

APP-001291

**Environmental Management Plan For The !Nara Seed Storage And Processing
Factory At Rooibank Within The Namib Naukluft Park In Walvis Bay Rural
Constituency, Erongo Region.**



Photo credit: Manni-Goldbeck

CONSULTANT:

**Mr. Ipeinge Mundjulu (BSc, MSc)
Red-Dune Consulting CC
P O Box 27623
Cell: +264 81 147 7889
Windhoek**

PROPONENT

**Ms. Hertha Kapopo
Erongo Regional Council
Private Bag 5019
Tel: 06441057
Swakopmund**



RED-DUNE CONSULTING CC

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ACRONYMS

AIDS	Acquired Immuno Deficiency Syndrome
DEA	Department of Environmental Affairs
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
EC	Environmental Commissioner
ECC	Environmental Clearance Certificate
ECO	Environmental Compliance Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act (No. 7 of 2007)
EMP	Environmental Management Plan
ERC	Erongo Regional Council
HIV	Human Immuno Virus
MET	Ministry of Environment and Tourism
OROI	One Region One Initiatives
PPE	Personal Protective Equipment
RD	Red-Dune Consulting CC
SM	Site Manager
TORs	Terms of Reference

Executive Summary

Erongo Regional Council (ERC) is a sub-national government under the Republic of Namibia. The regional council has a duty to coordinate and implement rural development programmes in the region. Amongst the regional program, is the One Region One Initiatives (OROI). The OROI programme is aimed at improving rural people's livelihood through innovation (value addition) and employment creation. The !Nara seed storage and processing project has been supported through this programme. The council is supporting the Topnaar Community in the Kuiseb Delta to operate a !Nara seed storage and processing plant. This social project aims to ensure sustainable utilization of the !Nara plants, employment creation, compacting desertification and improving the livelihood standard of the Topnaar community.

The construction of the processing facility has been completed, however, it requires the provision of water. Erongo Regional Council has an existing borehole in the Kuiseb river and now, together with the Ministry of Agriculture, Water and Land Reform, is planning to construct a water pipeline from the borehole to the processing facility. The construction design of the pipeline is done by the MAWLR. The proposed pipeline route is sparsely vegetated and it is not anticipated to cause significant loss of biodiversity.

1. Overview

This Environmental Management Plan (EMP) is developed following an Environmental Impact Assessment (EIA) for the proposed construction of a water pipeline and operation of a Nara processing plant. A comprehensive project description and impact assessment are contained in the EIA report.

2. Purpose of the EMP

This Environmental Management Plan (EMP) is a risk strategy that contains logical frameworks, monitoring programmes, mitigation measures and management control strategies to minimize environmental impacts. It further stipulates the roles and responsibility of persons involved in the project. These strategies are developed to reduce the levels of impacts of the project.

3. Compliance to the EMP

This EMP is a legally binding document as given under the provisions of the Environmental Management Act, 2007 (Act No. 7 of 2007). Erongo Regional Council and its contractors must adhere to the framework of this document

4. Roles and Responsibility

4.1. Proponent

The proponent, Erongo Regional Council shall take overall responsibility for proper implementation of the EMP. It remains the responsibility of the proponent to appoint key personnel for the implementation of the EMP such e.g. Site Manager and ensure that all employees and contractors are conversant with the EMP.

4.2. Site Manager

The Site Manager (SM) represents the proponent on site. He/she shall be responsible for daily activities in ensuring environmental protection.

4.3. Employees

It shall be responsibility of employees to adhere to the provision of the EMP at all times when on site.

4.4. Environmental Compliance Officer

Compliance to EMP is enforced by the environmental inspector as provided for under Environmental Management Act (No. 7 of 2007) (EMA)

5. Disciplinary Action

This EMP is a legally binding document, non-compliance to the EMP is punishable in accordance to the provisions of EMA

6. Policy, Legal and Administrative Framework

Table 1. Regulatory framework applicable to the project

REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY
The Namibian Constitution	The State shall actively promote and maintain the welfare of the people by adopting policies aimed at ... The maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future	Protection of the environment and biodiversity
Environmental Management Act No. 7 of 2007	This act aims to promote the sustainable management of the environment and the use of natural resources and to provides for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters	The acts provide a list of activities that may not be undertake without an environmental clearance certificate to prevent environmental damages
Forest Amendment Act No. 13 of 2005	The act manages, conserves and maintains biological plant diversity and the sustainable use of forest products in a way which is compatible with the natural environment.	The act provides for issuance of permits to allow for harvesting and or clearance of plants species.

REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY
Draft Pollution Control and Waste Management Bill	This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management	To protect the Environment from possible hydrocarbons and oil leaks from the machinery and vehicles
Environmental Policy framework (1995)	This policy subjects all developments and project to environmental assessment and provides guideline for the Environmental Assessment.	Consideration of all possible impacts and incorporate them in the development stages
Seed and Seed Varieties Act 23 of 2018	To provide for the appointment of the Registrar of seed and seed varieties and the registration of producers, processors and dealers of seed and control over imports and exports of seed; to provide for the establishment of the Namibia Seed Council and the Seed Varieties Committee and their powers and functions; to provide for the establishment of a national seed varieties register; to provide for the establishment of the Seed Certification Service and its powers and functions; and to provide for incidental matters.	The seed processing must be done in accordance to this act
National Solid Waste Strategy	The strategy to control and manage solid waste in Namibia	Proper handling of solid waster from the project

REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY
Regulations Related to the Health and Safety of Employees at Work. Reg No. 156	Promotes the Safety and Health of employees at the work place	Employees subjected to noise, dust and injuries
Public Health Act No. 1 of 2015	To Protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	Application of proper mitigation measure to prevent aesthetic pollution. Public health from dust and injuries.
Labour Act No. 11 of 2007	This Act outlines the labour laws which encompass protection and safety of employees at work.	To ensure the National Labour practices are adhered to.
Regional Council Act, 1992 (Act No. 22 of 1992)	The Regional Councils Act legislates the establishment of Regional Councils that are responsible for the planning and coordination of regional policies and development. The main objective of this Act is to initiate, supervise, manage and evaluate development at regional level.	Observe the regional authority by laws
Water Act No, 54 of 1956	All water resources belong to the State. It prevents pollution and promotes the sustainable utilization of the resource	Prevention of discharging contaminated water at unauthorised places

REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY
Soil Conservation Act No. 76 of 1969	To promotes the conservation of soil, prevention of soil erosion	Uncontrolled movement of heavy vehicles and truck at areas surrounding the site may cause land degradation
Water Resource Management Act No.11 of 2011	The Act stipulates the prevention of both Surface and Ground water sources.	Possibility of surface and groundwater contamination.
National Heritage Act No.27 of 2004	The Act gives provision of the protection and conservation of places and objects with heritage significance.	There were no heritage features identified on site.
<p><u>Precautionary Approach Principle</u></p> <p>This principle is worldwide accepted when there is a lack of sufficient knowledge and information about proposed development possible threats to the environment. Hence if the anticipated impacts are greater, then precautionary approach is applied.</p>		
<p><u>Polluter Pays Principle</u></p> <p>This principle ensures that proponent takes responsibility of their actions. Hence in cases of pollution, the proponent bears the full responsibility and cost to clean up the environment.</p>		

7. The EMP table

During project planning, Erongo Regional Council requested the Ministry of Agriculture Water and Land Reform to assist with the design of the water pipeline project. The MAWLR was crucial during this time since it is also the competent authority in the regulation of water development infrastructure. The ministry has since then designed the pipeline project. The processing plant is already constructed, fenced and equipped with processing equipment. Focus on the processing factory will be on operation level. The design of the water pipeline considered two alternatives in considering the shortest possible route with less obstruction to riparian vegetation, and physical infrastructures in the surrounding. Therefore, the construction phase of this study will only consider the water pipeline since the borehole and the processing factory are already operation.

The EMP is divided into three components; Physical Environment, Biological Environment, and Human Environment in accordance with the project phases. This is to ensure for easy implementation.

7.1. Construction Phase

7.1.1. Human Environment

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Employment	To ensure that locals benefit from the employment	1. Ensure that all general work is reserved for local people unless in circumstances where specialized skills are required.	<ul style="list-style-type: none"> • Employees record Labour unrest over unfair compensation 	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
	opportunities to be created during construction of the pipeline	<ol style="list-style-type: none"> 2. Fair compensation and labour practices as per the Namibian Labour Laws must be followed 3. Ensure skill transfer to the locals 4. Ensure all workers go through an induction course 	<ul style="list-style-type: none"> • Induction minutes, reports and attendance registers 	
HIV/AIDS, Alcohol and Drug Abuse	To sensitise employees about the dangers of alcohol, drugs and HIV/AIDS	<ol style="list-style-type: none"> 1. Provide awareness to the employees on dangers of HIV/AIDS, alcohol and drug abuse 2. Provide condoms on site 	Awareness meeting minutes	Site Manager
Health	To ensure good health and safety of the employees and public	<ol style="list-style-type: none"> 1. Abide to the Occupational Health and Safety and Labour Act of Namibia and other statutory requirements such as International Labour Practise (Organization?) (ILO) 2. Ensure adequate first aid kit 3. Supervisors must undergo an occupational health and first aid course 4. Train employees on the possible health hazards to avoid potential risks 5. Provide appropriate Personal Protective Equipment (PPE) 	<ul style="list-style-type: none"> • Training minutes • Complaints of health issues by employees • Employees fitness certificates • First aid kit available 	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		<ol style="list-style-type: none"> 6. Employees must NOT be exposed to noise levels above the required -85dB (A) limit over a period of 8 hours 7. Adhere to the Labour Act which stipulates that non-toxic human dust exposure levels may not exceed 5mg/m³ for respiratory dust and 15mg/m³ for total dust. 8. Supply clean drinking water to employee during construction 		
Safety	To ensure safety for the employees	<ol style="list-style-type: none"> 1. Ensure that every employee goes through an induction course about safety; 2. Employees must be equipped with all necessary Personal Protective Equipment (PPE) including helmets, overalls, safety shoes, safety glasses, gloves, earmuffs, etc. 3. Only qualified and licensed personnel must be allowed to operate machinery and vehicles 4. Adequate safety signs must be displayed on site 5. Injuries during work are possible, ensure that there is a first aid kit on site. 	<ul style="list-style-type: none"> • PPE for all employees • Safety policy/plan in place • Training minutes • Licensed personnel operation specialized equipment • Safety signs on site 	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Visual Impact	To prevent litter/waste scattered all over and preserve aesthetic value	<ol style="list-style-type: none"> 1. Maintain good house keeping 2. Excavated heaps and construction material must be stored well 3. Trenches must be rehabilitated (backfilled and compacted) 4. Abide to the Management Plan of the park 	<ul style="list-style-type: none"> • Scattered litter, visual inspection • Construction site levelled and compacted 	Site Manager
Archaeology/ Heritage Resources/ Artefacts	Preserve Heritage	<ol style="list-style-type: none"> 1. Employees must be trained on the possible finding of archaeological material in the area 2. Implement a chance find and steps to be taken when archaeological material findings e.g. heritage rocks, paintings and drawings, human remains or artefacts are unearthed Stopping the activity immediately: <ol style="list-style-type: none"> i. Informing the operational manager/supervisor ii. Cordoned off the area with danger tape and manager to take appropriate pictures iii. Manager/supervisor must report the finding to the National Museum (+ 264 61 276 800) or the National Forensic 	Heritage resources/artefacts	Management or Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		Laboratory (+ 264 61 240 461).		
Traffic	To ensure coordinated movement of heavy vehicles	<ol style="list-style-type: none"> 1. Trucks must be installed with a rotating headlight beam. 2. Trucks must maintain a low speed to prevent excessive dust and accidents 3. Install warning signs where necessary 	<ul style="list-style-type: none"> • Records of public complaints 	Site Manager

7.1.2. Bio-Physical Environment

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Impact on Flora	To ensure sustainable conservation of the vegetation	<ol style="list-style-type: none"> 1. Obtain a permit from the Directorate of Forestry which will guide on clearing of trees; 2. Only clear vegetation along the pipeline area; 3. There must be only one way road along the pipeline 	Complaints and records	Site Manager
Impact on Fauna	To ensure protection of animals especially wild animals	<ol style="list-style-type: none"> 1. Do not kill animal, unless such animals pose eminent danger to humans 2. Poaching is strictly forbidden 3. Employees must not carry weapons or be in possession of snares 	Records of animals killed	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Land Pollution / Surface and Ground Water Pollution	To prevent water pollution	<ol style="list-style-type: none"> 1. Fueling of heavy vehicle in the river bed is NOT allowed. 2. Fueling must be done in coordinated manner at a designated place. 3. Stationary vehicles must be provided with drip tray to capture possible oil, lubricants and hydraulic fluids leakages 4. Ensure all vehicle and machinery are well serviced and leak inspections are done to avoid leakages 5. Provide an oil spill emergency response kit and train employees on oil spill response 6. Servicing of vehicles and machinery must take place at designated sites only 	Physical inspections	Site Manager
Land Degradation	To prevent soil erosion	<ol style="list-style-type: none"> 1. Movement of heavy vehicles must be coordinated and restricted to be on access roads 2. There must be a one way access road to reduce the footprint 	Physical inspection	Site Manager
Waste Generation	To ensure good housekeeping and prevent littering	<ol style="list-style-type: none"> 1. Develop a waste management strategy 2. Construction generate garbage, refuse and building rubbles. Waste generated from the construction site 	Waste bins on site Physical inspection	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		<p>should be classified into different categories, e.g. Material Waste (Wood, steel, etc.), Building Rubble (concrete, bricks etc.), Garden Waste (tree stumps, branches, etc.), Domestic Waste (cans, plastics, tissue, plastics etc.)</p> <ol style="list-style-type: none"> 3. Each category should be disposed of at an approved site 4. Provide skip bins to collect waste and be disposed of at an approved disposal site 5. Provide mobile toilets on site 6. Do not burry waste in the river bed or any other place 7. Used oil, grease and lubricants cans must be collected in appropriate drums and disposed of at an approved site. 		
Air Pollution	To prevent / minimize all source of air pollution	<ol style="list-style-type: none"> 1. Movement of heavy vehicles must strictly be restricted within the site. 2. Adhere to the minimum speed limit of 30 or 40 km/hour to prevent excessive dust 3. Do not excavate and/or offload sand during heavy winds. 4. Trucks carrying sand must be covered. 5. Sand stock piles (if any) must be covered or regularly 		

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		<p>sprayed with water.</p> <p>6. On site where soil is loosened by vehicle movement, apply a dust suppression method such as water spraying (do not use contaminated water).</p> <p>7. Cement and concrete must be mixed with concrete mixers and not manually in the open.</p> <p>8. Workers must not be exposed to excess dust and should be provided with appropriate PPE such as dust masks and ear muffs.</p>		
Noise Impacts	To minimize noise pollution from vehicles and machineries.	<ol style="list-style-type: none"> 1. Heavy vehicles must be well serviced 2. Switch off engine off vehicles when not in use 3. Drive at 30 km/h while on site 	Complaints from farmers and members of public	Site Manager
Damage to existing infrastructures	To prevent damage to physical infrastructure,	<ol style="list-style-type: none"> 1. The contractor must obtain maps of existing infrastructures from NamWater 2. The movement of heavy vehicles in the area must be well coordinated 	Report of infrastructure damage	Site Manager

7.2. Operational Phase

The operational impact analysis focused on the processing factory. It is our understanding that, Erongo Regional Council shall be handing the borehole to NAMWATER by virtue of being a water resource regulator. The processing factory is not envisaged to be consuming significant amount of water during operation. The water pipeline maintenance will only be required if there are detected leakages, or broken areas along the pipeline, hence not much impact is expected from the pipeline during the operation phase.

The most important aspects during operation is handling of waste from the processing facility, provision of employment and other socio-economic benefits that are to be derived from the project and the conservation of the !nara plant.

7.2.1. Human Environment

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Employment	To reserve job opportunities for the Topnaar people in order to improve their socio-economic condition	<ol style="list-style-type: none"> 1. Ensure that all general work is reserved for local people unless in circumstances where specialized skills are required. 2. Fair compensation and labour practices as per the Namibian Labour Laws must be followed 3. Ensure skill transfer to the locals 4. Ensure all workers go through an induction 	<p>Employee records Labour unrest over unfair compensation</p> <p>Induction minutes, reports and attendance register</p>	Site Manager

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		course		
HIV/AIDS, Alcohol and Drug Abuse	To sensitise employees about the danger of alcohol, drugs and HIV/AIDS	<ol style="list-style-type: none"> 1. Provide awareness to the employees on danger of alcohol, (HIV/AIDS) and drug abuse 2. Provide condoms on site 	Awareness meeting minutes	Site Manager
Health	To ensure good health and safety of the employees at work place	<ol style="list-style-type: none"> 1. Abide by the Occupational Health and Safety and Labour Act of Namibia and other statutory requirement such as International Labour Practise (ILO) 2. Supervisors must undergo an occupational health and first aid course, 3. Train employees on the possible health hazards to avoid potential risks 4. Provide appropriate Personal Protective Equipment (PPE) 5. There must be clean ablution facility 	Induction Minutes Valid driver licenses for heavy vehicles Complain of health issues by employees PPE registers all employees	Site Manager
Safety	To ensure good health of the employees	<ol style="list-style-type: none"> 1. Provide personnel with full protective clothing 	Health complaints from employees	Site Manager

7.2.2. Bio-Physical Environment

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
Harvesting of the !nara fruit	The economic opportunity by the value addition of the !nara seed may create opportunity for uncontrolled harvesting of the !nara plant. A well-coordinated harvesting approach must be devised to ensure sustainable collection and minimize disruption to the plants	<ol style="list-style-type: none"> 1. Harvesting of the !nara plant must only be done by licensed or permitted local (Topnaar) people. 2. Collection of the !Nara fruits must be undertaken in a manner that does not cause damage to the plants, this will ensure that the plants are sustained to continue producing fruits 		
Fauna	To prevent harming / killing of animals	<ol style="list-style-type: none"> 1. No killing of any type of animal is allowed unless such animal pose danger to human health (e.g. snake) 		
Surface and Ground Water Pollution	To prevent contamination of water from the waste that is to be generated from the processing factory, such as waste water used to clean the factory and other solid waste if not properly handled.	<ol style="list-style-type: none"> 1. Develop a waste management strategy 2. Construct a waste water chamber and hire a contractor that will be emptying the chamber to an approved site (Walvis Bay waste water treatment site) 3. Alternatively, construct concrete 		

Environmental / Social Impact	Objectives	Proposed Mitigation Measures	Monitoring Indicator	Party Responsible
		evaporation tanks for effluents		
Waste generation	To manage solid waste To prevent littering, pollution, contamination of water and general environmental health hazards	<ol style="list-style-type: none"> 1. Provide skip bins for solid waste and disposed it as an approved site (Walvis Bay disposal site) 2. All hydrocarbons must be stored on concrete bunded areas 		

8. Closure / Decommissioning Plan

Decommissioning is normally the reverse of construction and all installed materials must be removed. Unless otherwise closure of the project is ordered by the relevant authority, the project is not envisioned to be decommissioned in the near future. However, at a time when the project shall be decommissioned, a closure and decommission plan must be development and approved by the competed authority.

The following is a systematic decommissioning plan

1. Prior to decommissioning, the proponent must inform the office of the Environmental Commissioner;
2. All work must be supervised by qualified and competent engineers;
3. It is recommended that an environmental specialist must monitor any possible contamination during decommissioning;
4. There must be clear signs to the public about the closure of the project;
5. All wasted generated must be disposed of at approved sites.

9. Conclusions and Recommendations

9.1. Conclusion

Namibia has a policy to develop marginalized communities. The expected socio-economic benefits are huge especially for the Topnaar communities whose livelihood has been disturbed over the years and living in one of the harshest condition in Namibia. The project is not expected to cause significant biodiversity loss or any irreversible environmental impact. Furthermore, the existence of the Topnaar in a park is catered for by the park management plan.

9.2. Recommendations

It is recommended to the approving authority that the project be granted an Environmental Clearance Certificate subject to the following conditions,

- Adherence to rule and condition of projects in protected areas
- Proper implementation of the Environmental Management Plan to ensure environmental protection,
- Obtain all necessary permits and certifications from relevant authority,
- Undertake bi-annual environmental audits.

10. References

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11. Appendixes

Appendix 1. Environmental Management Plan of Namib Naukluft Park

Appendix 2. Condition of project in protected areas

Management Plan

Namib Naukluft Park

September 2013







Republic of Namibia
Ministry of Environment and Tourism

Author: MET

Ministry of Environment and Tourism
Troskie House, Uhland Street
P/Bag 13346, Windhoek
Tel: (+264 61) 284 2111

Directorate of Regional Services and Park Management
PZN Building, Northern Industria
P/Bag 13306, Windhoek
Tel: (+264 61) 284 2518

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FOREWORD

National parks are a vital tool for conserving Namibia's essential biodiversity. By managing parks, their irreplaceable assets and unlimited potential will be conserved for future generations. In addition, every year Namibia's National Parks draw large numbers of tourists to Namibia, generating employment and stimulating development nationwide. National Parks also provide a unique opportunity to benefit local communities through rural development while providing research, education and recreation opportunities.

The Namib Naukluft Park, Namibia's largest Park, contains all the elements of Namibia's western landscapes: the country's largest expanse of sand in the central Namib dune sea, wide gravel plains, a pristine coastline and a connection to the escarpment in the Naukluft Mountains. This is a conservation area of international significance, set within a larger trans-boundary landscape that covers the length of the Namib Desert in South Africa, Namibia and Angola.

The Ministry of Environment and Tourism aims to develop the Park as a world class protected desert and coastal landscape and tourism destination, that capitalizes on its scenic beauty and unique biodiversity. This is aimed to enhance both biodiversity conservation and sustainable socio-economic development for the region and the country.

This management plan sets out the objectives and guidelines for the management and development of the Namib Naukluft National Park. As such, it represents the policies and intentions of the Ministry of Environment and Tourism (MET) on how the park should be managed.

Park neighbours, traditional authorities, line Ministries, Regional Councils, private sector, tourists, contractors, organizations, institutions, parastatals, researchers, professional hunters, and any entity or individual dealing with the park, in any way, must ensure that any actions and decisions relating to this park are in accordance with the park management plan. In addition, specific rules and regulations in accordance with the applicable legislation will apply.

Shorter-term operational plans or work plans will also be developed in accordance with the activities provided in the park management plan. These will identify specific or annual prioritized actions, which need to be performed to address the priorities specified in the park management plan.

The park management plan must be viewed as valuable and central document by all management and policy level staff involved with a specific park. They should be familiar with its contents, and should make use of it to familiarize new staff with the aims, objectives, management principles and strategies for the park.

It is every staff member's (involved with Namib Naukluft Park) responsibility to ensure that the park management plan is implemented accordingly.



Uahekua Herunga, MP
MINISTER



PREFACE

The Namib Naukluft Park provides a sanctuary on a very grand scale to large mammals including black rhino (reintroduced to their former range in 2007 to mark the centenary of the park), hartmann's mountain zebra, giraffe, gemsbok and springbok. Predators such as spotted and brown hyaena, jackal, caracal, leopard and cheetah are also protected in the park. Over 200 bird species have been recorded in the park.

The management plan for Namib Naukluft Park was derived from several workshops involving the management of the MET, local communities and other stakeholders. The plan has been designed and structured to be priority focused and action oriented, to facilitate implementation and the achievement of outputs and outcomes.

It gives a brief background to the Park, including its purpose and objectives, and placing it in a regional setting, before focusing on park management aspects. Chapter 2 focuses on the management of natural resources in the Park while Chapter 3 addresses aspects of regional conservation, park neighbours and resident relations.

The zonation of the Park is detailed in Chapter 4. The management of prospecting and mining, and tourism development are covered in Chapters 5 and 6, respectively. Detailed management considerations for infrastructure are included in Chapter 7, while the last chapter covers aspects of administration and management.

The plan is designed around a uniform structure for easy reference and use and should be used in conjunction with park legislation and regulation. The plan therefore articulates, at the strategic level, the 'What' must be done; with a brief description of the 'Why' these actions must be implemented to attain the specified objectives. It is imperative to operationalize these actions in a clear and detailed annual work plan.

The Ministry of Environment and Tourism would like to thank all its staff members, partners and stakeholders who participated in developing this management plan.



Simeon N. Negumbo
Permanent Secretary



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ABBREVIATIONS

amsl – above mean sea level
BCLME – Benguela Current Large Marine Ecosystem
CF – Consultative Forum
DEA – Department of Environmental Affairs (in MET)
DNP – Dorob National Park
DRSPM - Directorate of Regional Services and Park Management
EIA – Environmental Impact Assessment
EMP – Environmental Management Plan
HQ - Headquarters
HWC – Human Wildlife Conflict
IBA – Important Bird Area
IPA – Important Plant Area
IUCN – International Union for Conservation of Nature
KBA – Key Biodiversity Area
LA – Local Authority
MC - Management Committee
MDP – Management and Development Plan
MET – Ministry of Environment and Tourism
MFMR – Ministry of Fisheries and Marine Resources
MWTC – Ministry of Works, Transport and Communication
NAMPORT – Namibian Port Authority
NAMPOL – Namibian Police
NGO – Non Governmental Organization
NNP – Namib Naukluft Park
ORV – Offroad Vehicle
PCF – Park Consultative Forum
PRDC - Policy Research and Development Committee
SF – Strategic Forum
SMP - Strategic Management Plan
SNP - Sperrgebiet National Park
SEA – Strategic Environmental Assessment
TORs – Terms of Reference

Chapter 1

Introduction

1.1 Context of Namibia's Coastal Parks

The Coastal Parks of Namibia stretch along the entire Namibian coastline, a distance of about 1,570 km, from the Orange River in the south to the Kunene River in the north (Figure 1). The Coastal Parks comprises four main Protected Areas: the Tsau /Khaeb (Sperrgebiet) National Park in the south, the Namib Naukluft Park, Dorob National Park and the Skeleton Coast National Park. At its narrowest point in the Skeleton Coast, the Park extends about 25 km inland, while at its widest in the Naukluft area it extends inland about 180 km to the top of the escarpment. Namibia is the only continental country in the world that has its entire coastline protected as a national park.

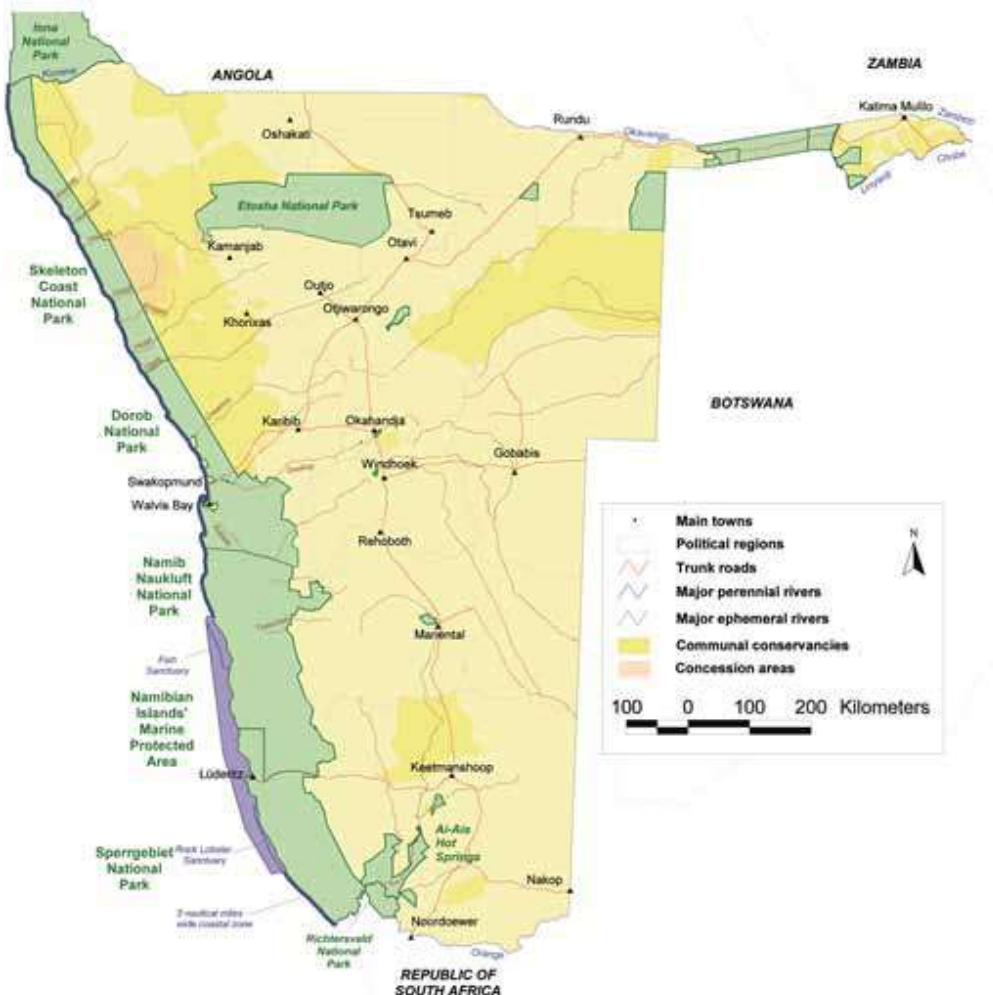


Figure 1: Protected Areas of Namibia including the four Coastal Parks, the Marine Protected Area and the contiguous areas of land under different forms of conservation (e.g. National Parks in Angola, Namibia and South Africa, communal Conservancies and wildlife & tourism Concessions).

However, the Coastal Parks do not exist in isolation. In the south across the Orange River the Tsau /Khaeb (Sperrgebiet) National Park borders on the Richtersveld in South Africa, which comprises a protected area of about 160,000 ha within a multiple use buffer zone of about 398,425 ha. This whole area forms the Ai-Ais/Richtersveld Transfrontier Conservation Area (TFCA) under a Treaty between the Governments of Namibia and South Africa.

To the north across the Kunene River the Skeleton Coast National Park joins the Iona National Park in Angola, which covers about 585,000 ha. The Governments of Namibia and Angola have signed an MoU to promote transfrontier cooperation between these parks.

In Namibia the Coastal Parks are contiguous with a large number of protected areas, concessions, conservancies and private land managed for conservation. These are shown in Table 2. Most notable amongst these are the following:

- Coastal and Marine Protected Area off the Sperrgebiet and Namib Naukluft areas, running for 400 km up the coast and about 30 km wide, covering an area of 1.2 million ha and containing all of Namibia’s islands;
- Ai-Ais/Fish River Canyon National Park which in turn borders on private protected areas;
- Contiguous with 20 communal conservancies and three wildlife and tourism concession areas, and via them linked to the Etosha National Park (2.29 million ha) and thence to further communal and private conservation areas;
- Borders on at least 2 million ha of freehold conservancies and private protected areas.

Table 2: Contiguous conservation areas with Namibia’s Coastal Parks

Country	Name / Tenure	Area (ha)
South Africa	Richtersveld and buffer area / communal (RSA Parks)	558,425
Angola	Iona National Park / state	585,000
Namibia	Communal conservancies	6,235,500
	Wildlife & tourism Concessions	800,000
	Freehold conservancies and private protected areas	2,050,000
	State Parks (Ministry of Environment & Tourism)	2,651,200
	Marine Protected Area (Ministry of Fisheries & Marine Resources)	1,200,000
TOTAL		14,080,125

Note that the extent of land under conservation, particularly private land, is constantly changing (increasing) and that, because there is no registration mechanism for private protected areas and game farms, this figure represents an absolute minimum area.

In total the Coastal Parks border onto over 14 million ha of land that is managed primarily for wildlife, biodiversity, conservation and tourism. Together with the parks, this represents a contiguous area of almost 25 million ha. One of the greatest challenges with potentially the greatest rewards is to develop effective, constructive and efficient collaborative management mechanisms across

these land and seascapes to optimize both the environmental (including biodiversity) and socio-economic values, while at the same time using these open systems to (a) allow the historic movement and migration patterns of wildlife in response to the highly variable climatic conditions to become re-established, (b) mitigate and buffer the impacts of climate change and thereby make the area more resilient to change, and (c) create incentives for neighbouring land owners and custodians to become part of this conservation landscape, thereby further strengthening the area's contributions to socio-economic development and environmental conservation. The proclamation of this protected area represents one of Namibia's greatest conservation achievements, and one of the most exciting developments in the history of conservation in this country.

1.2 Geographic features of the Namib Naukluft Park

The Namib Naukluft Park extends from the Hardap to Erongo regional boundary in the north (and bordering onto the Dorob National Park) to the northern border of the Sperrgebiet in the south, formed by the main road to Luderitz but 20 km short of Luderitz extending due north for about 80 km and then due west to reach the coast at Gibraltar. To the west it borders on the Atlantic Ocean and to the east on freehold farmlands (Figure 1).



Figure 2: The Namib Naukluft Park

1.3 Climate

The Namib Naukluft Park (NNP) occupies some of the most arid lands in Africa south of the Sahara. The whole park falls below the 100 mm median annual rainfall isohyet and much of it below the 50 mm isohyet. In addition to the extremely low annual rainfall it is also hugely variable with an annual coefficient of variation ranging typically from 80% to over 100%. With its high evaporation rates and low rainfall, NNP experiences an average water deficit of about 2 m per year. Rain falls mainly from January to March.

The climate of the Namib Desert is influenced mainly by the cold Benguela Current and the South Atlantic Anticyclone. Temperatures are generally moderate (average minimum and maximum temperatures during the coldest and hottest months respectively reflecting a range of about 7-32oC), fog is frequent (about 125 days per year on the coast dropping to about 40 days per year 80 km inland) and wind is a dominant feature. These winds are mainly from the south and drive the Benguela Current northwards, carry sand from the shore onto the adjacent land, and cause

upwellings along the coast which bring nutrient-rich waters to the surface.

1.4 Biomes

The NNP falls within the Southern Namib hyper-arid Desert and Coastal Biomes, with the Naukluft extending to above the escarpment into the Desert-Dwarf Shrub Transition of the Nama Karoo Biome. These biomes contain a number of different vegetation types and an even greater number of habitats, described in Section 2.1.

1.5 Important features

The NNP contains a large number of globally significant features. The following are perhaps the most notable:

- About 280 km of coastline, mainly sandy shores, with a number of bays often associated with rocky outcrops or bluffs, and coastal salt flats, with Damara Terns favouring the last mentioned as breeding sites.
- The central Namib gravel plains with inselbergs that support plains wildlife such as oryx, springbok and ostrich.
- A continuous sand sea of dunes and sandy plains covering some 4 million ha, almost the entire area. The sand sea is presently being nominated as a World Heritage Site.
- Three ephemeral endorheic river systems that end in pans amongst the dunes – Tsondabvlei in the north, Sossusvlei near the centre and Koichab Pan in the south.
- The Naukluft Mountains which rise from the desert plains at 400-500 m amsl to almost 2,000 m, forming near vertical escarpments and deeply incised valleys.
- A vast array of dramatic landscapes and scenery, and a huge sense of wilderness, novel to most visitors and highly accessible compared to most extreme desert ecosystems.
- This Park also contains a suite of uniquely adapted organisms to desert conditions, including endemic plants birds, reptiles and invertebrates.
- Sandwich Harbour specifically, and in fact the entire Park, is designated an Important Bird Area (IBA), and it also qualifies as a Key Biodiversity Area (KBA).
- Two Important Plant Areas (IPAs) occur in the NNP: the Naukluft and the south eastern corner incorporating the Dikwillems range, which support a rich succulent plant community.
- The southern part of the NNP borders on a Marine Protected Area that includes the near inshore Mercury Island, a designated IBA.

1.6 Purpose

- To document all relevant information, including historical, biodiversity, archaeological and social context which is relevant for the park.
- To describe the general characteristics of the ecosystems contained within the park, as well as the regional biodiversity context within which the park is located.
- To guide staff and stakeholders of the Ministry of Environment and Tourism on how the Namib Naukluft Park should be developed and managed.

- To assist the Ministry of Environment and Tourism in setting priorities during planning.
- To form part of a monitoring and evaluation system that provides the basis for determining whether goals, objectives and strategies specified in the Ministry of Environment and Tourism Strategic Plan and National Development Plans are achieved.
- To ensure that the park contributes to sustainable utilization of natural resources and socio-economic development.

The plan for this Park has been designed and structured to be priority focused and action orientated, to facilitate implementation and the achievement of outputs and outcomes. The plan is linked to an annual cycle of management and oversight, involving the preparation of annual work plans, budgets and reporting.

The plan is “principles” based. These principles serve essentially as mini policy statements. Not all eventualities can be planned for, but if the basic principles are established, decisions can be readily made against these principles and thus be in line with Park policy.

The plan is designed around a uniform structure for easy reference and use, and the language is kept simple for broad accessibility.

The plan should be used in conjunction with Park legislation and regulations, as well as with other relevant literature on the area. No superfluous or duplicate information is provided in the plan.

1.7 Objectives

- To conserve and wisely manage the landscapes, ecosystems and biological diversity of the NNP with particular attention to areas of high biodiversity, scenic and wilderness values, fragility and tourism pressure and, where necessary, to restore and rehabilitate degraded systems to their natural and productive states.
- To manage biodiversity and ecosystems as may be necessary and appropriate to maintain optimal biological diversity, ecosystem stability and resilience under highly variable and globally changing climatic conditions, to manage landscapes and to reintroduce and rebuild populations of plants and animals indigenous to the area within historic times, as appropriate under current and changing conditions.
- To promote and support appropriate land and natural resource uses that are compatible with the above objectives, including appropriate levels of protection, tourism development and activities, consumptive and non-consumptive utilization, research, environmental education, awareness and outreach initiatives, and to strive to instill in residents and visitors to the area its high environmental values and unique character which should be harnessed in sustainable ways to ensure its financial viability without compromising on sound conservation principles and practices.
- To significantly increase the contributions of the NNP to Namibia’s social and economic development objectives at local, regional and national levels, through appropriate uses of the area that are in harmony with its ecological objectives.
- To build coalitions, establish partnerships and collaborative management approaches with citizens, neighbours, NGOs, businesses and other government institutions for focal and landscape level conservation, law enforcement, socio-economic development, marketing, awareness creation and education, monitoring and research and strategic planning and

development, to enhance the diversity, viability and competitiveness of the NNP within the context of the Coastal Parks, Namibia and southern Africa.

- To demonstrate the ecological, social and economic viability, sustainability and competitiveness of integrated and carefully zoned land uses and management, with an emphasis on conservation and tourism-based enterprises where relatively high human pressures occur in hyper-arid coastal areas.
- To seamlessly link the NNP with the other Coastal Parks, and with emerging and future Coastal and Marine Protected Areas, under a management and marketing umbrella that expands to an ecosystems and landscape collaborative management approach with compatible neighbours and works towards creating a World Heritage Site between the Orange and Kunene Rivers (and beyond).



Chapter 2

Management of natural resources

2.1 Habitats and special sites

2.1.1 Habitat units

Despite covering a relatively large area within the west coast of Namibia (over 40%), the NNP has fewer habitats than the other Coastal Parks. For the purpose of this management plan, the Park is divided into Coastal and Terrestrial categories. The first contains three habitats, the second fifteen habitats, totalling 28 different habitats (see Table 1 below). A sensitivity rating is provided, ranging from = low sensitivity to = highly sensitive and / or of high environmental value.

Table 1: Preliminary list of habitats

Category	Habitat	Sensitivity	Notes
Coastal	Sandy shore		Generally moderately sensitive, especially in bays
	Rocky shore, coastal outcrops and bluffs		Generally slightly more sensitive than above because of high biodiversity.
	Gravel plains		Coastal gravel plains enjoy relatively more fog than further inland and are favoured habitat for lichens. The gypsum-rich soil makes them sensitive to scarring from vehicle tracks.
Terrestrial	Sand sea, including dunes and sandy plains		Namib sand sea – shifting dunes that are relatively resilient, but support arid adapted and endemic wildlife
	Gravel plains		Plains greater than about 60 km from the coast are more calcrete-rich and are less sensitive than the gypsum plains near the coast. Nevertheless, they are sensitive to scarring from vehicle tracks.
	Ephemeral river courses		Lifeblood of the Namib, these systems support diverse plant and animal life, and are linear oases across the hyper-arid zone

Terrestrial	Endorheic pans and "vleis"		End points of ephemeral rivers in the dunes, providing high scenic and biodiversity values. Sossusvlei has been subject to large tourism development and pressure, while Koichab Pan is an important source of water to Luderitz. Tsondabvlei is designated as a highly sensitive zone and must be carefully protected.
	Inselbergs		Important from archeological, biodiversity and aesthetic perspectives.
	Inland rocky hills		Less sensitive than inselbergs, but nonetheless important for biodiversity and refugia for plants and animals, particularly during dry periods
	Naukluft escarpment		Scenic value and important for cliff-nesting birds and cliff-loving plants
	Naukluft incised valleys and wetlands		Rich and highly unusual ecosystems, often containing pools of water throughout the year and providing this essential resource to plants, birds, mammals and insects.
	Naukluft Plateau		The only part of the Namibia escarpment that is in a State protected area, and therefore requiring high levels of protection.

Principle

The comprehensive diversity of landscapes, habitats, plants and animals indigenous to the NNP are protected and both ecosystem functioning and natural evolutionary processes take place effectively.

Objective

To protect and conserve the diversity of "sense of place", landscapes, habitats and biota of the NNP in healthy and productive condition within the context of the Greater Namib Area.

Strategies

- a) Because of the large open systems involved, and the intention to create linkages with adjacent ecosystems (e.g. coastal and marine to west and escarpment belt to east), ecosystem

management should be minimal, and a largely hands-off approach should be adopted, but 'hands-on' in terms of forging strategic partnerships for open landscape conservation and to prevent and/or minimizing damage to important habitats and species in the NNP.

- b) Should it become necessary to apply active management, interventions should aim to manage the arid ecosystems for long-term diversity, health, productivity and climate change resilience and adaptation, by ensuring connectivity, preventing over use of all components, including water, fauna and flora, landscapes, etc.
- c) Allow and promote variability in management and "patchiness" in ecosystem expression in response to variable climatic conditions and ecosystem functioning.
- d) Build up a good monitoring record of ecological and bio-climatic information, including the diversity and abundance of various species in different taxa, including the less studied lower plants, invertebrates, etc.
- e) Monitor the health of populations of species high on the food chain (e.g. key predators and scavengers), flagship and keystone species and other strategic key indicator species (including indicator species for early warning of climate change impacts) – if these species prosper it follows that the base of the food chain is likely to be diverse and in good condition.
- f) Monitor key habitats such as Important Bird Areas and Important Plant Areas.
- g) Monitor human impacts on landscapes, ecosystems, habitats and species with particular attention to fragile and high value components of the system, and human activities known to have significant impacts.
- h) Participatory and outsourced approaches for monitoring should be used, fully involving relevant stakeholders.
- i) No poisons or pesticides (or other toxic chemicals) may be used in the park unless when approved by the Director responsible for Park Management.

Activities

Actions	Timing
Set up (where necessary), implement and support monitoring systems for ecosystem health, key habitats, and biodiversity building on existing systems used elsewhere (e.g. Event Book system) and continuing with long-term data series (e.g. wetland bird counts)	2014
Identify priority baseline information needs	2015
Set up, implement and support monitoring systems for human impacts on important components of the Park	2015
Review and fine tune habitat categories	2015
Prepare poster for staff, residents and visitors on the habitats (land forms and vegetation types) of the NNP, with photographs and sensitivity ratings	
Ensure that no toxic substances, poisons or pesticides are used in the Park	2013 and onwards

The following components are subsets of the Biodiversity Conservation category, and provide more details on specific components:

2.1.2 Sandwich Harbour Ramsar Site

Principle

This wetland area of international significance, with high numbers of wetland birds, including Red Data species, should be afforded the highest level of protection that legislation, zonation and management practices can provide.

Objective

To protect, monitor, understand, manage and conserve the Sandwich Harbour Ramsar sites, and their ecosystem functioning, with particular attention to the wetland birds which serve as sensitive indicators to the health of the system.

Strategies

- a) Strictly implement and enforce the zonation rules and regulations for the Sandwich Harbour wetland.
- b) Ensure that long-term monitoring of the health of these wetlands continues, using bird counts, water quality and other appropriate means, and via participatory and outsourced mechanisms.
- c) Establish an early warning system to mobilize appropriate action in the event of problems being identified, either through monitoring or from incidental information.
- d) Disseminate information on the ecological and socio-economic values of these wetlands to local residents (particularly via schools), visitors, decision-makers and to the general public.

Activities

Actions	Timing
Apply strict enforcement of zonation rules and regulations for the Sandwich Harbour wetland	2013 and ongoing
Provide good quality information boards in appropriate locations around the wetlands, including information on zonation, regulations and the roles and authority of Honorary Wardens. Also provide a HotLine telephone number for the public to report people who violate the regulations.	2014 and ongoing
Ensure that regular monitoring of the health of the wetlands is undertaken. Where existing monitoring is being undertaken by partner organizations (e.g. bird counts), support them to continue this working. Where new monitoring parameters are deemed necessary (e.g. water quality), seek to collect and analyse such data via participatory and partnership approaches. All resulting data and information must be in the public domain.	2013 and ongoing
Disseminate information on a regular basis to local residents, schools, visitors, decision-makers and the general public.	2013 and ongoing

2.2 Fire

Fire is not a significant part of the Namib-Naukluft ecological dynamics, and is not addressed in the management plan.

2.3 Rehabilitation

Principle

Natural landscapes and biodiversity are, as far as possible and practical, reestablished to their pristine condition or in line with agreed future land use.

Objective

To remove all unnecessary evidence of human occupation from the Park, except agreed infrastructure e.g. Topnaar settlements, and impacts in designated sites such as approved “sacrifice areas”, and to rehabilitate landscapes and biodiversity, using best available practices, with emphasis on those areas of greatest ecological and aesthetic importance.

Strategies

- a) Commission a rehabilitation plan based on an inventory and criteria (log of areas, prioritization, costs and timelines) for the NNP.
- b) Identify responsibilities for rehabilitation – both technical and financial responsibilities.
- c) MET and other relevant parties, including designated organizations entrusted or employed to do this work, to systematically implement rehabilitation in areas and on aspects of respective responsibilities, to agreed standards and levels, starting with the affordable priorities.

Activities

Actions	Timing
Commission a rehabilitation plan	2014
Identify responsibilities for rehabilitation	2014
Implement rehabilitation in areas and on aspects of respective responsibilities, starting with the affordable priorities and using job-creating opportunities where possible.	2013 and ongoing

2.4 Wildlife population management

Principle

A rich diversity of indigenous wildlife prospers within an open, dynamic and resilient ecosystem.

Objective

Wildlife population numbers will be managed, mainly through self-regulation, at levels where

biomass carrying capacity is considered conservatively appropriate and sustainable, per species and for the total wildlife population, under different rainfall and range conditions. Mass mortalities during droughts will be avoided – mainly by working to establish open systems, particularly west-east. Population fluctuations due to good breeding and slow attrition during wet and dry cycles, and from predation, will not be cause for concern.

Trophy hunting, under carefully controlled conditions, based on population census data and very conservative quotas will be permitted only in a selected area of the Naukluft mountains and for approved ungulate species that are not considered to be threatened. Live capture for conservation purposes such as population reduction and special reintroduction elsewhere will be permitted.

Strategies

- a) Population trends, health (age and sex structures and body condition) and distribution of populations will be monitored as necessary, as part of the coastal parks’ monitoring process.
- b) Wildlife management decisions will be taken in an adaptive manner, with a minimalist intervention philosophy, and based on good monitoring and research information, as may be decided from time to time.

Activities

Actions	Timing
Design and implement integrated monitoring systems for rainfall, vegetation condition (particularly in vicinity of artificial water points) and wildlife (numbers, age & sex classes and condition), making use of the “Event Book” system	Design during 2014, implementation thereafter and ongoing
Obtain and document historic information on wildlife diversity, numbers, extinctions and other relevant issue.	
Proactively review information on key variables to determine if any management actions are necessary, and identify management options	2014
Adaptively manage wildlife using a minimalist intervention approach and most relevant practices	Systems set up and tested starting 2014 and then ongoing as necessary

2.5 Wildlife introductions

Principle

The historic diversity of wildlife and their full suite of interactions are reinstated, as far as is practically possible under prevailing conditions.

Objective

To re-introduce and/or augment as appropriate species that were locally indigenous within historic times provided these have a reasonable chance of survival under current conditions and are practically and socially acceptable.

Strategies

- a) Carry out an assessment of species that historically occurred in the NNP.
- b) Review which species that no longer occur, or occur at below optimal numbers, could be re-introduced under current conditions, and prepare a prioritized list.
- c) Be mindful that the NNP is on the extreme western edge of a number of species' ranges. In higher rainfall years such species may/would have moved westwards into the NNP, and in lower rainfall years they would have retreated eastwards into the escarpment. Once large, open areas have been secured, reintroductions into the greater area may be viable, but which would not be so if confined to the NNP. Thus take a larger picture view of wildlife reintroductions, and be mindful of the linear oases provided by the Swakop and Kuiseb Rivers crossing the Namib Desert.
- d) Introduce wildlife in phases as per the list, and subject to rainfall and veld condition being adequate to enhance survival chances.
- e) Acquire wildlife from similar habitats (e.g. Namib and Karoo Transition ecosystem) for genetic integrity and optimal chances of success.
- f) Introduce wildlife in sufficient numbers to be viable, rather than having small token introductions.
- g) Where species are likely to recolonise or to augment existing populations by in-migration, allow this to happen rather than active reintroduction.
- h) No species exotic to the NNP will be introduced.
- i) No subspecies or components of populations from elsewhere will be introduced if there is any risk of genetic pollution to the indigenous populations' genetic integrity, and where suitable animals can be acquired from within the required gene pool.
- j) In the case of introductions that have a potential impact on residents and communities within and adjacent to the NNP, full consultations will take place prior to any introductions.

Activities

Actions	Timing
Carry out an assessment of historic distributions of wildlife in the NNP and adjacent areas of the Coastal Parks.	2015
Based on the above and present-day viability and acceptability, develop and implement a phased reintroduction and augmentation plan (e.g. giraffe in the Kuiseb River, red hartebeest in the Naukluft).	2015 and ongoing
Monitor introduced and augmented populations – numbers, breeding, sex and age ratios, distribution, etc.	From each introduction and ongoing

2.6 Water points and water management

Principle

A minimalist, ecologically appropriate and tourism friendly water plan is implemented, taking into account neighbouring land use and water provision.

Objective

The provision of water for wildlife will be undertaken strategically in the interests of maintaining

biological diversity in a fenced ecosystem. Emphasis will be placed on securing open systems and corridors in west-east and north-south directions, to facilitate natural ecological processes and reinstating historic movement patterns. Water use for other purposes will be judicious, minimalist and based on environmental assessment principles.

Strategies

- a) Water point development and management will be on a strategic basis – the default setting is a minimalist provision of water.
- b) In a critical situation, e.g. wildlife building up along fenced eastern boundary in times of extreme drought, then temporary water provision may be availed if considered absolutely necessary.
- c) All natural water points will be carefully managed to avoid disturbance and degradation, and an appropriate monitoring system will be established.
- d) Abstraction of groundwater from the NNP, and in adjacent areas, will be carefully monitored, both the volumes abstracted and impacts on the environment, and adaptively managed.
- e) Use of water for tourism, mining and other purposes must be judicious, minimalist, demand managed and monitored. Sustainable sources of water must be used. No unsustainable extraction will take place or any extraction that may have negative biodiversity impacts.

Activities

Actions	Timing
Create a map and inventory of all natural water points as well as boreholes & infrastructure, together with their attributes, such as yield, depth and water quality	2014
Ensure that all natural water points remain undisturbed, with low level monitoring	Ongoing
All bulk water abstraction projects must be preceded by an EIA. The default setting is no bulk water abstraction should be allowed in the NNP.	Ongoing
Good water demand management practices and monitoring should be implemented for water use in the NNP and throughout the Coastal Parks.	Ongoing



2.7 Domestic animal management

Principle

No domestic pets are allowed in the Park. Livestock such as donkeys, goats and cattle belonging to Topnaars residents in the Park are allowed to be kept provided that they personally belong to people who are resident in the Park, and their numbers are kept within the carrying capacity of the area. Livestock are not allowed in signposted exclusion areas.

MET accepts that keeping livestock is part of the natural tradition and livelihood of Topnaar people along the Kuiseb river bed. Livestock are therefore allowed to be kept, as long as they do not cause long-term deterioration of the vegetation.

Objective

To ensure that no domestic animals are allowed inside Namib Naukluft Park unless with permit

Strategies

- a) Water provision for livestock should only be allowed at places where Topnaar residents live, to keep these animals relatively close to their owners.
- b) Total numbers of animals should not exceed the carrying capacity of the area and time of year.
- c) Animals that become feral or that are unattended by Topnaar residents should be removed from the Park.

Activities

Actions	Timing
Park staff, during the course of their patrols, should be alert for livestock that are not under appropriate control. If problem animals are encountered, the officials should ensure that the animals are removed.	Ongoing
Carrying capacity of the area, with particular reference to Large and Small Stock Units (LSUs and SSUs), should be determined for the lower Kuiseb area, and revised on an annual basis.	Annual survey

2.8 Fencing

Principle

Open systems should be maintained for the largest possible landscape integrity, both within and beyond the NNP and the Coastal Parks.

All internal fences except those that have strategic value (e.g. security fencing around lichen fields or refuse dumps, etc) are removed.

Where neighboring land use and/or security is a threat to the park's integrity, or where secure fencing is essential for good neighbourliness (e.g. to protect neighbouring small stock farmers from predators), boundary fences will be secured and well maintained.

Objective

To maintain open systems for the largest possible landscape conservation and integrity and to allow free migration and seasonal dispersal in the area.

Strategies

- a) Maintain and secure fencing (cable fence) around key lichen fields and other approved sites.
- b) Boundary fences, where security is of concern or/and where neighbours practice incompatible land uses, should be strengthened, monitored and maintained.

Activities

Actions	Timing
Maintain and establish cable fencing around all key lichen fields and other approved sites.	Ongoing
Patrol and maintain fences as appropriate	2013 and ongoing



2.9 Human wildlife conflict management

Principle

The NNP harbours a few species (leopard, cheetah, rhino) that may damage property and threaten the safety of livestock and people living in neighbouring areas. Individual animals that cause conflict must be dealt with according to the National Policy on Human Wildlife Conflict Management and agreements with the respective neighbours .

MET recognize their obligation to assist neighbouring communities in addressing human-wildlife conflict (HWC) which results from wildlife leaving the park. This is done through providing advice and technical support in applying mitigation measures, and supporting implementation of local HWC management plans.

Objective

To actively engage with neighbours and residents to ensure that there are effective and responsive mechanisms in place to minimize conflicts.

Strategies

- a) MET should give preference to NNP neighbouring and resident communities when allocating concessions, to help offset livestock losses as a result of HWC and to promote positive relationships with park neighbours.
- b) NNP and other MET staff should assist neighbouring and resident communities to engage in land uses that avoid and help to reduce HWC. This extends to technical advice and support (e.g. applied livestock management, siting and operation of electric fences etc)
- c) Decision-making authority should be delegated to appropriate NNP staff so that individual problem causing animals can be speedily removed, providing protection to people and their property. Procedures for arriving at this decision must include sufficient safeguards so that specific animals are destroyed for good reason.
- d) NNP staff should fulfill monitoring and reporting requirements for MET's database on HWC, including effectiveness of mitigation methods.
- e) NNP and other MET staff should help to build capacity of neighbouring and resident communities to develop HWC management and mitigation plans and to implement appropriate mitigation methods.

Activities

Actions	Timing
Consider NNP neighbouring and resident communities when allocating concessions in the park	2013 and ongoing
Collaborate with neighbouring and resident communities to engage in appropriate land uses and apply appropriate farming practices to minimize HWC	2013 and ongoing

Ensure lines of authority clearly outlined for speedy resolution of HWC problems, particularly if an animal needs to be destroyed / removed.	2013 and ongoing
Keep an inventory of HWC cases that is consistent with MET practices and feeds into the MET HWC database.	2013 and ongoing
Participate in activities to build the local Human Wildlife Self Reliance Scheme.	2013 and ongoing

2.10 Diseases and parasites

Principle

Wildlife in the NNP should not pose any risk of diseases (e.g. rabies) to humans. Also, animals living in the Park and belonging to Topnaar residents should not pose any risk of communicable or contagious diseases to wildlife in the Park.

MET staff work with other government or private agencies to manage and control any communicable, notifiable or contagious diseases (of humans, livestock and wildlife) that occur in the Park.

Objective

To ensure collaboration with other relevant public service agencies in finding solutions to the management and control of notifiable and contagious human, livestock and wildlife diseases.

Strategies

- a) Establish a monitoring system, in cooperation with the Ministry of Health and Social Services (for humans) and the Ministry of Agriculture, Water and Forestry (for livestock) that keeps an eye on diseases and parasites in the Park. For instance, rabies is legally notifiable, so incidents of this disease in jackals should be communicated to Veterinary Services staff and reported in their official records. The monitoring system should ensure lines of communication between relevant ministries are kept open.

Activities

Actions	Timing
MET staff to report incidents of diseases noted in livestock and pets in the Park.	2013 and ongoing
Liaise with health and veterinary health departments to link in to their monitoring and reporting procedures.	2013 and ongoing

2.11 Alien species

Principle

The NNP should be free of all invasive alien plants and animals, with the exception of the Desert Wild Horses in the Garub area.

No feral populations of alien plants and animals will be permitted within the NNP, with the exception of the Wild Horses which will be confined to the Garub area and treated as part of the history of the region. Domestic species will not be permitted in the NNP except under concession (e.g. horse trails), and then only where they pose no threat of invasion, are under the full control of designated owners or are an integral part of the operation of the park, and where they pose no threat to the conservation of indigenous species and the integrity of the park.

Objective

To ensure that alien species are controlled or removed in the park.

Strategies

- a) Establish a monitoring system for alien species, with particular attention to high risk species and areas such as along rivers and drainage lines, roadways, mining areas, water points, etc.
- b) Support and participate in national policies and action plans for strategic management of alien invasive plants, since alien invasive plant problems originate mostly outside of the Park.
- c) Manage feral populations of plants and animals as appropriate and practical including eradication where feasible.
- d) Establish community interest groups of local residents to help eradicate and monitor alien species, particularly where infestations occur from outside the NNP, e.g. along drainage lines entering the park.
- e) Monitor infestations/spread of the alien invasive mussel (*Mytilus galloprovincialis*) and initiate remedial action if appropriate and practical.

Activities

Actions	Timing
Manage and where practical eradicate invasive alien species throughout the NNP	2013 and ongoing
Work with neighbours to eradicate alien plants from drainage lines entering the NNP	2013 and ongoing
Follow up on cleared areas and remove re-growth/new seedlings	2013 and ongoing
Establish community interest groups of local residents to help address the invasive alien problem	2013 and ongoing

2.12 Law enforcement and wildlife crime prevention

Principle

A zero tolerance approach will be followed against all illegal activities within and adjacent to the NNP. A partnership of collaboration will be established with all relevant stakeholders, under MET/MFMR leadership, to secure adherence to law and order in and around the NNP.

Objective

To control and limit the illegal use of wildlife and natural resources within the park and, through all efforts possible, to ensure the safety and security of tourists and visitors to the park.

Strategies

- a) Develop a practical, harmonized approach to the implementation of law enforcement within the context of this PMP, Park legislation and regulations, by establishing strong partnerships between MET and MFMR, with the Namibian Police and by establishing a team of Honorary Nature Conservators.
- b) Plan, develop and implement, in partnership with other stakeholders in law enforcement an efficient and effective tourism management and access control system.
- c) Ensure security and anti-poaching (including plant, reptile and other natural resource collection/theft) patrols and surveillance are conducted at regular but unpredictable intervals, particularly in high-risk areas (e.g. along main access routes and around tourism and mining areas) and that they are highly visible.
- d) Develop an attractive reward system for law enforcement and wildlife crime prevention.
- e) Establish a "Hot-Line" for people to report transgressors, and an efficient response mechanism.
- f) Ensure that the Honorary Nature Conservators' roles and responsibilities are well publicized and known throughout the area, to both residents and visitors.
- g) Ensure that MET, MFMR and Honorary Nature Conservators are well trained to preserve and collect evidence so that arrests result in convictions.

Activities

Actions	Timing
Plan a practical system for implementing law enforcement in the context of this PMP & relevant legislation	2014
Develop (with partners) an effective tourism management and access control system, with particular attention to the holiday seasons	2013 and ongoing
Disseminate information on zero tolerance approach & reward scheme	2013 and ongoing
Carry out regular patrols (ground and air) to ensure high presence level	2013 and ongoing
Train staff in collection of evidence	2015 and ongoing
Establish a Hot-Line for reporting of transgressors	2013

2.13 Environmental impact assessment and management

Principle

Developments within NNP that have an impact on the Park should be properly assessed so that environmental harm is minimized and benefits are optimized.

Developments within NNP that have an impact on the Park are subjected to thorough and transparent EIAs in accordance with the Environmental Management Act (EMA). The EIAs receive critical and helpful input from local MET staff. Environmental Management Plans, which are practical and appropriate to the development, are properly implemented and monitored.

Objective

To prevent and mitigate negative effects and enhance positive effects of conservation management and tourism activities on the environment, by conducting a due environmental impact assessment and management process.

Strategies

- a) MET staff in NNP should be familiar with the Environmental Management Act and their role in enforcing it. They are important for ensuring that proposed developments in or close to the Park comply with the EMA.
- b) DEA to alert MET staff on the ground about proposed developments in or close to the Park, and encourage them to make critical input to the EIA. Similarly, MET staff on the ground who observe activities which might require an EIA (such as mining exploration), can alert DEA about them.
- c) EIA reports and applications for Environmental Clearance under the EMA, that affect the NNP, should be circulated to local MET staff for their input. Park staff should carefully consider any conditions included in the Environmental Clearance.
- d) NNP staff should keep familiar with developments in and close to the Park.

Activities

Actions	Timing
NNP staff kept familiar with developments around uranium mining in the Park through official visits to the Uranium Institute.	2013 and ongoing
Give EIA training to park staff so that they know what role they should play in ensuring proper compliance with the EMA.	2014 and ongoing
Ensure that the NNP management structure functions properly. This will create a conducive atmosphere for EIAs fulfilling their full potential.	2014 and ongoing

2.14 Consumptive resource utilization

Principle

Regarding plant resources: The lower reaches of the Kuiseb River in the NNP are the home of Topnaar people, who traditionally use local resources such as !nara plants and local firewood for

their livelihood. Use of these resources should be allowed only through a permit system which has input from the Topnaar Traditional Authority, and as long as traditional harvesting methods are used.

Regarding wildlife resources: Wildlife may be harvested or culled or translocated as long as there is adequate proof from ongoing monitoring that the population can withstand the intended offtake, and that there is full justification for one of the following reasons:

- removal of individuals causing conflict with people;
- provision of meat for traditional festivals or national events, in keeping with sustainable offtake levels and never for personal gain by individuals. This must also be in line with the National Policy on Utilization of Game in Protected Areas and Other State Land;
- for community benefit in collaboration with neighbouring conservancies and in keeping with sustainable offtake levels.

Natural plant products in NNP (predominantly !naras and firewood) that are part of the traditional and cultural heritage of Topnaar people, are harvested sustainably for the benefit of local rural communities. Over-exploitation of the products is prevented by imposing the condition that harvesting methods must be traditional. These restrictions help to prevent wastage and excessive harvesting by any one individual.

Objective

To ensure that plant and wildlife resources in the NNP are harvested for social and economic gain, at offtake levels that are sustainable.

Strategies

- a) MET staff should liaise closely with the Topnaar Traditional Authority with regard to !nara harvesting activities. Harvesting should only be allowed with a permit, issued by MET staff in the Park, Walvis Bay or Swakopmund.
- b) Permits to harvest !nara fruit and firewood in NNP should be issued on application for a year at a time, to Topnaar families resident in the Park. Permit conditions should clearly state that only traditional methods may be used i.e. pick only fruits that are adequately ripe, and use only donkey carts to transport the fruits out of the !nara fields. No-one will be permitted to load up bakkies with !nara fruits or firewood.
- c) Compliance with these regulations should be monitored by the MET.
- d) Wildlife populations and movements should be monitored and recorded so that sustainable offtake quotas can be calculated.
- e) Hunting for festivals or other important functions should be carried out in accordance with the National Policy on Utilization of Game in Protected Areas and other State Land and the park zonation plan.
- f) Depending on the offtake level calculated from ongoing population monitoring records, the NNP could be used as a source of live animals (e.g. mountain zebra) for introduction to other areas.
- g) Consumptive use of wildlife goods must comply with existing national and international legal frameworks and conventions, such as CITES.

2.15 Aquaculture

No aquaculture will be permitted in the NNP.

2.16 Archaeological and historical heritage

Principle

The very rich archaeological and historical heritage of the central and coastal Namib, which presents valuable information about occupation of this area going back 700,000 years, has unique value and should be properly preserved.

Objectives

- To ensure that cultural, historical and archaeological sites are identified, conserved and where appropriate, sensitively used, to improve society's understanding and knowledge of the people who used the area in the past.
- To prevent negative impacts on archaeological and historic sites that might be incurred by tourism, mining, infrastructure development, or other activities.

Strategies

- a) All sites used and proposed for development must address cultural, historical and archaeological aspects in their EIAs and EMPs;
- b) Where appropriate, sites may be made accessible to the public, but this must be done in a sensitive and responsible manner. Sites that add to the tourism experience should be interpreted for the public's benefit. Activities to monitor the state of these sites should be included so that preventative action can be taken if they become degraded.
- c) Collaboration with other agencies and ministries (e.g. universities, Gobabeb Research and Training Centre, National Heritage Council, UNESCO) should be initiated and maintained for appropriate management of these resources. Where necessary, technical and financial assistance should be sought.

Activities

Actions	Timing
Ensure EIAs done for development projects in the NNP address risks to the archaeological and historic heritage. Where impacts are unavoidable, ensure that adequate mitigation, restoration or offsetting is achieved. As stipulated in the Environmental Management Act, this should be at the cost of the developer.	Ongoing
In collaboration with the National Heritage Council and local or interested archaeologists, develop and maintain a register of all known sites of archaeological and historic interest.	2014 and ongoing
Keep familiar with and if possible, participate in archaeological and historical research projects undertaken in NNP. Ensure that data and materials are securely deposited with the National Museum for safekeeping.	2014 and ongoing

In collaboration with the National Heritage Council and other possible stakeholders, develop archaeological and historic sites (only those that can tolerate human pressure) for well managed tourism access.	2015 and ongoing
Include sites of archaeological or historic interest in the regular patrols and Event Book management systems, for regular inspection and monitoring.	2014 and ongoing

2.17 Research

Principle

Management and development of the NNP should be information-based, drawing on good quality research and monitoring. To ensure that good data are available, the Park should implement a research-friendly and supportive philosophy and encourage the non-invasive use of the park as an open air laboratory. The Gobabeb Training and Research Centre will be the scientific service centre for the park.

Park management will be based on good scientific information. Gobabeb will be supported to become the research headquarters for the Park, and to become a research hub for MET and partner research on desert systems of Namibia. A supportive environment will be created for visiting scientists, including the facilitation of research permits. Two levels of research are recognized:

- (a) Applied research in support of priority park information and management needs, and
- (b) Basic or interest research identified by outside researchers.

Preferential support will be given to the former, while the latter will be supported when feasible. All forms of research are encouraged, including biological, hydrological, geological, paleontological, archaeological, historical, climatological, social, economic, etc.

Objective

To base park management on pertinent available information and data to support an adaptive management approach, and to create a research friendly environment, encouraging non-invasive research within the park.

Strategies

- a) A prioritised and open-ended list of key research topics should be developed for the Park and disseminated to appropriate research institutions.
- b) An appropriate support mechanism should be developed for visiting scientists, making use of Gobabeb where appropriate, with emphasis on those addressing priority research topics relevant to the park.
- c) Appropriate mechanisms should be developed to ensure that optimum feed-back and other values from national and visiting researchers are obtained.
- d) Links should be established with research activities carried out in other parks, particularly in arid regions, as well as with other relevant research organisations and field stations in Namibia, and comparative studies between the different desert ecosystems should be encouraged, including transboundary work with other components of the Nama

- and Succulent Karoo, Kalahari and Namib Ecosystems, in adjacent countries.
- e) Ensure that Gobabeb is integrated into the Park Information System and meta database and that results from research are added to this System.

Activities

Actions	Timing
Develop an open-ended list of priority research topics based on information needs for NNP management, facilitated by Gobabeb.	2014 and ongoing
Design a reciprocal “support package” for researchers addressing priority research topics and ensuring maximum returns to the NNP, the Coastal Parks and Namibia, facilitated by Gobabeb	2014 and ongoing
Participate actively in comparative research programmes across the arid zones and between the various desert ecosystems	2015 and ongoing
Ensure research outputs and findings are integrated with monitoring data in the Park Information System.	2015

2.18 Monitoring and Information Management

Principle

Carefully selected indicators and groups of indicators are monitored to allow for timely and judicious assessments and adaptive management.

Participatory monitoring will be encouraged and, where appropriate, monitoring shall be outsourced to special interest groups and specialist stakeholders.

Information and data resulting from monitoring activities will be recorded, stored and curated as time-series and geo-referenced data sets within a Coastal Parks Information System.

The information produced from the monitoring systems will be in the public domain and will feed into adaptive management decision-making.

Objective

To ensure that minimal but regular monitoring of climate, key habitats and biodiversity, land use impacts, water quality, park management performance and other key indicators will be conducted and promoted to help understand ecological changes, stresses and management effectiveness.

Strategies

- Monitoring will focus on key indicator processes, impacts, habitats and species, with an emphasis on ensuring regular data collection at appropriate intervals, cost efficiency and sustainability.
- Monitoring will also assess the effectiveness of management of the NNP, applying best practice tools such as “Namibia’s Management Effectiveness Tracking Tool” (NAMETT).
- Monitoring systems shall apply approved tools already being widely used (e.g. Event Book

system), and shall also continue with systems already established and running within the NNP, (e.g. Ramsar wetland bird counts, Damara Tern monitoring).

- d) Monitoring systems will be balanced to ensure that the entire range of critical information needs is covered.
- e) A Coastal Parks Information System will be established to store, manage and help analyse spatial and temporal data sets as well as other pertinent information.
- f) Information will be made widely and freely available, in accessible format, to all stakeholders, including via the media.

Activities

Actions	Timing
Develop an appropriate monitoring framework to include the monitoring requirements of the NNP, and incorporate ongoing monitoring initiatives (e.g. wetland counts, Damara Tern monitoring), and where appropriate, adapt other national systems such as the "Event-Book", with appropriate training for staff and other implementing partners	2014 onwards
Develop an accessible and user-friendly Coastal Parks Information System and meta database (for spatial & temporal data and other info), that can be easily expanded and up-scaled to serve larger co-managed landscape complexes, to:	2015 and ongoing
<ul style="list-style-type: none"> • store, manage, curate data/info • retrieve, interrogate, analyse and aggregate data/info • generate reports based on carefully designed templates for key information needs 	2015 onwards
Establish fixed photo-point and aerial photography monitoring of key aspects (e.g. ephemeral river for impact of water abstraction, tracks, mining footprint, etc), and repeat photographs at regular intervals (every 6 or 12 months)	Ongoing
Make time-series data and analysed information available for adaptive management, and for distribution to interested stakeholders, decision-makers and the general public	Ongoing
Use above data and information to prepare an annual State of the Coastal Parks Report. Establish computer-based analyses and map/figure protocols to automate this process as far as possible, with minimal explanatory text.	2016 onwards

2.19 Coastal management

Principle

The intertidal coastal zone, its biota and the species that transcend the marine/terrestrial interface should be managed jointly by the MET and MFMR under agreed collaborative management principles and protocols that promote synergy, efficiency and elevated conservation management, monitoring and protection of habitats, processes and species.

The intertidal collaborative management approach is a model of collaboration with clear benefits to the ecosystem and responsible institutions, such that the approach is expanded to the entire Namibian coast.

Objective

To ensure that management of the coastal environment for the Namib Naukluft Park is done properly.

Strategies

- a) A close and mutually supportive working environment will be created between the Park MET and MFMR institutions and their respective staff. To this end, a Park MET-MFMR Management Committee will be established.
- b) The above Committee will identify the key areas, issues and species that require joint monitoring and management.
- c) The above Committee will establish operational principles, procedures and protocols for monitoring, managing and reporting on the areas and biota of mutual interest, as well as means of collaboration, communication and mutual support.

Activities

Actions	Timing
Establish a MET/MFMR Management Committee	2014
Establish practical and efficient operating procedures for collaboration, communication and reporting for identified priority areas and species.	2014
Explore ways of expanding collaboration where this would be beneficial to the ecosystem and to the partner institutions.	2013 and ongoing



Chapter 3

Regional conservation, park neighbour and resident relations

3.1 Transfrontier conservation

While the Coastal Parks share boundaries with the Iona National Park in Angola and the Richtersveld National Park in South Africa, the Namib Naukluft Park has no direct part in transfrontier conservation activities with these parks but could play a role in linking the Coastal Parks to Angola and South Africa.

3.2 Landscape level management

Principle

Open, contiguous and ecologically optimal landscapes and seascapes and their interface should be maintained and managed to ensure seamless linkages between the central Namib and adjacent terrestrial and coastal ecosystems.

Objective

To maintain and, where relevant, expand the area under conservation management, and manage for larger landscape values, through partnership, with particular emphasis on:

- (i) east-west and north-south linkages between the terrestrial, coastal and marine ecosystems, in partnership with the MFMR and neighbouring land-holders;
- (ii) linkages with neighbouring Protected Areas of the Coastal Parks.

Strategies

- a) Work with MFMR to identify coastal and marine protected area collaboration adjacent to the NNP and to strengthen collaborative management mechanisms and partnerships.
- b) Establish collaboration and cooperation procedures and practices with other management units.

Activities

Actions	Timing
Establish an effective collaborative framework between MET and MFMR to plan and harmonise terrestrial and coastal/marine protected areas and their rational and efficient management, including a focus on collaboration and co-management	2014 and ongoing
Establish a planning, management and monitoring framework for collaboration, cooperation, mutual support and harmonization with other management units in the Coastal Parks and neighbouring areas.	2013 and ongoing

Pro-actively engage with neighbouring land-owners to promote landscape conservation.	2013 and ongoing
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3.3 Park neighbours and resident communities

Principle

The NNP should be managed and developed through positive and constructive relationships with its neighbouring and resident communities.

Objective

To include park residents and neighbours and adjacent land owners in collaborative management of the overall area, for the long term benefit of both NNP and the conservancies that adjoin it, in terms of conservation outcomes and the livelihoods of community members.

Strategies

- a) Establish positive, constructive relationships with park stakeholders in line with the National Policy on Protected Areas, Neighbours and Resident Communities.
- b) Include representatives (e.g. Traditional Authorities and conservancies) from neighbouring and resident communities and conservancies in the consultative initiatives and landscape conservation.
- c) Draw members from the neighbouring communities into the Honorary Nature Conservators system, to work with MET and MFMR to help implement this PMP.
- d) Facilitate park-to-neighbour liaison, with particular focus on establishing linkages between the Namib and the escarpment, to reinstate wildlife movement patterns and to help counter the potential impacts of climate change.

Activities

Actions	Timing
Where relevant, draw neighbours into planning for a Greater Namib-Coastal Parks Complex with links to and beyond the escarpment.	2014
Create an inclusive, participatory management approach where all interested stakeholders can contribute ideas, energy and time; foster a spirit of volunteerism; and keep everyone well informed of activities and progress in the NNP	Ongoing

3.4 Private partnerships

Principle

The “world class Protected Desert Landscape and Tourism destination” vision for the NNP, under the brand “Desert Discovery”, is planned, managed, implemented, developed and monitored using a collective partnership-management approach that fully involves civil society, business and relevant government agencies.

Objective

To develop collaborative management mechanisms that fully integrate MET and MFMR, the relevant business sector, civil society (including environmental NGOs and communities), into all aspects of the management and development of the NNP in full collaboration and “smart partnerships”, and with the respective partners being empowered to contribute to their full competitive competencies.

Strategy

- a) Establish procedures for planning, managing, developing and monitoring the NNP with adjacent Protected Areas, and with the coastal and marine ecosystem.
- b) Together with the other Coastal Parks, engage pro-actively with willing neighbours, to explore the establishment of a management and development approach for the “Greater Namib Complex” to enhance the development of a shared vision, common objectives and agreed principles, and promote a common management approach, as well as to facilitate park-to-neighbour liaison, with particular focus on establishing linkages between the Namib and the escarpment, to reinstate wildlife movement patterns and to help counter the potential impacts of climate change.
- c) Work closely with Regional Government, municipalities, organized business and interest groups, communities, NGOs and the media to keep people informed of developments, to invite their input and participation in these and future evolving initiatives.

Activities

Actions	Timing
Establish close and collaborative working relations and clear procedures for collaboration between adjacent Protected Areas	2014
Establish close and collaborative working relations and clear procedures for collaboration between MET and partners on the terrestrial landscapes with MFMR in the coastal and marine ecosystems	2014
Where relevant, participate in the development of a Greater Namib Complex with park neighbours and residents	2015
Create an inclusive, participatory environment within the NNP where all interested stakeholders can contribute ideas, energy and time; foster a spirit of volunteerism; and keep everyone well informed of activities and progress.	Ongoing

3.5 Environmental education and awareness

Principle

The Namib, escarpment and adjacent coastal ecosystems offer unique open-air classroom and laboratory opportunities for education and awareness creation on the subjects of geology, geomorphology, climatology, hydrology, zoology, botany, arid-zone ecology, wetland biology, adaptive evolution, paleontology, archaeology, conservation, sustainable development and many other fields. The NNP contains dune fields, gravel plains, ephemeral rivers, sandy and rocky shores, wetlands of international importance, inselbergs and mountain ranges, a host of arid-adapted plant and animal life plus human-ecosystem interactions. The area thus has huge educational and awareness-raising potential, which should be exploited in the interests of ensuring that visitors and staff are well informed and enriched by associating with the NNP.

Objective

To develop good quality, accessible and stimulating information and activities on the key biophysical and socio-archaeological aspects of the different habitats within the Namib, escarpment and coastal ecosystems that are represented within the NNP, and to share this information with guests, visitors, youth groups, specialist groups, decision-makers, officials and the general public in interesting and exciting ways so as to promote an understanding of and commitment to the conservation and sustainable development of the Namib Desert and coastal areas of Namibia. Participatory and collaborative mechanisms will be used, harnessing the strengths of different government agencies, NGOs and special interest groups, the business community and the Gobabeb Training and Research Centre.

Strategy

- a) Establish an Information Centre in the NNP.
- b) Prepare good quality information in different forms (posters, brochures, reports, maps, newsletters, displays, booklets, DVDs, website, etc.) that is made available to visitors, staff and the general public.
- c) Ensure that research carried out in the NNP and other parts of the Coastal Parks is translated into accessible information for the lay person.
- d) Engage local communities, schools, youth groups and decision-makers in ongoing activities, e.g. bird counts and other monitoring, and organize field excursions into key areas of the NNP, including visits to the Gobabeb Centre.
- e) Promote the concept of "sustainable lifestyles" with special attention to contextualizing the concept for desert environments.
- f) Ensure that tour guides are well trained at national and local levels, and that they create exceptional field experiences for tourists by sharing their knowledge in interesting and stimulating ways.

Activities

Actions	Timing
Establish an Information Centre for the Park.	2016
Compile good quality information on different aspects of the geology, ecology, archaeology, etc. of the NNP and from this, prepare materials for the dissemination of key information, e.g. Damara Terns, Important Bird Areas, Ramsar wetlands, lichens, etc.	2015
Produce small information boards for strategic placement at key sites	2015 and ongoing
Produce maps and special information sheets on aspects such as off-road driving, areas open to quad bikes and expected etiquette, duties and responsibilities of Honorary Wardens, info on the Environmental Hot-Line, etc.	2015



Chapter 4

Zonation

Principle

The matrix of landscapes and habitats within the NNP should be optimally managed and sustainably used, based on their sensitivity, conservation importance and business opportunity, in that order. This will be achieved by means of a Zonation Plan. The plan should remain dynamic and responsive to the potential for future opportunities, partnerships, linkages and corridors, and to developing the economic potential of the greater area within the context of biodiversity and landscape conservation, and sustainable development.

Objective

To zone the NNP for enhanced conservation management and appropriate utilization, to minimize potential conflicts between activities and to facilitate potential “bigger picture” conservation and development goals for the area.

Zones

Zonation is based on best available information on environmental sensitivity, biodiversity status and conservation priorities. Around this are built the management and tourism activities and opportunities, and infrastructure development.

Environmental sensitivity

The areas of conservation priority and environmental sensitivity in the NNP are shown in Figure 2, based on their IUCN zonation categories (Table 2). The key areas are:

- The Tsondabvlei and river system
- The Kuiseb river and valley system
- The Sossusvlei and Tsauchab river
- The Koichab Pan and river
- The coastal salt pans and salt flats, which are also Damara Tern breeding sites. All Damara Tern sites (which may change over time) become automatically sites of conservation priority with appropriate management responses
- Coastal bluffs, headlands and bays
- All inselbergs, with particular importance given to those with especially high biodiversity values such as Dikwillem in the south-east
- Mountain ranges on the eastern border of the NNP
- Gravel plains
- The Naukluft, with its associated incised river courses and wetlands.

To establish an institutional support framework for the implementation of CBNRM.

- To create long term sustainability strategies for CBNRM in Namibia.
- To ensure the long term political willingness for CBNRM within all sectors.
- To ensure that Community Based Organizations balance operating costs with the development needs and return of benefits to members.

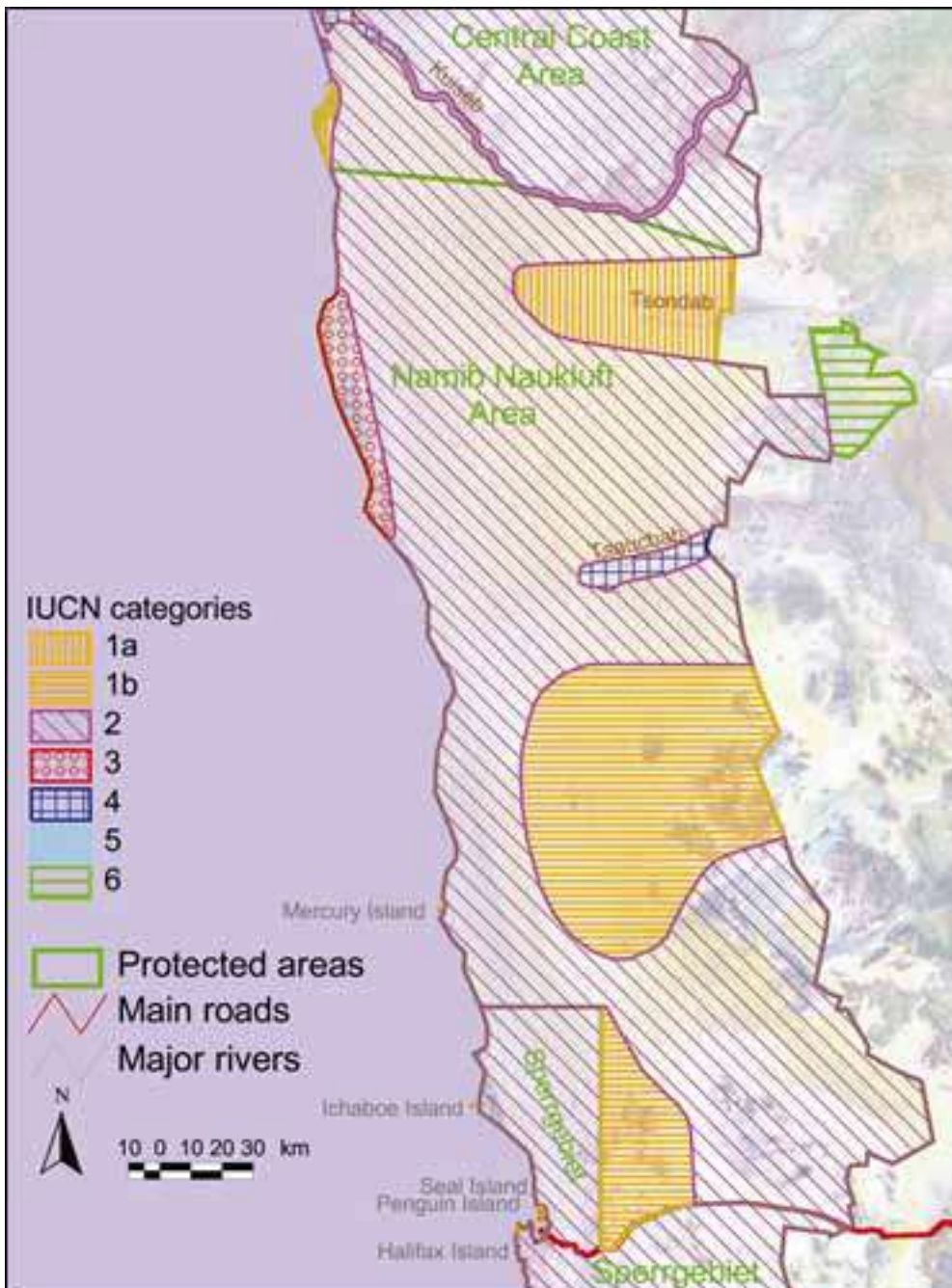


Figure 3: Zones in the Namib Naukluft Park.

The following zones have been identified, based upon environmental sensitivity and appropriate land uses (Figure 3), and following international guidelines for Protected Areas (IUCN 2012):

- Highly sensitive areas (category 1a)
- Wilderness areas (category 1b)
- Areas of medium sensitivity (category 2)
- Areas with outstanding features (category 3)
- Areas with specific habitat or species sensitivity (category 4)

- Areas with general landscape or seascape value (category 5)
- Areas for utilization of natural resources (category 6).

Zones	Activities	Specific application in the NNP
Highly sensitive areas (1a)	<ul style="list-style-type: none"> • Highly sensitive and high value conservation / biodiversity areas set aside for sensitive and low non-intrusive scientific study • No or minimal mechanized access • No permanent structures • No overnighting 	<p>Areas of high environmental value and sensitivity:</p> <ul style="list-style-type: none"> • Tsondabvlei and river system, and adjacent dune and plain areas to the west • Coastal salt pans / flats • All Damara Tern breeding areas • Inselbergs such as Dikwillem and Uri-Hauchab
Wilderness Areas (1b)	<ul style="list-style-type: none"> • Sensitive ecosystems • High value “sense of place” • Low impact usage • No or minimal mechanization • No permanent structures 	<ul style="list-style-type: none"> • Bushman Hills, Chowagasberg, Awasibberge and Haiber Flats area • Part of the Naukluft mountain • Dikwillem area • The entire coastal strip
Areas of medium sensitivity (2)	<ul style="list-style-type: none"> • Managed for conservation and controlled tourism • Mechanised access permitted Overnighting only at designated sites 	<p>The whole NNP, but excluding the demarcated municipal areas, is proclaimed under this category. The other categories are managed as land-use zones within the overall National Park.</p>
Areas with outstanding features (3)	<ul style="list-style-type: none"> • Conservation of specific outstanding features, including • Protected areas managed mainly for conservation through active management intervention • To deliver benefits to people within the scope of sustainable practices 	<ul style="list-style-type: none"> • Conception Bay to just south of Meob Bay

Areas with specific habitat or species sensitivity (4)	<ul style="list-style-type: none"> • Protected areas managed mainly for conservation through active management intervention • To deliver benefits to people within the scope of sustainable practices 	<ul style="list-style-type: none"> • Part of the Naukluft (hunting area) • Lower Kuiseb River, used by Topnaar community members and their livestock (in Dorob NP)
Areas with general landscape or seascape value (5)	<ul style="list-style-type: none"> • Relatively open access for public enjoyment • Generally higher intensity use and lower regulatory areas • Add to welfare of local communities 	<ul style="list-style-type: none"> • Sossusvlei area, for high intensity tourism
Areas for utilization of natural resources (6)	<ul style="list-style-type: none"> • Managed mainly for the sustainable use of natural resources, e.g. fishing. • Managed to ensure long-term protection and maintenance of biological diversity while providing at same time a sustained flow of natural products and services to meet local and national development needs, e.g. mining 	<ul style="list-style-type: none"> • Mining sites (following compulsory EIA) – but only mining of strategic minerals (no 'hobby', subsistence or dimension stone mining)

Activities

Actions	Timing
Complete list of allowable activities per zone and review the zonation of the park accordingly	2014
Prepare poster for residents, visitors and officials on zonation and activities	2014

Chapter 5

Prospecting and mining

Principle

No prospecting and mining activities should take place for non-strategic minerals anywhere in the NNP. For strategic minerals, no mining should be permitted in areas of high sensitivity or conservation value (Categories 1a, 1b and 3). All prospecting and mining activities in other areas should be planned, managed and decommissioned using best available practice, taking into account long-term national benefits vis-à-vis benefits from other current and potential land-uses, and applying precautionary and polluter pays principles and due caution so as to minimize negative environmental impacts.

Objective

To not allow any prospecting and mining activities anywhere in the NNP for non-strategic and low value minerals (e.g. dimension stone), and also to not allow prospecting and mining in areas zoned as categories 1a, 1b and 3 (having high sensitivity or conservation value). Further, to integrate high value, nationally strategic prospecting and mining activities in other parts of the Park into the land-use and management of the NNP in ways that minimize environmental and socio-economic impacts and that optimize biodiversity, ecosystem and landscape conservation. To restore areas damaged by past prospecting and mining to as near a natural state as can reasonably be expected, or as may be decided.

Strategies

- a) Key zones categorized for high conservation values (i.e. those falling into IUCN categories of 1a, 1b and 3) will be demarcated and closed to prospecting and mining.
- b) Prospecting and mining in other parts of the NNP will be for high value nationally important minerals only. No low value, non-strategic prospecting and mining will be permitted (e.g. dimension stone, semi-precious stone).
- c) The long-term national benefits from the use of the land for mining must clearly outweigh benefits from other appropriate forms of land use, such as recreation and sustainable tourism. The onus is on the proponent to demonstrate such national comparative benefits, taking into account ecosystem services and non-monetary benefits of peoples' perceptions and how residents and visitors wish to use their countryside.
- d) Applying safeguards is a key strategy for avoiding and/or reducing impacts to acceptable levels. All prospecting and mining activities MUST be preceded by an Environmental Impact Assessment in accordance with the word and spirit of Namibia's EA Policy (1995) and legislation (Environmental Management Act No. 7 of 2007, and Minerals (Prospecting and Mining) Act, 2003.). The logical consequence of the EIA is the compilation of an Environmental Management Plan (EMP). The EMP must define both outcomes and the methodology (in some detail) as to how the outcomes will be achieved.
- e) Every approved prospecting and/or mining company must provide the NNP staff with an environmental report every 6 months, showing its progress towards meeting agreed

upon safeguard targets. Once prospecting and/or mining has ceased, the impacts must be rehabilitated in accordance with the stipulations of the EMP.

- f) Communication with prospecting and mining companies is conducted on a regular basis to ensure that mutual expectations are clear and reinforced. Mining representatives will serve on the Consultative Forums, but it is still necessary for the Park staff to visit and talk to operators on the ground. Regular visits will not only facilitate dialogue, but they will also demonstrate MET’s “hands on” approach towards monitoring. Visits by MET staff must be fully facilitated by mining companies in a spirit of open-cards and transparent partnership.
- g) Monitor implementation of EMPs, paying special attention to the achievement of safeguard targets. A detailed inspection report must be completed after each visit to the prospect or mine by Park staff, with copies sent to MET Head Office, the mine/company inspected and the Mining Commissioner within MME. The report must include an “action” column, where it is clear what action needs to be undertaken by whom and by when, to remedy an environmental concern.
As far as possible, the inspecting office should take photographs of key issues of concern. These should be digital since the camera will record date and time – both essential pieces of information. If possible, the inspecting officer must obtain the counter-signature of the prospector/miner who was present during the inspection.
- h) In the case of non-compliance, Park staff must immediately report the matter to the Chief Control Warden in order to enable “in house” remediation. If this fails, the matter must be reported to MET HQ for higher level attention. The Park should request external review/inspection should they not have the technical capacity to assess the situation themselves. If possible (i.e. within the provisions of the law), the prospector/miner must be responsible for carrying all the costs of external consultants. Refer to the Environmental Management Act (No. 7 of 2007) for specific actions to be taken.

Activities

Actions	Timing
Compile an inventory of all prospecting and mineral licenses in the NNP, noting type of license, its boundaries, conditions of approval, ownership, status and contact persons.	2015
Establish a library of all the relevant EIA reports, EMPs and Records of Decision for each license.	2014 and ongoing
Develop a “prospecting and mining monitoring sheet” that enables easy field monitoring.	2014
Compile a “prospecting and mining inspection schedule” – say, twice annual visits. The schedule should be provided to each mineral license holder so that they know when to expect an inspection (this does not preclude unscheduled spot-checks).	2014

Chapter 6

Tourism management and development

Principle

Use of the NNP should be planned and implemented to retain a “Desert Discovery” atmosphere, safeguarding its wilderness and “sense of place” attributes, within a zonation and management framework that ensures that the character, beauty, diversity and integrity of the NNP is maintained, and that visitors have an exceptional experience.

Objective

To provide for present and expanding high quality eco-friendly tourism opportunities through good planning, zonation, management and collaboration between the conservation and tourism sectors, to help raise awareness and educate visitors about the NNP, desert and coastal environments, and to promote investment opportunities for all Namibians, particularly those previously excluded from the tourism sector as envisaged in the MET’s Concessions policy and the Tourism Transformation Charter.

Strategies

- a) Develop a detailed “Tourism Plan” for the NNP that includes a feasibility assessment, sets carrying capacities, management actions and tourism impact monitoring within the context of the Park’s zonation plan. The plan should address the following components:
 - Take full cognizance of the environmental sensitivities and biodiversity values of the area and its zonation, and strive to enhance, but never diminish these.
 - Take full cognizance of the “Desert Discovery”, wilderness and “sense of place” attributes which the NNP has adopted.
 - Take full cognizance of the rights and livelihoods of local communities and neighbouring residents in the area.
 - Promote diversity of multiple market tourism, but with an emphasis on promoting low impact “Desert Discovery” tourism packages.
 - Provide affordable tourism access to the NNP, particularly for Namibians.
 - Make special provision for opportunities for community participation in the tourism development of the NNP. In this regard, the MET’s Concessions policy will apply.
 - Place special consideration on promoting broad-based Black Economic Empowerment and involvement in the tourism development of the NNP. .
 - Make provision (as incentives) for neighbours practicing compatible land uses to obtain concession into the park, thereby cementing commitments to co-management and open landscape approaches.
 - Develop an open air museum and Information Centre in Sesriem / Sossusvlei area.
 - Develop appropriate tourist maps of the Park and relevant information materials.

Activities

Actions	Timing
Develop and implement a detailed Tourism Development Plan	2013
Upgrade the park entry system at Sesriem for easy entry to park in the mornings	2014



Chapter 7

Infrastructure

7.1 Access and roads

Principle

A minimal, practical, ecologically and aesthetically appropriate road network should be maintained to help achieve the objectives of the NNP.

Close and rehabilitate obsolete roads. No new roads will be developed without strong rationale and EIA, and no off-road driving will occur except in areas clearly designated and zoned for this purpose, e.g. coastal and dune concessions.

Objective

To rationalize and maintain a road network to serve the management (including monitoring and research) and tourism needs of the NNP.

Strategies

- a) A carefully selected network of roads will be maintained for the effective management of the park and approved tourism activities.
- b) Existing roads, tracks and borrow pits not forming part of the network will be closed and rehabilitated.
- c) Any new roads and associated infrastructures (e.g. borrow pits) will be subject to an EIA.
- d) Park officials will be vigilant in preventing off-road driving where it is not allowed, and will enforce the regulations that prohibit it.

Activities

Actions		Timing
1.	Develop an accurate GIS-based map of current roads & tracks, including making use of aerial photographs	2015 and ongoing
2.	Develop a road network plan showing roads and related infrastructure to be retained or decommissioned and rehabilitated	2014
3.	Close off unneeded roads	2014
4.	Rehabilitate closed roads, tracks and old borrow pits	2014 and ongoing
5.	Any new roads, borrow pits, etc to be subject to EIA	Ongoing

7.2 Buildings

Principle

Buildings are required to accommodate the needs of management staff and tourists, and as support infrastructure for management functions. All buildings in the Park should be simple, functional, and with minimal footprint and visual impact.

Objective

To ensure that buildings are kept to a minimum, and are designed to be visually attractive, energy efficient and in keeping with the sense of place of the surrounding area. No buildings are constructed in conservation priority areas (Section 4.3) in the NNP.

Strategies

- a) Where buildings are required by non-MET authorities in the Park, they should be located as close to existing services and roads as possible.
- b) All structures (including non-permanent ones) must be designed and constructed to create minimal visual impacts.
- c) Planning for buildings should take into account the long-term management costs and servicing and maintenance responsibilities.
- d) Conservation staff should be concentrated near areas where management and control demands are highest, and ideally near to services. Non-essential staff should be accommodated near the periphery of the park.
- e) Structures containing fuel, gas and oil must meet national requirements and containment structures must be erected to minimize the effects of leaks and spillages.
- f) No billboards (that advertise products or services) will be allowed anywhere in the NNP.

Activities

Actions	Timing
Develop a Master Plan for buildings in the Park	2014

7.3 Tourism infrastructure

Principle

Tourism infrastructure and facilities should be established to promote the environmental and outdoor assets of the Park, without compromising alternative and future use of the resources.

Objective

To ensure that tourism and recreation facilities in the Park are aligned with the area's sense of place, sustainable use of the resources, and respect for the wishes of other visitors to the Park.

Strategies

- a) All structures (including non-permanent ones) must be designed and constructed to create least visual impacts.
- b) Apply Namibia's Eco-Awards guidelines and criteria to the development and management of all tourism initiatives and developments.

Activities

Actions	Timing
Develop a Master Plan for buildings in the Park	2014

7.4 Airstrips and aircraft

Principle

Aerial tourism such as scenic flights over the dunes and along the coast, and fly-in transport to specific lodges, add value to NNP's tourism products. These aspects should be promoted within a framework of Namibia's civil aviation regulations, safety, sense of place and minimal disturbance to wildlife and people.

Objective

To ensure that aerial tourism in fixed wing aircraft is promoted, and carried out responsibly so that negative impacts such as disturbance of birds (e.g. in coastal wetlands) does not occur. Hot-air ballooning is also permitted in the Park under strict regulations.

Strategies

- a) The 'no-flying' restriction below 1,000 m should remain applicable over the entire Park, with the exception of designated corridors for approved airstrips.
- b) Flights over Sandwich Harbour should be prohibited except for emergency or nature conservation purposes.
- c) Civil aviation representatives should be made aware of the Park's flying restrictions and assist in apprehending and preventing non-compliance.
- d) No low-level flights should be permitted. MET/MFMR staff should be able to report flying contraventions to local Civil Aviation authorities for quickly apprehending the responsible pilots.
- e) Noise pollution to other Park users must be considered in any flying operations.

Activities

Actions	Timing
Channels of communication should be improved so that low-level flights and other contraventions can be reported to MET and Civil Aviation authorities by the public, Honorary Wardens and MET / MFMR staff. Repeat offenders should have their flying licence suspended.	Ongoing

7.5 Waste management and pollution

Principle

The overall principle is that no pollution from wastes should occur in the NNP. Different types of waste should be treated as follows:

- Biodegradable household waste should be dumped in a designated site and allowed to decompose without causing nuisance effects to people and wildlife.
- Sewage from accommodation establishments should be properly treated in appropriate sewage facilities.
- No non-biodegradable solid waste should be disposed of in the Park.
- Domestic solid waste such as bottles, plastics, tins and paper should be transported out of the park to the nearest designated authorized landfills.
- This also applies to hazardous wastes such as used oil, which should go to an authorized hazardous waste disposal site.
- Emergency pollution events, such as marine oil spills, should receive a safe, timely, effective and coordinated response in coordination with the responsible government ministries and the Emergency Management Unit.

Objective

To ensure that environmental pollution does not arise from poor waste management in the NNP. Littering and pollution from waste is discouraged by strategies, encouraging proper disposal and enforcing compliance with vigilance and strong penalties.

Strategies

- a) Pro-actively undertake routine clean-ups so that people in the park see clean, litter-free surroundings.
- b) All visitors and operators of whatever activities in the Park should practice the principle of 'take in – take out,' and the prohibition of littering should be strictly enforced by Park officials and Honorary Wardens. In particular, wastes from shore angling (e.g. offal, unused bait, bottles) should not be left on beaches.
- c) Beach patrols by MET and MFMR officials should strictly enforce the regulations on littering.
- d) Public toilet facilities at various sites such as at angling beaches should be kept in a sanitary condition so that people are not discouraged from using them by dirty facilities. 'Bush toilet' practices should not leave any mess that degrades people's outdoor enjoyment. During peak seasons (especially over the Christmas and Easter holidays) public toilet facilities and rubbish bins should be cleaned and refreshed at least every day (including public holidays)

and weekends). Lines of responsibility carried by the municipalities and MET/MFMR officials should be clearly defined for these duties.

- e) All visitors and operators (including MET) in the Park should encourage and practice the 3-R principles of waste Reduction, Re-use and Recycling wherever possible. The strategies for different types of waste are as follows:
- f) Designated, fenced waste sites should be created for biodegradable household waste. Secondary pollution from wind-blown litter or from scavengers (such as crows, jackals and hyenas) should be prevented by adequate enclosure of the site. Because decomposition rates in this arid environment are very slow, decomposition of this waste should be encouraged by circulating some flow of grey water over the waste site on a daily basis.
- g) Septic tanks should be installed for water-borne sewage.
- h) Sites which generate domestic solid waste such as bottles, plastics, tins and paper should have a fenced repository area for storage of this waste before it is transported out of the park to the nearest designated authorized landfills.
- i) Workshops and fuel storage areas should be designed so that contamination from hazardous wastes is prevented. These wastes should be safely contained before transportation to an authorized hazardous waste site.
- j) Marine oil spills should be handled according to the directives of the Oil Spill Contingency Plan. There should be constant preparedness for an emergency of this sort.

Activities

Action	Timing
Include regular clean-ups as part of scheduled park maintenance activities. Increase frequency of clean-ups during peak angling seasons.	2014 and ongoing
Clearly define responsibilities to ensure that routine cleaning of public rubbish bins and toilets is carried out, especially in popular areas during peak tourism periods.	2014 and ongoing
Ensure waste landfills and repository areas are well secured against dispersal of wastes by wind and scavengers.	2014 and ongoing
Arrange that trucks going to towns for supplies can carry wastes out of the park and dispose of them in authorized municipal landfills.	2014 and ongoing
For the Oil Spill Contingency Plan, collaborate with the Emergency Management Unit in the Office of the Prime Minister, Directorate of Maritime Affairs in MWTC, and Benguela Current Commission, to be always adequately prepared for an oil spill emergency on the coast. This should include planning for access to remote areas of the coast by emergency teams.	2014 and ongoing

Chapter 8

Administration and management

Since management and administration underpin all operations, an efficient administrative structure is required to support financing, procurement, human resources, stores and supplies, and maintenance of the Park. Many of these aspects are controlled by public service and/or MET policy, procedures or legislation. These measures limit the autonomy of park administrators and managers. Innovative operating procedures could nonetheless be implemented to address issues specific to local conditions.

Objective

To ensure compliance with public service policies and procedures within which an efficient operating system is implemented for the conservation and economic development of Namib Naukluft Park.

Strategies and Principles

- a) **MANAGEMENT PLAN:** The current document represents Namib Naukluft Park's management plan that includes the following minimum components: the purpose and objectives of the Park; a summary of core ecological, social, and economic principles and drivers.

The management plan must be in standardised, useable, practical format that is easy to implement and adapt and complies with the MET's 'Framework and Guidelines for Development of Park Management Plans'. Namib Naukluft Park shall further have an operational plan that summarises and guides all the normal activities and developments conducted by park management. This operational plan comprises eight management tools: 1) a summary of the policy framework, 2) an annual work plan, 3) a monthly work plan, 4) a development planning calendar, 5) zonation plan and guidelines, 6) a financial planning system, 7) a compilation of background information, and 8) a monitoring and evaluation system.

- b) **LAW ENFORCEMENT:** Illegal hunting remains a major management issue for MET as well as conservancies since poaching poses a major risk to wildlife and tourism products. Vigilance against wildlife crime is therefore a very high management priority.
- c) **COMMUNITY INVOLVEMENT:** Since communities have close links to the Park and its natural resources, mechanisms must be found that improve management efficiency by employing or outsourcing work to local people, and through joint implementation of key activities such as law enforcement, fire management, etc.
- d) **RESEARCH AND MONITORING:** An active monitoring system of carefully selected and agreed indicators, both bio-physical and socio-economic, is essential if management effectiveness is to be improved and adapted as conditions change. Monitoring systems, such as the IBMS must therefore provide key information, especially regarding threats or opportunities. Monitoring on an operational level is not limited to the natural resource base, but also includes management efficiency. Research will be supported, primarily through collaboration, and will focus on the following:

- high value areas such as wetlands and riparian forests, as well as game movements and re-introductions;
- improving management effectiveness, especially that which pertains to human-wildlife conflict, fire, community wildlife-and-tourism-related impacts;
- the socio-economic impact of the Park.
- e) HUMAN RESOURCES play a critical role in the management of the Park, and therefore training and continuous staff development are essential. The MET policy on HIV/AIDS must be implemented. Procedures should be implemented to redress past gender imbalances.
- f) FINANCIAL CONTROL AND FUNDING: Financial controls as required under MET and other policies and legislation must be complied with. However, a broader, proactive business approach that continually resets targets of performance must be adopted. Resource and cost estimates must be monitored to ensure that targets for specific deliverables are met and improvements made. Alternative sources of funding should continually be explored to improve the management and operating efficiency of the Park.
- g) GENERAL ADMINISTRATION: Mechanisms, which improve effectiveness of delivery, must always be explored. All assets must be accounted for, maintained and applied to their intended uses. Where appropriate, new technologies, equipment and fixed infrastructure must be explored and introduced.

Activities

- a) Formulate annual work plans with outputs and budget allocations (this task falls to park managers) that are agreed to by senior staff. Monitor implementation of the plans. Plans are to address major challenges and should ensure that important opportunities are optimised, *for example*:
 - activities must be resourced with appropriate staff, equipment and funding;
 - mechanisms should be provided to overcome challenges;
 - opportunities to review and modify work plans must be created, and adaptive management applied as circumstances change;
 - work plans with expected deliverables and dates should always be communicated to people responsible for these functions.
- b) Decision makers at all relevant levels should support park managers in their endeavours to implement this plan.
- c) Ensure that all MET assets are accounted for, protected and maintained in working order and deployed to contribute towards this plan.
- d) Monitor any changes in legislation and advise on their impact on the Park and associated operations.
- e) Identify gaps in knowledge relating to management and where appropriate, through collaboration, find solutions to improve the understanding of the natural system and the socio-economic benefits from the Park.
- f) Establish a system of monitoring and recording all aspects of the Park so that control can be exercised and management improved, especially with respect to:
 - the socio-economic benefits which result from the Park;
 - the development and responsible operation of tourism products;
 - compliance with all collaboration agreements;
 - adherence to budgets, and accountability for finances.
- g) Develop a respectful and efficient working relationship with staff and other stakeholders,

- especially resident and neighbouring communities.
- h) Make recommendations and follow up on any reviews or changes to this plan, relevant legislation, development requirements, funding, research and other management related issues.



Annex1: Conditions applicable to Environmental Clearances in Proclaimed Protected Areas

1. All provisions of applicable legislation and regulations concerning protected areas apply.
2. This Environmental Clearance shall serve as a contract of agreement between the holder and the Ministry of Environment and Tourism, but it does not in any way make the Ministry of Environment and Tourism responsible for any wrong or insufficient information provided, nor any adverse effects that may arise from this project's activities. Instead, full responsibility and accountability rest with the developer and his/her consultants.
3. The Holder of this Environmental Clearance (hereafter referred to as the Holder) assumes full responsibility and liability for the safety and conduct of employees, contractors and/or visitors.
4. The Holder agrees to fully indemnify the Government of the Republic of Namibia in the event that the Government is held liable in respect of any loss, damage or injury sustained to an employee, contractor and/or visitor whilst such employee, contractor and/or visitor is in the Park under the auspices, direction or invitation of the holder.
5. Entry and exit points to the Park as well as the driving routes to be followed in the Park shall be determined by this Ministry in its sole discretion and shall be communicated to the Holder in writing. The Holder shall strictly adhere to the designated entry points, exit points and driving routes.
6. Only existing tracks or roads may be used unless prior approval is obtained from the Ministry.
7. All tracks or roads must be established, constructed and rehabilitated under the supervision of officials designated by the Ministry for this purpose.
8. The Holder shall erect a signboard not smaller than 70 cm in height and 100cm in width, at the major entrance/s to each of its license areas, specifying the number of the license, the duration of its validity and the name of the license holder, and a contact name and number for enquiries.
9. The Holder acknowledges that designated staff of this Ministry may monitor the Park and the activities of the Holder within the park in order to verify adherence to the conditions imposed in this authorization. The Holder undertakes to give its full cooperation to the designated staff in this regard.
10. In the event that an application to renew the clearance is received, the renewal of this clearance is entirely within the discretion of the Ministry and the Holder should entertain no expectation of whatsoever nature in that regard. In this regard, this Ministry accepts no responsibility of whatsoever nature, for any expenditure which the Holder incurs in order to exercise its rights and obligations in terms of this clearance, and which expenditure is rendered redundant or futile in the event that this clearance is not extended.
11. In the event that the Ministry extends the clearance for an additional period, the Ministry reserves the right to impose additional conditions or amend existing conditions of this authorization, and the Holder agrees to be bound by such additional and/or amended conditions.
12. In the case of non-compliance with any of these conditions, the clearance can be terminated by the Ministry at any time by written notice to the holder, including the

reasons for such termination. Notice of termination in terms hereof will not detract from any of the Holder's obligations pertaining to the clearance, including the implementation of the environmental management plan and the rehabilitation of disturbed areas or other impacts caused by the Holder.

13. A six monthly report on project progress and environmental management profile, starting from date of commencement of operations, must be submitted by the Holder to the Ministry of Environment and Tourism, particularly, the directorates of Environmental Affairs, and Parks and Wildlife Management.
 14. Boating, biking, swimming, fishing, hunting, wood gathering or the collection of soil, insects, birds, animals and plants, including the introduction of pets and weapons of all types, are strictly prohibited within the jurisdiction of a protected area.
 15. Unless permitted by the Ministry of Environment and Tourism, the operation of an aircraft and the construction of a runway, including any other attempt to harvest natural resources for any form of construction purposes, shall not be allowed in all protected areas. Where the construction of structures is allowed, the design of such structures must be of a temporary nature.
 16. There shall be no voluntary disposal of any form of waste in all protected areas of the Republic of Namibia. A suitable waste storage facility must be constructed to serve as a waste retention device prior to transportation out of the protected area.
 17. Using the best and affordable methodology, the Holder must ensure that all mining or quarrying and exploratory operations are thoroughly rehabilitated prior to closure of the operation. Wherever possible, the Holder must proceed with the rehabilitation process concurrently with the progression of the project rather than wait until the damage is far beyond the available means of management.
 18. The general standard for all rehabilitation processes must at all costs aim at restoring the natural character of the environment to the satisfaction of the Ministry of Environment and Tourism. Such rehabilitation processes shall be inspected and certified satisfactory or unsatisfactory by the Ministry of Environment and Tourism. Where a certificate of unsatisfactory is issued, the Holder shall be advised to carry-out certain tasks to meet the requirements. Failure to meet the basic rehabilitation requirements shall be regarded by this Ministry as a breach of this contract and of which serious consequences shall follow.
 19. If the EIA/EMP report for a given exploration or mining or quarrying require the services of an external reviewer, the Holder shall bear the full cost of the review of that particular report. Under such circumstances, this Ministry shall only pronounce its decision on the issue once the full cost of the review is paid-out to the reviewer.
 20. Finally, the Holder is advised that these conditions shall be reviewed and refined on a regular basis to ensure compliance and sound management of our protected areas. From this perspective, and depending on site specifics and the technical nature of a given project, further conditions shall be attached to guide the operations of such projects.
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