

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

# BARBERTON NATURE RESERVE, PHASE 1

## INTEGRATED MANAGEMENT PLAN

2014 - 2019

**Barberton Nature Reserve: Phase 1,  
Mpumalanga Province,  
South Africa**

**Integrated Management Plan,  
Volume 3,  
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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.

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

These are interested individuals or groups concerned with or affected by an activity and its consequences. These include the authorities, 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 designated .....for the purpose of retaining an intrinsically wild appearance and character, or capable of being restored to such and which is undeveloped and roadless, without permanent improvements or human habitation” as defined by the National Environmental Management: Protected Areas Act No. 57 of 2003.

**World Heritage Site:**

Means a world heritage site as defined in the World Heritage Convention Act, No. 49 of 1999 under Chapter 1, section 1 subsection (xxiv).

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

## **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
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
MCMA	MPUMALANGA CONSERVATION MANAGEMENT ACT, NO. 9 OF 1997
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



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

### **1.1 INTRODUCTION**

Phase 1 of the Barberton Nature Reserve is 2 500 ha in size and situated 20km south of Nelspruit on the main route (R40) towards Barberton. Phase 1, with its rugged beauty is situated in an area of great landscape beauty and very high plant species diversity. Generally, the broken landscape makes this phase of the BNR an aesthetically attractive area which contributes to its conservation value. It forms a mostly unspoilt part of the Lowveld Sour Bushveld type. In addition has perennial water of good quality.

The town of Nelspruit is rapidly expanding and the indigenous vegetation and granite outcrops are being lost or fragmented. The position of Phase 1 of the BNR, on the outskirts of Nelspruit means that it will play an important role in securing some of this habitat. The area is presently inhabited by various game species, including kudu, bushbuck, klipspringer and the rare red duiker. It has good potential for game, with large landscape diversity enabling a wide choice of species to be introduced.

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 bird watching, game viewing and adventure activities.

The close proximity of Phase 1 to Nelspruit and Barberton, presents an important education and interpretation role. In the past the lower-lying areas along the Noordkaap River have been prospected for gold. The area was also grazed by livestock.

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 utilisation (including eco-tourism and education).

### **1.2 VISION**

The MTPA acknowledges the vision of Phase 1 of the Barberton Nature Reserve as being the following:

*‘Commitment to preserving the diversity of Natural and Cultural Resource of Phase 1 of the Barberton Nature Reserve through competent management, based on sound business principles.’*

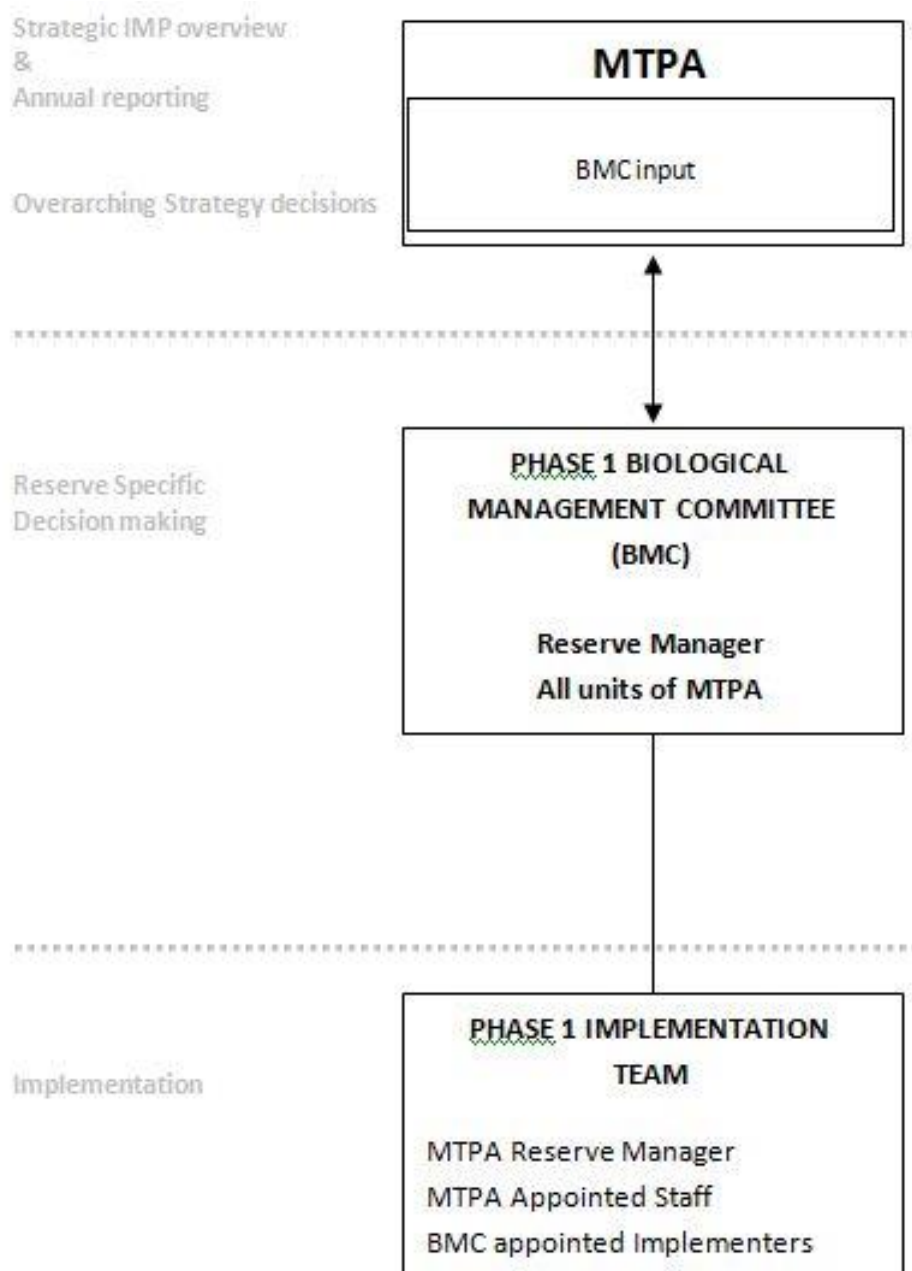
### **1.3 PHASE 1: SPECIFIC MANAGEMENT OBJECTIVES**

The specific management objectives identified for Phase 1 include the following:

- To strive towards responsible management and maintenance of biodiversity and ecological processes, in order to provide for the recreational, cultural and economic needs of communities, present and future.
- To manage and maintain the vegetation structure, plant species diversity and the ecological processes within the different landscape units.
- To ensure the maintenance of the unique serpentine plant community.

- To manage viable populations of fauna, including priority game species, that are specifically adapted to this habitat in such a way that no conflict arises with higher priority objectives
- To manage the natural aquatic systems and sustain the ecological processes functioning in the reserve.
- To develop a sustainable commercialisation strategy within the greater conservation objective so as to optimise revenue generation
- To develop and implement Environmental Awareness and Interpretive programs for the promotion of conservation.
- To build positive relations with interested and affected parties through effective participation in matters of mutual interest, thereby contributing to the sustainability of the protected area
- To manage movement and activities of private landowners and individuals with mining rights within the reserve, in such a way that conflict with all other objectives are minimised.

#### 1.4 **PHASE 1 INSTITUTIONAL STRUCTURING IN CONTEXT OF GREATER BARBERTON NATURE RESERVE**



## **2 BACKGROUND**

### **2.1 HISTORY OF UTILISATION**

Prior to proclamation land use was limited to three activities, namely cattle grazing, mining and recreation.

The state land was leased to private individuals for purposes of cattle grazing. It seems however that since 1995 no cattle have been in the area and it has remained largely undisturbed.

A large degree of prospecting took place before 1995 with no rehabilitation programs. Hence, a large number of prospecting pits occur all over the reserve. Most pits are 3-5m x 1m wide x 0.5m deep. Two open cast verdite mines are also present, although not in operation any longer.

Due to lack of control on the reserve in the past, the area known as the “Barberton Sea” was used extensively by private individuals in a recreational capacity, camping over weekends.

### **2.2 EXISTING INFRASTRUCTURE**

The following MTPA infrastructure is present on the reserve:

- Entrance Gate (Damaged by fire);
- Management office near main gate;
- Field Ranger picket;
- Day visitor picnic complex at main gate.

### **2.3 OLD DISTURBANCES**

The majority of old disturbances that occur on BNR Phase 1 are related to mining and cattle grazing, including old farmsteads, mining shafts and addits, and verdite mines, old kraal and grave sites.

Buildings include a white single room building just north of the Noordkaap river; stone and thatch single room at the weir; and old unused camp on Mr. Stryf 's property; and an old explosives storage site?

### **2.4 GEOLOGY**

The Barberton Mountainland, of which Phase 1 forms a part, represents an early Precambrian greenstone belt.

The geology ranges from ultra-mafic serpentine, mainly found south, 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.

### **2.5 PHYSIOGRAPHY**

The reserve covers a 2 500 ha game fenced area and is located south of Nelspruit in the Mpumalanga Province of South Africa at latitude 25° 36' and longitude 30° 57'.

The reserve stretches across a diagonal of 11 km from the lower hills on the southern side of the Noordkaap valley to the narrow steep escarpment north-western apex.

The main gate is accessed from Nelspruit on the main route R 40 towards Barberton.

## **2.6 TOPOGRAPHY**

The BNR is situated in the Barberton Mountainland which forms part of the African erosion surface. Elevation ranges from 680m to over 1 220m above sea level. The Noordkaap River runs through the middle of the reserve in a wide valley with a steep escarpment on the northern side and lower hills on the southern side of the valley. The vegetation includes dry forests, thickets and sour grass communities.

## **2.7 HYDROLOGY**

The Noordkaap river runs through the middle of the reserve from the north-west towards the east of the reserve. A number of drainage lines flow into the river. Two small creeks are situated in the western and southern part of the reserve.

## **2.8 PEDOLOGY**

The BNR can be broadly divided into four landforms, i.e. plateau/crest, middleslopes, footslopes and valley bottoms. On the plateau Mispah, Hutton and Glenrosa are the main soil forms present.

The middleslopes are characterised by steep slopes. Mispah soil form and shallow, acid soils occur mostly on these slopes.

The central lower lying areas along Noordkaap river consists of hornblende-biotite granite (Kaa valley granite) and mafic and ultramafic rocks of Swazian age. Red–yellow apedal soils occur in the footslopes/valley bottoms (Landtype Ab), and are mainly well drained.

Lithocutanic soils can be found on the rocky outcrops in the higher lying eastern section of the reserve (Landtype Fb), typically with Glenrosa forms. This a pedologically young landscape. The soil is sandy loam and shallow. The northwestern section (Landtype Fa) also consists of Lithocutanic soils.

The presence of serpentine soils are evident in areas of high erosion potential.

## **2.9 ARCHAEOLOGY**

No artefacts or structures of historical importance have been found as yet.

**Action Project 2.9 [1]:** Identify and record sites of archaeological importance

## **2.10 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 738mm 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 13.9°C in June and 23.9°C in January.

## **2.11 WEATHER DATA RECORDINGS**

No fully equipped weather station has been erected as yet. Presently rainfall and temperature is monitored at the main gate, and rainfall on Hillside. Data from private landowners are also utilised.

Rainfall is concentrated in the period from October to April. The average long term rainfall is 738mm p.a. There is a marked difference in rainfall between the plateau and low-lying areas, varying from 700mm p.a. the low-lying areas, to over 1000mm on northern plateau. Temperature ranges between 2°C and 43°C, with an average of 22°C. Mean minimum and maximum monthly temperatures are 13.9°C in June and 23.9°C in January.

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

## **2.12 FLORA**

The diverse landscape and rugged terrain contribute towards a high plant diversity which is known to exceed 70 species in the BNR.

**Action Project 2.12 [1]:** Regularly update floral species list, including rare and threatened species.

### **2.12.1 Vegetation types/veldtypes**

The vegetation belongs to Veldtype 21 (Sour Lowveld Bushveld) of the Savanna Biome according to the classification of Low & Rebello (1996), corresponding with Acocks (1988) veldtypes 10 (Lowveld) and 9 (Lowveld Sour Bushveld). This undulating landscape is predominantly open to closed tree savanna in the lowlands, with dense riverine fringes along drainage lines, and open grassy areas on the escarpment. (A fairly complete description according to the geological/pedological structure is available).

### **2.12.2 Plant communities**

The plant communities have not been identified, but a survey done by Niemand (1996) found that the species composition were similar to that of the description in Low and Rebelo. That survey categorised the species to match the soil types.

According to Low and Rebelo (1996) this open tree savanna is dominated by *Terminalia sericea*, *Combretum collinum*, *Acacia sieberiana*, *Pterocarpus angolensis*, *Acacia caffra*. The shrub layer is characterised by *Dichrostachys cinerea*, *Ximenia caffra*, *Piliostigma thonningi* and *Maytenus heterophylla*. The grass constituent is tall tufted and relatively dense, and common species are *Hyperthelia dissoluta*, *Hyparrhenia hirta*, *Setaria spaciata*, *Cymbopogon* spp and *Heteropogon contortus*.

#### **Summary of the communities (according to soil types) found on BNR:**

- **Apedal soils (Landtype Ab)**

These soils occur in the low-lying area of the reserve, along the Noordkaap river and are mainly well drained. Characteristic tree species include *Berchemia discolor*, *Combretum collinum*, *C. hereroense*, *Faurea saligna*, *F. rochetiana*, *Hippobromus pauciflora*. The shrub layer is dominated by *Acacia ataxacantha*, *Annona senegalensis*, *Bauhinia galpinii*, *Dalbergia armata*, *Dichrostachys cinerea*, *Maytenus senegalensis*. Grass species include *Aristida congesta*, *Cymbopogon excavatus*, *Eragrostis curvula*, *Heteropogon contortus*, *Hyparrhenia hirta*, *Hyperthelia dissoluta*, *Loudetia simplex*, *Pogonarthria squarrosa* and *Themeda triandra*.

- **Lithocutanic soils (Landtype Fb)**

These soils can be found on the rocky outcrops in the higher lying eastern section of the reserve. The tree layer commonly contains *Annona senegalensis*, *Berchemia discolor*, *C. hereroense*, *Cussonia spicata*, *Dombeya rotundifolia*, *Euclea crispa*, *Faurea saligna*, *F. rochetiana*, *Ptaeroxylon obliquum*, *Pterocarpus angolensis* and *Vangueria infausta*. The shrub layer is characterised by *Aloe marlothii*,



*Acacia ataxacantha*, *Bauhinia galpinii*, *Dalbergia armata* and *Phyllanthus reticulatus*. The grass layer is dominated by *Cymbopogon excavatus*, *Diheteropogon amplexans*, *Eragrostis capensis*, *E. trichophora*, *Heteropogon contortus*, *Hyparrhenia hirta*, *Hyperthelia dissoluta*, *Panicum maximum*, *Tricholaena monachne*.

- **Lithocutanic soils (Landtype Fa)**

The northwestern section of the reserve consists of these soils. The characteristics of this part of the habitat appears to depict that of Veldtype 8 of Acocks's Veld types (1988), because certain matching species within the grass constituent. The conspicuous tree species are *Dalbergia armata*, *Bowkeria verticillata*, *Cussonia spicata*, *Dombeya pulchra*, *Masea lanceola*, *Pavetta edentula*, *Psychotria capensis*, *Syzygium cordatum* and *Ziziphus mucronata*. The shrub layer commonly contain *Acacia ataxacantha*, and *Protea caffra*. The grass constituent is characterised by *Cymbopogon excavatus*, *Diheteropogon amplexans*, *Eragrostis capensis*, *Harpechloa falx*, *Hyparrhenia filipendula*, *Monocymbium ceresiiforme*, *Panicum ecklonii*, *Themeda triandra*.

### 2.12.3 Plant species list

More than 70 species have been positively identified so far. Three rare species occur in the quarter degree square, *Cyrtanthus thorncroftii*, *Eucomis montana* and *Watsonia occulta*, and six vulnerable species, including *Gladiolus hollandii*. Two vulnerable species, *Berkheya nivea* and *G. serpenticola*, which is endemic to serpentine soils, have been identified on the reserve.

**Action Project 2.12.3[1]:** Update GIS to reflect localities of rare and vulnerable flora.

### 2.12.4 Alien plants

The main problem species currently are *Sesbania* (*Sesbania punicea*), *Lantana* (*Lantana camara*), *Syringa* (*Melia azederach*), *Guava* (*Psidium guajava*) and *Jacaranda* (*Jacaranda mimosifolia*).

## 2.13 FAUNA

### 2.13.1 Mammal list

The total mammal list currently comprises 11 species. All threatened species lists will be updated when the new Red Data Lists become available.

**Action Project 2.13.1[1]:** Regularly update mammal species lists, including threatened species

### 2.13.2 Game

By 1998, little game was left within the BNR area. Since 1998, zebra, blue wildebeest, kudu and impala have been re-introduced. A natural population of mountain reedbuck, klipspringer and common duiker occur on the reserve. Bushbuck and red duiker is commonly present in the forests in these areas. Table 1 contains the population figures from 2007-2010.

Table 1: 2010 census results

SPECIES	CENSUS	CENSUS	CENSUS	INTRO	EST	Proj.	Proj.LAU
Feeding spectrum	2007	2008	2009	2010	2010	Apr.'11	Apr.'11
BULK FEEDERS							
Zebra	49	67	48	16	69	76	58

Buffalo							
Bushpig			3				
Cattle	7	29					
<b>SUBTOTAL LAU</b>							<b>58</b>
<b>SELECTIVE:</b>							
<b>TALL GRASS</b>							
Mtn. Reedbuck	17	16	21		25	29	4
Cmn Reedb.			1		1	1	
Waterbuck	15	12	8	10	19	21	11
<b>SUBTOTAL LAU</b>							<b>15</b>
<b>SELECTIVE:</b>							
<b>SHORT GRASS</b>							
Blesbuck		2	0			0	0.00
Blue wildebeest	31	93	26	25	55	63	32
Impala	33	27	33		38	44	8
Warthog							
Eland		7	0				
<b>SUBTOTAL LAU</b>							<b>39.8</b>
<b>BROWZERS</b>							
Grey duiker	9	6	18		21	24	2
Red duiker	2	3	2		2	2	
Kudu	99	100	107		126	149	78
Klipspringer	4	0	5		6	6	
Giraffe							
Bushbuck	77	56	64		77	92	12
<b>SUBTOTAL LAU</b>							<b>93</b>
			<b>TOTAL LAU</b>				<b>206.8</b>
			<b>AVAILABLE HABITAT</b>				<b>2500.00</b>

### 2.13.3 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.

No introduction of species to the reserve, except those that occurred historically and if the species' required habitat is available. Genetics should also be taken into consideration. No specific management is currently applied to these species and no hunting of these species is also allowed at present.

### 2.13.4 Red Data/priority game species

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

List of priority species:

- *Cephalophus natalensis natalensis* (Red Duiker)
- *Syncerus caffer* (buffalo)(to be introduced)

#### **2.13.5 Small mammals**

No survey has 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.

#### **2.13.6 Birds/Avifauna**

More than 87 bird species have been recorded on the reserve.

Raptor species include Wahlberg's eagle, African Hawk Eagle, Yellowbilled kite, Gymnogene, and Crowned eagle.

Other species of importance that is also present include Halfcollared Kingfisher, Sweet Waxbill, Gorgeous Bush Shrike, Bearded woodpecker.

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

#### **2.13.7 Reptiles**

A total of 19 reptile species have been recorded for the reserve by the Transvaal Herpetological Society, including two gecko's and a monitor.

Rare species such as the African rock python, Cape filesnake, and the uncommon molesnake and green watersnake. Endemics include, Bibron's blindsnake, Hewitt's dwarf burrowing skink, Giant Legless skink, Warren's girdled lizard, purple roundheaded worm-lizard.

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

#### **2.13.8 Amphibians**

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

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

#### **2.13.9 Fish and other Aquatic fauna**

A river survey has been conducted and is available on file.

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

#### **2.13.10 Invertebrates**

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

### 3 POLICY FRAMEWORK & GUIDING PRINCIPLES: RESOURCE MANAGEMENT

#### 3.1 FINANCIAL & HUMAN RESOURCES

##### 3.1.1 Management of Financial Resources

*(Also see section 7.1 of the Overarching Document)*

All financial management activities and decisions being made in Phase 1 of the BNR in respect of public finance need to comply with the Public Finance Management Act (Act 1 of 1999) [PFMA]. A 5 Year Strategic Management Plan and Annual Performance Plan will govern the financial management issues in the BNR.

The Biological Management Committee (BMC) of Phase 1 must ensure that all financial decisions and spending are done in alignment with the above mentioned policies. Financial Performance of Phase 1 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 1 should be developed and maintained. This inventory will be used by the 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]:** Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 1 to the ecological value and economy of the area and region.

**Action Project 3.1.1 [2]:** Integrate 5 Year Strategic Plan, Annual Performance Plan and requirements of the Public Finance Management Act in financial decision making, procurement procedures and spending policies specifically relating to Phase 1 of the BNR.

**Action Project 3.1.1 [3]:** Provide all financial management information to Finance Department on an annual basis for Annual Performance Review.

##### 3.1.2 Management of Human Resources

*(Also see section 7.1 of the Overarching Document)*

A staff organogram has been approved for all phases of the BNR by the MTPA. This staff organogram should be implemented effectively within Phase 1 of the BNR and all future staff appointments must be done on the basis of the requirements of this organogram.

All current human resource activities within Phase 1 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 MTPA and the Implementation Team of Phase 1 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 Phase 1 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 1 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 1 and ensure compliance with relevant legislation and guidelines.

**Action Project 3.1.2 [4]:** Co-ordinate management activities and staff availability in alignment with MTPA Skills Development Plan.

### **3.2 SAFETY AND SECURITY**

*(Also see section 7.2 of the Overarching Document)*

Phase of 1 the BNR has a security risk due to its location in relation to main roads. In order to address security needs of Phase 1, 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 MTPA to develop an Integrated Safety and Security plan for total area of the BNR.

The contract with the external security company operating in Phase 1 needs to be reviewed on an annual basis and performance assessed. The security company should maintain access protocols as determined by MTPA, in alignment with their safety and security policies.

A safety audit of all Public Access Areas needs to be undertaken to ensure the safety of visitors is ensured and all public liabilities are addressed as far as possible. 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.

**Action Project 3.2 [1]:** Undertake Risk Assessment of Phase 1 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]:** Where applicable, annually review contract with external security company and assess performance. Terms of Reference should also be discussed with the Security company on an annual basis as part of the review.

**Action Project 3.2 [3]:** Undertake safety audit of all public areas and address problem areas.

**Action Project 3.2 [4]:** Undertake safety audit to determine safety issues relating to staff activities and address problem areas.

### **3.3 BIODIVERSITY CONSERVATION MANAGEMENT**

*(Also see section 7.3 of the Overarching Document)*

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 1. 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 1 is kept in a Biological Management file system.

It is the responsibility of the Phase 1 Reserve Manager to co-ordinate all activities and tasks on Phase 1 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 implementation team of Phase 1 is represented on Biological Management Committee.

### **3.3.1 Fire Management**

*(Also see section 7.3.1 of the Overarching Document)*

Fire is an important tool in the implementation of the overarching vegetation policies of the BNR in Phase 1, as well as in the provision of adequate grazing for relevant game species. The maintenance of the current fire pattern and diversity is therefore essential in the maintenance of vegetation diversity, and to enhance game and game viewing potential in Phase 1.

Point ignition fires are presently applied during the growth season in Phase 1. 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 entire BNR area has been registered with LEFPA. Mapping of fires is essential for digitising by GIS specialist in order for correct fire planning in Phase 1 by the Biological Management Committee.

**Action Project 3.3.1 [1]:** Continue implementing fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines.

**Action Project 3.3.1 [2]:** Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required.

### **3.3.2 Alien and Invasive Species**

#### **3.3.2.1 Alien and Invasive Plants**

*(Also see section 7.3.2 of the Overarching Document)*

Currently, alien plant control projects in Phase 1 are done jointly in the Working for Water program. The main problem species currently are Sesbania (*Sesbania punicea*), Lantana (*Lantana camara*), Syringa (*Melia azederach*), Guava (*Psidium guajava*) and Jacaranda (*Jacaranda mimosifolia*).

A continuous programme consisting of two teams will be budgeted for by the Reserve Manager of Phase 1. 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 1 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 1 of the BNR. Relevant staff members must be trained to manage the system.

**Action Project 3.3.2.1 [1]:** Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines.

**Action Project 3.3.2.1 [2]:** Obtain funding approval for two dedicated teams to implement alien plant eradication programme.

#### 3.3.2.2 Alien and Problem Animals

*(Also see section 7.3.2 of the Overarching Document)*

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 by the Implementation Team. 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. All incidents must be reported to the Phase 1 Biological Management Committee.

No domestic animals will be allowed in Phase 1 of the BNR, inclusive of staff pets/live stock.

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

**Action Project 3.3.2.2 [1]:** Remove or Destroy Alien/Problem animals as and when required,

#### 3.3.3 Catchment Management

*(Also see section 7.3.3 of the Overarching Document)*

Phase 1 of the BNR is situated along the Hilltop Mountain Ridge. It does therefore constitute an important part of the Noordkaap catchment area. The area is bisected by the perennial Noordkaap River, and two small creeks form part of the boundary of Phase 1. The meandering nature of the Noordkaap River results in some 4 km of river frontage in the reserve. Numerous minor feeder streams originate from the Hilltop mountain ridge and eventually feed into the NoordKaap River. Two weirs were built in the Noordkaap River by the Department of Water Affairs for monitoring purposes.

It is therefore essential that the Phase 1 Biological Management Committee align all management efforts with the 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 1 with input from Department of Water Affairs.

#### 3.3.4 Soil Erosion and Control

*(Also see section 7.3.4 of the Overarching Document)*

Soil erosion will be considered as a natural process in Phase 1 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.



Two significant erosion sites have been identified to date in the western parts of the reserve. These sites are associated with serpentine soils that are highly erodible. No rehabilitation or control has yet been implemented on these sites. It was recommended that no work be done on these areas at present as they seem to have stabilised. Monitoring should however be done to determine if they do increase in size.

**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.

### 3.3.5 Wildlife Management

*(Also see section 7.35. of the Overarching Document)*

The proposed stocking rate within this 2 500 ha game-fenced area is 294 LAU, or 8.5 ha/LAU. Game numbers need to be within the carrying capacity of the area to ensure a healthy host of smaller organisms.

Feeding spectrums of stocked game include bulk feeders, selective tall grazers, selective short grazers and browsers. The quality of the grass layers in Phase 1 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 such as buffalo and zebra. The possibility exists to introduce viable populations of buffalo and giraffe once the mining pits have been fenced off.

Monitoring of game numbers forms a crucial part of the management process in Phase 1 of the BNR. The following management actions apply:

- A helicopter game census 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 will conduct regular sex-and age as well as condition assessments.

Introduction of species to Phase 1 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.

**Action Project 3.3.5 [1]:** Implement wildlife management action plan inclusive of annual schedule of management interventions and activities.

### 3.3.6 Vegetation Management

*(Also see section 7.3.6 of the Overarching Document)*

Veld condition and biomass are assessed at 10 permanently marked (GPS) sample sites in the low-lying areas and on the plateau of Phase 1. The fixed 200-point technique is 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 taken biannually at the same 10 fixed points used for the herbaceous layer monitoring to document woodland structure. Only two of these sites have bush encroachment potential.

**Action Project 3.3.6 [1]:** Continue 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 7.3.7 of the Overarching Document)*

A field ranger patrol plan needs to be developed and staff trained accordingly to implement the plan. One Field ranger picket is located within close proximity of the main entrance gate. The picket has an identified patrol zone and major patrol routes. The function of field rangers is to provide security to the area by way of foot patrols, observation post, law enforcement, regular fence patrols and collection of biological data.

**Action Project 3.3.7 [1]:** Develop Field Ranger Patrol Plan and train Field Rangers to implement plan.

**Action Project 3.3.7 [2]:** Ensure that field rangers are empowered and armed to conduct law enforcement activities.

### **3.3.8 Land Expansion and Incorporation**

*(Also see section 7.3.8 of the Overarching 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 1 and other properties. Phase 1 can be expanded to the east to form a linkage with the BNR Phase 2 project which is proposed to link with the Barberton Mountainlands Reserve to establish one large continuous conservation area totaling over 40 000ha, from the Crocodile Gorge, south to the Kaap River, extending north-westwards to Hilltop and across the Kaap River, southwards to Saddleback pass.

The potential also exists to expand the reserve by including the property of Mr. Willem Jansen situated on the western boundary. 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.

**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.

### 3.4 CULTURAL RESOURCE MANAGEMENT

*(Also see section 7.4 of the Overarching Document)*

In order to effectively manage the cultural resources of Phase 1, 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 1 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 1 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, 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 1 will include:

- Development of cultural resource database;
- Continually capacitating staff to identify and manage cultural resources;
- Continually provide opportunities for students to undertake research projects on cultural resources in Phase 1;
- Support for cultural resource management and protection initiatives in the area; and
- Implementation of clear and measurable goals and objectives.

**Action Project 3.4 [1]:** Identify cultural resources within Phase 1. Staff should be trained to be able to identify cultural features in Phase 1 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 1.

**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.

## 4 POLICY FRAMEWORK & GUIDING PRINCIPLES: UTILISATION MANAGEMENT

### 4.1 COMMERCIALISATION

Commercialisation refers to the process of unlocking commercial opportunities within Phase 1. Of these opportunities, some are specifically related to the achievement of the core business of conservation (e.g. live game sales and hunting to control game numbers). 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. Should these fall outside the ambit of the Integrated Management Plan approval must be sought from the CEO.

**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. 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 Biological Management Committee should annually 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 1.

**Action Project 4.1 [2]:** Biological Management Committee to develop a Tourism Implementation Programme for Phase 1

**Action Project 4.1 [3]:** Biological Management Committee to annually review and update the Tourism Implementation Programme

All commercialization opportunities must be aligned with carrying capacities and zonation plan of Phase 1.

**Action Project 4.1 [4]:** Ensure alignment of commercialization opportunities with the carrying capacities defined in the zoning plan.

Commercialisation activities taking place on state owned land and involving private-public partnership are subject to the provisions of the Public Finance Management Act.

**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

## **4.2 TOURISM MANAGEMENT**

### **4.2.1 Marketing**

*(Also see section 8.1.1 of the Overarching Document)*

Marketing of the tourism products provided by Phase 1 of the BNR will be undertaken by the individual product owners and operators at their own cost.

Marketing of products should be aligned with the overarching brand of the BNR.

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

#### 4.2.2 Linkages with other tourism initiatives

*(Also see section 8.1.2 of the Overarching Document)*

Linkages with other tourism initiatives will be addressed by the MTPA. All enquiries must be referred to the Regional Manager of the MTPA or the alternative appointed representative. 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 1 and other tourism initiatives must be included in the marketing plan and 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 Plan and Strategy.

#### 4.2.3 Tourism Infrastructure

*(Also see section 8.1.3 of the Overarching Document)*

Existing tourism infrastructure in Phase 1 of the BNR requires upgrading and maintenance. A tourism infrastructure development plan needs to be developed based on the Concept Development Plan for Phase 1 of the BNR.

The tourism infrastructure development plan will guide all future developments in phase 1 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 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 MTPA. 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 4.2.3 [1]:** Develop annual infrastructure maintenance plan for phase 1, inclusive of upgrading projects.

**Action Project 4.2.3 [2]:** Develop Infrastructure Development Plan for Phase 1, in alignment with the Concept Development 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 Document)*

A Tourism Operations Plan will be developed by the MTPA to ensure that the tourism experiences provided in the BNR are of a high standard and have limited impact on the receiving environment. This plan will be developed by the MTPA as part of the BNR overarching IMP document.

Action items identified in the overarching Tourism Operations Plan must be effectively implemented in Phase 1. All activities provided by Phase 1 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 the BNR.

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.

<b>Action Project 4.2.4 [1]:</b> Implement Action items identified in the overarching Tourism Operations Plan.
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<b>Action Project 4.2.4 [2]:</b> Capacitate staff on the requirements, policies and guidelines included in the Tourism Operations Plan.
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<b>Action Project 4.2.4 [3]:</b> Ensure staff skills/equipment and equipment used to provide tourism experiences are compliant with industry norms and standards.
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<b>Action Project 4.2.4 [4]:</b> Develop and Implement operations manual for private operators operating in Phase 1, if applicable.
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#### 4.2.5 Environmental Management

*(Also see section 8.1.5 of the Overarching Document)*

A database of environmental issues should be maintained by the Biological Management Committee of phase 1. All new tourism developments and activities should be compliant with relevant legislation and approved by the Management Committee. Environmental Compliance Officers should be appointed as and when necessary to ensure all operations and developments in Phase 1 comply with relevant legislation. These assessments should be undertaken every six months.

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

The philosophy with respect to the environment and development in Phase 1 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 1.

**Action Project 4.2.5 [2]:** Contract 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 [3]:** 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 Document)*

In order to maintain an attractive and sustainable tourism product in Phase 1 of the BNR, feedback from visitors is essential. A system to capture and deal with comments and concerns presented by visitors should be developed.

Tourism activities and movement in Phase 1 should be monitored to ensure that no unlawful activities are undertaken in Phase 1 and to ensure that no damage is done by these activities. Visitor densities should also be monitored and controlled in Phase 1, in alignment with the Tourism Masterplan for the BNR.

Additional casual staff should be appointed to ensure that visitors are controlled in busy tourism times.

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

**Action Project 4.2.6 [2]:** Develop monitoring schedule for tourism activities

### **4.3 NATURAL RESOURCE UTILISATION**

#### **4.3.1 Harvesting**

*(Also see section 8.2.1 of the Overarching 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 1 of the BNR. Such use will only be to the benefit of local communities and not to external commercial ventures unless so agreed upon by the 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.

**Action Project 4.3.1 [1]:** Determining harvesting quotas on an annual basis.

**Action Project 4.3.1 [2]:** Develop and maintain list of beneficiaries of harvesting programmes.



#### 4.3.2 Hunting

*(Also see section 8.2.2 of the Overarching Document)*

Regular control of the numbers of specific species in Phase 1 of the BNR may be required. 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 Biological 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.

The emphasis on non-consumptive ecotourism and the relatively limited high-density game areas precludes any large-scale hunting on Phase 1 although hunting will be allowed as and when possible. In certain instances regarding rare or valuable game, specific individuals could be earmarked for trophy hunting. Due consideration will be given that such operations do not impact negatively on the other tourism activities in Phase 1. No single part of Phase 1 will be set aside for hunting only but areas will be closed off for public use during hunting seasons for safety purposes. In addition to the exclusive zones around facilities, additional no-hunting zones will be declared which cover specific main game viewing areas.

**Action Project 4.3.2 [1]:** Develop and implement hunting management plan and operational strategy for Phase 1 of the BNR to avoid conflict with non-consumptive activities

**Action Project 4.3.2 [2]:** Determine hunting quotas on an annual basis.

#### 4.3.3 Live Sales

*(Also see section 8.2.3 of the Overarching Document)*

Live capture is the preferred method for the population control of most species. 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 1. The resulting carcasses will be used internally (liaison functions, venison for lodges, staff training, etc) and externally (commercial activities and community needs).

Carcass donation to communities policy should be implemented strictly and final approval from Chief Conservation Officer: Biodiversity should be obtained.

**Action Project 4.3.3 [1]:** Biological Management Committee should determine off take quotas on annual basis.

**Action Project 4.3.3 [2]:** Chief Conservation Officer must approve number of carcasses to be used internally versus externally.

**Action Project 4.3.3 [3]:** 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 Document)*

The policy and actions included in the Overarching document apply equally to Phase 1, however they are included in the overarching document since many of the mining rights and activities span multiple phases.

The reserve manager must be fully capacitated on the provisions of NEMPAA with regard to mining as well as the recommendations emanating from a determinations by the Minister in terms of Section 48(3). The reserve manager must also be fully aware of all existing, lawful mining rights and operations occurring in Phase 1.

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

**Action Project 4.3.4 [1]:** Capacitate the reserve manager in respect of mining operations and their legal status, right and obligations.

The reserve manager should monitor all mining access and activities. Any irregular activity by mines is to be immediately elevated to the attention of the Biological Management Committee and the MTPA.

#### **4.4 INFRASTRUCTURE**

##### **4.4.1 Entrance Gates**

*(Also see section 8.3.1 of the Overarching Document)*

Access to Phase 1 of the reserve will only be allowed through the main entrance gate. 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 gate needs to be rebuilt and well maintained to provide a welcoming sense of arrival for visitors when arriving at Phase 1 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 1 management.

**Action Project 4.4.1 [1]:** Upgrade and maintain main entrance gate and facilities.

**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 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 Document)*

Approximately 12 km of road network has been developed in Phase 1 of the BNR. One low water bridge provides access to the greater part of the reserve. The existing road network does not provide adequate coverage and access to all parts of the reserve is limited. The road network consists mainly of the two-spool type and therefore does not lend itself to tourist use, unless for 4x4 access. Management versus tourist use routes should be identified and effectively marked/mapped. The existing roads should be upgraded according to the Concept Development Plan for the BNR.

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 300m<sup>2</sup> 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 an old access road to mining areas which has 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 Develop and Maintenance Plan for Phase 1, including GIS mapping.

#### **4.4.4 Fencing**

*(Also see section 8.3.4 of the Overarching Document)*

The 2500ha reserve is fenced with steel wire strand type perimeter fencing. The fence is not electrified, thereby limiting introduction of certain species such as rhino and buffalo, especially given the proximity of the main road.

A boundary fence patrol and maintenance roster should be developed on a monthly basis to ensure that the boundary fence of Phase 1 is maintained and illegal access/breach is reported to the Implementation Team. The perimeter fence of Phase 1 needs to be cleared and maintained as part of the maintenance schedule.

**Action Project 4.4.4 [1]:** Boundary fence patrols and maintenance to be conducted on a regular 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**

*(Also see section 8.3.5 of the Overarching Document)*

Water extraction from the NoordKaap River provides water to the Picnic complex and Field Ranger picket. Purification system should be maintained to ensure provision of potable water to visitors and staff. The water extraction point has not yet been registered with Department of Water Affairs and therefore does not comply with the National Water Act, 1998. Should replacement of the purification infrastructure be required, a site outside of the floodline should be identified.

The Biological Management Committee will investigate the possibility of sinking suitable boreholes in order to eliminate potential waterborne disease such as Cholera, Typhoid and other similar diseases. No additional waterholes are required for wildlife management in Phase 1 due to the location of perennial rivers.

**Action Project 4.4.5 [1]:** Ensure compliance of water extraction points with relevant legislation.

**Action Project 4.4.5 [2]:** Investigate possibility of sinking boreholes close to rivers to avoid potential waterborne diseases.

#### **4.4.6 Radio Communication and Other Communication Equipment**

*(Also see section 8.3.6 of the Overarching Document)*

Radio communication infrastructure will be upgraded to allow for more effective radio communication in Phase 1. This communication system must be developed in a manner which also allows communication with Phase 2 and 3 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 Document)*

Previously, old prospecting pits were used as refuse dumps in Phase 1. As it holds a potential contamination threat to ground water, all refuse will be dumped at approved refuse sites in the Mbombela 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.

All waste management activities must be conducted in terms of the overall waste management plan for the BNR as developed by the BNR Management Committee.

**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**

### **5.1 COMMUNITY PARTICIPATION**

#### **5.1.1 Community Participation and partnerships**

*(Also see section 9.1 of the Overarching Document)*

The Reserve Manager and 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 1 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 5.5.1 [2]:** Establish formal relations with neighbours.

**Action Project 5.5.1 [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 9.2 of the Overarching Document)*

Issues regarding Land Claims will be addressed by the MTPA. All enquiries must be referred to the Senior Manager Social Ecology of the MTPA or the alternative appointed representative. Managers of the individual phases of the BNR will assist Social Ecology in resolving Land Claim issues as and when they occur.

**Action Project 5.1.2 [1]:** Refer land claim inquiries to Senior Manager Social Ecology as and when they are presented.

#### **5.1.3 Environmental Awareness, Education and Interpretation**

*(Also see section 9.3 of the Overarching Document)*

The objective of Environmental Awareness, Education and Interpretation in Phase 1 is to provide access to wildlife and conservation through interpretative programmes to inform, educate and conscientise the MTPA's varied constituency. Although this activity on Phase 1 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 1 of the BNR.

**Action Project 5.1.3 [1]:** Develop and implement environmental education and interpretation plan.

#### 5.1.4 Service Provider Database

A The Provincial Service Provider Database is maintained by the MTPA Finance Department. Local Service Providers, captured in the database, will be used whenever feasible and possible to undertake contracted work for the MTPA in Phase 1 of the BNR.

#### 5.1.5 Communication Strategies

The Implementation Team of Phase 1 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 Implementation Team will also attend community forums on a regular basis to forge relationships with the communities.

**Action Project 5.1.3 [2]:** Undertake regular scheduled two way communication with community institutions and determine trends.

### 5.2 RESEARCH

*(Also see section 9.5 of the Overarching Document)*

All research projects in Phase 1 are subject to the following:

- Approval and registration following the policy as determined by Scientific Services;
- Informing the Biological Management Committee;
- Keeping the Phase 1 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 5.2 [1]:** Create opportunities for research programmes and generate list of potential research programmes that can be conducted in Phase 1 of the BNR.

**Action Project 5.2 [2]:** Handle all research inquiries in terms of the required protocol and obtain approval from Scientific Services.

## 6 ACTION PROJECTS AND IMPLEMENTATION PLANNING

### 6.1 LIST OF ACTION PROJECTS

**Action Project 2.9 [1]:** Identify and record sites of archaeological importance.

**Action Project 2.12 [1]:** Regularly update floral species list, including rare and threatened species.

**Action Project 2.12.3[1]:** Update GIS to reflect localities of rare and vulnerable flora.

**Action Project 2.13.1[1]:** Regularly update mammal species lists, including threatened species.

**Action Project 3.1.1 [1]:** Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 1 to the ecological value and economy of the area and region.

**Action Project 3.1.1 [2]:** 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 1 of the BNR.

**Action Project 3.1.1 [3]:** Provide all financial management information to Finance Department on an annual basis for Annual Performance Review.

**Action Project 3.1.2 [1]:** Ensure current staffing structure of Phase 1 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 1 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 1 and ensure compliance with relevant legislation and guidelines.

**Action Project 3.1.2 [4]:** Co-ordinate management activities and staff availability in alignment with MTPA Skills Development Plan.

**Action Project 3.2 [1]:** Undertake Risk Assessment of Phase 1 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]:** Annually review contract with external security company and assess performance. Terms of Reference should also be discussed with the security company on an annual basis as part of the review.

**Action Project 3.2 [3]:** Undertake safety audit of all public areas and address problem areas.

**Action Project 3.2 [4]:** Undertake safety audit to determine safety issues relating to staff activities and address problem areas.

**Action Project 3.3 [1]:** Ensure that implementation team of Phase 1 is represented on Biological Management Committee.

**Action Project 3.3.1 [1]:** Continue implementing fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines.

**Action Project 3.3.1 [2]:** Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required.

**Action Project 3.3.2.1 [1]:** Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines.

**Action Project 3.3.2.1 [2]:** Obtain funding approval for two dedicated teams to implement alien plant eradication programme.

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

**Action Project 3.3.2.2 [1]:** Remove or Destroy Alien/Problem animals as and when required.



**Action Project 3.3.3 [1]:** Integrate Regional Catchment Management Strategies in reserve management interventions for Phase 1 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 interventions and recurrences.

**Action Project 3.3.5 [1]:** Implement wildlife management action plan inclusive of annual schedule of management interventions and activities.

**Action Project 3.3.6 [1]:** Continue implementing vegetation monitoring programme and implement management interventions as determined by Biological Management Committee.

**Action Project 3.3.7 [1]:** Develop Field Ranger Patrol Plan and train Field Rangers to implement plan.

**Action Project 3.3.7 [2]:** 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 1. Staff should be trained to be able to identify cultural features in Phase 1 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 1.

**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 4.1 [1]:** Biological Management Committee to annually identify conservation related commercialization opportunities.

**Action Project 4.1 [2]:** Biological Management Committee to develop a Tourism Implementation Programme for Phase 1.

**Action Project 4.1 [3]:** Biological Management Committee to annually 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 4.2.2 [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 Plan and Strategy.

**Action Project 4.2.3 [1]:** Develop annual infrastructure maintenance plan for phase 1, inclusive of upgrading projects.

**Action Project 4.2.3 [2]:** Develop Infrastructure Development Plan for Phase 1, in alignment with the Concept Development 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 1, if applicable.

**Action Project 4.2.5 [1]:** Develop and maintain a database of all environmental issues within Phase 1.

**Action Project 4.2.5 [2]:** Contract 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 [3]:** 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 1 of the BNR. (A database of comments and concerns should form part of this system).

**Action Project 4.2.6 [2]:** Develop monitoring schedule for tourism activities.

**Action Project 4.3.1 [1]:** Determining harvesting quotas on an annual basis.

**Action Project 4.3.1 [2]:** 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 1 of the BNR to avoid conflict with non-consumptive activities.

**Action Project 4.3.2 [2]:** Determine hunting quotas on an annual basis.

**Action Project 4.3.3 [1]:** Biological Management Committee should determine off take quotas on annual basis.

**Action Project 4.3.3 [2]:** Chief Conservation Officer must approve number of carcasses to be used internally versus externally.

**Action Project 4.3.3 [3]:** 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]:** Capacitate the reserve manager in respect of mining operations and their legal status, right and obligations.

**Action Project 4.4.1 [1]:** Upgrade and maintain main entrance gate and facilities.

**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 Develop and Maintenance Plan for Phase 1, including GIS mapping.

**Action Project 4.4.4 [1]:** Boundary fence patrols and maintenance to be conducted on a regular 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]:** Ensure compliance of water extraction points with relevant legislation.

**Action Project 4.4.5 [2]:** Investigate possibility of sinking boreholes close to rivers to avoid potential waterborne diseases.

**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 5.1.1 [1]:** Register with all relevant community forums, working groups, and any other formal institutions to participate in meetings and discussions.

**Action Project 5.5.1 [2]:** Establish formal relations with neighbours.

**Action Project 5.5.1 [3]:** Identify and actively support community empowerment partnerships and social programmes focusing on conservation and tourism development.

**Action Project 5.1.2 [1]:** Refer land claim inquiries to Regional Manager as and when they are presented.

**Action Project 5.1.3 [1]:** Develop and implement environmental education and interpretation plan.

**Action Project 5.1.3 [2]:** Undertake regular scheduled two way communication with community institutions and determine trends.

**Action Project 5.2 [1]:** Create opportunities for research programmes and generate list of potential research programmes that can be conducted in Phase 1 of the BNR.

**Action Project 5.2 [2]:** Handle all research inquiries in terms of the required protocol and obtain approval from Scientific Services.

## **6.2 ALIGNMENT OF ACTION PROJECTS WITH PHASE 1 SPECIFIC MANAGEMENT OBJECTIVES**

<b>To strive towards responsible management and maintenance of biodiversity and ecological processes, in order to provide for the recreational, cultural and economic needs of communities, present and future.</b>
<b>Action Project 2.9 [1]:</b> Identify and record sites of archaeological importance
<b>Action Project 3.1.1 [1]:</b> Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 1 to the ecological value and economy of the area and region.
<b>Action Project 3.1.1 [2]:</b> 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 1 of the BNR.
<b>Action Project 3.1.1 [3]:</b> Provide all financial management information to Finance Department on an annual basis for Annual Performance Review.
<b>Action Project 3.1.2 [1]:</b> Ensure current staffing structure of Phase 1 complies with the organogram which has been approved by the MTPA.
<b>Action Project 3.1.2 [2]:</b> Develop Database/Inventory of local skills within the community surrounding Phase 1 and employ local staff from this database wherever possible.
<b>Action Project 3.1.2 [3]:</b> Undertake audit of staff contracts and human resource management policies within Phase 1 and ensure compliance with relevant legislation and guidelines.
<b>Action Project 3.1.2 [4]:</b> Co-ordinate management activities and staff availability in alignment with MTPA Skills Development Plan.
<b>Action Project 3.2 [1]:</b> Undertake Risk Assessment of Phase 1 and provide all GIS data to Biological Management Committee for inclusion in Integrated Safety and Security Strategy for the greater BNR.
<b>Action Project 3.2 [2]:</b> Where applicable annually review contract with external security company and assess performance. Terms of Reference should also be discussed with the Security company on an annual basis as part of the review.
<b>Action Project 3.2 [3]:</b> Undertake safety audit of all public areas and address problem areas.
<b>Action Project 3.2 [4]:</b> Undertake safety audit to determine safety issues relating to staff activities and address problem areas.
<b>Action Project 3.3 [1]:</b> Ensure that implementation team of Phase 1 is represented on Biological Management Committee.
<b>Action Project 3.3.4 [2]:</b> Develop and Implement Soil Erosion Management Plan
<b>Action Project 3.3.4 [3]:</b> Monitor soil erosion interventions and recurrences.
<b>Action Project 3.3.7 [1]:</b> Develop Field Ranger Patrol Plan and train Field Rangers to implement plan.
<b>Action Project 3.3.7 [2]:</b> Ensure that field rangers are empowered and armed to conduct law enforcement activities.
<b>Action Project 3.3.8 [1]:</b> Identify all expansion opportunities and benefits thereof.
<b>Action Project 3.3.8 [2]:</b> Refer expansion/incorporation opportunities to MTPA Protected Area Expansion Team for further development and implementation.
<b>Action Project 3.4 [1]:</b> Identify cultural resources within Phase 1. Staff should be trained to be able to identify cultural features in Phase 1 and external specialists/students can also be used for this aspect.
<b>Action Project 3.4 [2]:</b> Develop and maintain database of cultural heritage features in Phase 1.
<b>Action Project 3.4 [3]:</b> Develop and implement cultural resource conservation plan and strategy with assistance from SAHRA.
<b>Action Project 3.4 [4]:</b> Sustainably utilise cultural resource features in tourism experiences in alignment with cultural resource conservation plan and strategy.
<b>Action Project 4.2.3 [1]:</b> Develop annual infrastructure maintenance plan for phase 1, inclusive of upgrading projects.
<b>Action Project 4.2.3 [2]:</b> Develop Infrastructure Development Plan for Phase 1, in alignment with the Concept Development Plan and in alignment with overarching development policies and guidelines of

the BNR.
<b>Action Project 4.2.5 [1]:</b> Develop and maintain a database of all environmental issues within Phase 1.
<b>Action Project 4.2.5 [2]:</b> Contract Environmental Compliance Officer to undertake Environmental Compliance Assessments every 6 months to ensure compliance of management operations with relevant legislation and policies.
<b>Action Project 4.2.5 [3]:</b> Develop and maintain filing system of environmental management legislation and policies for effective and fast reference.
<b>Action Project 4.4.1 [2]:</b> Train gate staff to provide a friendly, prompt and informative service to visitors.
<b>Action Project 4.4.2 [1]:</b> Develop and implement signage strategy for the reserve in alignment with overarching signage strategy for the BNR.
<b>Action Project 4.4.3 [1]:</b> Develop and Implement Road Develop and Maintenance Plan for Phase 1, including GIS mapping.
<b>Action Project 4.4.4 [1]:</b> Boundary fence patrols and maintenance to be conducted on a regular basis
<b>Action Project 4.4.4 [2]:</b> Upgrade fence to accommodate larger species of game such as buffalo, should the game stocking strategy determine that these species will be stocked.
<b>Action Project 4.4.6 [1]:</b> Implement effective radio communication system.
<b>Action Project 4.4.7 [1]:</b> Identify Municipal refuse dumps to dump refuse from reserve and formalise agreement with refuse dump.
<b>Action Project 4.4.7 [2]:</b> Explore the potential of recycling as far as possible.
<b>Action Project 5.2 [1]:</b> Create opportunities for research programmes and generate list of potential research programmes that can be conducted in Phase 1 of the BNR.
<b>Action Project 5.2 [2]:</b> Handle all research inquiries in terms of the required protocol and obtain approval from Scientific Services.

<b>To manage and maintain the vegetation structure, plant species diversity and the ecological processes within the different landscape units.</b>
<b>Action Project 2.12 [1]:</b> Regularly update floral species list, including rare and threatened species.
<b>Action Project 2.12.3[1]:</b> Update GIS to reflect localities of rare and vulnerable flora.
<b>Action Project 3.3.1 [1]:</b> Continue implementing fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines.
<b>Action Project 3.3.1 [2]:</b> Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required.
<b>Action Project 3.3.2.1 [1]:</b> Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines.
<b>Action Project 3.3.2.1 [2]:</b> Obtain funding approval for two dedicated teams to implement alien plant eradication programme.
<b>Action Project 3.3.2.2 [1]:</b> Develop alien/problem animal protocol for BNR Phase 1 and ensure that staff are made aware of implications and management requirements.
<b>Action Project 3.3.2.2 [1]:</b> Remove or Destroy Alien/Problem animals as and when required,
<b>Action Project 3.3.6 [1]:</b> Continue implementing vegetation monitoring programme and implement management interventions as determined by Biological Management Committee.
<b>Action Project 4.3.1 [1]:</b> Determining harvesting quotas on an annual basis.
<b>Action Project 4.3.1 [2]:</b> Develop and maintain list of beneficiaries of harvesting programmes.

<b>To ensure the maintenance of the unique serpentine plant community.</b>
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<b>To manage viable populations of fauna, including priority game species, that are specifically adapted to this habitat in such a way that no conflict arises with higher priority objectives</b>
<b>Action Project 2.13.1[1]:</b> Regularly update mammal species lists, including threatened species
<b>Action Project 3.3.5 [1]:</b> Implement wildlife management action plan inclusive of annual schedule of management interventions and activities.
<b>Action Project 4.3.2 [1]:</b> Develop and implement hunting management plan and operational strategy for

Phase 1 of the BNR to avoid conflict with non-consumptive activities
<b>Action Project 4.3.2 [2]:</b> Determine hunting quotas on an annual basis.
<b>Action Project 4.3.3 [1]:</b> Biological Management Committee should determine off take quotas on annual basis.
<b>Action Project 4.3.3 [2]:</b> Chief Conservation Officer must approve number of carcasses to be used internally versus externally.
<b>Action Project 4.3.3 [3]:</b> Develop and Implement off-take plan and operations strategy to minimise impact on other aspects of the reserve during off-take operations.

<b>To manage the natural aquatic systems and sustain the ecological processes functioning in the reserve.</b>
<b>Action Project 3.3.3 [1]:</b> Integrate Regional Catchment Management Strategies in reserve management interventions for Phase 1 with input from Department of Water Affairs.
<b>Action Project 4.4.5 [1]:</b> Ensure compliance of water extraction points with relevant legislation.
<b>Action Project 4.4.5 [2]:</b> Investigate possibility of sinking boreholes close to rivers to avoid potential waterborne diseases.

<b>To develop a sustainable commercialisation strategy within the greater conservation objective so as to optimise revenue generation</b>
<b>Action Project 4.1 [1]:</b> Biological Management Committee to annually identify conservation related commercialization opportunities
<b>Action Project 4.1 [2]:</b> Joint Management Committee to develop a Tourism Implementation Programme for Phase 1
<b>Action Project 4.1 [3]:</b> Joint Management Committee to annually review and update the Tourism Implementation Programme
<b>Action Project 4.1 [4]:</b> Ensure alignment of commercialization opportunities with the carrying capacities defined in the zoning plan.
<b>Action Project 4.1 [5]:</b> The MTPA must ensure that commercial opportunities offered on state-owned land are aligned with MTPA policy and the provisions of the PFMA
<b>Action Project 4.2.2 [1]:</b> Implement protocol whereby all external enquiries relating to linkages with other tourism initiatives are referred to the Regional Manager of the MTPA.
<b>Action Project 4.2.2 [2]:</b> Include established linkages in Marketing Plan and Strategy.
<b>Action Project 4.2.4 [1]:</b> Implement Action items identified in the overarching Tourism Operations Plan.
<b>Action Project 4.2.4 [2]:</b> Capacitate staff on the requirements, policies and guidelines included in the Tourism Operations Plan.
<b>Action Project 4.2.4 [3]:</b> Ensure staff skills/equipment and equipment used to provide tourism experiences are compliant with industry norms and standards.
<b>Action Project 4.2.4 [4]:</b> Develop and Implement operations manual for private operators operating in Phase 1, if applicable.
<b>Action Project 4.2.6 [1]:</b> Develop system to capture and deal with comments and concerns presented by visitors to Phase 1 of the BNR. (A database of comments and concerns should form part of this system).
<b>Action Project 4.2.6 [2]:</b> Develop monitoring schedule for tourism activities

<b>To develop and implement Environmental Awareness and Interpretive programs for the promotion of conservation.</b>
<b>Action Project 5.1.3 [1]:</b> Develop and implement environmental education and interpretation plan.

<b>To build positive relations with interested and affected parties through effective participation in matters of mutual interest, thereby contributing to the sustainability of the protected area</b>
<b>Action Project 5.1.1 [1]:</b> Register with all relevant community forums, working groups, and any other formal institutions to participate in meetings and discussions.
<b>Action Project 5.5.1 [2]:</b> Establish formal relations with neighbours.

<b>Action Project 5.5.1 [3]:</b> Identify and actively support community empowerment partnerships and social programmes focusing on conservation and tourism development.
<b>Action Project 5.1.2 [1]:</b> Refer land claim inquiries to Regional Manager as and when they are presented.
<b>Action Project 5.1.3 [2]:</b> Undertake regular scheduled two way communication with community institutions and determine trends.
<b>To manage movement and activities of private landowners and individuals with mining rights within the reserve, in such a way that conflict with all other objectives are minimised.</b>
<b>Action Project 4.3.4 [1]:</b> Capacitate the reserve manager in respect of mining operations and their legal status, right and obligations.
<b>Action Project 4.4.1 [1]:</b> Upgrade and maintain main entrance gate and facilities.

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

Overarching Objective 3: To manage and maintain floral composition including endemic and priority species.										
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 7.3.1 [1]:</b> Undertake annual ecological assessment to determine veld burning requirements.							Reserve manager / ecologist	Burning areas are identified on an annual basis and captured in a GIS system for monitoring purposes.	0	-
<b>Action Project 7.3.1 [2]:</b> Undertake fire							Reserve manager	Areas of high fire risk are	0	-



risk assessment and develop fire prevention strategy								identified on a GIS management overlay and a strategy to reduce the risk is being implemented.		
<b>Action Project 3.4.5 [1]:</b> Update species lists and GIS database for the BNR.							Ecologist	Species list is updated in the first year to include all known species in the BNR. The species list is then continually updated as additional species are identified. This data should be captured in a GIS system.	0	-

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

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 7.3.1.1 [1]:</b> Include Alien Plant eradication and management in Annual Performance Plan.							Reserve Manager	Alien plant eradication and management is assessed in annual performance plan and management interventions adjusted accordingly.	0	-
<b>Action Project 7.3.1.1 [2]:</b> Develop Alien Plant inventory and species lists for BNR.							Ecologist	A GIS based alien plant inventory is developed in year 1 and maintained as an ongoing management action.	0	-
<b>Action Project 7.3.1.2 [2]:</b> Develop a control programme for alien animals present in the Reserve.							Reserve managers	Alien plan control programme is approved by scientific services of the MTPA for implementation.	0	-
<b>Action Project 7.3.1.2 [1]:</b> Develop a new, equitable policy for keeping							Reserve Managers	Equitable policy regarding personal and official	0	-

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.								domestic animals in the BNR is understood by all relevant stakeholders and being enforced by the MTPA.		
<b>Action Project 7.3.1.1 [3]:</b> Annually review Alien Plant Management and Monitoring Programme for BNR.							Reserve manager/ ecologist	GIS overlays are used to monitor alien plant management on an annual basis. Management interventions are then adjusted accordingly.	0	-

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

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

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

Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 7.3.4 [1]:</b> Develop Species Specific Introduction Plan for the BNR based on Ecological Carrying Capacities.							Ecologist	Species specific introduction plan is developed based on ecological carrying capacities and conservation objectives.	0	-
<b>Action Project 7.3.4.1 [1]:</b> Develop operational policies and procedures to							Reserve managers	All incidences associated with problem animals are	0	-

address problem animal management in alignment with MTPA manuals and national legislation.								managed in a uniform manner in terms of the policies relating to problem animal control in the BNR.		
<b>Action Project 7.3.4.2 [1]:</b> Develop Species Introduction Policy and Strategy for the Reserve and ensure keeping of introduction registers.							Ecologist	Based on the species specific introduction plan, all relevant species are introduced in terms of MTPA wildlife relocation policies and all introductions are recodered in introduction registers for the BNR.	0	-
<b>Action Project 7.3.5 [1]:</b> Develop and Implement a range expansion strategy for the BNR which is in alignment with MTPA range expansion policies.							PA Expansion unit/ Reserve managers	A well planned long terms range expansion strategy is implemented which aims at achieving the MTPA desired state in terms of range expansion for the BNR.	0	-

Overarching Objective 13: To manage and preserve features of geological, archaeological, cultural, and historical significance.										
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
MANAGEMENT OF UNIQUE FEATURES (GEOLOGICAL, CULTURAL, HERITAGE)										
Action Project 3.4.3 [1]: Consolidate and Maintain a database of geology and geological sites.							Reserve Managers / ecologist	Well maintained database of geology information and geological sites.	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	-

**Objective 2:** To manage and maintain the vegetation structure, plant species diversity and the ecological processes within the different landscape units.

Action Project:	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 2.12 [1]:</b> Regularly update floral species list, including rare and threatened species.							Ecologist / Scientific services	Updated floral species list, including rare and threatened species.	0	-
<b>Action Project 2.12.3[1]:</b> Update GIS to reflect localities of rare and vulnerable flora.							Ecologist / Scientific services	Updated GIS database reflecting localities of rare and vulnerable flora.	0	-
<b>Action Project 3.3.1 [1]:</b> Continue implementing fire burning strategy as determined by the Biological Management Committee, in alignment with overarching objectives and operational guidelines.							Ecologist / Reserve Manager	Fire burning strategy is implemented as determined by Biological Management Committee in a manner which does not compromise any phase specific objectives or overarching objectives.	0	-
<b>Action Project 3.3.1 [2]:</b> Implement GIS mapping system to record fires and provide data to Biological Management Committee as and when required.							Reserve Manager	Well maintained GIS mapping system recording burning activities and which provides data to Biological Management Committee.	0	-
<b>Action Project 3.3.2.1 [1]:</b> Develop and Implement continuous alien plant eradication programme in accordance with overarching objectives and operational guidelines.							Reserve manager / ecologist	Alien plants are controlled through a continuous alien plant eradication programme in accordance with overarching objectives and operation	0	-
<b>Action Project 3.3.2.1 [2]:</b> Obtain funding approval for dedicated teams to implement alien plant eradication programme.							Reserve manager / Regional Manager	Funding is obtained for dedicated team to implement eradication programme.	0	-
<b>Action Project 3.3.2.2 [1]:</b> Develop alien/problem animal protocol for BNR							Reserve Manager	All alien/problem animals are controlled in terms of an	0	-

Phase 1 and ensure that staff are made aware of implications and management requirements.								official protocol in Phase 1.		
<b>Action Project 3.3.2.2 [1]:</b> Remove or Destroy Alien/Problem animals as and when required,							Reserve Manager	Alien/problem animals are destroyed as and when required.	0	-
<b>Action Project 3.3.6 [1]:</b> Continue implementing vegetation monitoring programme and implement management interventions as determined by Biological Management Committee.							Ecologist / Reserve Manager	Vegetation is continuously monitored through existing monitoring programme and management interventions are undertaken as determined by Biological Management Committee.	0	-
<b>Action Project 4.3.1 [1]:</b> Determine harvesting quotas on an annual basis.							Ecologist / Reserve Manager	Harvesting quotas are determined and processed on an annual basis.	0	-
<b>Action Project 4.3.1 [2]:</b> Develop and maintain list of beneficiaries of harvesting programmes.							Reserve manager / social ecologist	Details of beneficiaries for harvesting programmes are recorded in a well maintained list.	0	-

<b>Objective 3:</b> To manage viable populations of fauna, including priority game species, that are specifically adapted to this habitat in such a way that no conflict arises with higher priority objectives										
Action Project:	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 2.13.1[1]:</b> Regularly update mammal species lists, including threatened species							Ecologist	Updated mammal species list, including threatened species.	0	-
<b>Action Project 3.3.5 [1]:</b> Implement wildlife management action plan inclusive of annual schedule of management interventions and activities.							Ecologist / Reserve manager	Management interventions included in wildlife management plan are effectively implemented.	0	-

<b>Action Project 4.3.2 [1]:</b> Develop and implement hunting management plan and operational strategy for Phase 1 of the BNR to avoid conflict with non-consumptive activities							Reserve manager	Conflict between non-consumptive activities and hunting in Phase 1 is minimised due to the development and implementation of a hunting management plan and operational strategy.	0	-
<b>Action Project 4.3.2 [2]:</b> Determine hunting quotas on an annual basis.							Ecologist	Hunting quotas are determined and processed by the BMC on an annual basis.	0	-
<b>Action Project 4.3.3 [1]:</b> Biological Management Committee should determine off take quotas on annual basis.							BMC	All live sales numbers are determined and processed on an annual basis.	0	-
<b>Action Project 4.3.3 [2]:</b> Chief Conservation Officer must approve number of carcasses to be used internally versus externally.							Chief Conservation Officer	Carcasses allocated by chief Conservation Officer for external versus Internal use.	0	-
<b>Action Project 4.3.3 [3]:</b> Develop and Implement off-take plan and operations strategy to minimise impact on other aspects of the reserve during off-take operations.							Reserve manager / Wildlife Business Development unit	Off-take operations have a minimim impact on other aspects of the reserve.	0	-

**Objective 4:** To manage the natural aquatic systems and sustain the ecological processes functioning in the reserve.

Action Project:	Timeframe						Responsibility	Indicators	Deliverables	Funding source
	1	2	3	4	5					
<b>Action Project 3.3.3 [1]:</b> Integrate Regional Catchment Management Strategies in reserve management interventions for Phase 1 with input							Ecologist / Reserve manager	Reserve management interventions are aligned with regional catchment management strategies	0	-

from Department of Water Affairs.								thorough engagement with the Department of Water Affairs.		
<b>Action Project 4.4.5 [1]:</b> Ensure compliance of water extraction points with relevant legislation.							Reserve manager	All water extraction points are in compliance with relevant legislation (Water Use Licenses, borehole registrations, etc)	0	-
<b>Action Project 4.4.5 [2]:</b> Investigate possibility of sinking boreholes close to rivers to avoid potential waterborne diseases.							Reserve manager	Decision made regarding sinking boreholes close to rivers to avoid potential waterborne diseases.	0	-

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

<b>Overarching Objective 1:</b> To ensure effective co-operative management of the various components of the reserve to achieve the objectives of the Protected Area.										
<b>Overarching Action Projects (Refer to Document 1):</b>	<b>Timeframe</b>					<b>Priority</b>	<b>Responsibility</b>	<b>Indicators</b>	<b>Deliverables</b>	<b>Funding requirements</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>					
<b>Action Project 2.2 [1]:</b> Develop thorough understanding applicable to objectives and functionality of various statutes relevant to all stakeholders in the BNR.							BMC/CMC/JMC	All management staff and primary stakeholders understand overarching objectives and statutes relevant to BNR.	0	-
<b>Action Project 2.4 [1]:</b> Map the Phase 2 fence lines and compile a document capturing the current arrangements that define the fence placement.							Reserve manager	Phase 2 fencelines are mapped and a document describing placement arrangements is compiled and presented to management staff and relevant primary stakeholders.	0	-
<b>Action Project 2.6 [1]:</b> Update the							Reserve manager /	All existing local agreements,	0	-

database of local agreements, servitude agreements, Settlement Agreements, Co-Management Agreements and Mou's.						social ecology	servitude agreements, etc. are reviewed, updated and included in a well maintained database. Legal reviews should also be undertaken wherever necessary.		
<b>Action Project 2.7 [1]:</b> Annually explore and investigate opportunities to broaden conservation land use in and surrounding the Reserve.						PA Expansion unit / Regional and Reserve Manager	All options to broaden conservation land use in and surrounding the reserve are explored on an annual basis and implemented where possible.	0	-
<b>Action Project 2.7 [2]:</b> Implement MTPA Expansion Strategy and Processes when opportunities have been identified.						PA Expansion unit / Regional and Reserve Manager	Opportunities to implement the MTPA expansion strategy are explored and progressed annually.	0	-
<b>Action Project 4.4 [1]:</b> Annually review strategic conservation objectives and revise the linked performance plan.						Reserve / Regional Manager	Strategic conservation objectives are reviewed and the associated linked performance plan revised accordingly.	0	-
<b>Action Project 5.3 [1]:</b> MTPA to annually review special management overlays and develop management actions accordingly.						Ecologist	All management overlays are reviewed on annual basis and management actions in the IMP are revised accordingly. New management overlays should also be developed as and when required.	0	-
<b>Action Project 7.1.1 [1]:</b> Develop 5 Year Strategic Plan and Annual Performance Plan.						MTPA	5 year strategic plan and associated annual performance plan is used to review annual performance of the management team in	0	-



								terms of the IMP.		
<b>Action Project 7.1.3 [3]:</b> Implement Annual Strategic Performance Planning and Audits in accordance with the PFMA.							MTPA	Annual strategic performance planning is done in alignment with the requirements of the Integrated Management Plan and in compliance with the PFMA.	0	-
<b>Action Project 7.1.4 [4]:</b> Obtain info from DNPW once their investigation of available assets is complete and do needs analyses and implement accordingly.							BMC/CMC/JMC/DNPW	Information regarding available assets is obtained from DNPW and needs analyssi	0	-
<b>Action Project 7.1.2 [1]:</b> Investigate human resource requirements in the BNR and adapt the existing staff organogram with a view to improving effectiveness and efficiency in achieving BNR objectives and informing the Business Plan.							MTPA	Existing staff organogram is revised according to actual management requirements in terms of the IMP and in compliance with MTPA Human Resource Management Policies.	0	-
<b>Action Project 7.1.2 [2]:</b> Implement MTPA official skills development plan and strategy within the BNR.							MTPA HR	Official MTPA skills development strategy is continually being implemented.	0	-

Overarching Objective 7: To prevent and control illegal or unauthorised activities within the Protected Area.											
Overarching Action Projects (Refer to Document 1):	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements	
	1	2	3	4	5						
SAFETY AND SECURITY											
Action Project 8.3.4 [1]: Develop Fence Patrol and Maintenance Strategy.							Reserve Managers	A strategy is developed which minimises illgal 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 implmented which ensures a unirom front is formed in response to illegal activities in the BNR. All illegal utilisation is recorded on a central database.	0	-	
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 sepcific management overlays. Access arrangements and rehailbitation 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 emmanating from a determination by the Minister in terms of Section 48 (3) are implemented.	0	-
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							BMC/CMC/JMC	Mining areas are priorotised for rehabilitation and mines engaged in terms of their obligations to rehabilitate their specific areas.	0	-

reserve status.										
<b>Action Project 8.2.4 [5]:</b> MTPA in conjunction with the relevant management structures, to monitor compliance with EMPRs for mining operations and engage mines on transgressions.							BMC/CMC/JMC	Mine are enaged with on transgressions in terms of theor compliance to their relevant EMPR's.	0	-
<b>Action Project 8.2.4 [6]:</b> Establishing access control mechanism with the mines which enables effective control by the reserve and monitoring of all mining activities.							BMC/CMC/JMC	Access control mechanism is established with mines and all mining activities are monitored.	0	-

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

specific development projects in the BNR.								obtained.		
<b>Action Project 9.3 [1]:</b> 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 1:** To strive towards responsible management and maintenance of biodiversity and ecological processes, in order to provide for the recreational, cultural and economic needs of communities, present and future.

Action Project:	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
Financial Management actions										
Action Project 3.1.1 [2]: Integrate 5 Year Strategic Plan, Annual Performance Plan and requirements of the Public Finance Management Act in financial decision making, procurement procedures and spending policies specifically relating to Phase 1 of the BNR.							MTPA	Existing procurment procedures and decision making processes are reviewed and adapted in terms of the Public Finance Management Act.	0	-
Action Project 3.1.1 [3]: Provide all financial management information to Finance Department on an annual basis for Annual Performance Review.							Reserve manager / regional manager	Well recorded financial information is provided to the MTPA finance department for the purposes of an annual financial review.	0	-
Human Resource Management actions										
Action Project 3.1.2 [1]: Ensure current staffing structure of Phase 1 complies with the organogram which has been approved by the MTPA.							Reserve Manager	Staffing structure is compliant with MTPA approved organogram.	0	-
Action Project 3.1.2 [2]: Develop Database/Inventory of local skills within the community surrounding Phase 1							MTPA: Social Ecology Dept. / reserve manager	A well maintained database of local skills is used to employ local staff wherever	0	-

and employ local staff from this database wherever possible.								possible.		
Action Project 3.1.2 [3]: Undertake audit of staff contracts and human resource management policies within Phase 1 and ensure compliance with relevant legislation and guidelines.							MTPA HR / Reserve manager	All staff contracts and human resource management policies are compliant with relevant labour legislation and guidelines.	0	-
Action Project 3.1.2 [4]: Co-ordinate management activities and staff availability in alignment with MTPA Skills Development Plan.							MTPA: HR dept PAM	All staff are provided with an opportunity to benefit from the MTPA Skills Development Plan.	0	-
Action Project 4.4.1 [2]: Train gate staff to provide a friendly, prompt and informative service to visitors.							Reserve manager	Visitors entering the reserve and tourist gates are received in a friendly, professional manner by well trained staff.	0	-
<b>Co-operative Management actions</b>										
Action Project 3.3 [1]: Ensure that implementation team of Phase 1 is represented on Biological Management Committee.							Reserve Manager	Representative from Phase 1 implementation team is represented on Biological Management Committee.	0	-
Action Project 4.4.2 [1]: Develop and implement signage strategy for the reserve in alignment with overarching signage strategy for the BNR.							BMC	All signage in Phase 1 is subject to signing strategy which is in alignment with overarching signage objectives and strategies for the BNR.	0	-
Action Project 4.4.6 [1]: Implement effective radio communication system.							Reserve Manager	An effective radio communication system is established and maintained which covers the total area of Phase 1 and is in alignment with overarching radio communication	0	-

								protocols.		
<b>Waste Management actions</b>										
Action Project 4.4.7 [1]: Identify Municipal refuse dumps to dump refuse from reserve and formalise agreement with refuse dump.							Reserve Manager	Formal agreements are in place with identified refuse dumping facilities.	0	-
Action Project 4.4.7 [2]: Explore the potential of recycling as far as possible.							Reserve Manager	All opportunities for recycling are explored and implemented wherever possible.	0	-
<b>Policy Management actions</b>										
Action Project 4.2.5 [2]: Undertake regular Environmental Compliance Assessments to ensure compliance of management operations with relevant legislation and policies.							PAM /Reserve manager	Management operations are in compliance with relevant environmental legislation at all times.	0	-
Action Project 4.2.5 [3]: Develop and maintain filing system of environmental management legislation and policies for effective and fast reference.							Reserve Manager	A well maintained filing system is used for effective and fast reference to environmental management legislation and policies.	0	-
<b>Biological Resource Management</b>										
Action Project 3.1.1 [1]: Develop and maintain a Biodiversity Inventory for use in determining the contribution of Phase 1 to the ecological value and economy of the area and region.							Scientific services / ecologist	A well maintained biodiversity inventory is used to determine the ecological value and economic contribution of Phase 1 to the surrounding region.	0	-
Action Project 3.3.4 [2]: Develop and Implement Soil Erosion Management Plan							Reserve manager	A well developed Soil Erosion Management Plan is developed for implementation. This plan includes budgets, priority areas, rehabilitation strategies, erosion	0	-

								prevention strategies.		
Action Project 3.3.4 [3]: Monitor soil erosion interventions and recurrences.							Ecologist / Reserve Manager	Once the soil erosion management plan is implemented, the effectiveness of the required management interventions are monitored on a continuous basis.	0	-
Action Project 4.2.5 [1]: Develop and maintain a database of all environmental issues within Phase 1.							Reserve Manager	A well maintained GIS database is used to record and address all environmental issues within Phase 1.	0	-
Action Project 5.2 [1]: Create opportunities for research programmes and generate list of potential research programmes that can be conducted in Phase 1 of the BNR.							MTPA Scientific Services / BMC	Research programmes are being implemented based on official list of potential and prioritised research programmes in Phase 1.	0	-
Action Project 5.2 [2]: Handle all research inquiries in terms of the required protocol and obtain approval from Scientific Services.							Ecologist /Reserve Manager	All research programmes are subject to required protocol and obtain approval from Scientific Services.	0	-
<b>Infrastructure Management Actions</b>										
Action Project 4.2.3 [1]: Develop annual infrastructure maintenance plan for phase 1, inclusive of upgrading projects.							Reserve manager / Tourism Business Development	Infrastructure components which require maintenance are identified on an annual basis and included in an annual maintenance plan for implementation.	0	-
Action Project 4.2.3 [2]: Develop Infrastructure Development Plan for Phase 1, in alignment with the Concept Development Plan and in alignment with overarching development policies and guidelines of the BNR.							BMC	All infrastructure in Phase 1 is developed in terms of an Infrastructure Development Plan which is in alignment with the Concept Development Plan and	0	-



							overarching development policies.		
Action Project 4.4.3 [1]: Develop and Implement Road Development and Maintenance Plan for Phase 1, including GIS mapping.						Reserve manager / Tourism Business Development	All roads in Phase 1 are developed and maintained in terms of a Road Development and Maintenance Plan.	0	-
<b>Cultural / Archeological Management Actions</b>									
Action Project 2.9 [1]: Identify and record sites of archaeological importance						Ecologist / Social Ecology / Reserve Manager	Sites of archaeological importance are continuously identified and recorded in GIS database.	0	-
Action Project 3.4 [1]: Identify cultural resources within Phase 1. Staff should be trained to be able to identify cultural features in Phase 1 and external specialists/students can also be used for this aspect.						Ecologist / Social Ecology / Reserve Manager	Relevant staff are well training to identify cultural resources in Phase 1. Students are used to supplement this requirement wherever necessary.	0	-
Action Project 3.4 [2]: Develop and maintain database of cultural heritage features in Phase 1.						Social Ecologist	A GIS based database of cultural heritage features in Phase 1 is well maintained and updated as and when cultural heritage resources are identified.	0	-
Action Project 3.4 [3]: Develop and implement cultural resource conservation plan and strategy with assistance from SAHRA.						Social Ecology	SAHRA is engaged with in developing and implementing a cultural resource conservation plan.	0	-
Action Project 3.4 [4]: Sustainably utilise cultural resource features in tourism experiences in alignment with cultural resource conservation plan and strategy.						Reserve manager / social ecology	Tourism experiences include cultural resource features in a sustainable manner and in alignment with Conservation Development Plan and Strategy.	0	-

Safety / Security Management										
Action Project 3.2 [1]: Undertake Risk Assessment of Phase 1 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 provided to Biologicla Management Committee for inclusion in overarching Integrated Safety and Security Strategy for the BNR.	0	-
Action Project 3.2 [2]: Where applicable, annually review contract with external security company and assess performance. Terms of Reference should also be discussed with the Security company on an annual basis as part of the review.							Reserve manager / HR	Contract with external security company is reviewed annually to determine performance in addressing the set Terms of Reference.	0	-
Action Project 3.2 [3]: Undertake safety audit of all public areas and address problem areas.							Reserve manager / WPS	All safety and security issues in public areas are identified and addressed.	0	-
Action Project 3.2 [4]: Undertake safety audit to determine safety issues relating to staff activities and address problem areas.							Reserve manager / WPS	All safety and security issues relating to staff activities areas are identified and addressed.	0	-
Action Project 3.3.7 [1]: Develop Field Ranger Patrol Plan and train Field Rangers to implement plan.							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 [2]: Ensure that field rangers are empowered and armed to conduct law enforcement activities.							Reserve Manager / HR / WPS	Law enforcement activities are undertaken by well trained, relevantly qualified and empowered field rangers.	0	-
Action Project 4.4.4 [1]: Boundary fence patrols and maintenance to be conducted on a regular basis							Reserve Manager	The boundary fence is secure and uncompromised at all times and all security issues are identified and reported	0	-

								effectively.		
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.							Reserve Manager / Wildlife business development / Ecologist	Phase 1 has the required fencing infrastructure to accommodate larger species of game such as buffalo.	0	-
<b>Expansion</b>										
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 Areas Expansion unit for further development and implementation.							Reserve Manager / PA expansion unit	Expansion opportunities are considered by the MTPA Protected Areas Expansion Unit for further implementation.	0	-
<b>Objective 7:</b> To build positive relations with interested and affected parties through effective participation in matters of mutual interest, thereby contributing to the sustainability of the protected area										
Action Project:	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 5.1.1 [1]:</b> Register with all relevant community forums, working groups, and any other formal institutions to participate in meetings and discussions.							Social Ecology	Formal registrations with community forums, working groups and any other formal institutions and a representative from Phase 1 participates in relevant meetings and discussions.	0	-
<b>Action Project 5.5.1 [2]:</b> Establish formal relations with neighbours.							Social Ecology	Neighbours are engaged with formally.	0	-
<b>Action Project 5.5.1 [3]:</b> Identify and actively support community empowerment partnerships and social programmes focussing on conservation and tourism development.							Social Ecology / Reserve Manager	Community empowerment partnerships and social programmes focussing on conservation and tourism development are actively	0	-

<b>Action Project 5.1.2 [1]:</b> Refer land claim inquiries to Senior Manager: Social Ecology as and when they are presented.							Social Ecology	All land claim enquiries are referred to the Senior Manager: Social Ecology (MTPA)	0	-
<b>Action Project 5.1.3 [2]:</b> Undertake regular scheduled two way communication with community institutions and determine trends.							Social Ecology / Reserve Manager	An understanding of trends in community institutions is obtained through scheduled two communication.	0	-

**Objective 8:** To manage movement and activities of private landowners and individuals with mining rights within the reserve, in such a way that conflict with all other objectives are minimised.

Action Project:	Timeframe					Priority	Responsibility	Indicators	Deliverables	Funding requirements
	1	2	3	4	5					
<b>Action Project 4.3.4 [1]:</b> Capacitate the reserve management in respect of mining operations and their legal status, right and obligations.							Regional Manager	Reserve management is capacitated in respect to the legal status, rights and obligations of relevant mining operations.		
<b>Action Project 4.4.1 [1]:</b> Rebuild and maintain main entrance gate and facilities.							Reserve Manager / Tourism Business Development	Entrance gate and associated facilities are rebuild and well maintained.		

**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	-
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	-

<b>Objective 5:</b> To develop a sustainable commercialisation strategy within the greater conservation objective so as to optimise revenue generation										
<b>Action Project:</b>	<b>Timeframe</b>					<b>Priority</b>	<b>Responsibility</b>	<b>Indicators</b>	<b>Deliverables</b>	<b>Funding requirements</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>					
<b>Action Project 4.1 [1]:</b> Biological Management Committee to annually identify conservation related commercialization opportunities							BMC	Conservation related commercialisation opportunities are identified and explored on an annual basis.	0	-
<b>Action Project 4.1 [2]:</b>							BMC	All tourism development and	0	-

Biological Management Committee to develop a Tourism Implementation Programme for Phase 1							operations in phase 1 are implemented in an Official Tourism Implementation Programme.		
<b>Action Project 4.1 [3]:</b> Biological Management Committee to annually review and update the Tourism Implementation Programme						BMC	Tourism Implementation Programme is reviewed and updated on annual basis by the BMC and the management team and tourism operators are made aware of relevant changes.	0	-
<b>Action Project 4.1 [4]:</b> Ensure alignment of commercialization opportunities with the carrying capacities defined in the zoning plan.						BMC	All commercialisation opportunities are in alignment with carrying capacities defined in the zoning plan for Phase 1.	0	-
<b>Action Project 4.1 [5]:</b> The MTPA must ensure that commercial opportunities offered on state-owned land are aligned with MTPA policy and the provisions of the PFMA						BMC	All commercial opportunities offered on state-owned land are aligned with MTPA policy and provision of the PFMA.	0	-
<b>Action Project 4.2.2 [1]:</b> Implement protocol whereby all external enquiries relating to linkages with other tourism initiatives are referred to the Regional Manager of the MTPA.						Regional Manager	All external enquiries relating to linkages with other tourism initiatives are referred to the Regional Manager of the MTPA in terms of a specific protocol.	0	-
<b>Action Project 4.2.2 [2]:</b> Include established linkages in Marketing Plan and Strategy.						BMC	Marketing Plan and strategy is updated to include established linkages with other tourism initiatives.	0	-
<b>Action Project 4.2.4 [1]:</b> Implement Action items identified in the overarching Tourism Operations Plan.						BMC	Action items identified in Tourism Operations Plan are implemented as and when required.	0	-

<b>Action Project 4.2.4 [2]:</b> Capacitate staff on the requirements, policies and guidelines included in the Tourism Operations Plan.						Tourism Business Development unit	Relevant staff members understand the requirements, policies and guidelines included in the Tourism Operations Plan.	0	-
<b>Action Project 4.2.4 [3]:</b> Ensure staff skills and equipment used to provide tourism experiences are compliant with industry norms and standards.						Tourism Business Development unit / Reserve Manager	Staff skills and equipment used to provide tourism experiences are compliant with industry norms and standards.	0	-
<b>Action Project 4.2.4 [4]:</b> Develop and Implement operations manual for private operators operating in Phase 1, if applicable.						Tourism Business Development unit / PAM	All private operations taking place in Phase 1 are done so in terms of the operations manual.	0	-
<b>Action Project 4.2.6 [1]:</b> Develop system to capture and deal with comments and concerns presented by visitors to Phase 1 of the BNR. (A database of comments and concerns should form part of this system).						Tourism Business Development unit / Reserve Manager	Feedback system is established and maintained to record and review comments and concerns presented by visitors to ensure improved quality.	0	-
<b>Action Project 4.2.6 [2]:</b> Develop monitoring schedule for tourism activities						Reserve Manager	Tourism activities are monitored according to a pre-determined schedule to ensure effectiveness and accuracy of monitoring activities.	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 standard format for the Nature Reserve.							Social Ecology	Interpretation is standardised throughout the reserve, guided by an	0	-





<b>Action Project 8.1.4 [1]:</b> Develop Tourism Operations Plan.						BMC/CMC/JMC	Tourism Operations in the BNR are well structured and compatible with each other in terms of a Tourism Operations Plan.	0	-
<b>Action Project 8.1.5 [1]:</b> Implement strategy whereby all proposed developments in the BNR are reviewed in terms of Environmental Legislation and ensure that all relevant Environmental Authorisations are obtained.						BMC/CMC/JMC	All proposed developments in the BNR are compliant with relevant Environmental Legislation.	0	-
<b>Action Project 8.1.5 [2]:</b> Establish a reporting system whereby stakeholders can report any environmental issues within the BNR to the Biodiversity Management Committee or relevant management structure.						BMC/CMC/JMC	All environmental issues within the BNR are reported to the relevant management structures by Stakeholders and issues are effectively addressed.	0	-
<b>Action Project 8.1.6 [1]:</b> Develop and Implement Tourism Monitoring Strategy.						BMC/CMC/JMC	Tourism activities in the BNR are successfully monitored through a consolidated management strategy.	0	-
<b>Action Project 8.1.6 [2]:</b> Capacitate Landowners and Product Owners to implement Monitoring Strategy.						BMC/CMC/JMC	Landowners and Product Owners are capacitated and empowered to implement monitoring strategy.	0	-
<b>Action Project 8.2.1 [1]:</b> Develop Guideline and Policies for the sustainable harvesting of resources.						Scientific Services	Resources in the reserve are harvested in a manner which do not compromise any of the overarching objectives for BNR.	0	-
<b>Action Project 8.2.2 [1]:</b> Develop hunting guidelines and policies for the BNR.						WPS / PAM	Hunting is effectively managed through a uniformed approach in the BNR, based on well	0	-

								structured and established guidelines and policies for the sustainable harvesting of resources.		
<b>Action Project 8.2.2 [2]:</b> 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	-
<b>Action Project 8.2.2 [3]:</b> 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	-
<b>Action Project 8.2.3 [1]:</b> 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	-
<b>Action Project 8.3.1 [1]:</b> 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	-
<b>Action Project 8.3.2 [1]:</b> 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	-
<b>Action Project 8.3.3 [1]:</b> Develop Road Construction manual for the BNR, including policies and guidelines for road development in the reserve.							Tourism Business Development / PAM	All roads in the BNR are upgraded and constructed to a set standard as determined by road construction manual.	0	-
<b>Action Project 8.3.3 [2]:</b> Engage with							Wildlife Business	Hiking trails and mountain	0	-

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

<b>Objective 6:</b> To develop and implement Environmental Awareness and Interpretive programs for the promotion of conservation.										
<b>Action Project:</b>	<b>Timeframe</b>					<b>Priority</b>	<b>Responsibility</b>	<b>Indicators</b>	<b>Deliverables</b>	<b>Funding requirements</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>					
<b>Action Project 5.1.3 [1]:</b> Develop and implement environmental education and interpretation plan.							Social Ecology	All environmental education activities/requirements and interpretation interventions are captured in an environmental education programme for implementation.		

## **7 PERFORMANCE REVIEW ON AN ANNUAL BASIS**

Refer to Overarching Document.