

Management Plan

/AI-/AIS HOT SPRINGS GAME PARK

2013 - 2018



Ministry of Environment and Tourism
Directorate of Regional Services and Parks Management



Republic of Namibia







Republic of Namibia
Ministry of Environment and Tourism

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FOREWORD

Namibia's parks are invaluable for tourism with more than 70% of tourism activities attributed to protected areas. Approximately 17% of the surface area of Namibia is currently gazetted as protected areas. Furthermore, tourism is the fastest growing sector in Namibia, contributing approximately 16% to the country's GDP and immensely important as a source of employment. The importance of protected areas, not only for tourism and revenue creation, but also for biodiversity, cannot be stressed enough. It is thus imperative that protected areas are managed effectively and efficiently. Management plans for protected areas are viewed as the guiding light for proper management.

This management plan sets out the vision, objectives and guidelines for the management and development of the /Ai-/Ais Hot Springs Game Park. As such, it represents the policies and intentions of the Ministry of Environment and Tourism (MET).

All involved with the Park, including MET decision-makers and management staff, personnel of other Ministries and Parastatals, private sector companies and individuals, all contractors, partners, tourists and any entity and individual dealing in any way with the Park, must ensure that any actions and decisions relating to the Park are in strict accordance with this plan. The management plan must be viewed as a valuable and central document by all management and policy level staff involved with the Park. They should be familiar with its contents, and should make use of it to familiarize new staff with the aims, objectives and policies of the Park.

It is part of every staff member's job to help implement this management plan. Park management is a team effort. The future well-being and development of the Park depends on this team approach.



**Uahekua Herunga, MP
MINISTER**



PREFACE

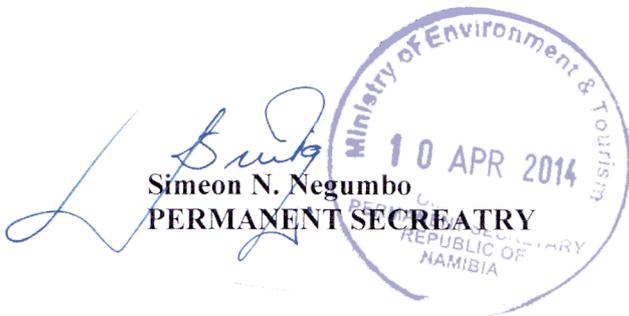
The Management Plan for the /Ai-/Ais Hot Springs Game Park has been designed and structured to be priority focused and action orientated, to facilitate implementation and the achievement of outputs and outcomes. The Plan is linked to an annual cycle of management and oversight, involving the preparation of annual work plans and budgets.

The Plan is “principles” based. These principles serve essentially as 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 (apart from some basic technical terms used in the conservation sector) is kept simple for broad accessibility. This Plan should be used in conjunction with Park legislation and regulations, as well as with other relevant literature on the area. A reference list of the more significant publications and reports on the area is contained in the bibliography.

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.

Acknowledgements are due to all the individuals and organisations who contributed towards the finalisation of this Management plan.



Simeon N. Negumbo
PERMANENT SECRETARY

Ministry of Environment & Tourism
10 APR 2014
PERMANENT SECRETARY
REPUBLIC OF NAMIBIA

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ABBREVIATIONS

AHGP	/Ai-/Ais Hot Springs Game Park
ARTP	/Ai- /Ais-Richtersveld Transfrontier Park
CITES	Convention in the trade of Endangered Species of Fauna and Flora
DEAT	South Africa's Department of Environmental Affairs and Tourism
DVS	Directorate Veterinary Services
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EPL's	Exclusive Prospecting Licenses
HWC	Human Wildlife Conflict
IBMS	Incident Book Monitoring System
ICDP	Integrated Conservation and Development Plan
JMB	Joint Management Board
LOR TFCA	TFCA along the lower parts of the Orange River
MET	Ministry of Environment and Tourism
MLR	Ministry of Lands and Resettlement
NACOMA	Namibian Coast Conservation and Management Project
NBRI	National Botanical Research Institute
NGO's	Non Government Organisations
NWR	Namibian Wildlife Resorts
PON	Polytechnic of Namibia
RNP	Richtersveld National Park
SPAN	Strengthening the Protected Area Network
TFCA	Transfrontier Conservation Area
UNAM	University of Namibia



CHAPTER 1

1.1 Overview of the park

The /Ai-/Ais Hot Springs Game Park covers 4,420 km² and was formed through proclamation of various areas between 1968 and 1988. The area has rugged and beautiful scenery and diverse flora, containing elements of both the Succulent Karoo and Nama Karoo biomes. It experiences both the winter and summer rainfall. The main features of the park includes the Fish River Canyon, recognised as the second largest canyon in the world after the Grand Canyon in the United States of America and the Huns Mountain complex to the west of the park. To the south of the park are the Orange River which forms both the international boundary between Namibia and South Africa and the boundary between /Ai-/Ais and the Richtersveld National Park in South Africa. A treaty was signed in August 2003, between Namibia and South Africa, creating the /Ai- /Ais/-Richtersveld Transfrontier Park (ARTP).

The AHGP is popular with tourists, who come for the hot springs, the challenging 85 km canyon hike and diverse landscapes and natural scenery. The Canyon remains the most popular attraction, drawing around 66,000 visitors per annum.

Biophysical setting

The landscapes of the AHGP have evolved, together with the floral and faunal resources, to create a unique assemblage of species, geology and biogeography. The area is in a transitional zone between the winter (northeast) and summer rainfall regions. It experiences extremely low rainfall (less than 100mm in the north to less than 50mm near the Orange River in the southwest) and varies considerably from year to year. The little rain that does fall can occur at any time of the year, but with a tendency for the autumn months to receive slightly higher rainfall than other months.

Maximum temperatures are exceptionally high (34-40°C) and can be experienced at any time of the year. Average temperatures are moderate (approx. 18 °C) and there is a general temperature decline as one moves westwards towards the Sperrgebiet and the coast. There are few frost days per year with an increasing occurrence towards the west (1-5 days per year). The high mountains, deep valleys, perennial rivers and effects of coastal fog (in the extreme west) contribute to adding further habitat diversity to this area.

Plants and animals have developed specific adaptations in response to these factors. The area incorporates some of the largest succulents (mega-succulents) including *Aloe dichotoma*, *A. ramosissima*, *A. pillansii* and *Pachypodium namaquanum*. The Succulent Karoo biome is very poorly conserved internationally and AHGP is part of the conserved area of this biome. The biome is recognised as one of the biological 'hotspots' of the world.

The landscapes and associated biological assets are therefore extremely important. It is critical that these are properly managed and conserved. Some areas, especially those in the northwestern areas, in the inaccessible Huns Mountains, have remained relatively undisturbed by human intervention. In contrast, the areas adjacent to the Orange River have been severely impacted by mining, grazing and agriculture. It is especially along the Orange River that these impacts must be significantly reduced through improved management and control. Planning is critical for all new developments or extensions to existing developments and this must include the use of sustainable development planning tools such as Environmental Impact Assessments (EIAs) and Environmental Management Plans (EMP's). These tools will identify problems and in the process propose mitigation measures, should the development proceed.

There are still many issues, which still need to be studied and understood about this area. The understanding of how the ecosystem functions, including rates of decay and nutrient cycling and the role of vertebrates and invertebrates is not well studied. The area experiences extremely low and spatially erratic rainfall and local migration across vast distances is a survival strategy of a number of faunal species. Because of these issues, a precautionary approach is to ensure that sufficiently large areas are conserved, especially where the existing species knowledge is poor. This can be achieved through collaborating and aligning management practices with neighbours.

1.2 Purpose

This Management Plan sets out the vision, objectives and guidelines for the management and development of the /Ai-/Ais Hot Springs Game Park. As such, it represents the policies and intentions of the Ministry of Environment and Tourism (MET). The Management and Development Plan is accepted as the ultimate authority for the Park. All involved with the Park, including MET decision-makers and management staff, personnel of other Ministries and Parastatals, private sector companies and individuals, all contractors, partners, tourists and any entity and individual dealing in any way with the Park, must ensure that any actions and decisions relating to the Park are in strict accordance with this document.

This must be viewed as the 'constitution' for the area – a broad mandate that includes values, policies and principles on which management decisions will be made. Although this will be improved over time, it is not anticipated that there will be significant or radical changes. The document must therefore be seen as being relatively constant and will only be revised every five years. These plans will require resources, which must be identified, and mechanisms needed to source them, which will be detailed in this process.

Shorter-term operational plans (or work plans) may also need to be developed. These will identify specific actions, which need to be performed to address issues in this plan. Not all items in the plan necessarily need constant attention – many issues may 'manage themselves' – however, for most some management intervention may be appropriate. These will be addressed by means of short-term operational plans, which will also identify and allocate resources to achieve them.

The Management Plan must be viewed as a valuable and central document by all management- and policy-level staff involved with the Park. They should be familiar with its contents, and should make use of it to familiarize new staff with the aims, objectives and policies of the park.

1.3 Objectives

- 1.3.1 To improve the management and sustainable use of the park's unique biodiversity, fragile ecosystems, landscapes, geological features and archaeological and cultural heritage;
- 1.3.2 To expand and diversify tourism to contribute to the socio-economic development of southern Namibia;
- 1.3.3 To rehabilitate landscapes and processes previously impacted through unsustainable land use;
- 1.3.4 To engage with neighbouring landowners, conservation areas and communities, through appropriate institutions and policies, living in or immediately adjacent to the park, with the aim of co-managing the area in order to enhance biological processes, conservation management and socio-economic development in the region as a whole;
- 1.3.5 To enhance our scientific and indigenous knowledge of the landscapes and the biodiversity, cultural and geological resources of the area;
- 1.3.6 To build the capacity of stakeholders and tourists, through awareness generation and access to information, to better understand the value of the park and its resources;
- 1.3.7 To secure sustainable financing and human, technical and other required resources for efficient and effective management of the park.

CHAPTER 2

Management of natural resources

2.1 Habitats and special sites

Biodiversity conservation

The AHGP contains many plant and animal species that are endemic to the area and some are endangered and vulnerable. Their future survival is threatened by incompatible land-uses (e.g. grazing by domestic stock, mining, agriculture and poorly controlled tourism), theft/ poaching and possible climate change. Management will need to deal with these threats to ensure continued survival of these species. Many parts of the park and broader region preserve the biota that characterises this biome and this must be maintained and improved under this Plan. Any further increase in access must consider the implications that this may have on these species. It is recognised that there may be opportunities to translocate and/ or breed some of these species to increase their survivability; in these situations, where there is knowledge to inform the process, this will be actively pursued. The riverine habitat is an extremely important part of this environment and management of it must be improved, mitigation and rehabilitation measures will be employed to deal with the existing impacts on this important system.

Specific objective

To protect and conserve the diversity of flora, fauna, habitats, ecosystems and landscapes and, to ensure the sustainable use of these resources.

Strategies and principles

- Proposed development activities within the Park which may result in the population of a species declining by more than 10% will not be permitted;
- Management will identify, monitor and where necessary implement special support actions to ensure the continued conservation of species;
- Monitoring should be institutionalised as part of the adaptive management process and focused on effectively managing anthropogenic and climate change threats to species;
- Special support measures must be implemented if any species long-term survival is threatened. This could include rezoning of land uses, or direct management intervention such as disease control, water provision, including artificial propagation to improve species abundance and status, etc;
- The vastness of the area must be considered in relation to the impact (spatial and temporal scale), i.e. a relatively high impact on a very small area must be considered in relation to its overall net economic benefit and its contribution to providing resources for conservation measures in the remaining area;
- There will be a 'zero tolerance' approach to illegal harvesting, use or poaching of any natural resources in the Park;
- Research should aim to complete species inventories and develop knowledge regarding anthropogenic threats to species. These must include surveys of species, which may only be visible during parts of the year;
- Many species have fragmented or very specific habitat requirements and therefore there is a critical need to identify critical areas, which must be conserved, and delineate these and ensure they are specifically zoned for appropriate use and management;
- A detailed assessment of the impact on species by any proposed development must be an integral part of all EIAs;
- Management will have to constantly adapt its approach in response to changing threats, allocation of resources, technologies and information.

Flora

There are many plant species of interest within the Park, which have adapted to the arid environment, especially the iconic mega-succulents. Many of the groups have not been well studied. Certain land uses may threaten these species and every effort must be made to catalogue the species and maintain inventories of them, their distribution and status. Any proposed development or extension of existing developments must include a comprehensive botanical assessment which will highlight any potential problems and propose the best solution. Water in this arid landscape is obviously a critical component, especially for animals, which can move large distances. It will also significantly affect production of herbaceous matter on which these animals could feed. The Orange River, which is shared with South Africa, has been grazed on the southern bank by domestic stock. Grazing livestock has only recently impacted the Namibian side.

Specific objectives

To protect and conserve the floristic diversity of the Park and, to continuously improve the knowledge and understanding of individual plant species and assemblages to better manage and control the use of these resources.

Strategies and principles

- Priority must be afforded to obtaining an inventory of the species, which characterise this system;
- The impacts of climate change may need to be modelled and if necessary appropriate action taken;
- Many of the plant species are threatened with extinction, some from illegal harvesting, others from development actions and perhaps some from the effects of climate change. Where necessary and appropriate, species may be collected and re-located (rescue populations) or intensively bred for re-establishment in areas where it is deemed appropriate and to introduce measures to ensure their survival;
- There is a demand for some species by the public for cultivation for various purposes. Where necessary and where it is effective to do so, material may be collected for propagation. This will only be permitted under strict control and guidance from MET, with a formal agreement and with full knowledge of the impacts; fees may be charged for this;
- Monitoring is a critical component of integrated ecosystem management, but in vast poorly understood areas such as the AHGP, to be effective it may need to be focussed and directed at specific issues. To assist with this it must focus on species and especially in areas where there are obvious anthropogenic impacts on the system. It will obviously have to be adaptive in response to threats, technologies and new information.

Activities

- a) Key habitats, special sites and invasive alien species should be clearly identified and mapped, and management guidelines developed in year two.
- b) The status and threats to habitats and special sites must be reviewed every five years and new management strategies developed to counter any significant threats.
- c) Threats posed by aliens must continually be assessed and addressed.

2.2 Rehabilitation

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

Specific objectives

To remove all unnecessary evidence of human occupation from the Park, except agreed infrastructure and impacts in designated sites, which will serve as historic museums, and to rehabilitate landscapes and biodiversity, using best available practices, with emphasis on those areas of greatest ecological and aesthetic importance.

Strategies and principles

- Commission a rehabilitation plan based on an inventory and criteria (log of areas, prioritization, costs and timelines) for the whole AHGP;
- Identify responsibilities for rehabilitation;
- MET and other relevant parties (e.g. Gondwana and Conservancies) to systematically implement rehabilitation in areas and on aspects of respective responsibilities, to agreed standards and levels, starting with the affordable priorities;
- Establish a platform for regular reporting and exchange between MET and other relevant parties (e.g. Gondwana and Conservancies) rehabilitation programmes.

Activities

- a) Identify and map areas where ecosystem functions or processes are compromised by human activities every year.
- b) Make use of old structures or material for building and/or recycling where practical, cost-effective and feasible.
- c) Liaise with the National Heritage Council and other agencies to ensure that important cultural, historical or other assets are not lost or inadvertently damaged during rehabilitation every year.

2.3 Wildlife population management and introductions

There are a number of specially adapted animals, which have evolved in this arid environment. These species, and especially the invertebrates have not been extensively studied and their status is poorly understood. The extreme aridity of the region suggests that large herbivores would have moved over the system using it opportunistically. These migrations would have been critical to their survival. The larger Sperrgebiet to the west shares a very narrow corridor with the /Ai-/Ais Hot Springs Game Park and the opportunity for game to move, will be limited by this.

Similarly, the farming area east of the park presents movement barriers to more productive land in the Karas Mountains. Widening the Sperrgebiet – AHGP corridor and working with land owners to the east (and north) of the park will assist in game movement in the area and would lead to the greater area being able to support much larger migrating game populations.

There is a large free ranging population of Hartmann's zebra (*Equus zebra hartmannae*) within the area; this is the largest free ranging population within Namibia. The range of this population should be extended so that it can increase further. There are numerous feral equines within the area at present and significant efforts must be made to remove these because of their potential impact on the zebra. There is also a relic population of the Grey rhebok (*Pelea capreolus*) which deserve special attention. Many other species occur naturally and an increase in their range would allow their numbers to increase.

Water is a critical driver of this system for large mammals. Although the area contains two mostly perennial rivers (the Orange and the Fish) water may be required to re-establish game movement patterns. It may therefore be necessary to strategically provide water to encourage game to move into areas initially as their range increases through migration or re-introduction. Once the game movement is established the water may need to be regulated or closed.

Specific objectives

- To encourage the increase of animal wildlife populations in southern Namibia and to ensure that population numbers per species and total wildlife are appropriate for the carrying capacities of different ecosystems and landscapes at appropriate times of year, accounting for rainfall and range condition variation.
- To reinstate, as far as practically possible under prevailing conditions, the historic diversity of wildlife and their full suite of interactions.

Strategies and principles

- Every effort must be made to restore seasonal and opportunistic migratory movements of game as this is critical for their long-term survival.
- Only species which were historically present in the area may be considered for reintroduction and then only compatible sub-species and taking into account the habitat changes that have occurred in the past century.
- Wildlife populations will be permitted to fluctuate within climatic conditions subject to the following: where there is strong evidence to suggest that anthropogenic factors (such as fences and other structures or causes) are negatively impacting on a species survival, then specific management intervention may be implemented to mitigate this impact, but with due regard to other potential impacts.
- Artificial' water may only be supplied under the following conditions: to encourage movement of game into areas previously unavailable to them; this must not significantly increase the chance of poaching; water conservation is considered in water point design; and the impact on the floral component must be closely monitored and any negative impacts, especially on species must be mitigated by appropriate action, including closing the water facility.
- Staff and visitors may not bring into or keep any domestic animals or pets in the Park without a permit.
- Monitoring will be required to, especially ensure that species are being appropriately conserved and that the objectives of other interventions, such as introductions and re-establishing migration routes, sustainable use etc, are being successful. The frequency of this monitoring will be dictated by the specific requirement and the scale of the threat or impact.
- Introduce game in phases as per the list of recommendations resulting from the analysis on "The Historic Distribution of Wildlife in the Fish River Canyon Area", and subject to rainfall and veld condition being adequate to enhance chances of survival.
- Acquire game from similar habitats (e.g. Namib and Karoo Transition ecosystems) for genetic integrity and optimal chances of success.
- Introduce game in sufficient numbers to have viable populations, rather than having small token introductions.
- Where species are likely to recolonise or to augment existing populations by in-migration, allow this to happen rather than active reintroduction.
- No species exotic to the AHGP will be introduced.
- 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.

- Efforts will be made to re-introduce or supplement species which may have become locally depleted or extinct in recent times subject to the following: (1) The introduction must be practical and cost effective; and (2) In the case of introductions that have a potential impact on neighbours, full consultations will take place with stakeholders prior to any introductions. (3) If any introduced species are likely to pose a threat to local communities, then approval must be sought from them and agreement reached if necessary on mitigating their impact/s on peoples' lives.
- Use appropriate tools and approaches (e.g. the Translocation Advisory tool) to determine the social, economic and environmental viability of proposed introductions.

Activities

- a) Implement and maintain the Incident Book Monitoring System (IBMS) to monitor populations of key species every year.
- b) Investigate, and if necessary develop strategies to meet population performance targets for important species which are threatened or rare in year two.
- c) Implement existing species management plans and update when necessary and collaboration with the directorate responsible for wildlife research and monitoring.
- d) Develop effective anti-poaching programmes to eliminate or reduce the impact of poaching, as a major potential threat to the economic value of the Park and surrounding areas in year one and two.
- e) Take the following steps before species are re-introduced or populations bolstered through introductions:
 - explore what management actions may be taken to create conditions for the species to increase or re-populate the areas;
 - undertake appropriate research to understand why populations are low or locally extinct, and to determine whether causal factors can be eliminated;
 - develop re-introduction plans to ensure that pre-release and post-release management strategies and resources are in place.

2.4 Artificial water points and management

Water is an extremely scarce and limiting resource in Namibia in general and in this environment in particular. There is little ground water and some important and unique hot water springs. All of the large rivers that flow into the Park may be potentially severely impacted by dams or pollution. In addition, all the major catchments that fall within the park boundary have large areas outside the Park. These factors make water management a critical issue and to address this will require input to broader initiatives than those just focussed within the Park. The wider environmental impacts of catchment management must be examined and brought to the attention of all users, while recognising the wider economic and social consequences. The existing and potential future impacts on the water by tourism must be reviewed and assessed, especially the extraction from the hot springs and the sewerage discharge.

Specific objectives

To ensure sustainable and equitable use of the limited available water in the Park and to protect water resources at all times from contamination and pollutions. This includes water for human and animal consumption and the Lower Orange River.

Strategies and principles

- Users must obtain an effluent discharge permit from the Department of Water Affairs, Ministry of Agriculture, Water and Forestry. All sewerage discharge must conform with the Water Management Act and to be monitored by MET at the cost of those who generate the waste;
- Proactively participate in broader catchment management and extraction initiatives especially those focussing on mitigating their impacts and those which may affect tourism and species;
- Use of water within the Park must only be considered if its use is efficient and sustainable in the medium- to long- term;

- All new boreholes for Park and tourism use must be subjected to a detailed EIA and if approved then an associated EMP must be compiled and implemented;
- Any further development and use of 'hot springs' must be completely and thoroughly explored via an EIA and EMP;
- The existing use of the 'hot spring' at /Ai-/Ais must have an EMP drafted and implemented;
- No direct discharge of any effluent into the river within the park and no sewerage systems within the 50-year flood line. Existing inappropriate systems may not be extended and must be moved when renovations or extensions are required;
- All water use must include water conservation management strategies and must be monitored and controlled by MET at the users cost. Recycling must always be investigated and where feasible implemented.
- Guidelines on monitoring activities and adaptive decision making need to be drafted by the management of the park.

Activities

- a) Conduct risk analyses for all artificial water points in year three.
- b) Establish a baseline monitoring system to assess negative impacts on vegetation and key animal species.
- c) Maintain a register of all artificial water points; this must include the purpose of each point and its associated monitoring data every year.
- d) If possible, develop a water-point rotation strategy to encourage wildlife movement every year.
- e) Liaise with other Ministries to ensure any water provision in the area does not conflict with objectives of this management plan.



2.5 Domestic animal management

Guiding principle

No domestic animals are allowed in the AHGP and no facilities (e.g. kennels) are available for tourist pets.

Specific objective

To remove all domestic animals should these occur at any time within the AHGP as domestic animals potentially affect the genetic diversity (e.g. domestic/feral cats) and threaten indigenous wildlife directly either through hunting (e.g. dogs, domestic/feral cats), competition (e.g. ungulates) and/or disease (e.g. all domestic animals).

Strategies and principles

- Destroy any dog, donkey, horse or any other riding or pack-animal or with the consent of the Minister, destroy any live-stock or domestic animal found in AHGP, other than any such live-stock or domestic animal which is in the lawful possession or under the lawful charge of an officer or which is being conveyed through such game park or nature as determined in the Nature Conservation Ordinance 4 of 1975;
- Identify responsibilities for destroying domestic stock located within AHGP;
- Identify responsibilities and facilities of impoundment of live-stock located within AHGP;
- Identify ownership of livestock (i.e. brands, ear tags) and liaise with neighbouring farmers regarding the removal thereof from the park;
- Determine the need for confinement facilities (i.e. kennels) for tourists with pets;
- Establish a forum for regular reporting and exchange between MET and other relevant parties (e.g. neighbouring farmers, NWR) on domestic livestock issues.

Activities

- a) In collaboration with Veterinary Services and other stakeholders, clarify and confirm the status of domestic animals entering the park and remove.
- b) In collaboration with affected stakeholders, develop and enforce a livestock management strategy aimed at reducing human-wildlife conflict, preventing the spread of disease, and maintaining habitats for conservation and livestock grazing in year two.



2.6 Fencing

Specific objective

To secure adequate open space, through the removal of fencing to establish game corridors, for animal wildlife. Some areas may need to be fenced, temporarily or permanently, if additional game is considered for re-introduction. The short, medium and long-term viability in relation to the status of game populations must be assessed in detail before any fencing is constructed.

Strategies and principles

- Generally fences to be kept to a minimum and designed to achieve their specific task.
- Fencing may be required to protect park assets (incl. animals and plants) and control access, in these situations the cost-benefit of the fence and its implications must be considered. If fencing is required, appropriate fencing must be erected.
- Where the park borders on small stock farming areas, initiatives to upgrade these in conjunction with neighbours must be explored to avoid Human Wildlife Conflict.

Activities

- a) Patrol and maintain fences as appropriate.
- b) In co-ordination with Veterinary Services, contribute to disease control and other livestock/ wildlife interactions. Staff should map and maintain a register of all fences within and around the Park. Registers should include the type of fence, reason for establishment, condition and any impacts.

2.7 Human wildlife conflict management

The AHGP borders various commercial livestock farms (mainly sheep), especially in the north and east. Predators such as Black-backed jackal, Caracal, Chacma Baboon and Leopard residing (or perceived as) in the Park and preying on neighbouring domestic stock could potentially lead to conflict situations. Local communities living around the Park are stakeholders and in order to ensure their support and cooperation with Park management and development, it is important that HWC issues are addressed from the onset as a priority and, when relevant, involve local people in the mitigation/ prevention of HWC.

Specific objective

To reduce Human Wildlife Conflict among immediate park neighbours, provide incentives for people to live with wildlife, promote co-management of HWC between the local communities, MET park staff and other stakeholders and promote a better understanding of the behaviour of species that cause problems in order to guide management activities.

Strategies and principles

- Establish, in consultation with the communities and park staff, a HWC Management Plan for AHGP which includes/ addresses:
 - Developing, testing and mainstreaming methods to reduce and/ or minimise/ mitigate the impacts of HWC to neighbouring farmers and communities. This could include the improvement of kraals and pens, reinforcing the protection of water infrastructure, ensure reliable available water for animal wildlife in line with the National Policy on Human Wildlife Conflict Management.
 - Collaborative research and monitoring to generate pertinent information and data to improve the understanding of the behaviour of problem causing species, the nature of the problems and the effectiveness of the actions taken to address these problems;
- Ensure that the Park fence is maintained and repaired in a timely manner to prevent the escape of animals from the Park, especially fences bordering commercial farmers. Regular patrols must be carried out to inspect the condition of the fence and to repair damages immediately (see sections on Park Fencing and Disease Control);

- Generate awareness and educate Park staff and local communities about the dangers and risks posed by animal wildlife;
- Informing visitors and hikers about potential dangers and how to avoid conflicts;
- Secure (i.e. locking mechanism) all waste bins at tourist accommodation sites (/Ai-/Ais & Hobas) to prevent conflict between humans and baboons;
- Individual problem-causing animals should be removed (lethal removal or translocation) based on national legislation and according to the National Policy on HWC Management (MET, 2009), in the most cost-effective and humane way possible;
- Training park staff in HWC; i.e. how to respond to, what to do and how to secure people and their assets if the animal(s) is (are) still present;
- Establish an inventory of common HWC animals in the park and damages associated with them and establish regular monitoring of such animals to have pertinent data in the event that HWC is reported.

Activities

- a) Develop and refine HWC management plans and procedures in collaboration with local communities and farmers, and ensure these are widely communicated to community members and relevant staff within MET.

2.8 Diseases and parasites

The AHGP borders various commercial farms especially to the north and east. In the event of any disease outbreak, it is important for AHGP to be prepared to proactively respond by effectively and efficiently preventing the spreading of diseases. The best preventative measures include i) ensuring that park fences are in good condition and in compliance with height, construction and alignment specifications provided by the Nature Conservation Ordinance 4 of 1975 and Directorate Veterinary Services and, ii) avoid contact between cloven hoofed livestock (cattle, goats and sheep) and wildlife.

Specific objective

To safeguard the animal wildlife of the AHGP against disease outbreaks in the general area and prevent the spreading of any diseases into the park.

Strategies and principles

- Ensure that park fences are maintained at all times to serve as a 'quarantine facility' against the spreading of diseases;
- Avoid contact between livestock and wildlife at all times;
- Develop a working relationship with neighbouring landowners and DVS for effective and efficient response to animal disease issues in and around the park.

Activities

Work with other government agencies, communities and farmers to find environmentally acceptable solutions to the control of human, livestock and wildlife diseases and ensure that appropriate technologies and methods are applied.

2.9 Alien species

Specific objective

To eradicate all invasive alien plants and animals, and that non-invasive alien species are confined to, or based at, the Tourism and Infrastructure Development Areas and are clearly justifiable with there being no viable indigenous alternative.

Strategies and principles

- Eradicate feral populations of alien plants and animals in the AHGP, with priority placed on the most invasive species (e.g. Prosopis, Opuntia, “wonderboom”, syringa, etc) and species likely to pollute genetic integrity of wild populations (e.g. domestic cat);
- Special attention must be paid to removing all domestic stock (including feral equines) from the Park and enforcing this in the future; develop guidelines for park staff on domestic pets;
- Assess all alien species to be brought into the AHGP for possible impact prior to import. The default position should be “no aliens”;
- All alien species should be removed from the Park subject to the following considerations, (except for those species for which a separate provision has been made):
 - It must be practical and cost effective to do so and within budget constraints.
 - Priority must be focussed on those species that pose the greatest threat.
 - For flora, the most practical method must be used and where possible biological (subject to appropriate screening and legislation) or mechanical control (if disturbance is minimal) is preferable to chemical control.
 - Pets and other domestic species must be regulated by specific procedures.

Activities

- a) Clearly identify and map key habitats, special sites and invasive alien species, and develop management guidelines in year two.
- b) Manage and where practical eradicate invasive alien species throughout the Park.
- c) Continually assess and address threats posed by all alien species.



2.10 Law enforcement and crime prevention

The illegal use of natural resources generally is done in unsustainable ways and undermines the ability of the environment to support growing human populations and plant and animal life. Poaching of plants and animals, cutting down of trees and species and at times unsustainable land uses are a few examples. Reduction in plant life (including trees) impact on the diversity of animal species and heavy impact of this nature can at times wipe out small pockets of animal species, be it mammals, birds, insects or invertebrates. In addition to these illegal activities, people also enter the park to intimidate, harm and rob tourists and drive inappropriately at high speeds and in non-permitted areas.

To ensure that the Park can develop to offer a product of high quality to tourists, it is important to undertake law enforcement at the appropriate scale to clamp down on the illegal use of resources and inappropriate use of the park in general.

Specific objective

To control and limit, through a zero tolerance approach, the illegal use of wildlife, succulent plants and other natural resources within and adjacent to the AHGP and to, far as practically possible, ensure the safety and security of tourists.

Strategies and principles

- Anti-poaching law-enforcement patrols will be planned and conducted by MET AHGP officials as part of park management at regular but unpredictable intervals, in a highly visible manner.
- Close working relations will be established with neighbours to the AHGP, the ARTP/CA Security Working Group (SWG) and Namdeb Security.
- Rangers and other relevant management staff will continually be trained to preserve and collect evidence so that arrests result in convictions.

Activities

- a) Develop (with relevant partners) a practical plan for implementing law enforcement in the context of this management plan and relevant legislation in year one. This plan will include but not be limited to sections on patrolling, roadblocks, informer network, and communication with a particular focus on identified poaching problem areas.
- b) Develop (with relevant partners) an effective tourism management and access control system with particular attention to holiday seasons in year three.
- c) Develop good relations with all tourism operators and, with their help, develop a systematic reporting process whereby they can report any illegal or illicit activities that they observe during their normal activities.
- d) Disseminate information on law enforcement approaches and reward schemes.
- e) Carry out regular patrols to ensure a high level of presence and visibility.

2.11 Environmental Impact Assessment and Management

All development activities impact on the receiving environment – i.e. biophysical (e.g. fauna, flora & archaeology), social and cultural – and consequently require assessment, management and monitoring to ensure the least impact and guarantee sustainability.

Specific objective

To prevent negative effects and enhance positive effects by conducting an Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) on development activities in the park.

Strategies and principles

- EIA's are to follow the policy guidelines as provided by the Environmental Management Act of 2007;
- The following is a list of activities that may not be undertaken without an Environmental Clearance Certificate:
 - Energy generation, transmission & storage
 - Waste management, treatment, handling & disposal
 - Mining & quarrying activities
 - Forestry activities
 - Land use & development
 - Tourism development activities
 - Agriculture & aquaculture activities
 - Water resource developments
 - Hazardous substance treatment, handling & storage
 - Infrastructure
 - Other: Military demonstration & testing sites and construction of cemeteries, camping, leisure & recreational sites
- Other activities that may impact on the Park, although do not require formal EIA's, would include all activities that affect the general habitat or species (e.g. artificial water installations, burning programmes, re-introduction of mega-herbivores, etc.) and should be assessed – i.e. apply precautionary principle;
- EIA's should always include the evaluation of potential impacts and ways to prevent, avoid or mitigate these impacts;
- EMP's and monitoring plans should be implemented;
- Development should be aligned to the Park management and zonation plans;
- Adaptive management strategies should be adhered to at all times.

Activities

- a) Ensure that zonation plans and guidelines are followed in the planning and implementation of all activities and developments.

2.12 Consumptive resource utilisation

Wildlife resources within AHGP may be utilised sustainably for economic and social gain, and trophy hunting, specifically, can be allowed in the park.

Specific objective

To allow for sustainable use of natural resources as a wildlife management strategy and to supply venison on an ad hoc basis for functions and communities identified as part of the National Policy on Game Utilization in Protected Areas and Other State Land and the Nature Conservation Ordinance, 1975 (4 of 1975) as amended.

Strategies and principles

- Clearly define, as far as possible, the consumptive and non-consumptive wildlife use benefits as generated from the AHGP;
- Consumptive use will be based on annual trophy hunting and own use quotas, problem animals and permits issued for plant uses;
- Harvesting yields will be determined prior to utilisation, based on regular monitoring and according to adaptive management principles;
- Trophy hunting will be permitted dependent on annual quota's set and according to the Park Zonation plan;
- Harvesting for festivals and other important functions will be in accordance with the National Policy on Game Utilization in Protected Areas and Other State Land;
- AHGP will be used as a source of wildlife for introduction to other areas – i.e. live capture;
- The sharing of consumable and non-consumable wildlife goods must be in compliance with the existing national and international legal frameworks and conventions especially pertaining to species listed by CITES.

Activities

- a) Before any hunting or harvesting is undertaken, assess the resource to ensure that ecological objectives are not violated.
- b) Implement Park zonation for hunting activities to prevent impacts on other users.
- c) Establish procedures and protocols for how, where and when the harvesting will be conducted and managed in year two.

2.13 Research

Specific objective

To gather as much information and data about the Park and its resources for adaptive management and to base decisions and actions on pertinent available information and data.

Strategies and principles

- A coordinated approach to research will be created between the Park and other research agents;
- Two levels of research are recognised:
 - research in support of priority AHGP priority information and management needs, and
 - interest research on aspects of the Nama and Succulent Karoo ecosystems (both biophysical and socio-economic) identified by outside researchers.
- A prioritised and open-ended list of key research topics will be developed for the AHGP and disseminated to appropriate research institutions in consultation with MET directorate responsible for research;
- An appropriate support mechanism will be developed for visiting scientists, with emphasis on those addressing priority research topics relevant to the AHGP;

- Where relevant, links will be established between research activities carried out in other institutions in Namibia and within the broader Karoo ecosystems in South Africa, and comparative studies between different southern African desert ecosystems will be encouraged;
- Copies of all research output – i.e. publications and reports – as conducted in the park should be made available as hard and electronic copies and be filed accordingly.

Activities

- a) 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 in year two.
- b) Develop an open-ended list of priority research topics based on information needs for the management of the Park in year one.
- c) Ensure research outputs and findings are made available to park staff and integrated with monitoring data to inform park management decisions on all levels.

2.14 Monitoring

Regular monitoring of wildlife and plant resources will be conducted to determine change in populations and distributions. The information produced from the monitoring systems will feed into adaptive management decision-making. Variables such as rainfall, harvesting (if any), invasive alien species, introductions, water distribution, poaching activity, rare species sighted and other key information for management will also be recorded to keep track of those factors that may impact on animal and plant resources. Modern methods such as the Incident Book Monitoring System (IBMS) will be used to collect data on the variables to be monitored. The IBMS will allow for comparison between parks, obviously accounting for biogeographically, climate and environmental differences.

Specific objective

To monitor a limited number of carefully selected indicators to allow for timely and judicious adaptive management.

Strategies and principles

- Monitoring will focus on key indicator processes and species, with an emphasis on ensuring regular data collection at appropriate intervals, cost efficiency and sustainability.
- Monitoring data will have both spatial and temporal components.
- Monitoring systems will be adapted and expanded from existing systems being used in the Park and elsewhere in Namibia with a view to achieve efficiency in development and ultimately regional and national integration of data.
- Plant resource monitoring will focus on regular estimates of rangeland condition, including veld biomass to serve as an early warning of forage restrictions, but long-term vegetation trends will also be monitored.
- Annual game counts will be undertaken in a systematic, efficient and repeatable manner.
- Monitoring systems will be balanced to ensure that the entire range of critical information needs is covered.

Activities

- a) Develop an appropriate monitoring framework to include the monitoring requirements of the Park, and incorporate ongoing monitoring initiatives and where appropriate, adapt other national systems such as the IBMS with appropriate training for staff and other implementing partners in year two.
- b) Make time-series data and analysed information available for adaptive management and for distribution to interested stakeholders, decision-makers and the general public in year two.

CHAPTER 3

Regional conservation, park neighbour and resident relations

3.1 Transfrontier conservation

The AHGP forms part of the /Ai-/Ais Richtersveld Transfrontier Park (ARTP), a jointly managed cross-border conservation area straddling the Gariiep River (officially known as the Orange River) and embracing the /Ai-/Ais Hot Springs Game Park (AHGP) in Namibia and the Richtersveld National Park (RNP) in South Africa (Figure 1). The ARTP measures 6,045 km² and spans some of the most spectacular arid and arid mountain scenery in southern Africa. It also features the world's second largest canyon – the Fish River Canyon, the 350 million year old Orange River Gorge and the Richtersveld, a mountainous desert rich in diversity and one of the last regions where the Nama people's traditional lifestyle based on nomadic pastoralism have been preserved (SAN Parks, 2006).

Provision was made within the Treaty for the later development of an expanded Transfrontier Conservation Area (TFCA) around this initial conservation nucleus. The Treaty mandated the Joint Management Board (JMB) of the ARTP to give consideration to expand the ARTP into a TFCA. The Joint Management Board (JMB) of the ARTP in fulfilment of its mandate then commissioned the preparation of an Integrated Conservation and Development Plan (ICDP) for both the Namibian and South African components of the possible TFCA along the lower parts of the Orange River (LOR TFCA).

Namibia's /Ai-/Ais Hot Springs Game Park forms a natural link across the international border to South Africa's Richtersveld National Park and this has led to the designation of the /Ai-/Ais Richtersveld Transfrontier Park (ARTP) between Namibia and South Africa in August 2003. In 2008 the JMB initiated the investigation of the possible expansion of the ARTP into the Namibian and South African Lower Orange River TFCA.

The primary objectives of creating this TFCA are to:

- Help create a network of protected areas throughout Southern Africa in order to conserve the region's unique and remarkable biological diversity and, in some instances, the cultural heritage as well.
- Open up new socio-economic development opportunities for local communities in tourism by marketing and developing the TFCA as a regional destination that offers visitors a variety of nature and culture-based attractions as well as accessible cross border linkages and tourism routes.
- Promote a culture of peace and cooperation between countries and local communities through co-management of shared environmental and tourism resources.
- Allow coordinated management of animals whose ranges extend across international boundaries.

The establishment of the LOR TFCA is facilitated by South Africa's Department of Environmental Affairs and Tourism (DEAT) and Namibia's Ministry of Environment and Tourism (MET). Across border collaboration is underpinned by the 1997 twinning agreement between Namibia's Karas Region and South Africa's Northern Cape Province. The Twinning agreement identifies tourism and environmental conservation as a key sector within which the partners will pursue socio-economic cooperation (ICDP 2009).

Several different but overlapping conservation planning exercises are currently in progress in this expanded area, including: a Lower Orange River Management Plan (RMP); the Namibian Coast Conservation and Management Project (NACOMA); proclamation of the Sperrgebiet as a National Park; and an Integrated Conservation and Development Plan (ICDP) for the South African side. Once adopted, ownership of the Namibian ICDP will vest with the Ministry of Environment and Tourism (MET). The JMB of the Transfrontier Park Initiative will be responsible for the monitoring and implementation of the plan in terms of the extended Lower Orange River TFCA.

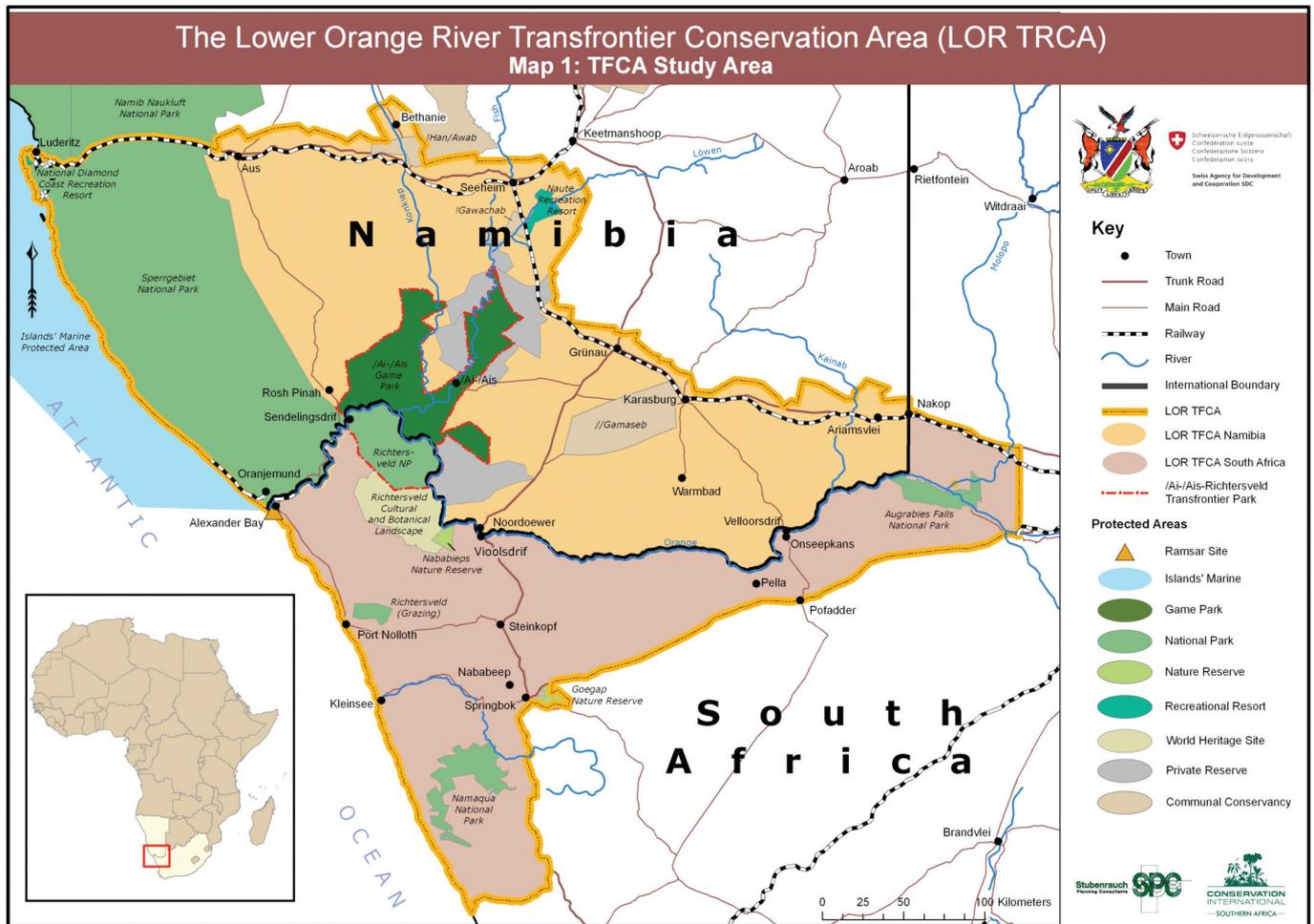


Figure 1: The Lower Orange River Transfrontier Conservation Area (LOR TFCA).

Specific objective

To contribute to, and be managed within the context of a regionally integrated conservation area that encompasses Namibia and South Africa.

Strategies and principles

- Management of AHGP should harmonise with management approaches used for conservation areas in neighbouring South Africa;
- TFCA institutions will be used for purposes of collaboration and dialogue with conservation managers in South Africa;
- Collaboration will take place at the highest level possible through the TFCA structures to ensure that the objectives of this plan are aligned with the plans and objectives of neighbouring conservation areas in South Africa;
- Encourage and support knowledge and information exchange programmes between conservation managers in Namibia and South Africa;
- The integrity of the Namibian natural resources will not be compromised by activities or requirements of neighbouring South Africa.

Activities

- a) Collaborate at the appropriate level with and through ARTP structures and other inter-governmental cross-border structures to ensure that the objectives of this plan are aligned with the plans and objectives of other conservation areas in Namibia and in neighbouring countries.
- b) Encourage and support knowledge and information exchange programmes between conservation managers in Namibia and neighbouring countries.
- c) Develop and conduct joint management activities with neighbouring countries.

3.2 Regional land use planning and landscape level management

The AHGP includes part of the Succulent Karoo biome the world's only arid biodiversity hotspot. Although this is an important consideration, the shape of the park with the high ratio of edge to area and the fact that the area is so arid, means that effectively conserving ecological processes is still limited.

The area shares a very small border with the Tsau /Khaeb (Sperrgebiet) National Park, which is another vast area. The planned collaboration and linking of these areas through the purchase of corridor farms between the two would significantly enhance the wildlife populations in southern Namibia. Encouraging environmentally friendly (low impact) tourism as a livelihood activity to landowners would significantly enhance the biological and socio-economic value of the Park and extend the total area conserved of the Succulent Karoo.

Some of the landowners also occupy important areas, which although their land use is generally aligned with the broad principles of conservation, the long term benefits could be enhanced if more formal mechanisms could be investigated and implemented to secure these benefits. In addition, some private land is known to contain important floral species and the long term protection of these is very important, as this would also bring the benefits described above.

Specific objective

To increase the area of land in southern Namibia available to animal wildlife and indigenous biodiversity.

Strategies and principles

- The process of expansion of the physical area through collaboration arrangements with neighbours/ land owners must be initiated and directed by MET. This should specifically focus on:
 - Areas of high biological value on adjacent land. MET must identify these areas and facilitate collaboration with land owners to ensure the long term conservation of these assets;
 - Game movement through "historic animal corridors". MET must identify these corridors and work with land owners to increase the surface area under management. This will promote wider economic benefit with no loss of ecological and economic value to the Park.

Activities

- a) Ensure that the key elements of this management plan are accommodated in all regional planning.
- b) Ensure that regional authorities are fully aware of the economic impacts of the Park, and of the negative impacts that inappropriate planning will have on conservation and its ability to contribute to the regional economy.
- c) Pro-actively embark on planning at the local and regional level to mitigate conflicts and maximise synergies between land uses.

3.3 Park neighbours and resident communities

The National Policy on Protected Areas, Neighbours and Resident Communities makes provision for improved conservation of Namibia's protected areas; achieve greater equity in the distribution of benefits from protected areas; and stimulate local and regional economies through creating business opportunities linked to protected areas.

Furthermore, the Policy on Tourism and Wildlife Concessions on State Land enables the Ministry to act in a standardised and transparent manner when dealing with concessions and concessionaires. The Policy focuses on concessions on any State land and in proclaimed protected areas concerning the use of, and beneficiation from natural resources under the jurisdiction of the Minister. Concessions addressed in the Policy include tourism, hunting, concessions for the harvesting of indigenous plants or any other concession for the commercial use of State-owned fauna and flora.

The key objective of this Policy is to provide a transparent and objective framework for awarding and managing concessions and to obtain support from other line ministries/ offices/ departments, etc.

The Policy provides general objectives for concessions which should be consulted when park neighbour collaboration is explored.

Having said the above, the AHGP forms part of the first transfrontier conservation area (TFCA) in Namibia. Thus, any potential park-neighbour collaboration should consider input from the /Ai-/Ais-Richtersveld TFCA Joint Management Board (JMB) or another body properly constituted and agreed to by the Republic of Namibia. The Policy framework introduced above, serves adequate to deal with park-neighbour collaboration and the JMB can thus not overrule any decisions taken on the bases of the National Policy on Protected Areas, Neighbours and Resident People and the Policy on Tourism and Wildlife Concessions on State Land.

To achieve the Vision for the Park, and the potential benefits which could arise from it, collaboration at all levels, including communities, government, NGOs and the private sector is necessary. However, any collaboration with the private sector must be aimed at achieving specific outcomes which include:

- to add value to the product, including biodiversity;
- to reduce the risk to government of some activities and investments;
- to bring investment and skills development;
- to increase jobs and other economic benefits to reduce poverty;
- to increase empowerment in this sector; and
- to deliver in a timely and satisfactory manner on the above.

The AHGP is situated in a region characterised by mining and farming activities at Aussenkher. The mining activities in particular are currently projected to only last for about one and a half to two decades (15 to 20 years). The infrastructure and human capital, which has been developed in the area, especially at Rosh Pinah, is significant. It is critical therefore that the assets and skills developed are used to contribute to the long-term economic development of the area. In this respect it is important that the economic activities of the park, as they develop are coordinated with these towns to ensure that the diversification of benefits which conservation and tourism will bring, are maximised. Also, that the existing asset base is used as effectively and efficiently as possible.

The Karas Region also needs to be more closely integrated into the benefit stream from the park. Tourism initiatives which have developed and which can still develop, as a result of the park, must maximise this linkage. To achieve the above goals it is critical that park management use the above mentioned policies and, where necessary establish appropriate mechanisms to deal with these issues. Park management must strengthen and formalise communication and collaboration with local and regional councils. This may also assist with ensuring inappropriate land uses and business are not pursued or developed in and around the park and the region as a whole. Opportunities should be more focussed on benefiting the disadvantaged/ marginalised individuals or groups in society.

Specific objective

To establish working relations with all park neighbours to strive together for improved conservation, game management and derivation of socio-economic benefits from the sustainable use of natural resources in southern Namibia.

Strategies and principles

- The issues relating to the transfrontier conservation area may impact on park management activities from this plan. Park management will need to synergise Park and TFCA objectives and, integrate activities in their Annual Work Plans to attend to TFCA issues from time to time. This will require collaboration and coordination with the JMB, the Treaty and any other appropriate international agreements.
- Collaboration must be needs driven and initiated by MET and must not detract from their core function and responsibility;
- All collaboration must only be with parties who share, understand and are willing to contribute to the achievement of the Vision, Goals and Policies of this Plan, and must be regulated by a formal contractual agreement which defines the roles, responsibilities, terms and other conditions of operation; the agreement and its outcome must be cost effective to MET, who must have the capacity and ability to draft the agreement and manage it for its duration.
- Regional and local authorities are recognised as key role-players and collaboration with them must be actively pursued and effective working mechanisms formed.
- MET must deal with interest groups via formal and agreed mechanisms.
- MET to actively facilitate compatible economic development opportunities with regional authorities in collaboration with other ministries and agencies, and assist in removing obstacles to economic development, subject to the following:
 - The business and land uses are compatible with the Visions, Goals and Principles of this Plan.
 - Many opportunities are likely to arise from tourism developments within the Park, and these must be communicated by Park staff to the appropriate local public institutions through guidance by the Parks and Neighbours and Concessions Policies.

Activities

- a) Identify areas that are critically important for biodiversity, engage with the relevant communities and explore opportunities for leveraging benefits to communities for the protection of these areas.
- b) Establish and maintain joint management forums with communities and farmers living adjacent to the Park.



3.4 Private partnerships

Specific objective

To ensure that collaboration and the formation of partnerships with relevant stakeholders is conducted in an approved forum.

Strategies and principles

The MET and the Park management should promote, initiate and accept collaborations and partnerships by following the strategies below:

- MET has the responsibility to strengthen ties with relevant stakeholders in an approved forum.
- MET and NWR should form partnerships with tertiary education institutions, particularly but not exclusively, in Namibia such as PON and UNAM, with regard to research and training.
- MET should encourage visiting researchers to conduct research at the Park on a wide variety of topics.
- Agreements should be consistent with the management plan of the Park.
- All collaborative projects must be recorded; reports must be made available to the MET.

3.5 Environmental Education

The role of environmental awareness and education cannot be overstated in fostering an understanding of the value of conservation of this unique ecosystem. Long-term benefits can be gained by investing in awareness generation and education, which focuses on the Succulent Karoo, arid land ecosystems and associated culture and history. There is a strong synergy between environmental education and the tourism product. Research must therefore focus on unlocking this knowledge for use by both groups.

Strategies and principles

Environmental awareness and education will be achieved through the establishment of formal partnership agreements with interested parties, these will focus on:

- The interpretation of the Succulent and Nama Karoo, the Fish River Canyon, arid environment ecosystems, functioning, threats and value;
- Ensuring those most disadvantaged have the opportunity to experience the arid areas and its unique creatures and landscapes and participate in environmental awareness generation and education programmes;
- Schools and community leaders will especially be targeted for these programmes;
- MET will, where funding allows, make facilities available for environmental education.

Activities

- a) Develop and implement a strategy for promoting environmental education in the Park in year two.

CHAPTER 4

Zonation

The Park has developed a land use zonation based on the IUCN zonation categories, with developments mostly concentrated around areas with existing infrastructure, good access and water, while there are still inaccessible 'wilderness' areas. The zonation will still continue on this basis with there being little need to 'open' new areas for development. The existing infrastructure provides a good and logical platform for further development of tourism and other uses of the area. Those areas which have been impacted need special monitoring and in some places rehabilitation and restoration. New proposed developments will be able to use the existing infrastructure to add value without significantly broadening the human impact on the area. This approach should also be seen as a potential cost-saving mechanism.

Zonation of existing and future potential tourism and other uses were logically planned and spatially arranged. This will allow for improved conservation of the area and its resources while enhancing the economic value of the assets. The current zonation also separates and tries to accommodate conflicting land uses. A particular case in point is the allocation of Exclusive Prospecting Licenses (EPLs) along the Orange River where suitable sites occur for low to medium impact tourism. The size of the area does permit a wide and varied type of uses but the environmental and economic viability of each proposed land use need to be carefully assessed. Accessibility and availability of water should be considered as key determining factors in assessing the feasibility of land uses. The more isolated and challenging central and north-western areas will logically have significantly less infrastructure. Any tourism use in these areas will be limited to low impact and must make use of existing infrastructure. There will therefore be a declining level of development away from the existing access areas with infrastructure and water to the more isolated and less resourced areas of the park. However, the final use of an area will still be defined by the ability of the natural resources to absorb any impacts or threats imposed by any use or development of the area, the ability to mitigate these impacts and the net economic benefit from the use or development.

Strategies and principles

The different zones within the Park are based on the following hierarchy of decisions and guiding principles:

- The zones have been identified and mapped, based upon and similar to IUCN categories.
- Any zoning of potential land use in the Park will be driven primarily by the potential/ ability of the natural environment (including the geology, plants and animals, Species, landscapes and cultural, archaeological and historical assets), to absorb impacts.
- The net economic benefit which any development would realise, should outweigh the cost when accounting for ALL the costs and benefits.
- The existing extent of impacts in an area (here the cumulative effect of individual development-specific impacts in the area and region must be considered).
- The type of product being offered. Through careful assessment some products are more suited to some conditions than others.
- The ability of MET to manage and control such use.
- All developments should ideally be peripheral, especially service infrastructure.
- Suitable access to the site or area is available and access to water.
- The tourist's or users' likely demand for the products.
- The following zones will be recognised in the park. However, the approval and development of land will be dependent on the outcome of thorough EIA and associated EMP which must assess all the issues addressed in this Plan and consider all potential alternatives.

Zones	Activities	Specific application in /Ai /Ais
South-east	2 Highly sensitive and high value conservation / biodiversity areas 3 Set aside for sensitive and low non-intrusive scientific study 4 No or minimal mechanized access 5 No permanent structures	6 The area south-east of the park between /Ai-/Ais recreation area and the National Park zone along the Orange River including the Konkiep-Fish River Confluence
Fish river & Canyon; Huns Mountains; Boom River	7 Sensitive ecosystems 8 High value "sense of place" 9 Low impact usage 10 No or minimal mechanized access 11 No permanent structures	12 The Fish River Canyon (FRC) and immediate outlying area 13 Huns Mountains 14 A buffer zone of up to 500m from the banks of the Fish River outward should be established for increased protection. Low impact tourism could be allowed in this zone such as the 85km hike through the Canyon. 15 Boom River and surrounding environment, geology and landscapes
Hobas; Gamkab; Apollo Caves; Orange River	16 Managed for conservation and controlled tourism 17 Mechanised access permitted	18 Hobas camping facility and surrounding 19 Gamkab Development Area 20 Area North-West of the park around the Apollo 11 caves rock art site 21 strip of land in the Park running along the Orange River approximately 3 km wide, from the high water mark northward
Apollo Caves	22 Conservation of specific outstanding features, including landscapes, geological and archaeological components, fossil deposits, areas of spiritual significance and areas of heritage value	23 Apollo 11 caves and the rock art around the area
Hot Springs; Sendelingsdrift	24 Relatively open access for public enjoyment 25 Generally higher intensity and lower regulatory areas 26 Add to welfare of local communities	<ul style="list-style-type: none"> • /Ai/Ais Hot Springs Recreation Area • Sendelingsdrift
East of Gamkab	<ul style="list-style-type: none"> • Managed mainly for the sustainable use of natural resources, e.g. fishing, mining • 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"> • The portion of land east of Gamkab which is distinctively isolated from the rest of the park.

- Within the above categories access may be limited for various reasons. It may be to limit and control the use of some of the above zones to a defined number of visitors or users at any particular point in time and/ or a defined type of land use with limited or negligible impact. These may be limited for environmental, financial or other reasons. MET will determine these numbers from time to time and set limits accordingly. The control of these land uses will follow the regulations of the Parks and Wildlife Management Bill and park specific regulations developed by MET.
- Controlled access to specified parts of the zoned areas of the Park may be granted to individuals, groups or concessionaires. Such access would be reserved for such individuals, groups or concessionaires and their guests, and additional fees above the normal entrance fee would be levied on concessionaires for access to these reserved areas. Examples of this include the Fish River walking trails and sites with the low to medium and no development Zones. This process will be guided by the Policy on Tourism and Wildlife Concessions on state land.
- Some areas will be general public access areas where numbers will be limited according to the carrying capacity of the site. Open to all users, subject to conditions which may include maximum numbers. The sites at /Ai-/Ais, Hobas and future developments at Sendelingsdrift (Figure 2).

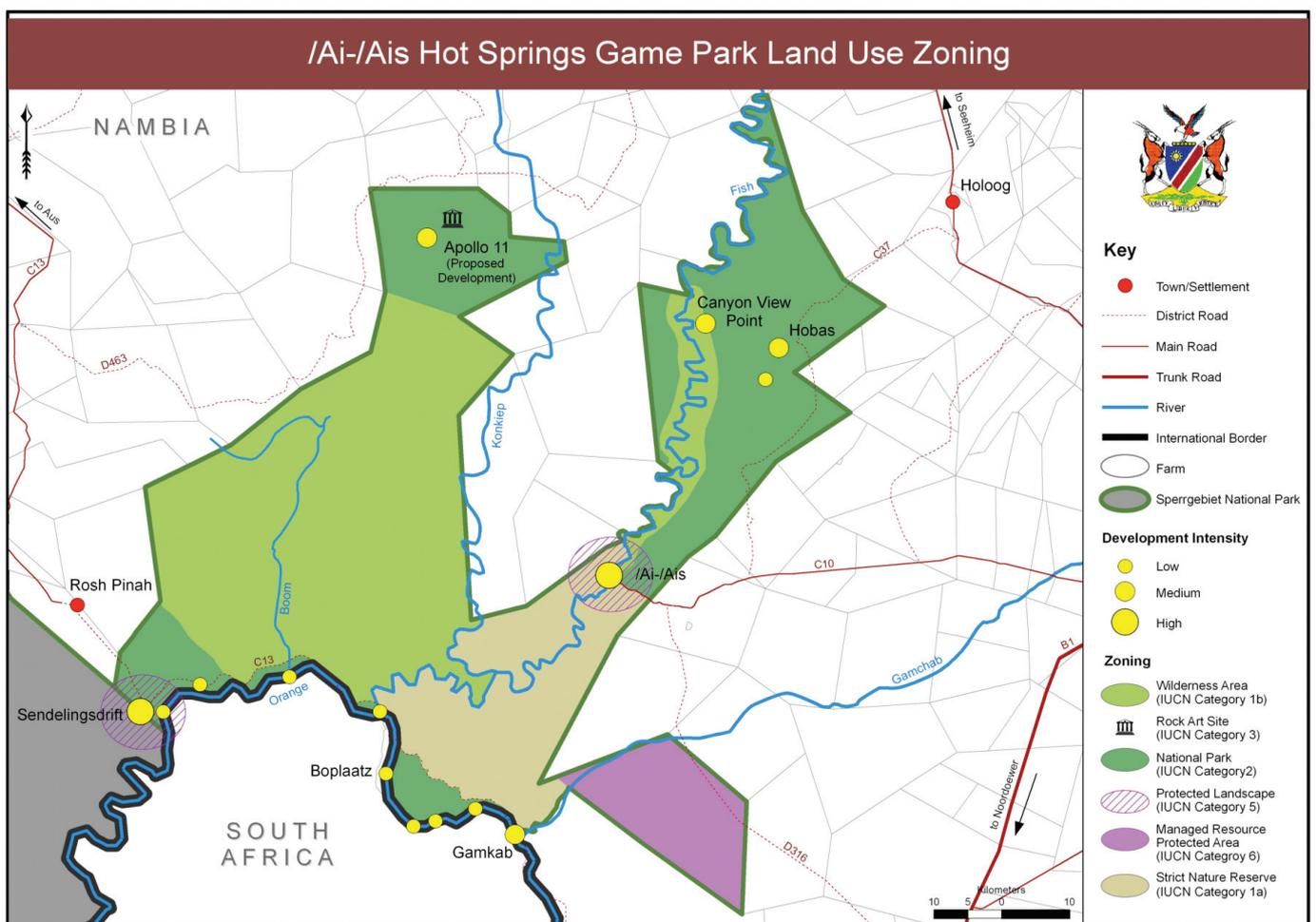


Figure 2: /Ai-/Ais Hot Springs Game Park Zonation map

Activities

- Implement the zoning system prescribed in this document during park level operational planning each year.
- Continually assess zones and sites allocated for economic purposes to ensure that socio-economic goals are optimised. This should be done in collaboration with interested and affected parties.
- Continually update and refine the habitat zones as new information is obtained.

CHAPTER 5

Prospecting and mining

There are several existing prospecting and mining licences active within the Park. Whilst it is recognised that mining is unsustainable, the economic value to the national economy cannot be discounted, therefore the following principles will be applied to mitigate impacts on the environment. In addition, MET intends to strengthen its resource base to implement laws and policies to ensure that mining companies comply with the legal framework. All exclusive prospecting licences (EPLs) from Sendelingsdrift to Gamkab River have been reallocated. Active mining is currently taking place in EPL blocks 3 and 6.

Specific objective

To ensure that current mining activities are controlled and that rehabilitation and restoration will take place. In addition, to attempt to not permit any future mining in very sensitive areas as is currently the case along the bank of the Orange River but rather to move such land use to the appropriate zone.

Strategies and principles

- The costs of any reclamation, restoration and/ or decommissioning must be included in any feasibility (cost benefit) studies and in any agreement, concession, mining licence or exclusive prospecting license (EPL).
- The environment along the Orange River has been severely impacted by mining and illegal agriculture, especially grazing. This is a priority area and the agricultural impacts must be stopped.
- Bio-prospecting, if it is to occur and other use must take place within a formal agreement. This may require an EIA and EMP to determine the impact and rehabilitation needs.
- Mining areas should be rehabilitated and/ or landscapes restored when resources are available. Priority areas should be identified with MET and an approach put in place for rehabilitation/ restoration.
- Most of the Park is excluded from future prospecting and mining with the following areas identified as priority for exclusion:
 - The Orange River bank around Sendelingsdrift area.
 - The area around the scenic Fish River Mouth.
 - /Ai-/Ais and Hobas areas.
 - Areas close to the Konkiep, Boom and Naub Rivers.
 - Areas close to the Canyon, including the northern areas.
 - Grotpenf Island east of the Fish River.
 - Gamkab Valley and River Mouth.

Activities

- a) Compile an inventory of all prospecting and mineral licenses in the Park, noting type of license, its boundaries, conditions of approval, ownership, status, timeline and contact person in year two.
- b) Develop and implement a monitoring schedule.

CHAPTER 6

Tourism development and management

The tourism carrying capacity of an area and the viability of different tourism products need to be determined as an important guideline for proposed tourism developments, both in terms of location, scale and type. To determine the tourist carrying capacity of an area, there are two broad considerations, namely the environmental and social factors. The first relates to the physical environment, and in the context of AHGP it is often limited by water availability, effect on species, visual impact and in some areas access. These physical considerations can often be limiting factors and provide guidance to the size and type of development or use anticipated.

There are however some areas where these physical issues are not limiting factors, but rather the 'social factor' is. In other words, the number of tourists who use an area and how they interact with each other will impose a limit. Over-crowding can severely impact on the enjoyment that tourists derive from a visit to an area, but tourism carrying capacity is more difficult to define as it may involve varying the number and tolerance of tourists in the different market segments. Often, visitor crowding can be regulated by prices, i.e. those areas which are popular but where the environment may not be able to support high numbers of visitors, prices can be raised and this may limit numbers, or numbers can be limited by quotas. Generally tourists pay more for an experience when the total number of users is limited. As these numbers increase, their willingness to pay often decreases. Although the Park is large there are a few sites that most people want to visit. A balance must therefore be found which does not detract from the sense of place and value derived, allows reasonable control over access, generates income and adds economic and social value, especially to the local area.

The rugged terrain of the park makes control slightly easier as there are only a few access points by road. This factor coupled with the need to stimulate socio-economic development, and limiting resources (access, and in some parts water), means that the products that may be developed will be determined mostly by these two factors. In areas where access is good and water is relatively abundant a wide range of products can be offered. These products will cover all segments of the market from higher density, more affordable to low density more expensive products. This may be allocated via specific concessions, which will be awarded over limited time periods in specified areas. Visitors to some of the more remote sensitive areas may have to make use of qualified guides who will have to be trained in responsible use of the different landscapes, and the ecological issues in each area. And of great importance, guides will need to be skilled in interpreting the desert landscape, its wildlife, plants, history and culture to their guests.

Specific objective

To develop long-term environmentally sustainable and economically viable tourism operations in an equitable manner that can benefit the people of southern Namibia.

Strategies and principles

- Outdoor nature-based use of the landscape through personal and guided interpretation, is the primary tourism product.
- To limit and manage environmental impacts and access; tourism products will be focussed on areas where water is available and access is possible. Areas requiring large and high impact infrastructure, such as roads will not be promoted in the inaccessible regions of the park.
- Tourism will be limited by MET in areas to a defined number of users, this may be via concession agreements (or direct regulation) with one or more parties who will then be responsible for the maintenance of the support infrastructure in these areas, for controlling access, maintaining environmental integrity and for training and managing guides.
- Guided tours by qualified guides will be the preferred use of most landscapes, where personal experience based on interpreting the arid environment is critical.
- Low environmental impact developments are essential which must blend in with the landscapes and natural environment.

- Interpretive material will be used in the 'self-walk' areas especially, to highlight responsible use of the area and how to explore the environment.
- MET will determine the products and the capacity within different areas as defined in the Zonation.
- The different products will be priced, allocated and regulated broadly using the following criteria;
 - Differential pricing may be applied between seasons and user groups.
 - The more exclusive the use the higher the fee levied by MET for the use of an area or product.
 - The higher the demand for the product the higher the user fee.
 - Areas will be zoned to accommodate different users, subject to suitable activities.
 - The costs to mitigate tourism impacts or undertake, control and maintain tourism products and support associated infrastructure and management must at least be offset by the income earned from tourism by MET (user pays).
- Should any party other than MET operate, manage or develop any of the tourism rights or opportunities within the Park, it will be done through a defined procedure and regulated through a formal agreement and in accordance with MET's Concession Policy.
- The safety of all users of the area is extremely important and MET must indemnify itself against any potential actions from users of the area.

Activities

- a) Periodically review the recommended tourism developments and activities for the Park, taking into account the purpose of the Park, the needs of different target markets, and the intended experience offered to tourists.
- b) Clearly state and monitor the objectives of each tourism product or concession to ensure they are achieved, and to implement corrective action where objectives are not being met.



CHAPTER 7

Infrastructure

7.1 Access and roads

Specific objective

To ensure that the park has a practical, ecologically and aesthetically appropriate road network through the AHGP, for management, law-enforcement, tourism and any other purposes.

Strategies

Entry points to be kept to a minimum and must be signposted and efforts must be made to place control points at all entry points to improve control and to improve tourists opportunities to acquire permits;

- There are several public roads that pass through the Park. Most of these thoroughfares have been proclaimed and should be kept as such to avoid maintenance costs. There is a need however to keep these to a minimum and not to be fenced. De-proclamation of some roads will be investigated and pursued where necessary.
- MET to ensure all entrance gates comply with the following:
 - Opening and closing times as stipulated by the park regulations;
 - A register of all people and vehicles entering and leaving the park is maintained;
 - An operating protocol is agreed and enforced;
 - Speed limits set for the area and signposted;
 - All permits or entry fees are collected and paid in as per treasury regulations.
- Any road building material, which is collected in the Park, must have MET approval and this approval must include a plan (EMP) with funds to reclaim the area after each extraction.
- Park roads will be kept to a minimum and subject to the following:
 - Will be designed to be cost effective;
 - Low maintenance roads for high clearance or 4x4 vehicles and for low speed will be the preferred design but demand, cost and benefit will help inform this;
 - Minimum disturbance of soil and use of local material will be preferred in road construction, ensuring minimal environmental and visual impact.
- Ensure appropriate interpretive materials such as signboards and maps are available to Park users.

7.2 Buildings

Specific objective

To ensure that infrastructure is kept to a minimum, properly built and maintained, and contribute to the overall vision of the AHGP. In addition to the existing buildings for staff and tourists any new buildings should adhere to the principles below.

Strategies and principles

- New buildings and architectural upgrades should be designed and constructed to blend in with the environment and cause little disturbance to the natural landscapes.
- Cost-effective sustainable construction techniques should be applied in order to minimise the carbon footprint.
- Where possible, buildings should be located as close to existing service infrastructure and major access routes as the product will allow.
- Any new buildings or improvements must take into account the long-term management costs and responsibilities.

- Conservation staff must be concentrated near areas where management and control demands are highest. Ideally they should be located near services, and where practical in towns or villages where support infrastructure and services are available for staff and operations.
- All staff residing within the Park must be accommodated in facilities that meet acceptable standards, especially as regards their safety when residing in the area and commuting to work.
- Green building designs – e.g. solar heating, natural ventilation, etc. – should be encouraged.
- The waste disposal of tourism facilities and staff quarters must comply with the Environmental Management Act 2007.
- Structures containing fuel, gas and oil must comply with the Environmental Management Act 2007, and containment structures must be erected to minimise the effects of leakage and spillages.

7.3 Tourism infrastructure

Tourism infrastructure is currently limited to /Ai-/Ais and Hobas. Such infrastructure can assist the economic potential of a park, however should be planned, designed, located and developed adequately prior to construction so as not to impact negatively on the biophysical environment and overall “sense of place”. Ongoing maintenance is imperative for the proper functioning of such infrastructure and should be budgeted for and conducted by skilled contractors using material of good quality.

Specific objective

To ensure that infrastructure is limited, properly constructed, adequately maintained and contribute to the “sense of place” and vision of AHGP.

Strategies and principles

- An environmental clearance certificate would be required prior to the creation of new infrastructure in the Park.
- Infrastructure should be located close to existing services and major access routes.
- Infrastructure should blend into the overall landscape and not detract from the “sense of place”.
- Good quality material and workmanship is critical.
- Green building designs – e.g. solar heating, natural ventilation, etc. – should be encouraged.
- Development should follow the Park Zonation Plan.

7.4 Airstrips and aircraft

The Park is located approximately 700 km south of Windhoek. The Fish River Canyon and general mountainous terrain make aircraft access a less viable alternative. The closest airstrips are indicated in the table below.

Specific objective

To ensure that AHGP remain without a landing strip or should this be necessary in future, a suitable area outside the Park is given preference.

Location of airstrips near and inside the Park

Name	ICAO designator	Latitude	longitude	Elevation above sea level (feet)	Runway Orientation	Runway length (metres)
Rosh Pinah	FYRP	27:58:00	16:42:00	1200	15/33	2133
Ai-Ais	FYAA	27:59:35	17:35:55	1500	E/W	1500
Keetmanshoop	FYKT	26:32:26	18:06:49	3507	4/22	2316
Canon Lodge	FYKC	27:39:26	17:50:34	3125	03/21	1100
Grand View Lodge	XXXX	27:30:25	17:32:04	2500	25/07	1100
Hobas	FYHS	27:37:47	17:41:43	0	02/20	0
Vogelstrauskluft	FYVK	26:57:52	17:31:07	2854		
Noordoewer	FYND	28:42:00	17:37:00	1000	06/24	1400

Strategies and principles

- Should an airstrip be required in future, preference should be given to suitable areas outside the Park.
- Helicopters should use airstrips outside parks and helipads will only be permitted if there is no impact on other Park users.
- An environmental clearance certificate would be required prior to the creation of new airstrips in the vicinity of the Park.
- The 'no flying' below 1,000m restriction should still generally apply over the Park although there may be designated corridors for approved landings.
- All flying below 1,000m should be approved by the Director MET.
- No low level aerial safaris will be permitted.
- Noise pollution to other Park users must be avoided in any flying operations.

7.5 Waste management

All wastes, solid, liquid and toxic, are currently dumped into a landfill near the /Ai-/Ais resort created by park staff. Park staff collects their domestic waste which is dumped at the site. Other waste in the park is collected randomly and dumped, including liquid fuels and oils. This is an extremely unsustainable and environmentally detrimental practice.

No site suitability assessment was carried out which would have considered topography, underground water, solid and superficial geology, vegetation and types of waste to mention a few. To date it is thus not known what the direct and indirect environmental impacts are especially concerning underground water resources. The volume of leachate is a function of water that comes into contact with uncovered waste. Given liquid fuels and oils and other toxic wastes are dumped, this could have serious detrimental effect over time.

It is important for Park staff to address this matter as a priority as waste generation in the park will increase once a tourism operation is established.

Specific objective

To ensure that the park remains free of any waste and pollution by implementing cost effective and environmentally friendly waste management practices.

Strategies and principles

- Establish clear guidelines and procedures for waste collection, sorting and dumping.
- Provide signage at the park entrance, office, staff accommodation and future tourism facilities to promote zero tolerance for littering and pollution in the park.
- Enforce the “polluter pays principle” under the Environmental Management Act (EMA) of 2007.
- Assess the feasibility of i) creating an environmentally friendly and long-term sustainable landfill site or ii) developing a mechanism whereby wastes and pollutants are collected regularly, transported and dumped at designated sites in Keetmanshoop, Rosh Pinah or Grünau.
- Liaise with NWR regarding waste disposal issues.
- Initiate a recycling programme where recyclable materials can be sent to the recycling plant in Windhoek on a regular basis.
- Provide international standards and best practices for the treatment and handling of toxic wastes, emphasising the protection of humans, flora and fauna.
- In the absence of a landfill site, implement an interim waste management policy that ensures the provision of waste collection bins at the Park entrance, office, staff accommodation and future tourism facilities.
- Generate awareness and enhance the capacities of park staff to manage waste and pollutants.

Activities

- a) Park management must assess existing sites and if necessary initiate a monitoring programme to ensure they comply with national legislation, policy and standards.
- b) Disposal sites/temporary storage sites that are found to be inadequate, especially where water is being polluted, or at risk, must receive urgent attention to resolve any problems, if necessary closing the existing sites and relocating them.
- c) Park management must develop an appropriate waste management procedure and enforce compliance by all staff, tourism providers and other agencies.
- d) Park management must assess the existing sites and if necessary initiate a monitoring programme to ensure that they comply with national legislation, policy and standards.
- e) Those found to be inadequate, especially where water is at risk of or is being polluted, are to receive urgent attention and a strategy implemented to resolve any problems.



7.6 Human safety

Wildlife may pose a threat to tourists and staff within the Park. Management needs to monitor those instances and areas where this is likely to happen. The following guidelines should be implemented:

Strategies and principles

- Protective barriers should be erected where the threat is likely to be high (e.g. canyon viewpoints and picnic sites). Barriers should be monitored to assess their effectiveness.
- Notices and warning signs must be displayed in appropriate places.
- Access to the Park is conditional on a waiver of liability for visitors and families of staff.
- All Park users should be made aware of actions which will increase the likelihood of injury or death; animal feeding should be prohibited.
- Facilities should be designed and developed with a view to preventing or minimising the risk to life or property, but not impacting negatively on the level of visitor experience.

Activities

- a) All protective and precautionary measures, such as barriers, firebreaks, notices, and signs should be regularly maintained and assessed for their functionality and effectiveness.
- b) New threats or human safety incidents need to be monitored and acted upon immediately by park management and staff.

7.7 Fencing

Specific objective

Fences are necessary in areas where potential land use conflict exists (i.e. livestock farmers) while the removal of fences along boundaries with a more compatible land use (i.e. Gondwana Conon Lodge) could be investigated.

Strategies and principles

- Fences are imperative on boundaries adjacent livestock farmers so as to avoid conflict situations.
- The fences should conform to the Nature Conservation Ordinance 4 of 1975 as described by Regulation 147.

Activities

- a) All existing fences should be properly maintained.

CHAPTER 8

Administration and management

The Vision articulated in this Plan calls for a very different approach to managing this Park than previously. To build a world-class product implies that management and systems will have to be more adaptive to changing circumstances. Managers must be results and solution orientated and to do this requires some devolution of power to regional offices by MET head office. Ideally there must be a stronger link between income and expenditure and other/ additional sources of revenue must be available for operations and development. Management must proactively guide the process and pre-empt problems, therefore systems must be in place and operational so that this reaction can be quick, efficient and effective. The ability to understand the management system and know what approach should be adopted is critical. A strong and determined persistence to solve problems will be a definite requirement. The large geographic area and lack of general infrastructure also poses a huge challenge. Deploying people over this large area and supporting them is a logistical exercise, but the need for a presence 'on the ground' cannot be overstated.

Strategies and principles

- Activities must be identified to address the actions which are required to implement this Plan.
- These activities must be resourced with appropriate staff, equipment and funding and must be linked to outputs and outcomes relevant to achieving objectives.
- Mechanisms and options are explored to overcome challenges and solutions agreed to where this is required.
- A work plan and budget is adopted and progress (include disbursement) against it is monitored by senior staff (e.g. Park Warden or a delegated staff member).
- The work plan is reviewed and modified as circumstances change, applying the principle of adaptive management.
- The work plan with expected deliverables and dates are communicated to relevant people tasked to carry out these functions.
- Monitoring and research frameworks are developed and implemented to improve the management of the system and its expected outputs.
- Staff needs are considered when making management decisions, especially improving access to social services such as schools, hospitals etc; and services such as electricity and water.
- Ensure that an appropriate, effective and efficient management system is investigated and applied.
- Decision makers at all levels must support management in their endeavours to implement this Plan.
- All MET assets are accounted for and if necessary protected and maintained in working order and applied to contribute towards this Plans Vision and Objectives.
- Close control of maintenance is required to ensure assets do not deteriorate.
- Ensure all relevant MET policies are complied with, where there are obstacles, recommendations must be made and solutions sought to improve the system.
- Establish a system of monitoring and recording all aspects of the Park so that control can be exercised and management improved, especially of the following:
 - The socio-economic impact of the Park
 - That tourism products are developed and operated responsibly
 - Financial records are kept and budgets are adhered to
- Identify gaps in knowledge relating to management and where appropriate, through collaboration, find solutions to improve the understanding of the natural system.

- To develop a respectful and efficient working relationship with staff and other groups and ensure MET policies are complied with in this regard;
- Ensure all areas of the Park are adequately managed and controlled;
- To make recommendations and follow-up on any reviews or changes to this Plan, relevant legislation, development requirements, funding, research and other management related issues;
- Monitor any changes in legislation and advise on their impact on the Park and associated operations;
- Research needs are attended to and where possible/ necessary/ feasible, done in collaboration with scientists, students, research/ academic institutions and other appropriate partners.

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Appendix 1: Main landscapes/ features in the Park and possible accommodation types, use of the area, its limitations and access.

Landscape	Accommodation	Type	Guided or Self Limitations	Access and Use
Fish River	Temporary, except at /Ai-/Ais and Hobas development zones	Some areas may be self guided while others may be guided depending on the sensitivity.	Except at /Ai-/Ais, access is a problem. No new roads will be permitted to access facilities. Prone to flooding	Vehicles limited to existing roads & tracks. All other access should be on foot or horseback.
Canyon edge (eastern side)	Permanent but limited impact on the environment and ideally blending in with surroundings	Both guided and self guided	Water is a problem in the top areas and visibility of infrastructure, from the canyon bottom	Access is good on the eastern boundary especially close to Hobas.
Orange River	All types but with an emphasis on limited impact and ideally blending in with the surroundings.	Mostly self guided along the river	No electricity in most areas	Very accessible with a good access road. This allows for higher impact developments at designated sites.
Other rivers and Mountains	Only temporary, no fixed structures	Only guided with experienced guides trained for desert conditions	Access is extremely difficult. Prone to flooding, therefore no or limited permanent structures.	Access at agreed access points only for guided trips, either on marked tracks or walking.

