus and other aliens are present in grasslands and mining areas. A sizable plantation of Eucalyptus was established on the Eureka plateau by Barberton mine many years ago for the purpose of providing logs as support in underground shafts. The responsibility for the removal of alien plants introduced by the mines rests with the mines.

Action Project 3.3.2.1 (1):Engage the mines on their responsibility for the removal of alien vegetation introduced through mining disturbances.

A continuous programme consisting of two teams will be budgeted for by the Reserve Manager of Phase 3. Programmes will include physical removal, chemical and fire control. Watercourses and valleys will mainly be physical and chemical, while for the plateau and hills, fire will be utilized as part of the programme. Biological control will be used in Phase 3 where technology and knowledge have proven it to be acceptable or even preferable.

A GIS based database and mapping system must be developed and implemented to monitor and manage the alien/invasive eradication programme in Phase 3 of the BNR. The GIS database developed for the BNR Zoning plan can accommodate an alien plant eradication programme as a special management overlay. Relevant staff members must be trained to manage the system.

Action Project 3.3.2.1 (2):Develop an alien invasive plant inventory for the reserve and map this in a GIS database.

Action Project 3.3.2.1 (3):Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines.

Action Project 3.3.2.1 (4):Update the GIS database and alien plant management overlays on a quarterly basis and use to plan and prioritize areas to be worked.

Action Project 3.3.2.1 (5):Obtain funding approval for dedicated teams to implement alien plant eradication programme.

3.3.2.2 Alien and Problem Animals

Animals that become an excessive nuisance to persons and property due to either habituation or divergent behavior may be destroyed or captured and removed from the area. This includes animals that leave and return from time to time. To minimize the need to control problem animals, efforts will be made to inform visitors and guests about the dangers associated with habituation.

No domestic animals will be allowed in Phase 3 of the BNR, inclusive of staff pets/live stock.

Pending their resettlement, dogs owned by families resident in the reserve have to be confined to prevent hunting and poaching.

Action Project 3.3.2.2 (1):Develop alien/problem animal protocol for BNR Phase 3 and ensure that staff are made aware of implications and management requirements.

Action Project 3.3.2.2(2):Remove or Destroy Alien/Problem animals as and when required,

Action Project 3.3.2.2(3):Ensure confinement of dogs, pending resettlement.

3.3.3 Catchment Management

Also see Section 7.3.2 of the Overarching IMP document.

It is essential that Phase 3 align all management efforts with the overarching catchment strategy of the Barberton Nature Reserve, with support from the Department of Water Affairs.

Action Project 3.3.3 (1):Integrate Regional Catchment Management Strategies in reserve management interventions for Phase 3 with input from Department of Water Affairs.

3.3.4 Soil Erosion and Control

Also see Section 7.3.3 of the Overarching IMP document.

Soil erosion will be considered as a natural process in Phase 3 of the BNR, yet where it is accelerated due to unsustainable land use practices or activities, active measures to mitigate, rehabilitate and control erosion will be implemented.

Sheet and gully erosion will be managed according to conditions through timing of controlled burns and packing of branches and gabions. The impact of these interventions will be monitored.

Much erosion has been caused as a result of historic mining activities. These areas must be identified and relevant mines must be held accountable for erosion reclamation and rehabilitation in these areas. A system must also be implemented which ensures that mines rehabilitate current operational areas in the future.

Action Project 3.3.4 (1):Identify problem erosion areas and capture on GIS database system

Action Project 3.3.4(2):Develop and Implement Soil Erosion Management Plan

Action Project 3.3.4(3):Monitor interventions and recurrences.

Action Project 3.3.4 (4):Identify areas impacted by erosion due to historic mining activities.

Action Project 3.3.4(5):Implement accountability system whereby relevant mines are responsible for areas which have been eroded due to their historic operations.

Action Project 3.3.4(6):Implement monitoring programme to ensure existing mining operations are rehabilitated into the future to avoid erosion problems.

3.3.5 Wildlife Management

Also see Section 7.3.4 of the Overarching IMP document.

The proposed stocking rate within this 18 000 ha game-fenced area is 1800 LAU or 10ha/LAU. Game numbers need to be within the carrying capacity of the area to ensure a healthy host of smaller organisms. Game stocking has been ongoing since 2003 and during site visits visible game and veld conditions indicate that numbers are still well below thresholds.

Feeding spectrums of stocked game include bulk feeders, selective tall grazers, selective short grazers and browsers. The quality of the grass layers in Phase 3 varies greatly depending on elevation and geology. The valley bottom and lower slopes are fairly palatable, but the higher parts of the reserve are of poor grazing quality. The species mix will be tilted towards adequate representation of bulk feeders which would enhance visitor experience.

Monitoring of game numbers forms a crucial part of the management process in Phase 3 of the BNR. The following management actions apply:

- A aerial survey annually during the winter months.
- Records (including introduction, natalities, natural deaths, predation, removal by culling/capture/poaching) will be kept per species and presented quarterly to the Biodiversity Management Committee; and
- MTPA Scientific Services, with the assistance of Founding Members, will conduct regular sex- and age as well as condition assessments.

Introduction of species to Phase 3 will only be considered if a species occurred historically in the area and if suitable habitat is still available on the reserve. Genetics will also be taken into consideration.

The detailed agreements of phase 3 must address issues relating to the ownership of game and their offspring, particularly related to rare and expensive game. In the absence of such agreement a principle of pro-rata ownership per land size contributed to the reserve has been adopted by the founding members.

Due to the land ownership and utilization model, lion will only be introduced with the consent of all founding members.

Action Project 3.3.5 (1):Develop and Implement Game Stocking Strategy for BNR, including potential key species such as buffalo and giraffe. Update and maintain and present records.

Action Project 3.3.5 (2):Implement wildlife management action plan inclusive of annual schedule of management interventions and activities.

3.3.6 Vegetation Management

The fixed point technique must be used to sample the herbaceous layer of the reserve. The former Transvaal Provincial Nature Conservation Department in consultation with the Pretoria University adopted this technique during the early 1980's. Plots are placed out in such a manner that each landform and aspect and height in the topography is represented.

The transects are monitored at a 2-year interval at the end of the growing season.

Woody plant monitoring is done using the fixed photo point method. Photographs are to be taken biannually at predetermined fixed points used for the herbaceous layer monitoring to document woodland structure. Fixed point photographs are available for many areas in Phase 3 and can be used as a basis for establishing a monitoring programme.

Action Project 3.3.6 (1):Commence implementing vegetation monitoring programme and implement management interventions as determined by Biological Management Committee.

3.3.7 Control over Illegal Activities and Use of Natural Resources

Also see Section 7.3.5 of the Overarching IMP document.

A field ranger patrol plan needs to be developed and staff trained accordingly to implement the plan. Field Ranger Pickets need to be strategically positioned throughout the reserve to ensure optimum efficiency. Existing infrastructure on the periphery of the reserve is available to be utilized as pickets and has already been placed under custodianship of the MTPA but not yet utilised. The function of field rangers is to provide security to the area by way of foot patrols, observation posts, law enforcement, regular fence patrols and collection of biological data.

Action Project 3.3.7 (1):Identify existing state owned infrastructure required for the establishment of Pickets. Engage the department of Rural Development and Land reform to release this infrastructure to the MTPA.

Action Project 3.3.7 (2):Develop Field Ranger Patrol Plan and train Field Rangers to implement plan. This plan should include placement of Field Ranger Pickets.

Action Project 3.3.7 (3):Ensure that field rangers are empowered and armed to conduct law enforcement activities.

3.3.8 Land Expansion and Incorporation

Also see Section 7.3.6 of the Overarching IMP document.

Land expansion and Incorporation in this case does not necessarily mean the purchasing of land, but can include land expansion in the form of corridors and/linkages between Phase 3 and other properties. The reserve can be expanded to the north-west to form a linkage with Phase 2 of the Barberton Nature Reserve. To the north, Phase 3 can link onto the Crocodile Gorge Conservancy. To the south Phase 3 can link with the Songimvelo Pan Handle and become part of the greater TFCA complex.

All land expansion and incorporation activities will be handled and approved by the MTPA Protected Area Expansion Officials, in conjunction with the Biological Management Committee.

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| Action Project 3.3.8 (1): Identify all expansion opportunities and benefits thereof. |
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| Action Project 3.3.8 (2): Refer expansion/incorporation opportunities to MTPA Protected Area Expansion Team for further development and implementation. |
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3.4 CULTURAL RESOURCE MANAGEMENT

Also see Section 7.4 of the Overarching IMP document.

In order to effectively manage the cultural resources of Phase 3, the overarching strategy for the BNR relating to Cultural Resource Management should be implemented as efficiently and effectively as possible. The primary objective for cultural resource management in Phase 3 is to research, document and protect the cultural resources of the area as far as possible based on current knowledge and expertise. Another important aspect of cultural resource management in Phase 3 will be to document the history of the area and its surroundings, specifically the history of the reserve and the farms in the surrounding area. Other historical aspects such as trade routes, Swazi occupation, conflict, mining, exploration, etc should also be considered.

It is also important to interpret cultural resources in the reserve for visitors and to ensure that awareness is created without damaging the integrity of the cultural resources. Utilisation of resources in this regard should be approved by the South African Heritage Resources Agency.

The management strategy for the cultural resource management in Phase 3 will include:

- Development of cultural resource database;
- Continually capacitating staff to identify and manage cultural resources;
- Continually provide opportunities for academic institutions and students to undertake research projects on cultural resources in Phase 3;
- Support for cultural resource management and protection initiatives in the area; and
- Implementation of clear and measurable goals and objectives.

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| Action Project 3.4 (1): Identify cultural resources within Phase 3. Staff should be trained to be able to identify cultural features in Phase 3 and external specialists/students can also be used for this aspect. |
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| Action Project 3.4 (2): Develop and maintain database of cultural heritage features in Phase 3. |
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Action Project 3.4 (3):Develop and implement cultural resource conservation plan and strategy with assistance from SAHRA.

Action Project 3.4 (4):Sustainably utilise cultural resource features in tourism experiences in alignment with cultural resource conservation plan and strategy.

3.5 VIEWSHED PROTECTION

As a result of the mountainous topography of Phase 3 and its surrounds there are numerous parts of the Protected Area that are susceptible to visual impacts from surrounding areas.

In cases where areas of the reserve are exposed to visual impacts from incompatible land uses such as forestry, mining, agriculture and settlement, user perception of these areas is negatively impacted. This principle is supported by the formalization of buffer zones around protected area as legislated through listing notice 3 of the 2010 EIA regulations (GN 546).

Further to this, a viewshed protection area has been defined for the BNR. Any activities occurring within this area has the potential to negatively impact on the experience of users as a result of it being visible. This viewshed protection zone is indicated on Map 11 – Viewshed Protection Zone included in the Integrated Zoning and Tourism Master Plan document.

This map should be utilized as a tool in evaluating the need to provide input to any development proposals surrounding the reserve. Visual impact within this zone should be opposed on the grounds that it will impact on the user experience and tourism potential of the reserve. Visual impact mitigation should be adopted for all development in this zone.

Action Project 3.5 (1):Actively engage in the EIA process for any development proposals within the Buffer Zone and viewshed Protection Zone.

While much of the identified viewshed protection zone has already been encumbered by landuses that are perceived as visually incompatible, the Joint Management Committee should actively engage the proponents of transient landuses such as forestry and mining to avoid the re-development of these visual impacts within the viewshed protection zone. This is of particular relevance to alien plantations that have been planted over the viewsheds of the reserve on the southern boundary.

Action Project 3.5 (2):Actively engage with Forestry to not replant plantations that extend over the viewshed into the reserve.

Action Project 3.5 (3):Engage Umjindi Municipality to ensure incorporation of appropriate bylaws to mitigate viewshed and buffer area impact for the Sheba Siding formalization project.

3.6 BUFFER AREAS

The proclaimed boundary of the reserve follows cadastral boundaries. It is recognized through the sensitivity analysis undertaken for the area as part of this study, and the through the broader World Heritage Site Dossier compilation, that attributes of high biodiversity and conservation value extend beyond the boundaries of the reserve.

It is also recognized that activities on the periphery of the proclaimed Nature Reserve have the potential to impact on the intrinsic value of the reserve – either negatively or positively.

The principle of establishing buffers around National Protected Area is well recognized in policies and legislation:

1. NEMA (107 of 1998) and Listing Notice 3 (GN R546 of 2010) identifies a buffer area *'extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively, or that defined as such for a biosphere'*. The function of this buffer area is to ensure that any activities which may have a detrimental effect on the environment in the context of impacting on the adjacent Protected Area, are subject to an Environmental Impact Assessment. See **Map 3 – Conservation Planning** in **Volume 2: Integrated Zoning and Tourism Master Plan**
2. In February 2012, Department of Environmental Affairs published a document title *'Biodiversity Policy and Strategy for South Africa: Strategy on Buffer Zones for National Parks'* (GN 106 of 2012). This policy recognizes the need for buffer zones as a result on increasing levels of development adjacent to Protected Area, in such a manner that Protected areas are being negatively impacted on. While this policy is currently applicable to National Parks only, the principles can be equally applied to other Protected Areas.

The policy recognizes the need for a buffer zone for the following primary reasons:

- The extinction of populations of fauna and flora occurring outside the park due to their isolation from populations within the park as a result of inappropriate development adjacent to the park.
- Excessive disturbance to a park due to development on its borders. This applies not only to visual and auditory impacts, but extends to disturbances such as increased security risks and pollution of resources.

The Policy also recognizes that some developments may have negative regional economic impacts including:

- Excessive developments which negate the primary attraction of the park/reserve. This includes ribbon development along the periphery of the park/reserve.

The policy defines the purpose of a buffer zone as:

- Protect the purpose and values of the park, which are explicitly defined in the Management Plan submitted in terms of section 39(2) of the PAA.
- Protect important areas of high values for biodiversity and/or society where these extend beyond the boundary of the Protected Area
- Assist adjacent and affected communities to secure appropriate sustainable benefits for the park and buffer zone by promoting a wildlife and conservation economy, including sustainable resource harvesting.
- The Buffer Zone is an area surrounding the park which has complementary legal and management restrictions placed on its use and development, aimed at providing an extra layer of protection to the integrity of the park.

In the context of BNR, it is evident that a formalised buffer zone would be of great advantage to achieving the objectives of the reserve.

Section 28 (1) & 28 (2)(a) of NEMPAA makes provision for the Minister or MEC to proclaim and regulate a buffer zone for the protection of a nature reserve.

The Biological/Joint Management committee should further pursue the possibility of clearly defining and motivating for the proclamation of an appropriate buffer zone and policies.

Action Project 3.6 (1): Identify buffer area and proclamation process in terms of NEMPAA.

Action Project 3.6 (2): Initiate proclamation of buffer area in terms of NEMPAA

4 POLICY FRAMEWORK & GUIDING PRINCIPLES: UTILISATION MANAGEMENT

Since this phase of BNR is a true community-private-public partnership reserve all policies and guiding principles relating to resource management need to take account of the fact that ownership is spread between the founding members. This implies that the founding member have both rights and responsibilities and need to be consulted on all policy.

While existing policies and the legislative framework contained in this IMP will guide in the definition of roles and responsibilities during the development of further agreements, it must be ensured that all policies are adapted to reflect ownership rights and responsibilities.

Action Project 4 (1): Ensure that all policies are aligned with the principles in terms of ownership rights and responsibilities.

4.1 COMMERCIALISATION

Commercialisation refers to the process of unlocking commercial opportunities within Phase 3. Of these opportunities, some are specifically related to the achievement of the core business of conservation (e.g. live game sales and consumptive use). Some, however, may be pursued independently of the core business. These opportunities are those that are predominantly related to the development and operation of tourism products.

Commercialization opportunities related to the core business of conservation should be identified by the Biological Management Committee on an annual basis in response to annual resource monitoring.

Action Project 4.1 (1): Biological Management Committee to annually identify conservation related commercialization opportunities

The Tourism Master Plan developed for the BNR as part of this Integrated Management Plan outlines a long term sustainable tourism development vision for the Protected Area. It clearly defines potential tourism related facilities and products and does so in the context of existing developments and in balance with expectations of the founding members. The Tourism Master Plan aims to guard against the erosion of tourism potential by providing a framework from which the Joint Management Committee and Biological Management Committee can assess the impact and value of development proposals.

The recommendations of the Tourism Master Plan are generally not set in stone, but provide guidance to the management authority and Joint Management Committee 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.

The Joint Management Committee should periodically review progress made in implementing the recommendations of the Tourism Master Plan and identify upcoming tourism development opportunities and/or actions required to develop these opportunities. This should be captured in a Tourism Implementation Programme for phase 3

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| Action Project 4.1 (2): Joint Management Committee to develop a Tourism Implementation Programme for Phase 3 |
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| Action Project 4.1 (3): Joint Management Committee to periodically review and update the Tourism Implementation Programme |
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All commercialization opportunities must be aligned with carrying capacities and zonation plan of Phase 3.

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| Action Project 4.1 (4): Ensure alignment of commercialization opportunities with the carrying capacities defined in the zoning plan. |
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Commercialisation activities taking place on state owned land and involving private-public partnership are subject to the provisions of the Public Finance Management Act.

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| Action Project 4.1 (5): The MTPA must ensure that commercial opportunities offered on state-owned land are aligned with MTPA policy and the provisions of the PFMA |
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Private land owners within Phase 3 may develop commercial products on their properties as long as they are in alignment with the phase specific objectives of Phase 3 and the overarching objectives of the BNR.

4.2 TOURISM MANAGEMENT

4.2.1 Marketing

Also see Section 8.1.1 of the Overarching IMP document.

Marketing of the tourism products provided by Phase 3 of the BNR will be undertaken by the individual product owners and operators at their own cost. This will be done within the context of a common identity and brand strategy to ensure mutual support, value creation and common brand values to protect and enhance the brand. To this end Phase 3 has become known as Mountainlands Nature Reserve in recognition of its unique attributes and ownership model, distinct from the rest of the BNR phases.

Mountainlands Nature Reserve has an already established market presence and visual identity upon which further development can take place.

The MTPA may at its discretion promote the BNR and its tourism offerings in the interest of promoting tourism within the region.

Action Project 4.2.1 (1):Build upon the Mountainlands Nature Reserve brand identity through a brand strategy and common brand architecture.

4.2.2 Linkages with other tourism initiatives

Also see Section 8.1.2 of the Overarching IMP document.

Linkages with other tourism initiatives will be addressed by the Joint Management and Biological Committee. All enquiries must be referred to the Regional Manager of the MTPA or the alternative appointed representative for discussion at the JMC. Managers of the individual phases of the BNR will not be responsible for establishing linkages with other tourism initiatives and should refer all external enquiries to the Regional Manager.

Established linkages between phase 3 and other tourism initiatives must be included in the marketing strategy for the BNR.

Action Project 4.2.2 (1):Implement protocol whereby all external enquiries relating to linkages with other tourism initiatives are referred to the Regional Manager of the MTPA.

Action Project 4.2.2 (2):Include established linkages in Marketing Strategy.

4.2.3 Tourism Support Infrastructure

Also see Section 8.1.3 of the Overarching IMP document.

An annual tourism infrastructure development and maintenance plan needs to be developed by the Joint Management Committee for all common supporting tourism infrastructure that will be developed/operated by the founding members. This infrastructure typically includes the development of roads, view sites, gates and information centers among others. Large scale tourism developments such as camps and resorts as outlined in the Tourism Master Plan are likely to fall outside this planning as they would typically be privately funded (See 3.1 above)

The tourism infrastructure development plan will guide all future developments in phase 3 and will ensure that future developments will meet the needs of relevant tourism markets. This plan should also stipulate all authorization requirements in terms of the overarching policies and guidelines of the BNR.

A site specific environmental management plan must be prepared for each development site or node. These management plans are detailed and when finalised will form part of the contract between the developer and the contractor (builder) as well as the developer and the Joint Management Committee. The site plans must be flexible and must allow the developer to act on contingencies or new and unaccounted events, though this would be done in consultation with the Reserve Management.

Specific site and activity plans must be developed for all development sites and activities that will be undertaken. For example, plans or sub-plans must be prepared for view sites, trails and any activity or area that will be utilised by the tourist operator.

Action Project 4.2.2 (3):Develop/revise annual infrastructure maintenance plan for phase 3, inclusive of upgrading projects.

Action Project 4.2.2 (4): Develop/revise annual infrastructure Development Plan for Phase 3, in alignment with the Concept Development Plan and Tourism Master Plan and in alignment with overarching development policies and guidelines of the BNR.

4.2.4 Operational Guidelines

Also see Section 8.1.4 of the Overarching IMP document.

A Tourism Operations Plan will be developed by the Joint Management Committee in consultation with the Biological Management Committee to ensure that the tourism experiences provided in the BNR are of a high standard and have limited impact on the receiving environment.

Action items identified in the overarching Tourism Operations Plan must be effectively implemented in Phase 3. All activities provided by Phase 3 need to be compatible with each other and should be provided to the market place in alignment with relevant tourism legislation and safety/security policies.

Staff should be capacitated and made aware of the requirements, policies and guidelines included in the Tourism Operations Plan to be developed for Phase 3. Staff skills/qualifications and equipment, used to provide tourism experiences must be compliant with relevant legislation and industry norms and standards. An operations manual must be developed for any external private operators providing tourism services in the reserve on a lease or concession basis.

Action Project 4.2.4 (1): Implement Action items identified in the overarching Tourism Operations Plan.

Action Project 4.2.4 (2): Capacitate staff on the requirements, policies and guidelines included in the Tourism Operations Plan.

Action Project 4.2.4 (3): Ensure staff skills/equipment and equipment used to provide tourism experiences are compliant with industry norms and standards.

Action Project 4.2.4 (4): Develop and Implement operations manual for private operators operating in Phase 3, if applicable.

4.2.5 Environmental Management

Also see Section 8.1.5 of the Overarching IMP document.

A database of environmental issues should be maintained by the reserve manager of phase 3. All new tourism developments and activities should be compliant with relevant legislation and approved by the Biological Management Committee. Environmental Compliance Officers should be appointed as and when necessary to ensure all operations and developments in Phase 3 comply with relevant legislation. These assessments should be undertaken every six months.

Environmental Management issues relating to mining operations in the BNR need to be constantly monitored and dealt with appropriately. A database of environmental non-compliances by mining operations needs to be developed and maintained. Mines need to be engaged in managing potential impacts of mining related activities.

All relevant environmental legislation needs to be filed and kept up to date by the management team for effective reference. The Environmental Control Officer should assist in this regard

The philosophy with respect to the environment and development in Phase 3 is that environmental considerations should be fundamental to all aspects of project design and implementation. Potential negative environmental impacts should be negated or minimised in the preliminary conceptual and design phase (from construction to operation) through creative thinking and by promoting empathy with each particular environment. The need for environmentally responsible and sustainable development is strongly supported and this principle will be upheld at all times.

Action Project 4.2.5 (1):Develop and maintain a database of all environmental issues within Phase 3, inclusive of mining related issues.

Action Project 4.2.5 (2):Engage with relevant mines in order to effectively manage mining related environment management issues.

Action Project 4.2.5 (3):Appoint Environmental Compliance Officer to undertake Environmental Compliance Assessments every 6 months to ensure compliance of management operations with relevant legislation and policies.

Action Project 4.2.5 (4):Develop and maintain filing system of environmental management legislation and policies for effective and fast reference.

4.2.6 Tourism Monitoring

Also see Section 8.1.6 of the Overarching IMP document.

In order to maintain an attractive and sustainable tourism product in Phase 3 of the BNR, feedback from visitors is essential. A system to capture and deal with comments and concerns presented by visitors should be developed. This system of feedback should target all operations within this phase of the BNR

Tourism activities and movement in Phase 3 should be monitored to ensure that no unlawful activities are undertaken in Phase 3 and to ensure that no damage is done by these activities. Visitor densities should also be monitored and controlled in Phase 3, in alignment with the Zoning Plan for the BNR.

Action Project 4.2.6 (1):Develop system to capture and deal with comments and concerns presented by visitors to Phase 3 of the BNR. (A database of comments and concerns should form part of this system).

4.3 NATURAL RESOURCE UTILISATION

4.3.1 Harvesting

Also see Section 8.2.1 of the Overarching IMP document.

Although wildlife-based, educational and recreational-based tourism will be the prime form of resource use, controlled use of plant resources will be allowed when necessary in Phase 3 of the

BNR. Such use will only be to the benefit of founding members and local communities and not to external commercial ventures unless so agreed upon by the Joint Management Committee and Biological Management Committee and if it does not impact on the tourism and management activities in the reserve. Harvesting quotas will be determined and approved by the Biological Management Committee based on ecological assessments.

Any revenue streams accruing from these activities will be governed by the conditions of the detailed agreement adopted by the founding members.

Action Project 4.3.1 (1):Determining harvesting quotas on an annual basis.

Action Project 4.3.1 (1):Develop and maintain list of beneficiaries of harvesting programmes.

4.3.2 Hunting

Also see Section 8.2.2 of the Overarching IMP document.

Regular control of the numbers of specific species in Phase 3 of the BNR will be required once optimum populations have been established in Phase 3. MTPA Scientific Services, in consultation with the Biological Management Committee will determine necessary removals based on monitoring results. These removal quotas will be discussed and agreed upon by the Joint Management Committee. The optimal cost-effective balance should be decided upon between culling, hunting and/ or live capture of individual species.

Population control can be done using the following:

- Live capture;
- Culling;
- Hunting.

Controlled hunting will be allowed on Phase 3 as a population control measure only. Any such hunting activity must be approved by the Joint Management Committee. Any revenue streams accruing from these activities will be governed by the conditions of the detailed agreement adopted by the founding members.

Action Project 4.3.2 (1):Develop and implement hunting management plan and operational strategy for Phase 3 of the BNR once optimum populations are reached.

Action Project 4.3.2 (2):Identify qualified and experienced hunting operators to undertake hunting to control population numbers as and when required.

Action Project 4.3.2 (3):Determine hunting quotas on an annual basis.

4.3.3 Live Sales

Also see Section 8.2.2 of the Overarching IMP document.

Live capture is the preferred method for the population control of most species in Phase 3. Disturbance will be limited to a short period every year or second year. Culling should be done in a professional and sensitive way in order to minimise animal trauma, avoid general game shyness and to limit disturbance to the visitors of Phase 3. The resulting carcasses will be used internally

(liaison functions, venison for lodges, staff training, etc) and externally (commercial activities and community needs).

Any revenue streams accruing from these activities will be governed by the conditions of the detailed agreement adopted by the founding members.

Action Project 4.3.3 (1): Biological Management Committee must provide off take quotas on annual basis.

Action Project 4.3.3 (2): Regional manager, via the Biodiversity Conservation Officer, must approve number of carcasses to be used internally versus externally.

Action Project 4.3.3 (3): BMC, in conjunction with the JMC, to develop and Implement off-take plan and operations strategy to minimise impact on other aspects of the reserve during off-take operations.

4.3.4 Mining

Also see Section 8.2.4 of the Overarching IMP document for policy and actions.

The policy and actions included in the Overarching document apply equally to Phase 3, however they are included in the overarching document since many of the mining rights and activities span multiple phases.

Reserve Management must be fully aware of the legal instruments dealing with mining in Protected Areas, particularly the provisions of NEMPAA with regard to mining as well as the recommendations emanating from any determinations by the Minister in terms of Section 48(3). The reserve management must also be fully aware of all existing, lawful mining rights and operations occurring in Phase 3.

The reserve manager must be included in MTPA engagement with the mines.

Action Project 4.3.4 (1): Expose reserve management to legal instruments and provisions dealing with mining in Protected Areas, particularly in respect of mining operations and their legal status, right and obligations.

Any mining surface activities and access to the reserve must be coordinated in advance and will be monitored by the reserve manager. Mining company to present an annual plan of activities impacting on the surface and all activities should receive prior approval of the Joint Management Committee and Biological Management Committee. Any irregular activity by mines is to be immediately elevated to the attention of the Joint Management Committee and the MTPA.

The reserve manager must implement access control mechanisms for the mines, as established by the Joint Management Committee and Biological Management Committee.

Action Project 4.3.4 (2): Receive annual access and activity plan for approval of JMC and BMC and implement access control of mine personnel and vehicles.

Joint Management Committee to provide input to the prioritization of rehabilitation of mining areas. All old mining areas, shaft and adits are known to the mines. In 1999 and 2000 Barberton mines conducted a comprehensive survey of all shafts and adits. Result captured and

documented in several volumes, including photos, maps, rehabilitation and safety requirements. The process was initially budgeted by never implemented. This survey can form basis of monitoring and compliance effort.

Action Project 4.3.4 (3): Prioritise rehabilitation of different mining areas. MTPA 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.

4.4 INFRASTRUCTURE

4.4.1 Entrance Gates

Also see Section 8.3.1 of the Overarching IMP document.

Currently none of the entrance gates to Phase 3 are staffed. As tourism products are developed in line with the Tourism Master Plan it will become necessary to develop infrastructure at particular gates to accommodate staff and provide a high quality visitor experience. Specific gates linked to operators or facilities will be developed and staffed as part of the development of the linked facilities, in compliance with pre-approved plans. (Eg. The gate to Mountainlands Estate has been developed by the landowner, in this case designed and placed for electronic monitoring and staffing when required.)

Tourism access to Phase 3 of the reserve will only be allowed through specific entrance gates reflected on the Tourism Master Plan. Staff will be trained to provide a prompt, efficient and friendly welcome to visitors according to their needs, as well as provide an information service and sales point to passing travelers.

The main entrance gates need to be well maintained and provide a welcoming sense of arrival for visitors when arriving at Phase 3 of the BNR. Entrance gates must be developed and located in accordance with the tourism master plan of the BNR.

Management entrance gates will be managed accordingly and only management vehicles and officials will be permitted to use these gates unless other arrangements have been made with Phase 3 management.

Action Project 4.4.1 (1): Ensure development and maintenance of tourism entrance gates and facilities are catered for in concession/development agreements.

Action Project 4.4.1 (2): Train gate staff to provide a friendly, prompt and informative service to visitors.

4.4.2 Signage

Also see Section 8.3.2 of the Overarching IMP document.

Uniform signage will be installed to guide visitors to the different tourist areas in the reserve. Management roads will be marked with no entry signs. Trail markings will be installed on all trails in the reserve.

Signage will be implemented in a manner which will have very little visual and ecological impact on the surrounding environment.

Action Project 4.4.2 (1):Develop and implement signage strategy for the reserve in alignment with overarching signage strategy for the BNR.

4.4.3 Roads, Tracks and Paths

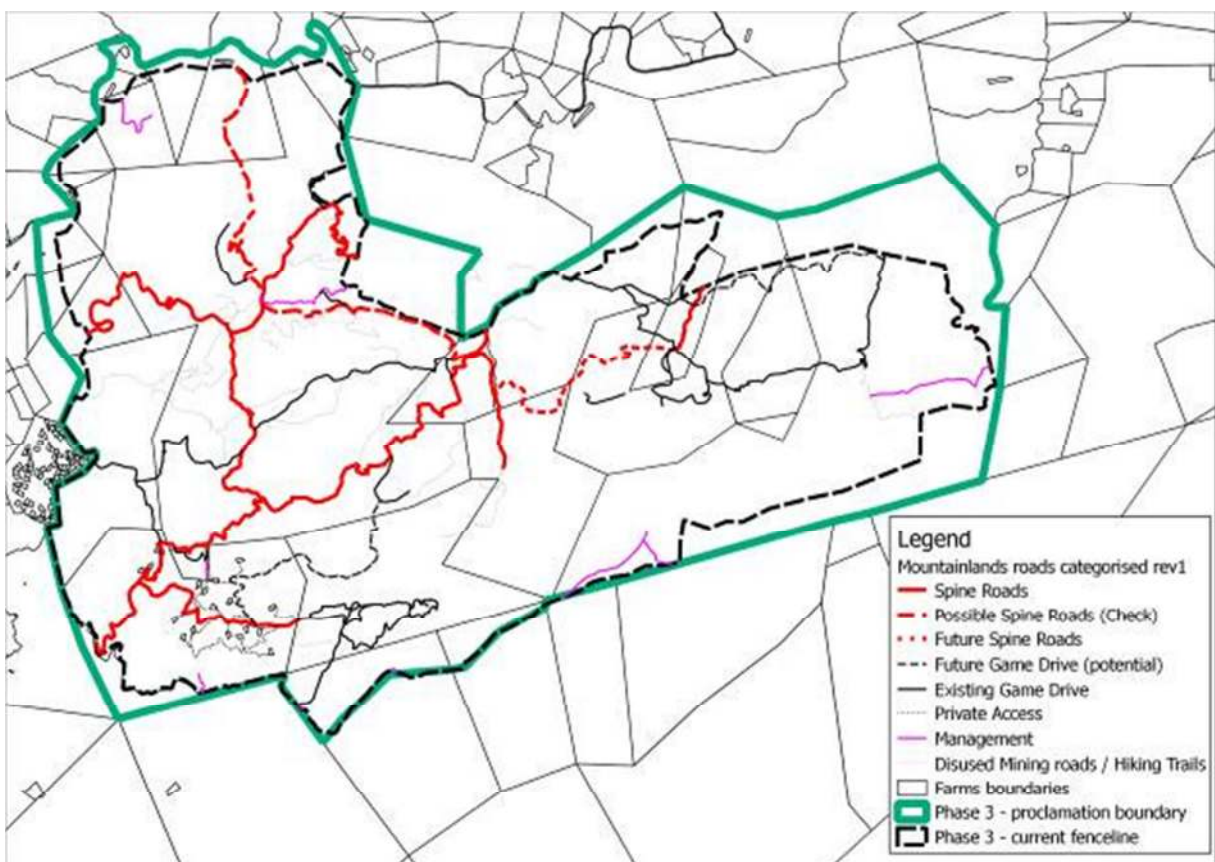
Also see Section 8.3.3 of the Overarching IMP document.

Two spoor type roads and those constructed for mining purposes are common on the reserve. Many of the existing roads are in poor condition and will require some construction to prevent erosion.

As part of the IMP planning a scoping exercise was conducted to identify network of roads that provides linkages between components as well as providing the opportunity for recreational drives. Roads that were considered too expensive to maintain and those of low tourism or management value have been indicated as closed. This data has been captured as a GIS shapefile. This GIS database should be maintained and updated.

It is acknowledged that certain roads leading to facilities, residences or management will be designated limited use for specific persons only according to their purpose (eg. Private access).

The following graphic illustrates the roads within Phase 3.



It is acknowledged that there will be the need to develop additional roads to service tourism facilities.

No new roads will be constructed before a comprehensive scoping exercise has been completed. This should be reviewed by the Biological Management Committee. Any new roads and tracks will be planned with due consideration to their functional requirements, associated erosion risks and required maintenance levels. The zoning plan makes reference to the category of roads that are suitable within each zone. Existing roads will be maintained in a state which minimises their impact on surrounding hydrology, soils and biota.

The applicability of the EIA regulations to any proposed road must also be assessed. In this regard Listing Notice #3 (GN 546) is relevant.

- Activity 4: Any road with an operating surface wider than 4m will require a formal EIA in terms of the regulations.
- Activity 12: The clearing of more than 300m² of vegetation within any critically endangered or endangered ecosystem listed in terms of section 52 of NEMBA.

Certain roads are in a state of disrepair and are poorly located (for example old access roads to mining areas which have been aligned on a slope which has caused significant erosion impacts). It is a priority to stabilise existing roads, relocate where necessary, and ensure sufficient funds for ongoing maintenance. Where required, concrete strips should be constructed to minimise erosion and maintenance costs.

Action Project 4.4.3 (1): Develop and Implement Road Development and Maintenance Plan for Phase 3, including GIS mapping.

4.4.4 Fencing

Also see Section 8.3.4 of the Overarching IMP document.

The 18000 ha reserve is fenced with either steel wire strand Bonnox/Veldspan type perimeter fencing. The fence is not electrified, thereby limiting introduction of certain key species should the need arise.

A boundary fence patrol and maintenance roster should be developed on a monthly basis to ensure that the boundary fence of Phase 3 is maintained and illegal access/breach is reported to the management team. The perimeter fence of Phase 3 needs to be cleared and maintained as part of the maintenance schedule. The topography of the area does not allow a fence road in most areas of the reserve and this should be considered in the maintenance roster.

Action Project 4.4.4 (1): Boundary fence maintenance and patrol must be developed and implemented on a monthly basis.

Action Project 4.4.4 (2): Upgrade fence to accommodate larger species of game such as buffalo, should the game stocking strategy determine that these species will be stocked.

4.4.5 Water Provision

MTPA staff are currently accommodated at Sheba mine where they have access to water. Boreholes and water extraction from perennial rivers will be utilized to provide water for tourism operations and other requirements. Development plans for each facility must include planning and related approvals for use of water resources.

Water extraction points and boreholes should comply with relevant legislation and all Water Use License requirements should be addressed as and when required.

Action Project 4.4.5 (1):Develop and implement water provision strategy for Phase 3

Action Project 4.4.5 (2): Ensure compliance of boreholes and water extraction points with relevant legislation and water use license requirements

4.4.6 Radio Communication and Other Communication Equipment

Also see Section 8.3.6 of the Overarching IMP document.

Radio communication infrastructure will be upgraded to allow for more effective radio communication in Phase 3. This communication system must be developed in a manner which also allows communication with Phase 1 and 2 for more effective management of the total area of the BNR and faster response times to management issues such as fires and security breaches.

Action Project 4.4.6 (1):Implement effective radio communication system.

4.4.7 Waste Management

Also see Section 8.3.7 of the Overarching IMP document.

Previously, old prospecting pits were used as refuse dumps in BNR. As it holds a potential contamination threat to ground water, this process has ceased and all refuse will be dumped at approved refuse sites in the Umjindi Municipal area. All future tourism developments shall utilise these as well. The option of recycling also needs to be assessed. Recycling options should be explored and implemented as far as possible.

To avoid animal habituation and the need to destroy attendant problem animals, all refuse collection points shall be protected from animal intrusion and only baboon-proof bins allowed.

All waste management activities must be conducted line with current legislation.

Action Project 4.4.7 (1):Identify Municipal refuse dumps to dump refuse from reserve and formalise agreement with refuse dump.

Action Project 4.4.7 (2):Explore the potential of recycling as far as possible.

5 POLICY FRAMEWORK & GUIDING PRINCIPLES: BENEFIT FLOW MANAGEMENT

Since this phase of BNR is a true community-private-public partnership reserve all policies and guiding principles relating to resource management need to take account of the fact that ownership is spread between the founding members. This implies that the founding member have both rights and responsibilities and need to be consulted on all policy.

While existing policies and the legislative framework contained in this IMP will guide in the definition of roles and responsibilities during the development of further agreements, it must be ensured that all policies are adapted to reflect ownership rights and responsibilities.

Action Project 5 (1):Ensure that all policies relating to benefit flow are aligned with the principles in terms of ownership rights and responsibilities.

5.1 COMMUNITY PARTICIPATION

5.1.1 Community Participation and partnerships

Also see Section 9.1 of the Overarching IMP document.

The reserve manager together with the MTPA Social Ecology department will establish formal relations with neighbours through existing forums, working groups and any other formal institutions that may exist. Where appropriate and relevant, Phase 3 will actively support community empowerment partnerships and social programmes focusing on conservation and tourism development.

Action Project 5.1.1 (1):Register with all relevant community forums, working groups, and any other formal institutions to participate in meetings and discussions.

Action Project 5.1.1 (2):Establish formal relations with neighbours.

Action Project 5.1.1 (3):Identify and actively support community empowerment partnerships and social programmes focusing on conservation and tourism development.

5.1.2 Land Claims

Also see Section 9.3 of the Overarching IMP document.

An order was issued by the Land Claims Court on 22 July 2008 relating to all known land claims both on private and State Land in Phase 3. Accordingly the claims were found invalid and de-gazetted in 2009. MTPA and founding members will continually monitor and ensure compliance with the court order and the factual basis set out in the pleadings.

Issues regarding Land Claims on Phase 3 will be addressed by the Joint Management Committee. All enquiries must be referred to the Social Ecology department of the MTPA and the members of the Joint Management Committee on the same day when received. Managers of the individual phases of the BNR will not be responsible for resolving Land Claim issues as and when they occur.

Action Project 5.1.2 (1):Monitor compliance with Land Claims Court order and refer land claim inquiries to Social Ecology and Joint Management Committee as and when they are presented.

5.1.3 Environmental Awareness, Education and Interpretation

The objective of Environmental Awareness, Education and Interpretation in Phase 3 is to provide access to wildlife and conservation through interpretative programmes to inform, educate and conscientise the reserves' varied constituency. Although this activity on Phase 3 is not operational yet, it will be regarded as a major draw card to schools, youth groups etc. within the greater Nelspruit region which would include the Mbombela and Umjindi municipal areas.

These programmes will need to be compatible with tourism and other commercial activities in the reserve. An Interpretation and Environmental Education Programme must be developed for Phase 3 of the BNR.

Action Project 5.1.3 (1):Develop and implement environmental education and interpretation plan.

5.1.4 Service Provider Database

A Service Provider Database will be developed and maintained which captures all Service Providers in the local communities around the BNR. Local Service Providers, captured in the database, will be used whenever possible to undertake contracted work for the MTPA in Phase 3 of the BNR.

Action Project 5.1.4 (1):Develop and utilise a local Service Provider database for contract work opportunities in Phase 3 of the BNR.

5.1.5 Communication Strategies

The management team of Phase 3 will regularly engage in two-way communication with recognised community institutions for information dissemination, exposure to regional initiatives and monitoring of community perceptions and attitudes. The management team will also attend community forums on a regular basis to forge relationships with the communities.

Action Project 5.1.5 (1):Undertake regular scheduled two way communication with community institutions and determine trends.

5.2 RESETTLEMENT AND DOMESTIC LIVESTOCK

In 1999 when fencing of Phase 3 was planned 18 resident families of subsistence farmers were found to be settled on the reserve and adjoining farmers were found to be grazing livestock on the reserve. All these affected parties were engaged. The Mountainlands Affected Parties Programme in collaboration with Department of Land Affairs and Umjindi Local Municipality commenced in 2000. Under the programme families will be resettled outside the reserve through a tenure upgrade process to provide security of tenure and food security.

A range of agreements were entered into with surrounding communities, Lomshiyo Tribal Authority and the resident families. All families agreed to the programme which would have seen a substantial improvement in their livelihoods.

Four phases were identified and implemented:

- Firstly, grazing of domestic livestock by commercial farmers on the reserve either legally through rental agreements with Public Works or illegally, was terminated and attendant livestock removed.
- Secondly, 6 families resident on private land were relocated to a farm purchased for them under the LRAD programme with contributions from the land owners and DLA.
- Thirdly, the Lomshiyo Trust moved all families and domestic livestock off their land situated in the reserve to their adjoining settlement areas, with a view to development of their land in the reserve.
- Fourthly, the 12 families resident on State Land in the reserve agreed to move to the Sheba Siding area and a large portion of around 800ha was fenced out of the reserve to provide for their grazing needs. They own extensive livestock which is currently grazing inside the reserve. Formalization of the Sheba Siding settlement was initiated by DLA in 1996 and more recently the Umjindi Municipality are in the process of finalizing the township establishment. This phase has not been completed despite agreement reached with all relevant parties and departments. (See also 5.3 below – Sheba Siding).

Action Project 5.2 (1): Ensure that remaining families are accommodated at the Sheba Siding formal township and that their grazing is protected and they received equitable redress verified by Department of Human Settlements.

Action Project 5.2 (2): Pending resettlement, provide continued engagement and updates to families and manage the domestic livestock and attendant issues. This includes burning of grazing, confinement of dogs to prevent hunting and poaching, prevention of illegal grazing of outsiders livestock and limiting livestock herd growth and impacts.

5.3 *SHEBA SIDING*

From the late 80's an informal settlement developed around the Sheba Mine as a result of the mine's policies at the time. Formalization of the Sheba Siding settlement was initiated by DLA in 1996 and more recently the Umjindi Municipality are in the process of finalizing the township establishment.

The area being formalized forms part of the proclaimed land under custodianship of MTPA. Agreement has been reached with all departments to excise the area from the reserve which was already fenced out in 2000. The formalization process included surveying of the new farm Sheba 949JU and township establishment thereon. The township is adjacent to the reserve and directly affects the viewshed and buffer zone of the reserve. Appropriate municipal bylaws need to be promulgated to protect the gazing area (see 5.2 above) and to mitigate visual and densification aspects associated with townships. Costs could be offset by contributions from the mine who is directly responsible for establishing the settlement through their policies (refer DLA investigation reports 1996).

Action Project 5.3 (1): Deproclaim the farm Sheba 494JU to no longer be part of the reserve and allow for township establishment.

Action Project 5.3 (2): Ensure promulgation of appropriate bylaws by Umjindi Municipality to protect against future expansion and densification, mitigate visual impacts and protect gazing area and appropriate buffer areas through acceptable layout plan.

Action Project 5.3 (3):Engage Umjindi to ensure understanding of reserve requirements and buffer zone implications.

Action Project 5.3 (4):Ensure that suitable agricultural stands are provided in Sheba township for the state land resident families.

Action Project 5.3 (5):Increased security and management of impacts from Sheba area to be accommodated in reserve operations. This includes security and access control to prevent livestock intrusion, plant collection, poaching and others.

5.4 RESEARCH

See Section 9.5 of the Overarching IMP document for Policy relating to research.

All research projects in Phase 3 are subject to the following:

- Adherence to the MTPA research protocol
- Approval and registration using the guidelines as determined by the Integrated Management Plan;
- Informing the Joint Management Committee,
- Keeping the Phase 3 reserve manager informed as to practical arrangements and actual presence of researchers in the reserve and progress.
- Data from research programmes should then be obtained and captured in relevant databases and integrated into management interventions as and when possible.

Requests for research projects on geology, serpentines, floristic, etc. should be welcomed and actively promoted as it is of benefit to the management of the reserve or conservation in general. As a prerequisite the MTPA expects a final report at the conclusion of the study.

Action Project 5.4 (1): Create opportunities for research programmes and update list of potential research programmes that should and can be conducted in Phase 3 of the BNR.

Action Project 5.4 (2): Handle all research inquiries in terms of the required protocol and obtain approval from the Joint Management Committee and Biological Management Committee.

6 PROJECT IMPLEMENTATION PLAN

6.1 LIST OF ACTION PROJECTS

Action Project 1.4 (1): Founding members to develop and ratify the detailed agreement for the reserve.

Action Project 1.4 (2): Establish a final Joint Management Committee for phase 3 of the reserve.

Action Project 1.4 (3): Joint Management Committee to reconsider institutional model options, including merits and demerits of potentially separating Phase 3 from the rest of BNR and proclamation as a separate Nature Reserve, and management as a distinct management unit.

Action Project 1.5 (1): Actively manage portions of the proclaimed area excluded from the game fence, according to the recommendations of the report on fenceline discrepancies.

Action Project 1.5 (2): Annually review fenceline positioning and update the report on fenceline discrepancies accordingly.

Action Project 2.2 [1]: Consolidate and Maintain a database of geology and geological sites

Action Project 2.6 (1): Update soils map as better scale data is made available.

Action Project 2.7 (1): Identify and record sites of archaeological importance

Action Project 2.9 (1): obtain and maintain weather records from locations at varying altitudes

Action Project 2.10.1 (1): Update floral distribution map and GIS database as better scale data is made available.

Action Project 2.10.3 (1): Regularly update floral species list, rare and threatened species and plant communities.

Action Project 2.10.3 (2):Update GIS to reflect localities of rare and vulnerable flora.

Action Project 2.10.3 (3): Regularly update faunal inventory lists as data becomes available.

Action Project 3 (1): Ensure that all policies are aligned with the principles of ownership rights and responsibilities.

Action Project 3.1.1 (1): Ensure compliance with the Public Finance Management Act.

Action Project 3.1.1 (2): Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 3 to the ecological value and economy of the area and region.

Action Project 3.1.1 (3): Integrate 5 Year Strategic Plan, Business Plan and requirements of the Public Finance Management Act in financial decision making, procurement procedures and spending policies specifically relating to Phase 3 of the BNR.

Action Project 3.1.1 (4): Depending on institutional model used, provide all financial management information to MTPA on an annual basis for Annual Performance Review.

Action Project 3.1.2 (1): Ensure current staffing structure of Phase3 complies with the organogram which has been approved by the MTPA.

Action Project 3.1.2 (2): Develop Database/Inventory of local skills within the community surrounding Phase 3 and employ local staff from this database wherever possible.

Action Project 3.1.2 (3): Undertake audit of staff contracts and human resource management policies within Phase 3 and ensure compliance with relevant legislation and guidelines.

Action Project 3.2 (1): Undertake Risk Assessment of Phase 3 and provide all GIS data to Biological Management Committee for inclusion in Integrated Safety and Security Strategy for the greater BNR.

Action Project 3.2 (2): Wildlife Protection Services unit to undertake safety audit of all public areas and address problem areas.

Action Project 3.2 (3): Compile appropriate indemnity forms and ensure these are signed by all visitors and that such principles are captured in land sale agreements in the case of Mountainlands Estate.

Action Project 3.2 (4): Erect warning and indemnity signs at all operator access gates.

Action Project 3.2 (5): Undertake safety audit to determine safety issues relating to staff activities and address problem areas. Incorporate appropriate legal waivers in staff contracts due to nature of terrain.

Action Project 3.3 (1): Ensure that management team of Phase 3 is represented on Biological Management Committee

Action Project 3.3.1 (1): Implement fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines.

Action Project 3.3.1 (2): Review structure of annual subscriptions to LEFPA to ensure that all Founding Members contribute.

Action Project 3.3.1 (3): Ensure that information from the Local Fire Protection Association (LEFPA) is disseminated to the BMC.

Action Project 3.3.1 (4): Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required.

Action Project 3.3.1 (5): Implement fire break burning programme, approved by the Biological Management Committee.

Action Project 3.3.1 (6): Review impact of fire break practices and agreements with SAPPI to ensure mitigation of risk and appropriate rotation and provision of firebreaks on either side of cadastral boundaries.

Action Project 3.3.2.1 (1): Engage the mines on their responsibility for the removal of alien vegetation introduced through mining disturbances.

Action Project 3.3.2.1 (2): Develop an alien invasive plant inventory for the reserve and map this in a GIS database.

Action Project 3.3.2.1 (3): Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines.

Action Project 3.3.2.1 (4): Update the GIS database and alien plant management overlays on a quarterly basis and use to plan and prioritize areas to be worked.

Action Project 3.3.2.1 (5): Obtain funding approval for dedicated teams to implement alien plant eradication programme.

Action Project 3.3.2.2 (1): Develop alien/problem animal protocol for BNR Phase 3 and ensure that staff are made aware of implications and management requirements.

Action Project 3.3.2.2 (2): Remove or Destroy Alien/Problem animals as and when required,

Action Project 3.3.2.2 (3): Ensure confinement of dogs, pending resettlement.

Action Project 3.3.3 (1): Integrate Regional Catchment Management Strategies in reserve management interventions for Phase 3 with input from Department of Water Affairs.

Action Project 3.3.4 (1): Identify problem erosion areas and capture on GIS database system

Action Project 3.3.4 (2): Develop and Implement Soil Erosion Management Plan

Action Project 3.3.4 (3): Monitor soil erosion interventions and recurrences.

Action Project 3.3.4 (4): Identify areas impacted by erosion due to historic mining activities.

Action Project 3.3.4 (5): Implement accountability system whereby relevant mines are responsible for areas which have been eroded due to their historic operations.

Action Project 3.3.4 (6): Implement monitoring programme to ensure existing mining operations are rehabilitated into the future to avoid erosion problems.

Action Project 3.3.5 (1): Develop and Implement Game Stocking Strategy for BNR, including potential key species such as buffalo and giraffe. Update and maintain and present records.

Action Project 3.3.5 (2): Implement wildlife management action plan inclusive of annual schedule of management interventions and activities.

Action Project 3.3.6 (1): Commence implementing vegetation monitoring programme and implement management interventions as determined by Biological Management Committee.

Action Project 3.3.7 (1): Identify existing state owned infrastructure required for the

establishment of Pickets. Engage the department of Rural Development and Land reform to release this infrastructure to the MTPA.

Action Project 3.3.7 (2): Develop Field Ranger Patrol Plan and train Field Rangers to implement plan. This plan should include placement of Field Ranger Pickets.

Action Project 3.3.7 (3): Ensure that field rangers are empowered and armed to conduct law enforcement activities.

Action Project 3.3.8 (1): Identify all expansion opportunities and benefits thereof.

Action Project 3.3.8 (2): Refer expansion/incorporation opportunities to MTPA Protected Area Expansion Team for further development and implementation.

Action Project 3.4 (1): Identify cultural resources within Phase 3. Staff should be trained to be able to identify cultural features in Phase 3 and external specialists/students can also be used for this aspect.

Action Project 3.4 (2): Develop and maintain database of cultural heritage features in Phase 3.

Action Project 3.4 (3): Develop and implement cultural resource conservation plan and strategy with assistance from SAHRA.

Action Project 3.4 (4): Sustainably utilise cultural resource features in tourism experiences in alignment with cultural resource conservation plan and strategy.

Action Project 3.5 (1): Actively engage in the EIA process for any development proposals within the Buffer Zone and viewshed Protection Zone.

Action Project 3.5 (2): Actively engage with Forestry to not replant plantations that extend over the viewshed into the reserve.

Action Project 3.5 (3): Engage Umjindi Municipality to ensure incorporation of appropriate bylaws to mitigate viewshed and buffer area impact for the Sheba Siding formalization project.

Action Project 3.6 (1): Identify buffer area and proclamation process in terms of NEMPAA.

Action Project 3.6 (2): Initiate proclamation of buffer area in terms of NEMPAA

Action Project 4 (1): Ensure that all policies are aligned with the principles in terms of ownership rights and responsibilities.

Action Project 4.1 (1): Biological Management Committee to annually identify conservation related commercialization opportunities

Action Project 4.1 (2): Joint Management Committee to develop a Tourism Implementation Programme for Phase 3

Action Project 4.1 (3): Joint Management Committee to periodically review and update the Tourism Implementation Programme

Action Project 4.1 (4): Ensure alignment of commercialization opportunities with the carrying capacities defined in the zoning plan.

Action Project 4.1 (5): The MTPA must ensure that commercial opportunities offered on state-owned land are aligned with MTPA policy and the provisions of the PFMA

Action Project 4.2.1 (1): Build upon the Mountainlands Nature Reserve brand identity through a brand strategy and common brand architecture.

Action Project 4.2.2 (1): Implement protocol whereby all external enquiries relating to linkages with other tourism initiatives are referred to the Regional Manager of the MTPA.

Action Project 4.2.2 (2): Include established linkages in Marketing Strategy.

Action Project 4.2.2 (3): Develop/revise annual infrastructure maintenance plan for phase 3, inclusive of upgrading projects.

Action Project 4.2.2 (4): Develop/revise annual infrastructure Development Plan for Phase 3, in alignment with the Concept Development Plan and Tourism Master Plan and in alignment with overarching development policies and guidelines of the BNR.

Action Project 4.2.4 (1): Implement Action items identified in the overarching Tourism Operations Plan.

Action Project 4.2.4 (2): Capacitate staff on the requirements, policies and guidelines included in the Tourism Operations Plan.

Action Project 4.2.4 (3): Ensure staff skills/equipment and equipment used to provide tourism experiences are compliant with industry norms and standards.

Action Project 4.2.4 (4): Develop and Implement operations manual for private operators operating in Phase 3, if applicable.

Action Project 4.2.5 (1): Develop and maintain a database of all environmental issues within Phase 3, inclusive of mining related issues.

Action Project 4.2.5 (2): Engage with relevant mines in order to effectively manage mining related environment management issues.

Action Project 4.2.5 (3): Appoint Environmental Compliance Officer to undertake Environmental Compliance Assessments every 6 months to ensure compliance of management operations with relevant legislation and policies.

Action Project 4.2.5 (4): Develop and maintain filing system of environmental management legislation and policies for effective and fast reference.

Action Project 4.2.6 (1): Develop system to capture and deal with comments and concerns presented by visitors to Phase 3 of the BNR. (A database of comments and concerns should form part of this system).

Action Project 4.3.1 (1): Determining harvesting quotas on an annual basis.

Action Project 4.3.1 (1): Develop and maintain list of beneficiaries of harvesting programmes.

Action Project 4.3.2 (1): Develop and implement hunting management plan and operational strategy for Phase 3 of the BNR once optimum populations are reached.

Action Project 4.3.2 (2): Identify qualified and experienced hunting operators to undertake hunting to control population numbers as and when required.

Action Project 4.3.2 (3): Determine hunting quotas on an annual basis.

Action Project 4.3.3 (1): Biological Management Committee must provide off take quotas on annual basis.

Action Project 4.3.3 (2): Regional manager, via the Biodiversity Conservation Officer, must approve number of carcasses to be used internally versus externally.

Action Project 4.3.3 (3): BMC, in conjunction with the JMC, to develop and Implement off-take plan and operations strategy to minimise impact on other aspects of the reserve during off-take operations.

Action Project 4.3.4 (1): Expose reserve management to legal instruments and provisions dealing with mining in Protected Areas, particularly in respect of mining operations and their legal status, right and obligations.

Action Project 4.3.4 (2): Receive annual access and activity plan for approval of JMC and BMC and implement access control of mine personnel and vehicles.

Action Project 4.3.4 (3): Prioritise rehabilitation of different mining areas. MTPA 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 4.4.1 (1): Ensure development and maintainance of tourism entrance gates and facilities are catered for in concession/development agreements.

Action Project 4.4.1 (2): Train gate staff to provide a friendly, prompt and informative service to visitors.

Action Project 4.4.2 (1): Develop and implement signage strategy for the reserve in alignment with overarching signage strategy for the BNR.

Action Project 4.4.3 (1): Develop and Implement Road Development and Maintenance Plan for Phase 3, including GIS mapping.

Action Project 4.4.4 (1): Boundary fence maintenance and patrol must be developed and implemented on a monthly basis.

Action Project 4.4.4 (2): Upgrade fence to accommodate larger species of game such as buffalo, should the game stocking strategy determine that these species will be stocked.

Action Project 4.4.5 (1): Develop and implement water provision strategy for Phase 3

Action Project 4.4.5 (2): Ensure compliance of boreholes and water extraction points with relevant legislation and water use license requirements

Action Project 4.4.6 (1): Implement effective radio communication system.

Action Project 4.4.7 (1): Identify Municipal refuse dumps to dump refuse from reserve and formalise agreement with refuse dump.

Action Project 4.4.7 (2): Explore the potential of recycling as far as possible.

Action Project 5 (1): Ensure that all policies relating to benefit flow are aligned with the principles in terms of ownership rights and responsibilities.

Action Project 5.1.1 (1): Register with all relevant community forums, working groups, and any other formal institutions to participate in meetings and discussions.

Action Project 5.1.1 (2): Establish formal relations with neighbours.

Action Project 5.1.1 (3): Identify and actively support community empowerment partnerships and social programmes focusing on conservation and tourism development.

Action Project 5.1.2 (1): Monitor compliance with Land Claims Court order and refer land claim inquiries to Social Ecology and Joint Management Committee as and when they are presented.

Action Project 5.1.3 (1): Develop and implement environmental education and interpretation plan.

Action Project 5.1.4 (1): Develop and utilise a local Service Provider database for contract work opportunities in Phase 3 of the BNR.

Action Project 5.1.5 (1): Undertake regular scheduled two way communication with community institutions and determine trends.

Action Project 5.2 (1): Ensure that remaining families are accommodated at the Sheba Siding formal township and that their grazing is protected and they received equitable redress verified by Department of Human Settlements.

Action Project 5.2 (2): Pending resettlement, provide continued engagement and updates to families and manage the domestic livestock and attendant issues. This includes burning of grazing, confinement of dogs to prevent hunting and poaching, prevention of illegal grazing of outsiders livestock and limiting livestock herd growth and impacts.

Action Project 5.3 (1): Deproclaim the farm Sheba 494JU to no longer be part of the reserve and allow for township establishment.

Action Project 5.3 (2): Ensure promulgation of appropriate bylaws by Umjindi Municipality to protect against future expansion and densification, mitigate visual impacts and protect gazing area and appropriate buffer areas through acceptable layout plan.

Action Project 5.3 (3): Engage Umjindi to ensure understanding of reserve requirements and buffer zone implications.

Action Project 5.3 (4): Ensure that suitable agricultural stands are provided in Sheba township for the state land resident families.

Action Project 5.3 (5): Increased security and management of impacts from Sheba area to be accommodated in reserve operations. This includes security and access control to prevent livestock intrusion, plant collection, poaching and others.

Action Project 5.4 (1): Create opportunities for research programmes and update list of potential research programmes that should and can be conducted in Phase 3 of the BNR.

Action Project 5.4 (2): Handle all research inquiries in terms of the required protocol and obtain approval from the Joint Management Committee and Biological Management Committee.

6.2 ALIGNMENT OF ACTION PROJECTS WITH PHASE 3 SPECIFIC MANAGEMENT OBJECTIVES

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| <p>Objective 1: – To create a single, viable nature reserve with an associated wildlife</p> <ul style="list-style-type: none"> - To manage the dynamic vegetation structure, compositional and plant species diversity, and the ecological processes involved. - To ensure the survival and increased viability of threatened plant populations. - To manage viable populations of threatened animals and/or priority game species. |
| Action Project 1.5 (1): Actively manage portions of the proclaimed area excluded from the game fence, according to the recommendations of the report on fenceline discrepancies. |
| Action Project 1.5 (2): Annually review fenceline positioning and update the report on fenceline discrepancies accordingly. |
| Action Project 2.6 (1): Update soils map as better scale data is made available. |
| Action Project 2.9 (1): obtain and maintain weather records from locations at varying altitudes |
| Action Project 2.10.1 (1): Update floral distribution map and GIS database as better scale data is made available. |
| Action Project 2.10.3 (1): Regularly update floral species list, rare and threatened species and plant communities. |
| Action Project 2.10.3 (2): Update GIS to reflect localities of rare and vulnerable flora. |
| Action Project 2.10.3 (3): Regularly update faunal inventory lists as data becomes available. |
| Action Project 3 (1): Ensure that all policies are aligned with the principles of ownership rights and responsibilities. |
| Action Project 3.1.2 (1): Ensure current staffing structure of Phase3 complies with the organogram which has been approved by the MTPA. |
| Action Project 3.1.2 (2): Develop Database/Inventory of local skills within the community surrounding Phase 3 and employ local staff from this database wherever possible. |
| Action Project 3.1.2 (3): Undertake audit of staff contracts and human resource management policies within Phase 3 and ensure compliance with relevant legislation and guidelines. |
| Action Project 3.2 (1): Undertake Risk Assessment of Phase 3 and provide all GIS data to Biological Management Committee for inclusion in Integrated Safety and Security Strategy for the greater BNR. |
| Action Project 3.2 (2): Wildlife Protection Services unit to undertake safety audit of all public areas and address problem areas. |
| Action Project 3.2 (3): Compile appropriate indemnity forms and ensure these are signed by all visitors and that such principles are captured in land sale agreements in the case of Mountainlands Estate. |
| Action Project 3.2 (4): Erect warning and indemnity signs at all operator access gates. |
| Action Project 3.2 (5): Undertake safety audit to determine safety issues relating to staff activities and address problem areas. Incorporate appropriate legal waivers in staff contracts due to nature of terrain. |
| Action Project 3.3 (1): Ensure that management team of Phase 3 is represented on Biological Management Committee |
| Action Project 3.3.1 (1): Implement fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines. |
| Action Project 3.3.1 (2): Review structure of annual subscriptions to LEFPA to ensure that all Founding Members contribute. |
| Action Project 3.3.1 (3): Ensure that information from the Local Fire Protection Association (LEFPA) is disseminated to the BMC. |

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| Action Project 3.3.1 (4): Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required. |
| Action Project 3.3.1 (5): Implement fire break burning programme, approved by the Biological Management Committee. |
| Action Project 3.3.1 (6): Review impact of fire break practices and agreements with SAPPI to ensure mitigation of risk and appropriate rotation and provision of firebreaks on either side of cadastral boundaries. |
| Action Project 3.3.2.1 (1): Engage the mines on their responsibility for the removal of alien vegetation introduced through mining disturbances. |
| Action Project 3.3.2.1 (2): Develop an alien invasive plant inventory for the reserve and map this in a GIS database. |
| Action Project 3.3.2.1 (3): Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines. |
| Action Project 3.3.2.1 (4): Update the GIS database and alien plant management overlays on a quarterly basis and use to plan and prioritize areas to be worked. |
| Action Project 3.3.2.1 (5): Obtain funding approval for dedicated teams to implement alien plant eradication programme. |
| Action Project 3.3.2.2 (1): Develop alien/problem animal protocol for BNR Phase 3 and ensure that staff are made aware of implications and management requirements. |
| Action Project 3.3.2.2 (2): Remove or Destroy Alien/Problem animals as and when required, |
| Action Project 3.3.2.2 (3): Ensure confinement of dogs, pending resettlement. |
| Action Project 3.3.4 (1): Identify problem erosion areas and capture on GIS database system |
| Action Project 3.3.4 (2): Develop and Implement Soil Erosion Management Plan |
| Action Project 3.3.4 (3): Monitor soil erosion interventions and recurrences. |
| Action Project 3.3.4 (4): Identify areas impacted by erosion due to historic mining activities. |
| Action Project 3.3.4 (5): Implement accountability system whereby relevant mines are responsible for areas which have been eroded due to their historic operations. |
| Action Project 3.3.4 (6): Implement monitoring programme to ensure existing mining operations are rehabilitated into the future to avoid erosion problems. |
| Action Project 3.3.5 (1): Develop and Implement Game Stocking Strategy for BNR, including potential key species such as buffalo and giraffe. Update and maintain and present records. |
| Action Project 3.3.5 (2): Implement wildlife management action plan inclusive of annual schedule of management interventions and activities. |
| Action Project 3.3.6 (1): Commence implementing vegetation monitoring programme and implement management interventions as determined by Biological Management Committee. |
| Action Project 3.3.7 (1): Identify existing state owned infrastructure required for the establishment of Pickets. Engage the department of Rural Development and Land reform to release this infrastructure to the MTPA. |
| Action Project 3.3.7 (2): Develop Field Ranger Patrol Plan and train Field Rangers to implement plan. This plan should include placement of Field Ranger Pickets. |
| Action Project 3.3.7 (3): Ensure that field rangers are empowered and armed to conduct law enforcement activities. |
| Action Project 4.2.5 (1): Develop and maintain a database of all environmental issues within Phase 3, inclusive of mining related issues. |
| Action Project 4.2.5 (3): Appoint Environmental Compliance Officer to undertake Environmental Compliance Assessments every 6 months to ensure compliance of management operations with relevant legislation and policies. |

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| Action Project 4.2.5 (4): Develop and maintain filing system of environmental management legislation and policies for effective and fast reference. |
| Action Project 4.3.4 (1): Expose reserve management to legal instruments and provisions dealing with mining in Protected Areas, particularly in respect of mining operations and their legal status, right and obligations. |
| Action Project 4.3.4 (2): Receive annual access and activity plan from mines for approval of JMC and BMC and implement access control of mine personnel and vehicles. |
| Action Project 4.3.4 (3): Prioritise rehabilitation of different mining areas. MTPA 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 4.4.4 (1): Boundary fence maintenance and patrol must be developed and implemented on a monthly basis. |
| Action Project 4.4.4 (2): Upgrade fence to accommodate larger species of game such as buffalo, should the game stocking strategy determine that these species will be stocked. |
| Action Project 4.4.6 (1): Implement effective radio communication system. |
| Action Project 4.4.7 (1): Identify Municipal refuse dumps to dump refuse from reserve and formalise agreement with refuse dump. |
| Action Project 4.4.7 (2): Explore the potential of recycling as far as possible. |

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| Objective 2: – To conserve its rich biodiversity and maintain (or where required restore) ecological functions and processes - To manage populations of game species suited to the available habitat and according to broad historical distribution in such a way that there is no conflict with higher priority objectives. - To ensure the continued yield of high-quality water, including natural and artificial aquatic systems, through proper catchment management. |
| Action Project 3.3.3 (1): Integrate Regional Catchment Management Strategies in reserve management interventions for Phase 3 with input from Department of Water Affairs. |
| Action Project 3.3.8 (1): Identify all expansion opportunities and benefits thereof. |
| Action Project 3.3.8 (2): Refer expansion/incorporation opportunities to MTPA Protected Area Expansion Team for further development and implementation. |
| Action Project 4.4.5 (1): Develop and implement water provision strategy for Phase 3 |
| Action Project 4.4.5 (2): Ensure compliance of boreholes and water extraction points with relevant legislation and water use license requirements |
| Action Project 5.4 (1): Create opportunities for research programmes and update list of potential research programmes that should and can be conducted in Phase 3 of the BNR. |
| Action Project 5.4 (2): Handle all research inquiries in terms of the required protocol and obtain approval from the Joint Management Committee and Biological Management Committee. |

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| Objective 3: – To strive towards financial independence of the project through income generation that is based on certain common assets |
| Action Project 1.4 (1): Founding members to develop and ratify the detailed agreement for the reserve. |
| Action Project 1.4 (2): Establish a final Joint Management Committee for phase 3 of the reserve. |
| Action Project 1.4 (3): Joint Management Committee to reconsider institutional model options, including merits and demerits of potentially separating Phase 3 from the rest of BNR and proclamation as a separate Nature Reserve, and management as a distinct management unit. |
| Action Project 3.1.1 (1): Ensure compliance with the Public Finance Management Act. |

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| Action Project 3.1.1 (2): Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 3 to the ecological value and economy of the area and region. |
| Action Project 3.1.1 (3): Integrate 5 Year Strategic Plan, Business Plan and requirements of the Public Finance Management Act in financial decision making, procurement procedures and spending policies specifically relating to Phase 3 of the BNR. |
| Action Project 3.1.1 (4): Depending on institutional model used, provide all financial management information to MTPA on an annual basis for Annual Performance Review. |

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| Objective 4: – To benefit Founding Members and stakeholders through responsible and sustainable resource utilization and development. |
| Action Project 4 (1): Ensure that all policies are aligned with the principles in terms of ownership rights and responsibilities. |
| Action Project 4.1 (1): Biological Management Committee to annually identify conservation related commercialization opportunities |
| Action Project 4.1 (2): Joint Management Committee to develop a Tourism Implementation Programme for Phase 3 |
| Action Project 4.1 (3): Joint Management Committee to periodically review and update the Tourism Implementation Programme |
| Action Project 4.1 (4): Ensure alignment of commercialization opportunities with the carrying capacities defined in the zoning plan. |
| Action Project 4.1 (5): The MTPA must ensure that commercial opportunities offered on state-owned land are aligned with MTPA policy and the provisions of the PFMA |
| Action Project 4.2.1 (1): Build upon the Mountainlands Nature Reserve brand identity through a brand strategy and common brand architecture. |
| Action Project 4.2.2 (1): Implement protocol whereby all external enquiries relating to linkages with other tourism initiatives are referred to the Regional Manager of the MTPA. |
| Action Project 4.2.2 (2): Include established linkages in Marketing Strategy. |
| Action Project 4.2.2 (3): Develop/revise annual infrastructure maintenance plan for phase 3, inclusive of upgrading projects. |
| Action Project 4.2.2 (4): Develop/revise annual infrastructure Development Plan for Phase 3, in alignment with the Concept Development Plan and Tourism Master Plan and in alignment with overarching development policies and guidelines of the BNR. |
| Action Project 4.2.4 (1): Implement Action items identified in the overarching Tourism Operations Plan. |
| Action Project 4.2.4 (2): Capacitate staff on the requirements, policies and guidelines included in the Tourism Operations Plan. |
| Action Project 4.2.4 (3): Ensure staff skills/equipment and equipment used to provide tourism experiences are compliant with industry norms and standards. |
| Action Project 4.2.4 (4): Develop and Implement operations manual for private operators operating in Phase 3, if applicable. |
| Action Project 4.2.6 (1): Develop system to capture and deal with comments and concerns presented by visitors to Phase 3 of the BNR. (A database of comments and concerns should form part of this system). |
| Action Project 4.3.1 (1): Determining harvesting quotas on an annual basis. |
| Action Project 4.3.1 (1): Develop and maintain list of beneficiaries of harvesting programmes. |
| Action Project 4.3.2 (1): Develop and implement hunting management plan and operational strategy for Phase 3 of the BNR once optimum populations are reached. |

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| Action Project 4.3.2 (2): Identify qualified and experienced hunting operators to undertake hunting to control population numbers as and when required. |
| Action Project 4.3.2 (3): Determine hunting quotas on an annual basis. |
| Action Project 4.3.3 (1): Biological Management Committee must provide off take quotas on annual basis. |
| Action Project 4.3.3 (2): Regional manager, via the Biodiversity Conservation Officer, must approve number of carcasses to be used internally versus externally. |
| Action Project 4.3.3 (3): BMC, in conjunction with the JMC, to develop and Implement off-take plan and operations strategy to minimise impact on other aspects of the reserve during off-take operations. |
| Action Project 4.4.1 (1): Ensure development and maintenance of tourism entrance gates and facilities are catered for in concession/development agreements. |
| Action Project 4.4.1 (2): Train gate staff to provide a friendly, prompt and informative service to visitors. |
| Action Project 4.4.2 (1): Develop and implement signage strategy for the reserve in alignment with overarching signage strategy for the BNR. |
| Action Project 4.4.3 (1): Develop and Implement Road Development and Maintenance Plan for Phase 3, including GIS mapping. |
| Action Project 5 (1): Ensure that all policies relating to benefit flow are aligned with the principles in terms of ownership rights and responsibilities. |

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| Objective 5: – To manage and preserve sites of archaeological, cultural, geological and historical significance. |
| Action Project 2.2 [1]: Consolidate and Maintain a database of geology and geological sites |
| Action Project 2.7 (1): Identify and record sites of archaeological importance |
| Action Project 3.4 (1): Identify cultural resources within Phase 3. Staff should be trained to be able to identify cultural features in Phase 3 and external specialists/students can also be used for this aspect. |
| Action Project 3.4 (2): Develop and maintain database of cultural heritage features in Phase 3. |
| Action Project 3.4 (3): Develop and implement cultural resource conservation plan and strategy with assistance from SAHRA. |

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| Objective 6: – In the interim, pending resettlement outside the reserve, to manage human settlement, domestic animals and agricultural cultivation in such a way that conflict with higher priority objectives is minimised. |
| Action Project 5.2 (1): Ensure that remaining families are accommodated at the Sheba Siding formal township and that their grazing is protected and they received equitable redress verified by Department of Human Settlements. |
| Action Project 5.2 (2): Pending resettlement, provide continued engagement and updates to families and manage the domestic livestock and attendant issues. This includes burning of grazing, confinement of dogs to prevent hunting and poaching, prevention of illegal grazing of outsiders livestock and limiting livestock herd growth and impacts. |
| Action Project 5.3 (1): Deproclaim the farm Sheba 494JU to no longer be part of the reserve and allow for township establishment. |
| Action Project 5.3 (2): Ensure promulgation of appropriate bylaws by Umjindi Municipality to protect against future expansion and densification, mitigate visual impacts and protect gazing area and appropriate buffer areas through acceptable layout plan. |
| Action Project 5.3 (3): Engage Umjindi to ensure understanding of reserve requirements and buffer zone implications. |
| Action Project 5.3 (4): Ensure that suitable agricultural stands are provided in Sheba township for the state land resident families. |

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| <p>Action Project 5.3 (5): Increased security and management of impacts from Sheba area to be accommodated in reserve operations. This includes security and access control to prevent livestock intrusion, plant collection, poaching and others.</p> |
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| Objective 7: – To develop positive relations with local communities through effective participation in matters of mutual interest and in so doing contribute to the sustainability of the protected area. |
| Action Project 3.5 (1): Actively engage in the EIA process for any development proposals within the Buffer Zone and viewshed Protection Zone. |
| Action Project 3.5 (2): Actively engage with Forestry to not replant plantations that extend over the viewshed into the reserve. |
| Action Project 3.5 (3): Engage Umjindi Municipality to ensure incorporation of appropriate bylaws to mitigate viewshed and buffer area impact for the Sheba Siding formalization project. |
| Action Project 3.6 (1): Identify buffer area and proclamation process in terms of NEMPAA. |
| Action Project 3.6 (2): Initiate proclamation of buffer area in terms of NEMPAA |
| Action Project 4.2.5 (2): Engage with relevant mines in order to effectively manage mining related environment management issues. |
| Action Project 5.1.1 (1): Register with all relevant community forums, working groups, and any other formal institutions to participate in meetings and discussions. |
| Action Project 5.1.1 (2): Establish formal relations with neighbours. |
| Action Project 5.1.1 (3): Identify and actively support community empowerment partnerships and social programmes focusing on conservation and tourism development. |
| Action Project 5.1.2 (1): Monitor compliance with Land Claims Court order and refer land claim inquiries to Social Ecology and Joint Management Committee as and when they are presented. |
| Action Project 5.1.4 (1): Develop and utilise a local Service Provider database for contract work opportunities in Phase 3 of the BNR. |
| Action Project 5.1.5 (1): Undertake regular scheduled two way communication with community institutions and determine trends. |

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| Objective 8: – To develop and implement environmental awareness and interpretation programs |
| Action Project 5.1.3 (1): Develop and implement environmental education and interpretation plan. |

6.3 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. | | | | | | | | | | |
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| Overarching Action Projects (Refer to Document 1): | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 7.3.3 [1]: Undertake baseline soil erosion assessment to identify problem areas. | | | | | | | Reserve Managers | Problem areas mapped in a GIS management overlay. | 0 | - |
| Action Project 7.3.3 [2]: Prioritise problem erosion areas. | | | | | | | Reserve Manager/Ecologist | Problem areas are prioritised and allocated timeframes/budgets accordingly. | 0 | - |
| Action Project 7.3.3 [3]: 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. | 0 | - |

| Overarching Objective 3: To manage and maintain floral composition including endemic and priority species. | | | | | | | | | | |
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| Overarching Action Projects (Refer to Document 1): | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 7.3.1 [1]: 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 | - |
| Action Project 7.3.1 [2]: 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 | - |
| Action Project 3.4.5 [1]: 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 | | | | | |
| Action Project 7.3.1.1 [1]: 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 | - |

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| Action Project 7.3.1.1 [2]: 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 | - |
| Action Project 7.3.1.2 [2]: 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 | - |
| 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. | | | | | | 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 | - |
| Action Project 7.3.1.1 [3]: 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. | | | | | | | | | | |
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| Overarching Action Projects (Refer to Document 1): | Timeframe | | | | | | Responsibility | Indicators | Budget | Funding source |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| 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. | | | | | | | Scientific services/NDWA | Integrated Catchment Management Strategy is implemented throughout the BNR and adopted by all relevant stakeholders. | 0 | - |
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| 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 | | | | | |
| Action Project 7.3.4 [1]: Develop Species Specific Introduction Plan for the BNR based on Ecological Carrying Capacities. | | | | | | | Ecologist | Species specific introduction plan is developed based on ecological carrying capacities and conservation objectives. | 0 | - |
| 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. | | | | | | | 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 | - |

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| Action Project 7.3.4.2 [1]: 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 are recorded in introduction registers for the BNR. | 0 | - |
| 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. | | | | | | | PA Expansion unit/ Reserve managers | A well planned long term 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. | | | | | | | | | | | | | |
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| Overarching Action Projects (Refer to Document 1): | | | | Timeframe | | | | | | Responsibility | Indicators | Deliverables | Funding requirements |
| | | | | 1 | 2 | 3 | 4 | 5 | | | | | |
| MANAGEMENT OF UNIQUE FEATURES (GEOLOGICAL, CULTURAL, HERITAGE) | | | | | | | | | | | | | |
| Action | Project | 3.4.3 | [1]: | | | | | | Reserve Managers / ecologist | Database of geology and geological sites is developed. | 0 | - | |
| 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. | | | | | | | Reserve manager / social ecology | A comprehensive GIS based cultural heritage management plan is implemented which maintains | 0 | - |
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| <p>Objective 1: – To create a single, viable nature reserve with an associated wildlife</p> <ul style="list-style-type: none"> - To manage the dynamic vegetation structure, compositional and plant species diversity, and the ecological processes involved. - To ensure the survival and increased viability of threatened plant populations. - To manage viable populations of threatened animals and/or priority game species. | | | | | | | | | | |
| Action Project: | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 1.5 (1): Actively manage portions of the proclaimed area excluded from the game fence, according to the recommendations of the report on fenceline discrepancies. | | | | | | | BMC/Reserve manager | Areas excluded from the game fence area are effectively and efficiently managed in accordance with the report on fenceline discrepancies. | 0 | - |
| Action Project 1.5 (2): Annually review fenceline positioning and update the report on fenceline discrepancies accordingly. | | | | | | | BMC | Fenceline positioning is reviewed annually and the report on fenceline discrepancies is updated accordingly on a continual basis. | 0 | - |
| Action Project 2.6 (1): Update soils map as better scale data is made available. | | | | | | | Ecologist | Soil maps are updated with improved scale data. | 0 | - |

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| Action Project 2.9 (1): obtain and maintain weather records from locations at varying altitudes | | | | | | Ecologist /Reserve Manager | Weather records for locations at various altitudes are continuously maintained. | 0 | - |
| Action Project 2.10.1 (1): Update floral distribution map and GIS database as better scale data is made available. | | | | | | Ecologist | Floral distribution map and GIS database according to better scale data. | 0 | - |
| Action Project 2.10.3 (1): Regularly update floral species list, rare and threatened species and plant communities. | | | | | | Ecologist | Floral species list including rare and threatened species is regularly updated. | 0 | - |
| Action Project 2.10.3 (2): Update GIS to reflect localities of rare and vulnerable flora. | | | | | | Ecologist / PAM | Update GIS to reflect localities of rare and vulnerable flora. | 0 | - |
| Action Project 2.10.3 (3): Regularly update faunal inventory lists as data becomes available. | | | | | | Ecologist | Update faunal inventory lists as data becomes available. | 0 | - |
| Action Project 3 (1): Ensure that all policies are aligned with the principles of ownership rights and responsibilities. | | | | | | JMC | All policies are aligned with the principles of ownership rights and responsibilities. | 0 | - |
| Action Project 3.1.2 (1): Ensure current staffing structure of Phase3 complies with the organogram which has been approved by the MTPA. | | | | | | Reserve Manager | Current staffing structure is reviewed to ensure compliance with MTPA organogram. | 0 | - |

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| Action Project 3.1.2 (2): Develop Database/Inventory of local skills within the community surrounding Phase 3 and employ local staff from this database wherever possible. | | | | | | Reserve Manager / Social Ecologist | Database/Inventory of local skills is well maintained and local staff are employed from this inventory. | 0 | - |
| Action Project 3.1.2 (3): Undertake audit of staff contracts and human resource management policies within Phase 3 and ensure compliance with relevant legislation and guidelines. | | | | | | JMC / MTPA HR | Staff contracts and human resource management policies comply with relevant labour legislation. | 0 | - |
| Action Project 3.2 (1): Undertake Risk Assessment of Phase 3 and provide all GIS data to Biological Management Committee for inclusion in Integrated Safety and Security Strategy for the greater BNR. | | | | | | Reserve Manager / WPS | Risk assessment is undertaken and GIS data provided for inclusion into Integrated Safety and Security Strategy for the BNR. | 0 | - |
| Action Project 3.2 (2): Wildlife Protection Services unit to undertake safety audit of all public areas and address problem areas. | | | | | | WPS | Public areas are safe from a wildlife risk point of view. | 0 | - |
| Action Project 3.2 (3): Compile appropriate indemnity forms and ensure these are signed by all visitors and that such principles are captured in land sale agreements in the case of Mountainlands Estate. | | | | | | JMC | Indemnity forms are signs by all visitors and principles relating to indemnity are captured in land sale agreements in the case of Mountainlands. | 0 | - |
| Action Project 3.2 (4): Erect warning and indemnity signs at all operator access gates. | | | | | | Reserve Manager / JMC | Warning and indemnity signs are installed at all operator access gates. | 0 | - |

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| Action Project 3.2 (5): Undertake safety audit to determine safety issues relating to staff activities and address problem areas. Incorporate appropriate legal waivers in staff contracts due to nature of terrain. | | | | | | Reserve Manager / WPS | Safety issues relating to staff activities are addressed by a safety audit and legal waivers are incorporated into staff contracts. | 0 | - |
| Action Project 3.3 (1): Ensure that management team of Phase 3 is represented on Biological Management Committee | | | | | | JMC / BMC / Reserve Manager | Management team of Phase 3 is represented on Biological Management Committee. | 0 | - |
| Action Project 3.3.1 (1): Implement fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines. | | | | | | Reserve Manager / Ecologist | Fire burning strategy is implemented as per the recommendation of the BMC, in alignment with overarching objectives. | 0 | - |
| Action Project 3.3.1 (2): Review structure of annual subscriptions to LEFPA to ensure that all Founding Members contribute. | | | | | | JMC | All founding members contribute to LEFPA due to a reviewed structure. | 0 | - |
| Action Project 3.3.1 (3): Ensure that information from the Local Fire Protection Association (LEFPA) is disseminated to the BMC. | | | | | | MTPA | The BMC confirms receipt of LEFPA information from Phase 3 management team. | 0 | - |
| Action Project 3.3.1 (4): Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required. | | | | | | Ecologist / Reserve Manager | All fires are recorded on GIS management system and data provided to the BMC for further decision making purposes. | 0 | - |

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| Action Project 3.3.1 (5): Implement fire break burning programme, approved by the Biological Management Committee. | | | | | | Reserve Manager | Fire breaks are burned on an annual basis as approved by the BMC. | 0 | - |
| Action Project 3.3.1 (6): Review impact of fire break practices and agreements with SAPPI to ensure mitigation of risk and appropriate rotation and provision of firebreaks on either side of cadastral boundaries. | | | | | | Ecologist / BMC | Impacts of fire break practices are reviewed and amendments to the fire break programme are made accordingly. Agreements are then formalised with SAPPI which mitigate risk and ensure rotation and provision of firebreaks on either side of cadastral boundaries. | 0 | - |
| Action Project 3.3.2.1 (1): Engage the mines on their responsibility for the removal of alien vegetation introduced through mining disturbances. | | | | | | BMC / Ecologist | Mines acknowledge their responsibility for the removal of alien vegetation introduced through mining disturbances. | 0 | - |
| Action Project 3.3.2.1 (2): Develop an alien invasive plant inventory for the reserve and map this in a GIS database. | | | | | | Ecologist | Alien invasive plant inventory is developed and spatial alien plant data is captured in a GIS database. | 0 | - |
| Action Project 3.3.2.1 (3): Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines. | | | | | | Ecologist / Reserve Manager | Alien plant eradication programme is implemented in accordance with overarching objectives and operational guidelines. | 0 | - |

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| Action Project 3.3.2.1 (4): Update the GIS database and alien plant management overlays on a quarterly basis and use to plan and prioritize areas to be worked. | | | | | | Ecologist / Reserve Manager | GIS databases and alien plant management overlays are updated on a quarterly basis and priority clearing areas are identified accordingly. | 0 | - |
| Action Project 3.3.2.1 (5): Obtain funding approval for dedicated teams to implement alien plant eradication programme. | | | | | | BMC | Approved funding is obtained for dedicated team to implement alien plant eradication programme. | 0 | - |
| Action Project 3.3.2.2 (1): Develop alien/problem animal protocol for BNR Phase 3 and ensure that staff are made aware of implications and management requirements. | | | | | | Reserve Manager | Alien/problem animals are controlled by a specific protocol understood by all staff. | 0 | - |
| Action Project 3.3.2.2 (2): Remove or Destroy Alien/Problem animals as and when required, | | | | | | Reserve Manager | Alien/Problem animals are destroyed as and when required. | 0 | - |
| Action Project 3.3.2.2 (3): Ensure confinement of dogs, pending resettlement. | | | | | | Reserve Manager | All dogs within the reserve are confined until such point that they are removed. | 0 | - |
| Action Project 3.3.4 (1): Identify problem erosion areas and capture on GIS database system | | | | | | Reserve Manager / Ecologist | Problem erosion areas are captured on GIS database system. | 0 | - |
| Action Project 3.3.4 (2): Develop and Implement Soil Erosion Management Plan | | | | | | Reserve Manager / Ecologist | A Soil Erosion Management Plan is being implemented focussing on priority areas. | 0 | - |

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| Action Project 3.3.4 (3): Monitor soil erosion interventions and recurrences. | | | | | | Ecologist | Soil erosion interventions and recurrences are monitored and changes in management interventions are made to the Soil Erosion Management Plan. | 0 | - |
| Action Project 3.3.4 (4): Identify areas impacted by erosion due to historic mining activities. | | | | | | Reserve Manager / Ecologist | Areas impacted by erosion due to historic mining activities are identified and captured in a GIS database. | 0 | - |
| Action Project 3.3.4 (5): Implement accountability system whereby relevant mines are responsible for areas which have been eroded due to their historic operations. | | | | | | BMC / reserve Manager | Mines accept responsibility for areas which have been eroded due to their historic operations. | 0 | - |
| Action Project 3.3.4 (6): Implement monitoring programme to ensure existing mining operations are rehabilitated into the future to avoid erosion problems. | | | | | | BMC / reserve Manager | Existing mining operations are monitored and mines rehabilitate mining operations. | 0 | - |
| Action Project 3.3.5 (1): Develop and Implement Game Stocking Strategy for BNR, including potential key species such as buffalo and giraffe. Update and maintain and present records. | | | | | | Ecologist / BMC | Game is stocked onto Phase 3, with specific focus on key species, in accordance with a game stocking strategy. | 0 | - |

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| Action Project 3.3.5 (2): Implement wildlife management action plan inclusive of annual schedule of management interventions and activities. | | | | | | Ecologist / BMC | Various action projects identified in the Wildlife Management Plan are implemented as and when required. | 0 | - |
| Action Project 3.3.6 (1): Commence implementing vegetation monitoring programme and implement management interventions as determined by Biological Management Committee. | | | | | | Reserve Manager / Ecologist | Vegetation monitoring programme is implemented as determined by the BMC and relevant management interventions are implemented accordingly. | 0 | - |
| Action Project 3.3.7 (1): Identify existing state owned infrastructure required for the establishment of Pickets. Engage the department of Rural Development and Land reform to release this infrastructure to the MTPA. | | | | | | Reserve Manager / Regional Manager | Pickets are established with existing state owned infrastructure by engaging with the department of Rural Development and Land Reform for them to release this infrastructure to the MTPA. | 0 | - |
| Action Project 3.3.7 (2): Develop Field Ranger Patrol Plan and train Field Rangers to implement plan. This plan should include placement of Field Ranger Pickets. | | | | | | Reserve Manager / HR | All field ranger patrol activities are undertaken by well trained field rangers in terms of a Field Ranger Patrol Plan. | 0 | - |
| Action Project 3.3.7 (3): Ensure that field rangers are empowered and armed to conduct law enforcement activities. | | | | | | Reserve Manager / WPS | Law enforcement activities are undertaken by well trained, relevantly qualified and fully empowered field rangers. | 0 | - |

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| Action Project 4.2.5 (1): Develop and maintain a database of all environmental issues within Phase 3, inclusive of mining related issues. | | | | | | Reserve Manager | All environmental issues are captured in a well maintained database to be addressed. | 0 | - |
| Action Project 4.2.5 (3): Appoint Environmental Compliance Officer to undertake Environmental Compliance Assessments every 6 months to ensure compliance of management operations with relevant legislation and policies. | | | | | | JMC | Environmental compliance officer is appointed every six months to ensure compliance of management operations with relevant legislation. | 0 | - |
| Action Project 4.2.5 (4): Develop and maintain filing system of environmental management legislation and policies for effective and fast reference. | | | | | | Reserve Manager / BMC | All relevant environmental management legislation and policies are captured in a filing system for effective and fast referencing. | 0 | - |
| Action Project 4.3.4 (1): Expose reserve management to legal instruments and provisions dealing with mining in Protected Areas, particularly in respect of mining operations and their legal status, right and obligations. | | | | | | Regional Manager | Reserve management are exposed to and understand legal instruments and provisions dealing with mining in Protected Areas. | 0 | - |
| Action Project 4.3.4 (2): Receive annual access and activity plan from mines for approval of JMC and BMC and implement access control of mine personnel and vehicles. | | | | | | Reserve Manager | Annual access and activity plans are received from mines for approval by the JMC and BMC. | 0 | - |

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| Action Project 4.3.4 (3): Prioritise rehabilitation of different mining areas. MTPA 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. | | | | | | Reserve Manager / Ecologist / JMC | Rehabilitation of mining areas are prioritised and mines are engaged with in terms of their rehabilitation obligations. | 0 | - |
| Action Project 4.4.4 (1): Boundary fence maintenance and patrol must be developed and implemented on a monthly basis. | | | | | | Reserve Manager | Boundary fence is well maintained and uncompromised. All security issues which do occur on the perimeter fence are indentified and addressed efficiently and effectively. | 0 | - |
| Action Project 4.4.4 (2): Upgrade fence to accommodate larger species of game such as buffalo, should the game stocking strategy determine that these species will be stocked. | | | | | | WPS | Fencing infrastructure is upgraded to accommodate larger species of game such as buffalo should the decision be made to stock these species. | 0 | - |
| Action Project 4.4.6 (1): Implement effective radio communication system. | | | | | | Reserve Manager | Radio communication system is developed in alignment with overarching radio communication strategy. The system should cover the entire reserve. | 0 | - |

| Action Project 4.4.7 (1): Identify Municipal refuse dumps to dump refuse from reserve and formalise agreement with refuse dump. | | | | | | | Reserve Manager | Formalised agreements are established between Phase 3 and the relevant Municipal refuse dumps. | 0 | - |
|---|-----------|---|---|---|---|----------|---|---|--------------|----------------------|
| Action Project 4.4.7 (2): Explore the potential of recycling as far as possible. | | | | | | | Reserve Manager | Recycling opportunities are identified and explored on a continual basis. | 0 | - |
| <p>Objective 2: – To conserve its rich biodiversity and maintain (or where required restore) ecological functions and processes</p> <p>- To manage populations of game species suited to the available habitat and according to broad historical distribution in such a way that there is no conflict with higher priority objectives.</p> <p>- To ensure the continued yield of high-quality water, including natural and artificial aquatic systems, through proper catchment management.</p> | | | | | | | | | | |
| Action Project: | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 3.3.3 (1): Integrate Regional Catchment Management Strategies in reserve management interventions for Phase 3 with input from Department of Water Affairs. | | | | | | | Ecologist / Reserve Manager / BMC | Management interventions in Phase 3 are in alignment with Regional Catchment Management Strategy. | 0 | - |
| Action Project 3.3.8 (1): Identify all expansion opportunities and benefits thereof. | | | | | | | Reserve Manager / Protected Area Expansion Unit | All expansion opportunities are identified and the benefits of these opportunities are quantified in an expansion report. | 0 | - |
| Action Project 3.3.8 (2): Refer expansion/incorporation opportunities to MTPA Protected Area Expansion Team for further development and implementation. | | | | | | | Reserve Manager / Protected Area Expansion Unit | Expansion opportunities are considered by the MTPA Protected Areas Expansion Unit for further implementation. | 0 | - |

| Action Project 4.4.5 (1): Develop and implement water provision strategy for Phase 3 | | | | | | | Reserve Manager | Water is provided in Phase 3 as and where necessary according to a water provision strategy. | 0 | - |
|---|-----------|---|---|---|---|--|---|---|--------|----------------|
| Action Project 4.4.5 (2): Ensure compliance of boreholes and water extraction points with relevant legislation and water use license requirements | | | | | | | Reserve Manager | All water extraction points and boreholes comply with relevant legislation. | 0 | - |
| Action Project 5.4 (1): Create opportunities for research programmes and update list of potential research programmes that should and can be conducted in Phase 3 of the BNR. | | | | | | | Reserve Manager / Scientific Services / BMC | Research programmes are implemented in Phase 3, guided by a list of proposed research programmes. | 0 | - |
| Action Project 5.4 (2): Handle all research inquiries in terms of the required protocol and obtain approval from the Joint Management Committee and Biological Management Committee. | | | | | | | Scientific Services | All research inquiries are handled in terms of a research protocol and proposed research projects obtain approval from the JMC and the BMC. | 0 | - |
| Objective 5: – To manage and preserve sites of archaeological, cultural, geological and historical significance. | | | | | | | | | | |
| Action Project: | Timeframe | | | | | | Responsibility | Indicators | Budget | Funding source |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 2.2 [1]: Consolidate and Maintain a database of geology and geological sites | | | | | | | Ecologist / Reserve Manager | A database of geology and geological sites is developed and effectively | 0 | - |

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| | | | | | | | | maintained. | | |
| Action Project 2.7 (1): Identify and record sites of archaeological importance | | | | | | | Ecologist / Reserve Manager | Sites of archaeological importance are identified and recorded in a GIS database. | 0 | - |
| Action Project 3.4 (1): Identify cultural resources within Phase 3. Staff should be trained to be able to identify cultural features in Phase 3 and external specialists/students can also be used for this aspect. | | | | | | | Social Ecologist | Cultural resources within phase 3 are identified by relevant staff who are well trained to be able to identify such sites. Students can also be used to supplement these activities. | 0 | - |
| Action Project 3.4 (2): Develop and maintain database of cultural heritage features in Phase 3. | | | | | | | Social Ecologist | Database of cultural heritage features and GIS spatial recording system is developed and maintain. | 0 | - |
| Action Project 3.4 (3): Develop and implement cultural resource conservation plan and strategy with assistance from SAHRA. | | | | | | | Social Ecologist | SAHRA is engaged with to develop and implement cultural resource conservation plan. | 0 | - |

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

| Overarching Objective 1: To ensure effective co-operative management of the various components of the reserve to achieve the objectives of the Protected Area. | | | | | | | | | | |
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| Overarching Action Projects (Refer to Document 1): | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 2.2 [1]: 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 | - |
| Action Project 2.4 [1]: 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 | - |
| Action Project 2.6 [1]: 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 | - |

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| Action Project 2.7 [1]: 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 | - |
| Action Project 2.7 [2]: 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 | - |
| Action Project 4.4 [1]: 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 | - |
| Action Project 5.3 [1]: 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 | - |

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| Action Project 7.1.1 [1]: 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 | - |
| Action Project 7.1.3 [3]: 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 | - |
| 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. | | | | | | BMC/CMC/JMC/DNPW | Information regarding available assets is obtained from DNPW and needs analysis | 0 | - |
| 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. | | | | | | 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 | - |

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| Action Project 7.1.2 [2]: 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 | | | | | | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | Priority | | | | |
| 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 response to illegal activities in the BNR. All illegal utilisation is recorded on a central database. | 0 | - |

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| 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. | | | | | | | 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 of Section 48 (3) | | | | | | | BMC/CMC/JMC | Recommendations emanating from a determination by the Minister in terms of Section 48 (3) are implemented. | 0 | - |

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| 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. | | | | | | BMC/CMC/JMC | Mining areas are prioritised for rehabilitation and mines engaged in terms of their obligations to rehabilitate their specific areas. | 0 | - |
| 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. | | | | | | BMC/CMC/JMC | Mine are engaged with on transgressions in terms of their compliance to their relevant EMPR's. | 0 | - |
| 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. | | | | | | 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 | - |

Objective 6: – In the interim, pending resettlement outside the reserve, to manage human settlement, domestic animals and agricultural cultivation in such a way that conflict with higher priority objectives is minimised.

| Action Project: | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
|---|-----------|---|---|---|---|----------|--|--|--------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 5.2 (1): Ensure that remaining families are accommodated at the Sheba Siding formal township and that their grazing is protected and they received equitable redress verified by Department of Human Settlements. | | | | | | | Social Ecology / BMC | All remaining families are accommodated at the Sheba Siding formal township, their grazing protected and they have received equitable redress verified by the Department of Human Settlements. | | |
| Action Project 5.2 (2): Pending resettlement, provide continued engagement and updates to families and manage the domestic livestock and attendant issues. This includes burning of grazing, confinement of dogs to prevent hunting and poaching, prevention of illegal grazing of outsiders livestock and limiting livestock herd growth and impacts. | | | | | | | Social Ecology / BMC / reserve Manager | Continued updates and engagement is provided to communities and livestock and attendant issues are addressed pending resettlement of families. Burning of grazing, confinement of dogs, prevention of illegal grazing of external livestock, etc are all managed during this period. | | |
| Action Project 5.3 (1): Deproclaim the farm Sheba 494JU to no longer be part of the reserve and allow for township establishment. | | | | | | | BMC | 494JU is no long part of Phase 3 due to a deproclamation process. | | |

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| Action Project 5.3 (2): Ensure promulgation of appropriate bylaws by Umjindi Municipality to protect against future expansion and densification, mitigate visual impacts and protect gazing area and appropriate buffer areas through acceptable layout plan. | | | | | | BMC | Appropriate bylaws are promulgated by Umjindi Municipality to protect against future expansion and densification, mitigate visual impacts, etc through acceptable layout plan. | | |
| Action Project 5.3 (3): Engage Umjindi to ensure understanding of reserve requirements and buffer zone implications. | | | | | | BMC | Umjindi Municipality understand the reserve requirements and buffer zone implications through an engagement process. | | |
| Action Project 5.3 (4): Ensure that suitable agricultural stands are provided in Sheba township for the state land resident families. | | | | | | BMC | Suitable agricultural stands are provided in Sheba township for the state land resident families. | | |
| Action Project 5.3 (5): Increased security and management of impacts from Sheba area to be accommodated in reserve operations. This includes security and access control to prevent livestock intrusion, plant collection, poaching and others. | | | | | | Reserve Manager / WPS | Increased security is implemented and management of impacts from Sheba area is accommodated in reserve operations. | | |

Objective 7: – To develop positive relations with local communities through effective participation in matters of mutual interest and in so doing contribute to the sustainability of the protected area.

| Action Project: | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
|--|-----------|---|---|---|---|----------|-----------------------|---|--------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 3.5 (1): Actively engage in the EIA process for any development proposals within the Buffer Zone and viewshed Protection Zone. | | | | | | | Reserve Manager / BMC | Active participation in EIA processes for any development proposals within the Buffer Zone and viewshed Protection Zone. | 0 | - |
| Action Project 3.5 (2): Actively engage with Forestry to not replant plantations that extend over the viewshed into the reserve. | | | | | | | Reserve Manager / BMC | The viewshed of reserve is cleared of plantations through engagement with Forestry operations. | 0 | - |
| Action Project 3.5 (3): Engage Umjindi Municipality to ensure incorporation of appropriate bylaws to mitigate viewshed and buffer area impact for the Sheba Siding formalization project. | | | | | | | Reserve Manager / BMC | Incorporation of appropriate by-laws to mitigate viewshed and buffer areas for the Sheba Siding formalisation project through effective engagement with the Umjindi Municipality. | 0 | - |
| Action Project 3.6 (1): Identify buffer area and proclamation process in terms of NEMPAA. | | | | | | | BMC / Ecologist | Buffer area and proclamation process identified in terms of NEMPAA. | 0 | - |
| Action Project 3.6 (2): Initiate proclamation of buffer area in terms of NEMPAA | | | | | | | BMC | Proclamation of buffer area is initiated in terms of NEMPAA. | 0 | - |

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| Action Project 4.2.5 (2): Engage with relevant mines in order to effectively manage mining related environment management issues. | | | | | | | Reserve Manager / BMC | Mines are engaged with to effectively manage mining related environmental management issues. | 0 | - |
| Action Project 5.1.1 (1): Register with all relevant community forums, working groups, and any other formal institutions to participate in meetings and discussions. | | | | | | | Reserve Manager / Social Ecology | Active participation by management team in community forums, working groups and other formal institutions. | 0 | - |
| Action Project 5.1.1 (2): Establish formal relations with neighbours. | | | | | | | Reserve Manager / Social Ecology | Formal relations with neighbours are established. | 0 | - |
| Action Project 5.1.1 (3): Identify and actively support community empowerment partnerships and social programmes focusing on conservation and tourism development. | | | | | | | Reserve Manager / Social Ecology | Community empowerment partnerships and social programmes are identified and actively supported. | 0 | - |
| Action Project 5.1.2 (1): Monitor compliance with Land Claims Court order and refer land claim inquiries to Social Ecology and Joint Management Committee as and when they are presented. | | | | | | | Social Ecology / JMC | Land claims court order is complied with and any land claim inquiry is referred to social ecology and Joint Management Committee. | 0 | - |
| Action Project 5.1.4 (1): Develop and utilise a local Service Provider database for contract work opportunities in Phase 3 of the BNR. | | | | | | | Reserve Manager / HR | A local service provider database is developed and maintained and contract workers are employed from this database. | 0 | - |

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| Action Project 5.1.5 (1): Undertake regular scheduled two way communication with community institutions and determine trends. | | | | | | | Reserve Manager / Social Ecology | Trends in community institutions are determined through scheduled two way communication with these institutions. | 0 | - |
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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 | | | | | | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | Priority | | | | |
| 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 | - |
| 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 | - |

| Objective 3: – To strive towards financial independence of the project through income generation that is based on certain common assets | | | | | | | | | | |
|--|------------------|----------|----------|----------|----------|-----------------|---------------------------------------|---|---------------------|-----------------------------|
| Action Project: | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 1.4 (1): Founding members to develop and ratify the detailed agreement for the reserve. | | | | | | | JMC (Founding Members) | A detailed agreement for the reserve is developed and ratified by the founding members. | 0 | - |
| Action Project 1.4 (2): Establish a final Joint Management Committee for phase 3 of the reserve. | | | | | | | JMC | Final Joint Management Committee is appointed and operational. | 0 | - |
| Action Project 1.4 (3): Joint Management Committee to reconsider institutional model options, including merits and demerits of potentially separating Phase 3 from the rest of BNR and proclamation as a separate Nature Reserve, and management as a distinct management unit. | | | | | | | JMC | A final decision is made by the JMC regarding institutional models and whether or not Phase 3 should be separated from the rest of the BNR. | 0 | - |
| Action Project 3.1.1 (1): Ensure compliance with the Public Finance Management Act. | | | | | | | BMC / Finance | Compliance with Public Finance Management Act is maintained at all times. | 0 | - |
| Action Project 3.1.1 (2): Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 3 to the ecological value and economy of the area and region. | | | | | | | Reserve Manager / Scientific services | A Biodiversity Inventory is developed and maintained for use in determining the contribution of Phase 3 to the ecological value and economy of the area and region. | 0 | - |

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| Action Project 3.1.1 (3): Integrate 5 Year Strategic Plan, Business Plan and requirements of the Public Finance Management Act in financial decision making, procurement procedures and spending policies specifically relating to Phase 3 of the BNR. | | | | | | | BMC / Finance | Financial decision making, procurement procedures and spending policies are based on 5 year strategic plan, business plan and Public Finance Management Act. | 0 | - |
| Action Project 3.1.1 (4): Depending on institutional model used, provide all financial management information to MTPA on an annual basis for Annual Performance Review. | | | | | | | Reserve Manager / JMC | All relevant financial information is provided to MTPA on an annual basis for Performance Review. | 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 | - |

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| 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 standard format for the Nature Reserve. | | | | | | Social Ecology | Interpretation is standardised throughout the reserve, guided by an interpretation plan. | 0 | - |
| Action Project 9.5 [1]: 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 prioritised research projects as determined by the management team and other relevant professionals. | 0 | - |

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|--|------------------|----------|----------|----------|----------|-----------------|-----------------------|---|---------------------|-----------------------------|
| Action Project 9.5 [2]: Appropriate permanent research facilities must be developed for the BNR. | | | | | | | MTPA | Researchers have access to permanent research facilities. | 0 | - |
| Action Project 9.5 [3]: 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 | - |
| Action Project 9.5 [4]: 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 | | | | | | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | Priority | | | | |
| 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 approval process for proposed infrastructure development in the BNR. | | | | | | | BMC/CMC/JMC | All proposed development in the BNR is subject to an approval process before development can proceed. | 0 | - |
| Action Project 8.1.4 [1]: 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 | - |

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| 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. | | | | | | BMC/CMC/JMC | All proposed developments in the BNR are compliant with relevant Environmental Legislation. | 0 | - |
| 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. | | | | | | BMC/CMC/JMC | All environmental issues within the BNR are reported to the relevant management structures by Stakeholders and issues are effectively addressed. | 0 | - |
| Action Project 8.1.6 [1]: Develop and Implement Tourism Monitoring Strategy. | | | | | | BMC/CMC/JMC | Tourism activities in the BNR are successfully monitored through a consolidated management strategy. | 0 | - |
| Action Project 8.1.6 [2]: 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 | - |
| Action Project 8.2.1 [1]: Develop Guideline and Policies for the sustainable harvesting of resources. | | | | | | Scientific Services | Resources in the reserve are harvested in a manner which does not compromise any of the overarching objectives for BNR. | 0 | - |

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|---|--|--|--|--|--|--|---|---|---|
| Action Project 8.2.2 [1]: Develop hunting guidelines and policies for the BNR. | | | | | | WPS / PAM | Hunting is effectively managed through a uniformed approach in the BNR, based on well structured and established guidelines and policies for the sustainable harvesting of resources. | 0 | - |
| Action Project 8.2.2 [2]: Develop Game Management Model to address equitable division of income from live sales between relevant landowners. | | | | | | BMC/CMC/JMC | Income from live sales is equitably divided between relevant landowners in terms of an approved Game Management Model for the BNR. | 0 | - |
| Action Project 8.2.2 [3]: Develop Annual Live Sales Strategy based on Ecological Carrying Capacities. | | | | | | Scientific Services / Wildlife Business Development unit | Live sales quotas are determined and processed on an annual basis. | 0 | - |
| Action Project 8.2.3 [1]: Develop Bio-prospecting Policies and Guidelines for the BNR. | | | | | | Scientific Services / WPS | Bio-prospecting in the reserve is handled in terms of specific guidelines and policies to ensure that these activities do not compromise any of the objectives of the BNR. | 0 | - |

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|--|--|--|--|--|--|-------------------------------------|--|---|---|
| Action Project 8.3.1 [1]: Develop Access Management Strategy for the BNR. | | | | | | BMC/CMC/JMC | All access to the BNR is managed in a uniformed approach and access is effectively controlled and managed. | 0 | - |
| Action Project 8.3.2 [1]: Develop Signage Manual for the BNR which includes guidelines and policies on all relevant signage requirements. | | | | | | BMC/CMC/JMC | All signage in the BNR is uniformly designed and installed. | 0 | - |
| Action Project 8.3.3 [1]: 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 | - |
| Action Project 8.3.3 [2]: 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 | - |
| Action Project 8.3.4 [2]: Develop internal fence approval criteria. | | | | | | Reserve Managers | All internal fences are subject to an approval process before construction. | 0 | - |
| Action Project 8.3.5 [1]: 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 | - |

| Action Project 8.3.6 [1]: Develop and implement radio operation protocol. | | | | | | | Reserve Managers | Radio communication in the BNR is well structured and communication protocol is maintained. | 0 | - |
|--|-----------|---|---|---|---|----------|-----------------------------|--|--------------|----------------------|
| Action Project 8.3.7 [1]: 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 | - |
| Action Project 8.3.7 [2]: 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 | - |
| Action Project 8.3.9 [1]: Develop Air Space Policy in alignment with aviation legislation policies and tourism stakeholders. | | | | | | | BMC/CMC/JMC | All aircraft activities in the area are managed in accordance with relevant aviation policies and relevant sections in environmental statutes. | 0 | - |
| | | | | | | | | | | |
| Objective 4: – To benefit Founding Members and stakeholders through responsible and sustainable resource utilization and development. | | | | | | | | | | |
| Action Project: | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 4 (1): Ensure that all policies are aligned with the principles in terms of ownership rights and responsibilities. | | | | | | | JMC | All policies are aligned with the principles in terms of ownership rights and responsibilities. | 0 | - |

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|---|--|--|--|--|--|---------------------------|---|---|---|
| Action Project 4.1 (1): Biological Management Committee to annually identify conservation related commercialization opportunities | | | | | | BMC / JMC | Conservation related commercialisation opportunities are identified on an annual basis and management relevant management policies adapted accordingly. | 0 | - |
| Action Project 4.1 (2): Joint Management Committee to develop a Tourism Implementation Programme for Phase 3 | | | | | | JMC | Tourism Implementation Plan is developed by the JMC. | 0 | - |
| Action Project 4.1 (3): Joint Management Committee to periodically review and update the Tourism Implementation Programme | | | | | | JMC | Tourism Implementation Plan is periodically reviewed and updated periodically by JMC. | 0 | - |
| Action Project 4.1 (4): Ensure alignment of commercialization opportunities with the carrying capacities defined in the zoning plan. | | | | | | JMC / Scientific Services | Commercialisation opportunities are aligned with carrying capacities as defined in the zoning plan. | 0 | - |
| Action Project 4.1 (5): The MTPA must ensure that commercial opportunities offered on state-owned land are aligned with MTPA policy and the provisions of the PFMA | | | | | | MTPA / Finance | All commercial activities on state owned land are aligned with MTPA policy and comply with the provision of the PFMA. | 0 | - |

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|--|--|--|--|--|--|------------------------|--|---|---|
| Action Project 4.2.1 (1): Build upon the Mountainlands Nature Reserve brand identity through a brand strategy and common brand architecture. | | | | | | JMC | A common brand architecture and brand strategy is used to build upon the Mountainlands Nature Reserve brand identity. | 0 | - |
| Action Project 4.2.2 (1): Implement protocol whereby all external enquiries relating to linkages with other tourism initiatives are referred to the Regional Manager of the MTPA. | | | | | | Regional Manager / BMC | All inquiries relating to linkages with other tourism initiatives are referred to the regional manager of the MTPA in terms of a specific protocol. | 0 | - |
| Action Project 4.2.2 (2): Include established linkages in Marketing Strategy. | | | | | | JMC | Marketing strategy is updated with any additional established linkages. | 0 | - |
| Action Project 4.2.2 (3): Develop/revise annual infrastructure maintenance plan for phase 3, inclusive of upgrading projects. | | | | | | Reserve Manager / BMC | Annual infrastructure maintenance plan is developed, inclusive of upgrading projects. | 0 | - |
| Action Project 4.2.2 (4): Develop/revise annual infrastructure Development Plan for Phase 3, in alignment with the Concept Development Plan and Tourism Master Plan and in alignment with overarching development policies and guidelines of the BNR. | | | | | | BMC | Annual infrastructure is developed in alignment with the Concept Development Plan and Tourism Master Plan, in alignment with overarching development policies. | 0 | - |

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| Action Project 4.2.4 (1): Implement Action items identified in the overarching Tourism Operations Plan. | | | | | | BMC | Action items identified in the overarching tourism operations plan are implemented. | 0 | - |
| Action Project 4.2.4 (2): Capacitate staff on the requirements, policies and guidelines included in the Tourism Operations Plan. | | | | | | BMC | Staff are capacitated on the requirements, policies and guidelines included in the Tourism Operations Plan. | 0 | - |
| Action Project 4.2.4 (3): Ensure staff skills/equipment and equipment used to provide tourism experiences are compliant with industry norms and standards. | | | | | | Reserve Manager / Tourism Business Development | Staff skills and equipment used to provide tourism experiences comply with industry norms and standards. | 0 | - |
| Action Project 4.2.4 (4): Develop and Implement operations manual for private operators operating in Phase 3, if applicable. | | | | | | BMC / Tourism Business Development | Private operators are guided by an operations manual where applicable. | 0 | - |
| Action Project 4.2.6 (1): Develop system to capture and deal with comments and concerns presented by visitors to Phase 3 of the BNR. (A database of comments and concerns should form part of this system). | | | | | | BMC / Tourism Business Development | Comments and concerns presented by visitors to Phase 3 are captured and addressed accordingly through an efficient and effective system. | 0 | - |
| Action Project 4.3.1 (1): Determining harvesting quotas on an annual basis. | | | | | | Ecologist | Harvesting quotas are determined on an annual basis. | 0 | - |
| Action Project 4.3.1 (1): Develop and maintain list of beneficiaries of harvesting programmes. | | | | | | Social Ecologist / Reserve Manager | A list of beneficiaries of harvesting programmes is developed and maintained. | 0 | - |

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|--|--|--|--|--|--|--|--|---|---|
| Action Project 4.3.2 (1): Develop and implement hunting management plan and operational strategy for Phase 3 of the BNR once optimum populations are reached. | | | | | | Ecologist / BMC / Wildlife Business Unit | Hunting management plan and operational strategy is developed and used to manage consumptive utilisation activities in the reserve. | 0 | - |
| Action Project 4.3.2 (2): Identify qualified and experienced hunting operators to undertake hunting to control population numbers as and when required. | | | | | | Wildlife Business Unit | Qualified and experienced hunting operators are identified to undertake hunting activities. | 0 | - |
| Action Project 4.3.2 (3): Determine hunting quotas on an annual basis. | | | | | | BMC / JMC | Hunting quotas are determined on an annual basis. | 0 | - |
| Action Project 4.3.3 (1): Biological Management Committee must provide off take quotas on annual basis. | | | | | | BMC | Off take quotas are provided by Biological Management Committee. | 0 | - |
| Action Project 4.3.3 (2): Regional manager, via the Biodiversity Conservation Officer, must approve number of carcasses to be used internally versus externally. | | | | | | Biodiversity Conservation Officer | Number of carcasses to be used internally versus externally is approved by Regional Manager. | 0 | - |
| Action Project 4.3.3 (3): BMC, in conjunction with the JMC, to develop and Implement off-take plan and operations strategy to minimise impact on other aspects of the reserve during off-take operations. | | | | | | BMC / JMC | Off take plan and operations strategy is developed by the BMC in conjunction with the JMC to minimise impact on other aspects of the reserve during off-take operations. | 0 | - |

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|---|--|--|--|--|--|--|-----------------------|--|---|---|
| Action Project 4.4.1 (1): Ensure development and maintainance of tourism entrance gates and facilities are catered for in concession/development agreements. | | | | | | | JMC | Development and maintenance of tourism entrance gates and facilities are catered for in concession/development agreements. | 0 | - |
| Action Project 4.4.1 (2): Train gate staff to provide a friendly, prompt and informative service to visitors. | | | | | | | Reserve Manager | Gate staff are trained to provide a friendly, prompt and informative service to visitors. | 0 | - |
| Action Project 4.4.2 (1): Develop and implement signage strategy for the reserve in alignment with overarching signage strategy for the BNR. | | | | | | | JMC | Signage strategy is developed for Phase 3 which is in alignment with the overarching signage strategy for the BNR. | 0 | - |
| Action Project 4.4.3 (1): Develop and Implement Road Development and Maintenance Plan for Phase 3, including GIS mapping. | | | | | | | Reserve manager / BMC | Road Development and Maintenance Plan is developed along with the associated GIS mapping. | 0 | - |
| Action Project 5 (1): Ensure that all policies relating to benefit flow are aligned with the principles in terms of ownership rights and responsibilities. | | | | | | | Social Ecology / JMC | All policies relating to benefit flow are aligned with the principles in terms of ownership rights and responsibilities. | 0 | - |

| Objective 8: – To develop and implement environmental awareness and interpretation programs | | | | | | | | | | |
|---|------------------|----------|----------|----------|----------|-----------------|-----------------------|---|---------------------|-----------------------------|
| Action Project: | Timeframe | | | | | Priority | Responsibility | Indicators | Deliverables | Funding requirements |
| | 1 | 2 | 3 | 4 | 5 | | | | | |
| Action Project 5.1.3 (1): Develop and implement environmental education and interpretation plan. | | | | | | | Social Ecology | Environmental Education and Interpretation Plan is developed for Phase 3. | 0 | - |

7 PERFORMANCE REVIEW ON AN ANNUAL BASIS

Refer to *Section 11* of Volume 1 – BNR: Overarching Document.

APPENDIX 1

Barberton Nature Reserve Phase 3

Discrepancy between fencelines and proclaimed Protected Area

Last Updated: October 2011 (Document and Shapefiles)

Introduction

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 NEMPAA it requires management attention.

This chapter aims to define the discrepancies between the fence line and the proclamation and to record the reasons for this, as well as the proposed management practices to be deployed commensurate with a Protected Area.

All proclaimed areas outside the fenceline should be managed as buffer area for the reserve. This includes wherever possible preserving the natural state, clearing alien vegetation, preventing illegal access and resource utilization, etc. Additional to the general rule, area specific requirements are discussed below.

Area A (see map 1):

Description of area:

The portion of the farm Dycedale 368JU lying to the south-west of the Saddleback pass road. This road runs through the proclaimed area for purposes of historical alignment. This area is unfenced. It is in private ownership of Simply See (Pty) Ltd.

Reason for being fenced out:

The road provides a logical position for the fence line. The positioning of the Mountainlands reserve fence along to the north-eastern road verge provides security. The placement of the road was dictated by mountainous topography.

Agreements in place:

None

Management Practice:

Managed as per provisions of the management plan for the purpose of conservation. Zoned as primitive. Provides agreed link to the Umjindi Municipal Nature Reserve situated to the west of the unfenced portion. Consider management of Umjindi Municipal Reserve and as part of MPAES.

Area B (see map 1):

Description of area:

Fairview Mine, dumps and office area. This area falls within the proclamation and lies within the custodianship of the MTPA. The area has a number of surface rights which are currently being exercised and considered to not be compatible with the conservation function of the reserve.

Reason for being fenced out:

The fence line has been placed to avoid actively used surface area and thereby reduce conflict between the mine and the conservation area. The current position of the fence assists in preventing mining activities to spill over into the managed area of the PA.

Agreements in place:

The active surface activities on this portion of the proclaimed area not viewed as compatible with the conservation objectives and principles of the reserve. Once the surface use and mining rights expire and the area has been rehabilitated, consideration can be given to realignment of the fence.

Management Practice:

This area has been highly transformed by the current mining operation. Management of this area must ensure that transformation does not extend beyond the approved surface right areas. Upon expiry of the surface rights and closure of the mine, management actions must ensure that proper rehabilitation takes place in line with the EMPR prior to a closure certificate being issued.

Section 48(3) of NEM:PAA deals with the impact of existing mining activities in Protected Areas. It prescribes that the Minister MUST engage with the Cabinet member of Minerals and Energy, and prescribe conditions under which those activities may continue in order to reduce or eliminate the impact on the environment.

This legislative principle requires attention. MTPA must ensure that this takes place and implement the recommendations emanating from such a determination by the Minister.

Area C (see map 1):

Description of area:

A portion of Mimosa by 557JU and Bramber East 314 JU. The area falls within the proclaimed area and custodianship lies with the MTPA. It is still in a natural state, however it has been used for grazing in the past.

Reason for being fenced out:

For practicality sake the fence line has been continued along the Eskom servitude from the Fairview mine area and to avoid steep terrain. It is intended that the fence will be realigned to follow the boundary of the proclaimed protected area once Area B has been rehabilitated and incorporated within the fence.

Agreements in place:

No agreements in place.

Management Practice:

This area must be managed to maintain its current natural state. MTPA must monitor the land use to ensure that no illegal activities take place.

Area D (see map 1):

Description of area:

A portion of the farm Mimosa ~~by~~ 557JU, but excluding the portion of natural veld incorporated in Area C above. Portion 1 of Mimosa557JU is also excluded as it is transformed and inhabited private property.

The portion of Area D south of the R38 has been transformed through mining activities and other surface uses.

The proclamation extends to the Suidkaap River, however the fence follows the railway line and Eskom Servitude. The areas to the north of the railway line are still in a natural state, but are bisected by the R38 road and the railway.

Reason for being fenced out:

For practicality sake the fence line has been continued along the Eskom servitude in a line from Area C. Where the servitude deviates eastward, the fence has been extended directly northwards to the railway line. It then follows the railway line. It intended that the fence may be realigned to follow the boundary of the proclaimed protected area once Areas B & C have been rehabilitated and incorporated within the fence.

Agreements in place:

No agreements in place.

Management Practice:

MTPA must follow up on the legality of existing land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

All areas must be managed to remove and control the spread of alien plant species. This must be done in conjunction with parties that have legal servitudes and surface use rights.

Area E (see map 1):

Description of area:

Area E includes a portion of the farm Hayward 310JU, but excludes the portion transferred to Transnet for the purpose of a railway siding. The remainder of the property is in custodianship of the MTPA.

The proclamation extends to the Suidkaap River, however the fence follows the railway line and Eskom Servitude. The areas to the north of the railway line are still in a natural state, but are transected by the R38 road and the railway. There is also a pump station on the Fairview Mine pipeline before it crosses the Suidkaap River .

Reason for being fenced out:

For practicality sake the fence line follows the railway line on the farm Hayward 310JU

Agreements in place:

No agreements in place.

Management Practice:

MTPA must monitor and follow up on the legality of existing land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

All areas must be managed to remove and control the spread of alien plant species. This must be done in conjunction with parties that have legal servitudes and surface use rights.

Area F (see map 1):

Description of area:

Area F includes portions of the farms Mandarin 558JU and Moepel 559JU. The properties are in custodianship of the MTPA.

The proclamation extends to the Suidkaap River, however the fence follows the railway line. The areas to the north of the railway line are still in a natural state, but are bisected by the R38 road and the railway.

The Old Coach Road Guesthouse lies within the fenced perimeter of the reserve and appears to be based on an old order surface right. This property has been fenced in as the land use is compatible with conservation. The arrangements governing this inclusion are covered under the section 'Servitudes and Surface Rights'.

Reason for being fenced out:

For practicality sake the fence line follows the railway line on the farm Hayward 310JU

Agreements in place:

No agreements in place.

Management Practice:

MTPA must monitor and follow up on the legality of existing land use rights and future land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

All areas must be managed to remove and control the spread of alien plant species. This must be done in conjunction with parties that have legal servitudes and surface use rights.

Area G (see map 1):

Description of area:

Area G includes portions of the farms Flamboyant 560JU, Raasblaar 561JU and Dublin 302JU. The properties are in custodianship of the MTPA.

The proclamation extends to the Suidkaap River, however the fence first follows the railway line and then the R38 road.

The area between the current fence line and the Suidkaap River is in the custodianship of the MTPA, with the exception of portion 4 of the farm Dublin 302JU which is registered for the purpose of the electricity substation (Eskom); and portions 1 on the farms Flamboyant 560JU, Raasblaar 561JU which are registered for the purpose of a railway siding (Transnet).

A number of dwellings and commercial entities exist in this portion. There are also a number of surface use rights, both current and historical.

Reason for being fenced out:

For practicality sake the fence line does not include any land uses that are not compatible with conservation, including the R38 road.

Agreements in place:

No agreements in place.

Management Practice:

MTPA must monitor and follow up on the legality of existing land use rights and future land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

Infrastructure should be evaluated and maintained for possible future use by the MTPA if applicable.

All areas must be managed to remove and control the spread of alien plant species. This must be done in conjunction with parties that have legal servitudes and surface use rights.

Area H (see map 1):

Description of area:

Area H extends west from the Area G between the farms Dublin 302JU and the Camelot 320JU. The properties are in custodianship of the MTPA.

The proclamation extends to the Suidkaap River, however the fence follows the R38 road.

The area between the current fence line and the Suidkaap River is in the custodianship of the MTPA with the exception of portion1 of the farm Saffraan 562JU which is registered for the purpose of a railway siding. The area is still in a natural state with exception of a portion of the farm Saffraan 562JU which shows evidence of agricultural practices.

Reason for being fenced out:

For practicality, security and access control purposes the fence line follows the R38

Agreements in place:

No agreements in place.

Management Practice:

MTPA must monitor and follow up on the legality of existing land use rights and future land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

Infrastructure should be evaluated and maintained for possible future use by the MTPA if applicable.

All areas must be managed to remove and control the spread of alien plant species. This must be done in conjunction with parties that have legal servitudes and surface use rights.

Excision Area (see map 2)

Description of area:

The portion of State Land as depicted in the attached map

Reason for being fenced out:

The area is in the process of being de-proclaimed for the purposes of Township Proclamation to formalise Sheba Siding informal settlement. The area is being set aside for this purpose and should be developed according to the guidelines and recommendations provided by MTPA. These recommendations are contained in the *Memorandum – Sheba Siding Formalisation Process* and seek amongst other items to:

- Prevent urbanisation/expansion beyond existing settlements
- Provide a low density buffer area to the reserve to be used for cattle grazing
- Accommodate the families currently living within the reserve within the formalised settlement. (See description of the *Exchange Area* in the section below)
- Provide grazing area specifically for the families currently living in the reserve
- Promulgation of appropriate bylaws by municipality to provide for enforcement of recommendations and mitigation of township in buffer zone and in protection of viewshed.

Agreements in place:

Refer to all correspondence on the process 2006 – to date. Louis Looock (MTPA)/ Umjindi Local Municipality/ Department of Land Affairs.

Process is still underway and final agreements will be put in place.

This activity is outstanding. MTPA must ensure formal implementation of recommendations and revise this section once the process has reached completion.

Management Practice:

Monitor formalisation of Sheba Siding in line with recommendations made.

Exchange Areas (Area 1 & Area 2 – see map 3)

Description of area:

During fence line negotiations in 2000, which coincided with Sheba siding formalisation process, agreement was reached to fence out Area 1 and fence in Area 2.

Reason for being fenced out:

The purpose was to allow the formalisation of Sheba settlement while providing grazing in Area 1 for the 12 remaining families situated on state owned land in MNR intended to be resettled as part of the formalisation process. This includes families situated on Area 2 as well as on state land in the reserve situated further east and Area 1 offered good grazing in close proximity to the Sheba Siding formalisation area. Simultaneously, Area 2 was critical for the cohesion and internal access of the reserve due to the severe topography further south.

Agreements in place:

These agreements are recorded in the following documentation:

Progress Report on Mountainlands Game Reserve Affected Parties Project (MGRAPP). Evaluation of Domestic Livestock in the Reserve - May 2003;

Sheba Siding Tenure Development Project workshops and site meeting reports - 9th and 14th of November 2000;

Agreement entered into 13 January 2001.

Process is still underway. The families currently living in the reserve will only be finally relocated once the Sheba Siding formalisation process is complete where they will receive secure title.

This activity is outstanding. MTPA must ensure formal implementation of agreements and revise this section once the process has reached completion.

Management Practice:

Monitor formalisation of Sheba Siding in line with recommendations made.

Ensure that Area 1 is utilised for cattle grazing only and that this is captured in zonation plans of township.

Area I (see map 1):

Description of area:

Urbanised areas consisting of Sheba Mine shafts, dumps, office area and town infrastructure. This area falls within the proclamation and lies within the custodianship of the MTPA. The area has a number of surface rights which are currently being exercised and considered to not be compatible with the conservation function of the reserve.

Reason for being fenced out:

The fence line has been placed to avoid actively used surface rights and thereby reduce conflict between the mine and the conservation area. The current position of the fence assists in preventing access to the reserve by general mine staff.

Agreements in place:

The active surface rights on this portion of the proclaimed area not viewed as compatible with the conservation function of the reserve. Once the surface rights expire and the area has been rehabilitated, consideration can be given to realignment of the fence.

Management Practice:

This area has been highly transformed by the current mining operation. Management of this area must ensure that transformation does not extend beyond the approved surface right areas. Upon expiry of the surface rights and closure of the mine, management actions must ensure that proper rehabilitation takes place in line with the EMPR prior to a closure certificate being issued. Ensure alien plants are properly addressed to prevent spreading to the reserve.

Infrastructure should be evaluated and maintained for possible future use by the MTPA if applicable.

Section 48(3) of NEM:PAA deals with the impact of existing mining activities in Protected Areas. It prescribes that the Minister MUST engage with the Cabinet member of Minerals and Energy, and prescribe conditions under which those activities may continue in order to reduce or eliminate the impact on the environment.

This legislative principle requires attention. MTPA must ensure that this takes place and implement the recommendations emanating from such a determination by the Minister

Area J (see map 1):

Description of area:

The area is under the custodianship of MTPA. The area is still in a natural state.

Reason for being fenced out:

The fence Alignment was chosen for practical purposes.

Agreements in place:

No agreements in place.

Management Practice:

MTPA must manage this portion in its natural state. MTPA to monitor future land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

Area K (see map 1):

Description of area:

The area covers a portion of Lancaster 359JU and a portion of the state land to the east of this. The area is still in a natural state. The area may be utilised for community cattle grazing but may not be settled or transformed.

Reason for being fenced out:

The fence alignment was negotiated with Lomshiyo community led by Chief TS Dlamini and the Lomshiyo Trust. The section below relating to Exchange Area 3 and 4 are also of relevance.

Agreements in place:

Refer to the agreements in the section relating to Exchange Area 3 and 4.

Management Practice:

This portion in its natural state and must be managed to prevent overgrazing. No settlement or transformation is permitted. Monitor future land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

Exchange Areas (Area 3 & Area 4 – see map 3)

Description of area:

Exchange Area 3 is the portion of State Land as shown on the map. Exchange Area 4 is the Farm Colombo 365JU.

Reason for being fenced out:

The fence line was negotiated and aligned to provide grazing only in the Lomshiyo and State land portions.

Agreements in place:

It was agreed that Exchange Area 3 would be formally transferred to the Lomshiyo Trust in exchange for Colombo 365JU, owned by them.

This process needs to be finalised as per the formal agreements dated 11 February 2001 and reflected in the workshop reports October 2000 - January 2001

Process has not been finalised. Land titles have not been amended.

This activity is outstanding. MTPA and Lomshiyo Trust must finalise this agreement.

Management Practice:

MTPA must manage the portion of state land outside the fence line for natural purposes. This to continue after transfer in line with agreement to use only for grazing. Area was identified for potential expansion of reserve in future, the inclusion of which would significantly increase the tourism potential of Lomshiyo land.

MTPA must monitor and follow up on the legality of existing and future land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

Area L (see map 1):

Description of area:

The area covers a portion of state land to the east of the current fence line. The area is in the custodianship of MTPA.

The area is still used for grazing. Limited settlement has taken place on this area in the riverine areas in the far east.

Reason for being fenced out:

The fence was placed in its current position for practical purposes due to topography of terrain and grazing needs of community in lower valley.

Agreements in place:

None.

Management Practice:

This portion must be managed as a low density buffer area and must be managed to prevent overgrazing and change of land use.

MTPA to investigate the legality of current settlement and monitor future land uses on this area. Where applicable, illegal land uses must be stopped and prevented.

Area M (see map 1):

Description of area:

The area covers a portion of state land in the south east corner of the proclaimed area. The area has been largely transformed due to the operations of the Makhonjwa Mine. The area is in the custodianship of MTPA.

The Makhonjwa Mine has closed and rehabilitation is expected to commence shortly.

Reason for being fenced out:

The fence line was placed to avoid actively used surface rights and thereby reduce conflict between the mine and the conservation area. The current position of the fence assisted in preventing access to the reserve by general mine staff.

Agreements in place:

The active surface rights on this portion of the proclaimed were not viewed as compatible with the conservation function of the reserve. Once the area has been rehabilitated consideration will be given to re-alignment of the fenceline.

Management Practice:

This area has been highly transformed by the mining operation. Management of this area must ensure that proper rehabilitation takes place in line with the EMPR prior to a closure certificate being issued.

Infrastructure should be evaluated and maintained for possible future use by the MTPA if applicable.

Area N (see map 1):

Description of area:

The area covers a portion of state land on southern perimeter of the proclaimed area. The Shiyalongubo community falls within this area. The custodianship of the land rests with MTPA.

Reason for being fenced out:

The fence line was placed for practical purposes and to provide for grazing for the Shiyalongubo community.

Agreements in place:

This alignment was negotiated and agreed on the ground in the presence of Umjindi Mayor Cllr. Lukele, and the community - particularly members of prominent families residing in the Shiyalongubo community, Mr Gideon Zulu and Mr Thami Motha - at the time of the erection of the fence.

Management Practice:

The footprint of the settlement must be defined and confined to its current perimeter. The area outside the settlement area must be managed for grazing only.

