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A large circular photograph of an elephant in a natural setting. The elephant is the central focus, shown from the chest up, facing slightly to the right. It has thick, wrinkled brown skin and a large, textured trunk that is curled and reaching down to eat from a large pile of bright green, leafy vegetation. The background is filled with dense green trees and foliage, suggesting a forest or savanna environment. The entire photograph is framed by a white circular border with a slight drop shadow.

# AMBOSELI NATIONAL PARK

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## MANAGEMENT PLAN

### 2020 - 2030

KENYA WILDLIFE SERVICE

[www.kws.go.ke](http://www.kws.go.ke)

# Amboseli National Park Management Plan, 2020-2030

*Planning carried out by*

Amboseli National Park Stakeholders and  
KWS Biodiversity Planning & Environmental  
Assessment Department

*In accordance with the*

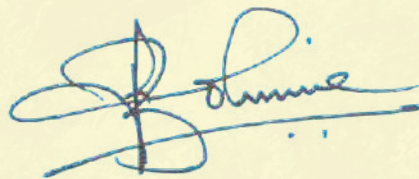
## **KWS** PROTECTED AREAS PLANNING FRAMEWORK



## Approval Page

The Board of Trustees and the management of the Kenya Wildlife Service have approved the implementation of this management plan for Amboseli National Park.

*On behalf of the* **KENYA WILDLIFE SERVICE**



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Brig. (Rtd) John Waweru  
Director General

# Acknowledgements

The Amboseli National Park Management Plan 2020-2030 was prepared through the same participatory planning process that developed the Amboseli Ecosystem Management Plan 2020-2030 (Annex 2). However, to address park-specific management issues, a Core Planning Team comprising Kenya Wildlife Service staff from Amboseli National Park and KWS headquarters developed this park management plan. The planning process was funded through the GEF-funded and UNDP-implemented project named **“Enhancing Conservation in the Productive Southern Kenya Rangelands through Landscape Approach”**.



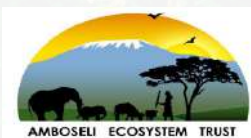
The Kenya Wildlife Service, through its Biodiversity Research and Planning Directorate, had the overall coordination role of the Amboseli National Park management planning process, and provided essential planning information.



The planning process was mainly funded through the GEF-funded and UNDP-implemented project named **“Enhancing Conservation in the Productive Southern Kenya Rangelands through Landscape Approach”**.



African Conservation Center (ACC) and its affiliate Amboseli Conservation Programme (ACP) synthesized long-term ecological information on Amboseli Ecosystem into a plan foundation report.



The Amboseli Ecosystem Trust coordinated the development of the Amboseli Ecosystem Management Plan in which the Amboseli National Park Management Plan 2020-2030 is anchored.



The International Fund for Animal Welfare provided essential planning information.



Amboseli Trust for Elephants (ATE) provided information on elephant movement in the Amboseli Ecosystem.



**BIG LIFE**  
FOUNDATION

Big Life Foundation provided information to support the planning process.



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Lion Guardians, NEMA, The School for Field Studies (SFS), Amboseli Tsavo Group Ranches Association (ATGRA), The Kenya Water Towers Agency (KWTA), The County Government of Kajiado, The Water Resources Authority (WRA) and Elewana among others, participated in the AEMP planning process which also addressed park planning issues.



# Executive Summary

This 10-year (2020-2030) management plan for the Amboseli National Park (ANP) has been developed through a collaborative effort involving a wide array of stakeholders, including the Kenya Wildlife Service (KWS), Amboseli Ecosystem Trust (AET), Amboseli/Tsavo Group Ranches Association (ATGRA), African Conservation Centre (ACC), Amboseli Trust for Elephants (ATE) and the County Government of Kajiado, among others.

To comprehensively address park management issues, the planning process adopted a participatory approach in which all the key stakeholders were involved through workshops and individual consultations. Several expert working group meetings were held to expound on management issues pertaining to the park's ecology and its ecosystem, tourism development and management, community partnership, wildlife security, and park operations.

The ANP plan structure is set out according to the KWS Protected Areas Planning Framework (PAPF) specifications, and aims to ensure the plan can be easily understood by stakeholders and implemented by ANP management. At the heart of the plan are the **zonation scheme** and the plan's five **management programmes**. These programmes are:

- ▶ **Ecological Management Programme**
- ▶ **Tourism Development and Management Programme**
- ▶ **Community Partnership and Conservation Education Programme**
- ▶ **Security Management Programme**
- ▶ **Park Operations Management Programme**

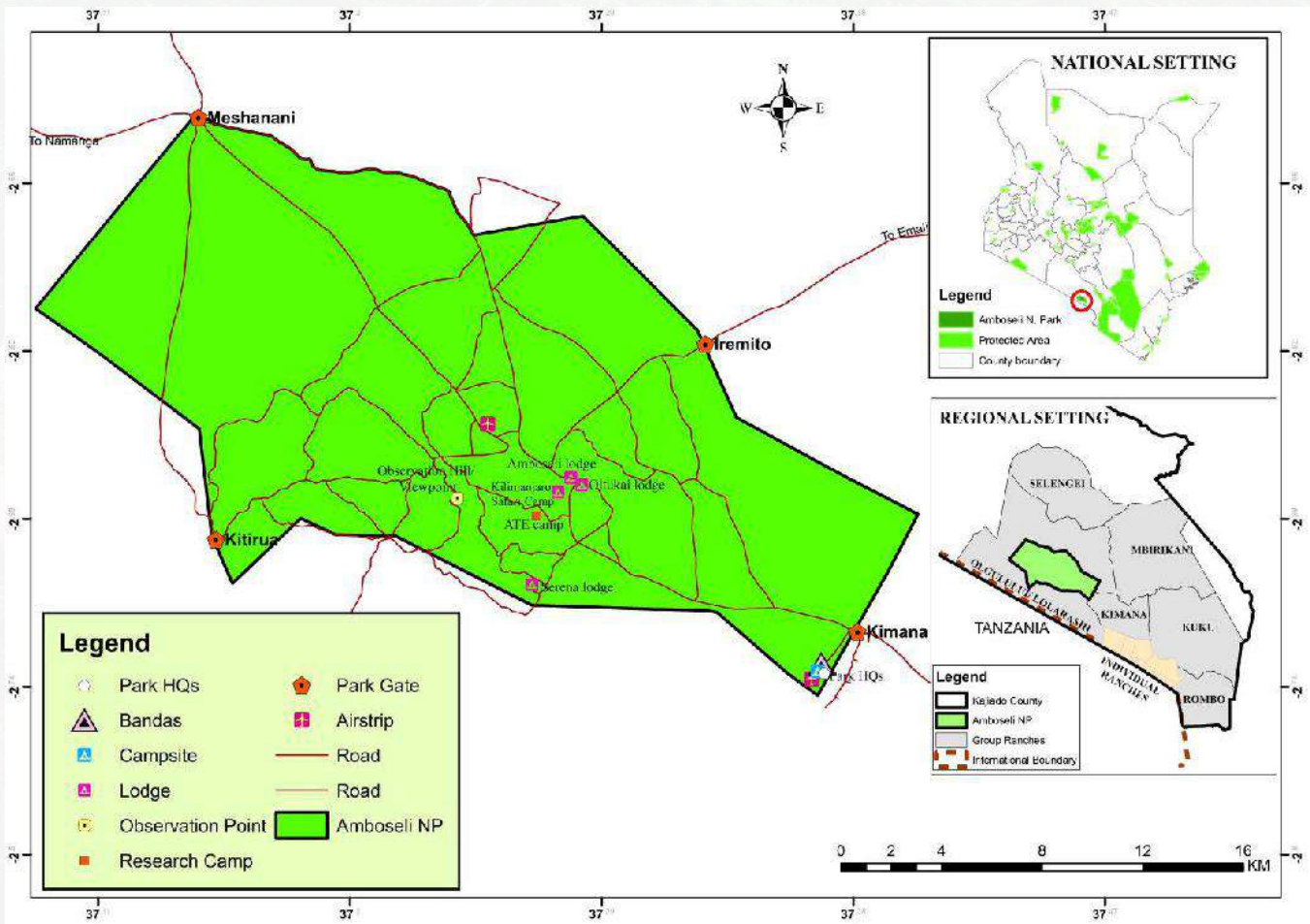
## History of gazettement and location

ANP today is a remnant of the 27,700km<sup>2</sup> Southern Game Reserve established in 1906. This reserve was reduced to 3260km<sup>2</sup> in 1948 and was named Amboseli National Reserve and placed under the administration of the National Park Trustees. In 1961 the same area became a County Council Game Reserve administered by the Kajiado County Council.

In 1971, due to the realization of Amboseli's unique values and the need for more intensive management, a Presidential Decree was issued declaring that an area of 390Km<sup>2</sup> be set aside exclusively for wildlife and tourism. In 1972, the new wildlife sanctuary boundaries were demarcated, and the area was gazetted as Government Land. In October 1973, the Amboseli National Park was finally established and again was under the control of the National Parks Trustees. In 1976, with the merger of the parastatal National Parks body and the Game Department, Amboseli's administration became the responsibility of the Wildlife Conservation and Management Department, the predecessor of KWS. The Ol Tukai enclave, however, is still the property of the County Government of Kajiado.

Ecologically, ANP is located in the Amboseli ecosystem, defined as the area encompassing the dry and wet season wildlife dispersal areas of Amboseli National Park. The ecosystem is thus characterised by the migratory limits of the major wildlife species.

The ecosystem comprises Amboseli National Park and the surrounding six group ranches, including Kimana/Tikondo (now subdivided), Olgulului/Ololarashi, Selengei, Mbirikani, Kuku, and Rombo, which cover an area of about 506,329 hectares in Loitokitok Sub County.



**Amboseli National Park: National and Regional Setting**

## ANP Vision Statement

The vision of Amboseli National Park is as follows:

***Amboseli National Park features a diversity of ecological processes, with rich and varied biodiversity interactions. The animal dispersal areas have been secured resulting in free and safe wildlife movement, thereby supporting robust nature and cultural tourism that offers memorable experiences to visitors. The park demonstrates how local communities can be integrated into the management and conservation of biodiversity, making the park and its ecosystem worthy of its designation as a UNESCO Man and Biosphere Reserve.***

## ANP's Purpose Statement

The ANP's purpose statement summarises the importance of the ANP, clarifies the main reasons for its existence, and provides the overall goals that managers are striving to achieve.

The purpose of the Amboseli National Park is:

**To conserve ANP's expansive swamps and associated scenic assemblage of large herds of ungulates, avian diversity, and threatened species such as elephants and large carnivores, their habitats, and ecological processes that support them, and promote sustainable development of the ANP for the benefit of the present and future generations**

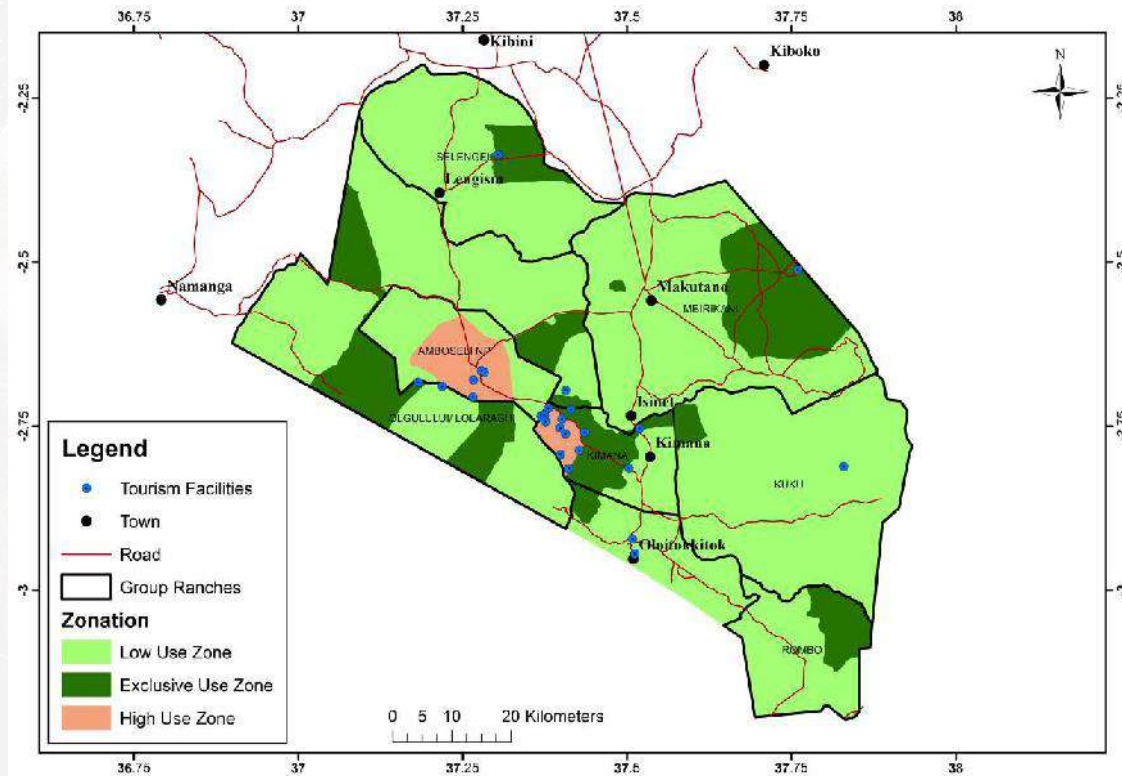
## ANP'S Exception Resource Values

The ERVs for ANP describe the key natural resources and other features that offer outstanding benefits to local, national and international stakeholders. ERVs are important for maintaining the park's uniqueness and integrity.

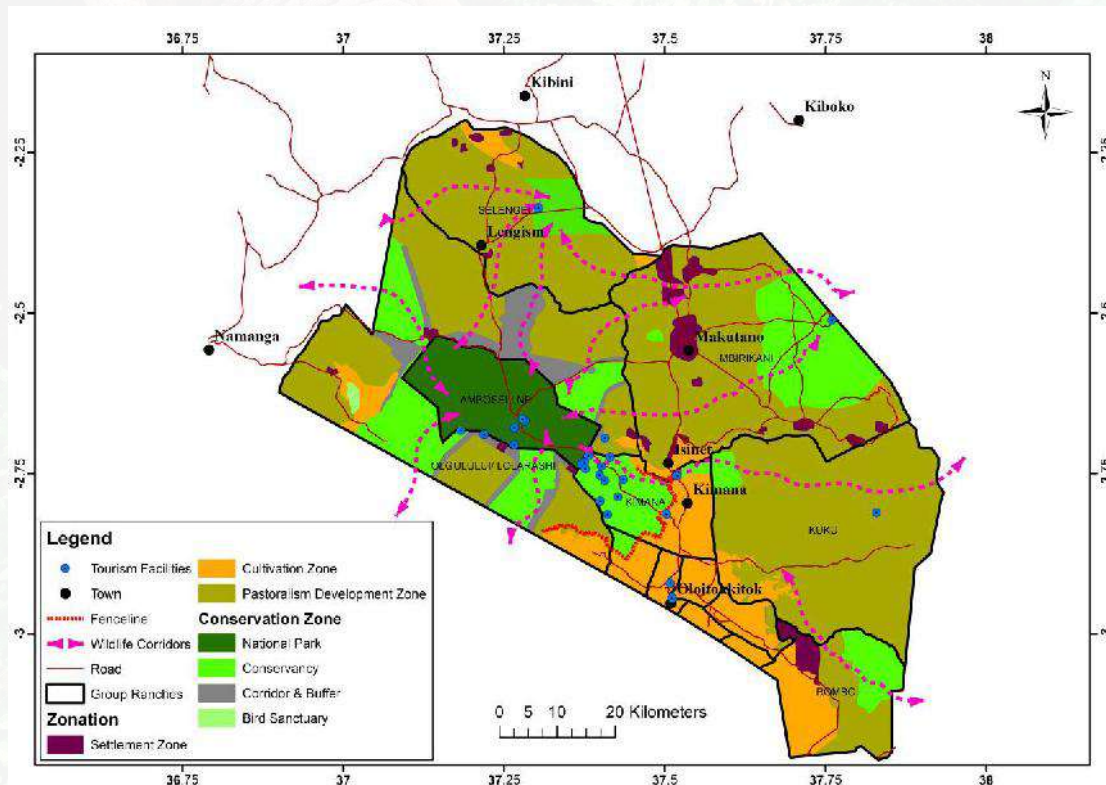
- Amboseli ecosystem has an **elephant population of about 1800** according to latest data. These elephants are closely associated with habitat changes in the Amboseli National Park. They have been the subject of the longest **running elephant study in the world** and as a result of the long and close interaction with researchers, they are approachable, thereby giving visitors excellent opportunities for watching them at close range.
- The Park has **5 mammal and 17 bird species** classified by IUCN as threatened (Critically endangered, endangered or vulnerable).
- The main **large carnivore species** in the park are: lion, cheetah, and hyena, all of which can be seen easily in the park.
- Amboseli National Park is one of the **62 Important Bird Areas (IBAs)** in Kenya and thus it is recognized as globally significant for bird conservation. The ecosystem has a rich birdlife, with over 500 species recorded.
- The park has two **expansive swamps**, Enkongo Narok and Longinye, which are the lifeline of the park's wildlife.
- **Best views of Kilimanjaro** can be enjoyed from the Amboseli National Park; the mountain is among the key tourist attractions in the area. Amboseli National Park has therefore been branded as the "*Courtyard of Kilimanjaro*".
- The Park is an important contributor to Government revenue from park entry fees. It is **one of the highest visited protected areas**, second to Maasai Mara, hosting over 150,000 visitors annually.
- The park has three **long term research programmes**: the Amboseli Baboon Project that was started in 1963; the Amboseli Conservation Programme (ACP) which was started in 1967 and focuses on providing long-term data on the structure, dynamics and changes of the Amboseli ecosystem and technical support for its conservation; and the Amboseli Elephant Research Project (AERP), which was started in 1972 and hence makes the Amboseli elephants the most studied free-ranging population in the world.
- Amboseli ecosystem is a member of the **global network of biosphere reserves**, which are internationally-recognized ecosystems within the framework of UNESCO's programme on Man and the Biosphere (MAB). They are nominated by governments to promote solutions to reconcile conservation and sustainable use.
- Amboseli National Park's ecosystem has strong **Community wildlife conservation initiatives** that have played a key role in maintaining wildlife access to dispersal areas, promoting human-wildlife co-existence, and wildlife protection. These include Amboseli Ecosystem Trust, Amboseli/Tsavo Group Ranches Association (ATGRA), and Amboseli/Tsavo Community Wildlife Rangers Association (ATCWRA).

## Zoning Scheme

Zoning is a tool used to assist management in applying specific management policies and objectives to specific areas of the Park. Amboseli's zoning is based on the character and distribution of the Park's resources and the level of use to which they are put. The zoning plan is also aligned with the Amboseli Ecosystem visitor use and land use zoning schemes.



*Amboseli ecosystem visitor use zoning*



*Amboseli ecosystem land use zoning*

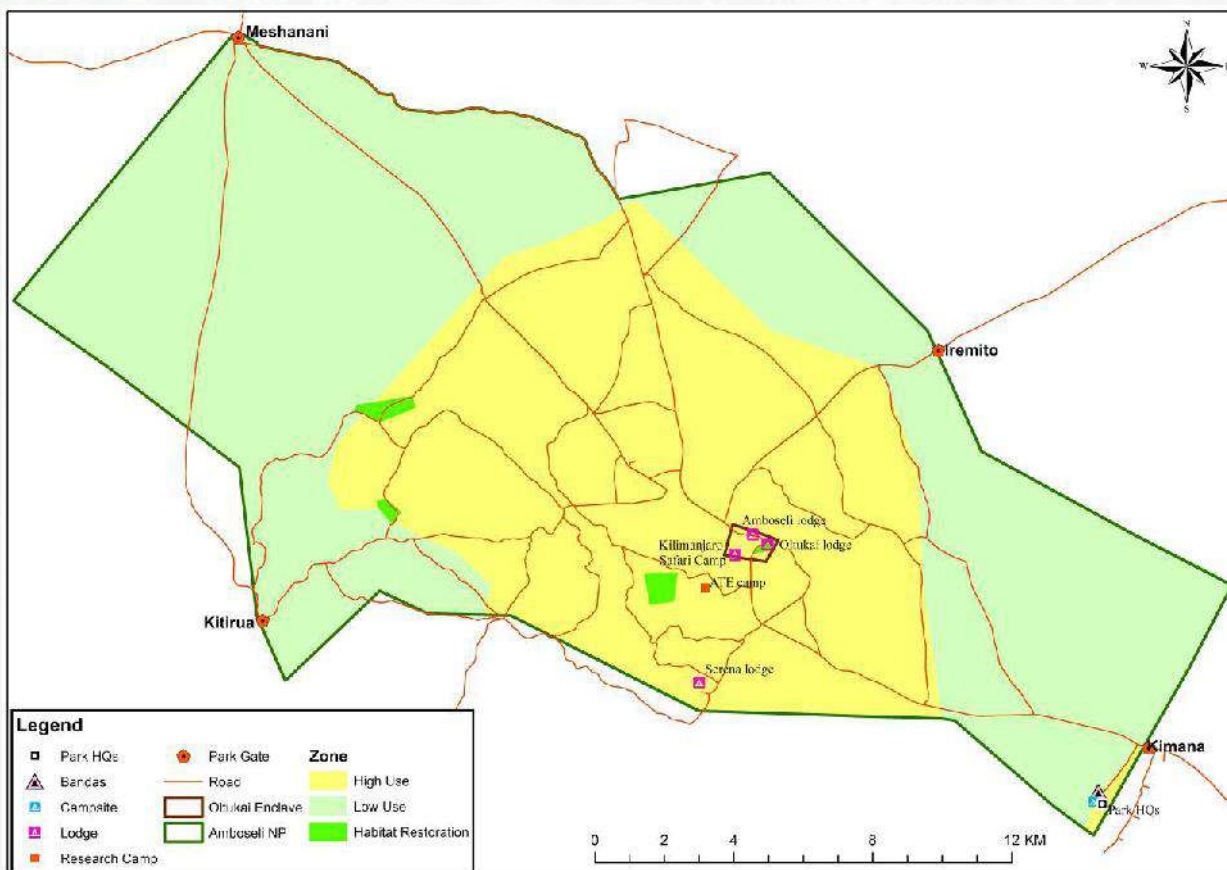
The three identified zones for Amboseli National Park are **High Use Zone, Low Use Zone and Habitat Restoration Zone.**

## High Use Zone

**Description:** This zone contains the prime wildlife habitat in the park making it the prime viewing zone. It comprises the two expansive swamps, Longinye and Enkongo Narok, the lifeline of Amboseli's wildlife. Ol Tukai Orok swamp, which is dominated by doulm palms, is also located in this zone. The zone also includes the Ol Tukai enclave at the centre of the park, which unlike the rest of the Park, is managed by the County Government of Kajiado. The park headquarters and associated tourism facilities are located in this zone, along with the tourist lodges. In addition the Observation Hill, which is the highest point in the park, is also in this zone.

## Low Use Zone

**Description:** The low use zone lies in the western (Kitirua area and the seasonal Lake Amboseli), the northern, and eastern parts of the park. It covers portions of the park that are not currently utilized to any appreciable extent by tourists due to distance factors and their lower viewing potential. This zone is characterised by a very low density of viewing roads and is devoid of tourist accommodation facilities. It however gives the discerning naturalist an opportunity to enjoy the panoramic landscape from vantage viewing points such as Kitirua and Imerishari hills. Walking trails and picnic sites will be developed at Kitirua Hill and Imerisahri Hill.



### Park Zoning

## Habitat Restoration Zone

**Description:** This zone comprises the habitat enclosures that have or will be established in the park.

## Major Issues of Concern

The top twelve issues that this plan seeks to address are:

## Park-specific Issues

Issue 1: Small park size

Issue 2: Elephant and woodland dynamics

Issue 3: Flooding in the park

Issue 4: Development and management of tourist facilities at Ol Tukai enclave

Issue 5: Tourism infrastructure development and maintenance

## Ecosystem-Wide Issues

Issue 6: Habitat loss and degradation

Issue 7: Grazing and browsing pressure, and loss of grassland

Issue 8: Human-Wildlife Conflicts

Issue 9: Poaching

Issue 10. Recurring droughts

Issue 11. Potential for agricultural expansion

Issue 12: The social, economic and demographic changes

## Ecological Management Programme

The purpose of the ecological management programme is to *ensure that the ecological components and processes that shape Amboseli National Park are understood, restored and sustainably conserved*, and threats to the park's key ecological features are minimised. The programme aims to achieve this purpose through implementation of a set of objectives that focus on: maintaining critical wildlife habitats within the park and its ecosystem; enhancing wildlife species conservation and management; and generating and disseminating scientific information to support park management.

The key priority actions that will be implemented to achieve the programme's objectives are:

1. Establish and maintain vegetation restoration enclosures,
2. Establish a sustainable long term tree growing programme,
3. Control and manage invasive plant species,
4. Mitigate impacts of flooding in the park,
5. Support establishment of a buffer zone around the park,
6. Undertake wildlife disease surveillance and veterinary clinical interventions,
7. Work with others to enhance the conservation of special status species,
8. Coordinate and guide large carnivore conservation measures,
9. Support establishment a research sub-centre at Amboseli,
10. Establish a digital library of published and unpublished reports on Amboseli National Park and its Ecosystem, and
11. Study wildlife numbers and distribution.

## Tourism Development and Management Programme

The purpose of the Tourism Development and Management Programme is to *develop high quality and sustainable tourism that offers memorable visitor experiences and benefits the local community*. To achieve this purpose three management objectives have been designed focusing on: developing and managing tourism-support infrastructure in a sustainable way; diversifying tourism and enhancing visitor experience to boost visitor satisfaction; and enhancing visitor appreciation, understanding and enjoyment of the park's resources.

The priority actions that will be implemented under this programme are:

1. Work with the County Government of Kajiado in rehabilitation of the Ol Tukai Enclave,
2. Establish, upgrade and maintain ANP Bandas and campsites,
3. Establish tourism information centres,
4. Redevelop the Observation Hill visitor site,

5. Establish walking trails and picnic sites at vantage viewing points such as Imerishari and Kitirua hill,
6. Develop raised observation platforms,
7. Support establishment of well-designed community curio shops,
8. Provide night game drives and wildlife tracking at a premium,
9. Introduce ANP bus hire and customized vehicles for game drive,
10. Promote and facilitate development of cultural tourism showcasing authentic local Maasai culture,
11. Develop detailed interpretive themes based on identified concepts and sub-concepts
12. Develop and update park interpretation materials,
13. Provide ranger and community guiding services,
14. Develop and market tourism products targeting the domestic tourism market, and
15. Hold special events to promote tourism in the park.

## Community Partnership and Conservation Education Programme

The purpose of the Community partnership and Conservation Education Management Programme is *to enhance community participation in wildlife conservation for socio-economic empowerment*. This will be achieved through implementation of management objectives that focus on: enhancing community benefits from existence of the park and its wildlife; enhancing human-wildlife co-existence in wildlife dispersal areas; and enhancing awareness about the park and its ecosystem at the local and national level.

The priority actions that will be implemented under this programme are:

1. Support establishment of functional community wildlife conservancies in the group ranches to create opportunities for wildlife enterprises,
2. Support implementation of group ranch land use plans
3. Support community livelihood projects,
4. Support the Amboseli/Tsavo Community Wildlife Scouts to increase wildlife-related benefits within the community,
5. Construct, rehabilitate and maintain wildlife barriers,
6. Support the Amboseli Human-Wildlife Co-existence Committee (HWCC),
7. Mitigate livestock predation by lions,
8. Establish problem animal control (PAC) outposts,
9. Develop conservation education and outreach materials,
10. Create awareness among the public on the importance of the AE through the mass media, internet, and organizing and participating in conservation awareness events,
11. Establish sponsored park tours for the local community,
12. Support training of cultural centre managers, and
13. Involve the public in park management.

## Security Management Programme

The purpose of the Security Management Programme is *to enhance security of wildlife, their habitats, visitors and KWS assets in close collaboration with stakeholders*. To achieve this purpose, three objectives have been designed focusing on: enhancing security operations for the protection of Amboseli Ecosystem's (AE) wildlife resources; improving effectiveness of resource protection; and enhancing security of visitors, staff, and KWS assets.

The priority actions that will be implemented are:

1. Establish an AE command centre,
2. Strengthen the capacity of AE security team,
3. Intensify patrols in the AE,

4. Enhance bush meat control and de-snaring operations,
5. Liaise with Tanzania's wildlife authorities on cross-border natural resource protection,
6. Expand the wildlife intelligence network,
7. Liaise with ecosystem stakeholders to enhance security operations,
8. Improve visitor security in liaison with other stakeholders in AE, and
9. Provide adequate security for KWS assets.

## Park Operations Management Programme

The purpose of the Park Operations Management programme is *to ensure that ANP's wildlife conservation and management activities are efficiently and effectively executed in collaboration with other stakeholders.* This purpose will be achieved through management objectives relating to enhancing stakeholder collaborations, improving staff welfare and enhancing management infrastructure.

The priority actions that will be implemented are:

1. Work with legally recognised institutions to enhance wildlife conservation outside the park,
2. Improve the effectiveness of the Park Management Committee,
3. Enter into formal agreements with key stakeholders to strengthen collaboration and ensure coordination of the wildlife management sector,
4. Participate in Kajiado County administrative and other relevant stakeholder forums,
5. Liaise with honorary wardens to enhance wildlife conservation and management,
6. Promote employee wellness programmes,
7. Train staff in relevant skills,
8. Rehabilitate the Amboseli water supply system,
9. Construct and rehabilitate residential and non-residential buildings,
10. Upgrade and maintain the park and access roads in good motorable condition,
11. Improve park entry gates, and
12. Carry out regular maintenance of the airstrips.

## Conclusion

This plan seeks to ensure that the greatest threat to survival of viable wildlife populations in Amboseli ecosystem are addressed. The greatest threat to Amboseli's wildlife is habitat loss and degradation through the ongoing group ranch subdivision and increasing sedentarisation of the Maasai pastoralist community that live in the park's dispersal areas. All the group ranches in Amboseli are subdividing. Fortunately, the ranches have developed land use plans that, if implemented, will ensure that the subdivided ranches will still support a mix of pastoralism and wildlife conservation. For instance, Olgulului-Ololarashi Group Ranch that borders the park on the south, north and west has subdivided but it has set aside four conservancies and one corridor to facilitate wildlife dispersal to the rest of the ecosystem. However, if proactive measures are not taken to operationalize the conservancies for community livelihood improvement, the possibility of the park becoming an "ecological island" is real. This plan, therefore, calls for immediate actions to be taken to implement the Amboseli ecosystem land use zoning scheme and other measures that have been agreed upon by group ranches to safeguard wildlife dispersal areas.

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# Acronyms

ABR	Amboseli Biosphere Reserve
ACC	African Conservation Centre
ACP	Amboseli Conservation Programme
AE	Amboseli Ecosystem
AERP	Amboseli Elephant Research Project
AET	Amboseli Ecosystem Trust
ANP	Amboseli National Park
ASAL	Arid and Semi-Arid Lands
ASK	Agricultural Society of Kenya
ATCWRA	Amboseli/Tsavo Community Wildlife Rangers Association
ATE	Amboseli Trust for Elephants
ATGRA	Amboseli/Tsavo Group Ranches Association
BoT	KWS Board of Trustees
CAP	TNC's Conservation Action Planning methodology
CBI	Community Based Institutions
CITES	Convention on International Trade in Endangered Species
CPT	Core Planning Team
CWO	Community Wildlife Officer
CWS	Community Wildlife Service
DRSRS	Department of Resource Survey and Remote Sensing
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Coordination Act
EMP	Environmental Management Plans
ERV	Exceptional Resource Value
ETB	Emulsion Treated Base
GEF	Global Environment Facility
GIS	Geographical Information Systems
GPS	Global Positioning System
GR	Group Ranch
HWC	Human-Wildlife Conflict
HWCC	Human-Wildlife Co-existence Committee
IBA	Important Bird Area
IFAW	International Fund for Animal Welfare
IUCN	International Union for Conservation of Nature
KEA	Key Ecological Attribute (of conservation target)
KWS	Kenya Wildlife Service
MAB	Man and the Biosphere
MVCA	Minimum Viable Conservation Area
NEMA	National Environment Management Authority
NGO	Non Governmental Organisation
NMK	National Museums of Kenya
PA	Protected Area
PAC	Problem Animal Control
PAPF	KWS Protected Areas Planning Framework
PES	Payment of Ecosystem Services
PLWD	People Living With Disability
SFS	School for Field Studies
SPW	Stakeholder Planning Workshop
SRS	Senior Research Scientist
SW	Senior Warden
TNC	The Nature Conservancy
UNDP	United Nations Development Programme
WPU	Wildlife Protection Unit
WRA	Water Resources Authority



# Plan Foundations

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# THE PLAN

This 10-year (2020-2030) management plan for the Amboseli National Park (ANP) has been developed through a collaborative effort involving various stakeholders, including Kenya Wildlife Service (KWS), Amboseli Ecosystem Trust (AET), Amboseli/Tsavo Group Ranches Association (ATGRA), African Conservation Center (ACC), Amboseli Trust for Elephants (ATE) and the County Government of Kajiado, among others (see Annex 2).

In order to address park management issues comprehensively, the planning process adopted a participatory approach in which all the key stakeholders were involved through workshops and individual consultations (Figure 1). Several expert working group were held to expound on management issues pertaining to the ecology of the park and its ecosystem, tourism development and management, infrastructure development and maintenance, community participation, and PA operations.

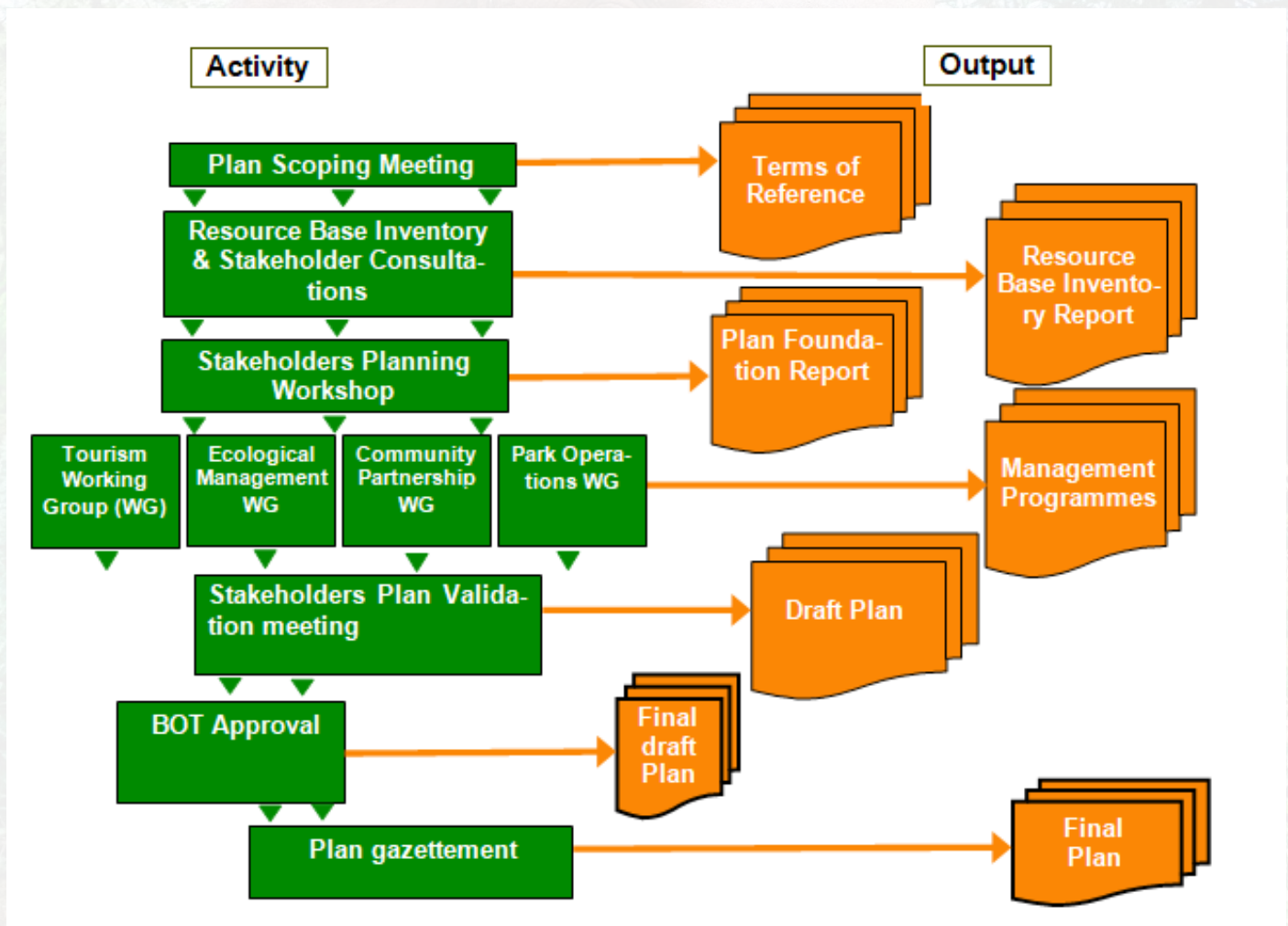


Figure 1. Amboseli National Park Management Planning Process and Key Planning Outputs

## Previous Planning Initiatives

Nine planning activities relating to Amboseli have been previously undertaken. In 1973, as part of a series of planning exercises in all national parks in the country, a team from the US National Park Service prepared a nine page master plan for Amboseli. The plan itself was a preliminary attempt and was not formally adopted. It did stress that *'the chief thrust of management efforts at Amboseli .....must be restoration of the environment from the ravages of misuse and overuse that had occurred ...from livestock grazing, hunting and poaching, and uncontrolled visitor use'*

A major planning effort was undertaken in 1973 by David Western and Phillip Thresher, whereby a report titled 'Development Plans for Amboseli' was prepared. This plan formed the basis for infrastructure development in the park. A component of this plan, the road network, was amplified by Western in 1974 in a subsequent report; *'Road Development Plans for Amboseli National Park based on a Rationale and Criteria for Reconciling Conservation and Recreational Use'*. This plan, in turn, was used as the basis for a subsequent road plan prepared in 1980. These plans were referenced extensively by the Amboseli National Park Management plan prepared by the Wildlife Planning Unit in 1981. Further, a five year management plan for the park was prepared in 1991 and an ecosystem-wide 10-year plan was later developed in 2008. The previous management plan (2008-2018) mainly focused on the management of Amboseli National Park, but it also recognized the dependence of the park on the larger dispersal area. In recognizing this interdependence, the management plan defined a strategy whose aim was to win cooperation and participation of the park adjacent landowners. The plan implementation strategy, however, failed to put in place a sustainable resource management structure to secure the park's ecological integrity and critical wildlife dispersal areas. As a result, the Amboseli National Park and the wider Amboseli ecosystem have continued to face many internal and external threats.

A new ecosystem plan has therefore been developed, Amboseli Ecosystem management Plan 2020-2030, which defines the principles and strategies for creating, implementing and managing a sustainable future for the Amboseli National Park and its ecosystem by addressing wildlife conservation and management issues holistically. The current park-specific ANP Management Plan 2020-2030 has considered all the previous plans and carried forward management actions and prescriptions that were not implemented and are still relevant.

## Plan functions

Conservation effort in the Amboseli National Park aims at maintaining ecological integrity and enhancing the park's benefits to the local community in view of increasing environmental threats facing the local Maasai community, their livestock and wildlife. Evidence gathered over many years shows that Amboseli National Park and, to a lesser extent the larger ecosystem, is already under severe threat and has lost much of its diversity. The planning strategy for the park therefore adopts a holistic management planning and implementation strategy that embodies the principles of Ecosystem Approach. The overall purpose of this management plan is therefore to provide guidelines and direction for mitigating the ecosystem threats through the development of innovative and proactive management strategies integrated with compatible community based resource management strategies to reduce resource degradation and provide sustainable livelihoods.

However, despite the plan being strategic in its approach to management issues, it is also designed to be a practical management tool to support Amboseli National Park managers in carrying out their duties. The plan achieves this aim by providing a series management actions and day-to-day management activities that need to be implemented to achieve the plan objectives.

## Plan structure

The management plan is divided into four main sections i.e. plan foundations, ANP zonation scheme, the five management programmes, and plan monitoring.

- ▶ **Plan Foundations.** This chapter gives an overview of: the planning process, the previous planning initiatives, plan functions and structure, and stakeholder participation in planning. The chapter also provides a brief description of the ANP and a long term vision that stakeholders are aiming to achieve. It sets out the ANP's Purpose Statement, which explains the Park's significance in the protected area network, and expounds the exceptional resource values in the park and its ecosystem and key threats to these values.
- ▶ **Zonation Scheme.** This chapter provides a zoning scheme which defines the geographic areas where various types of allowable activities are permitted.

► **The five management programmes.** The main bulk of the plan is divided into five management programmes:

- **Ecological Management Programme**
- **Tourism Development and Management Programme**
- **Community Partnership and Conservation Education Programme**
- **Security Programme**
- **Park Operations Programme**

Each programme includes a programme purpose statement, which sets out the overall goal to which management under this programme is working towards, and a strategy describing the principles underlying the management approach pursued through the programme. Each programme also contains management objectives that set out the goals that ANP management aims to achieve, and a set of specific management actions to achieve these goals. In order to facilitate plan implementation, management programmes have been aligned with the KWS organizational structure.

Each of the management programmes has a 3-year Activity Plan, which breaks down the individual management actions into day-to-day management activities that will be implemented in the first three years of the plan period (Annex 1). The activity plan also specifies individuals that will be responsible for implementing specific activities and sets milestones for each management action to facilitate plan monitoring. It is expected that ANP managers will in future be drawing their Annual work Plans from these 3-year activity plans ensuring that the plan's vision is realized.

► The **plan monitoring** framework provides guidance to enable the assessment of the potential impacts resulting from the implementation of each of the five management programmes. The framework sets out the desired impact of each programme's objectives and any potential negative impacts that may occur. The framework also includes easily measurable and quantifiable indicators for assessing these impacts, and potential sources of the information required.

## THE AMBOSELI NATIONAL PARK

### History of gazettelement and location

Amboseli National Park is situated 240 km south-east of Nairobi at the northern foot of Mt. Kilimanjaro. At its closest point the Park is 5 Km from the Tanzania border. The latitude is 2 degrees 40' S and the longitude 37 15 'E at the central point.

ANP today is a remnant of the 27,700 km<sup>2</sup> Southern Game Reserve established in 1906 which held a predominant position in the history of wildlife preservation in Kenya. This reserve was reduced to 3260 km<sup>2</sup> in 1948 and was named Amboseli National Reserve and placed under the administration of the National Park Trustees. In 1961 the same area became a County Council Game Reserve administered by the Kajiado County Council.

In 1971, due to realization of the unique values of Amboseli and the need for more intensive management, a Presidential Decree was issued declaring that an area of 390 km<sup>2</sup> be set aside exclusively for wildlife and tourism. In 1972 the boundaries of the new wildlife sanctuary were demarcated and the area was gazetted as Government Land. In October 1973 the Amboseli National Park was finally established and again was under the control of the National Parks Trustees. In 1976 with the merger of the parastatal National Parks body and the Game Department, Amboseli's administration became the responsibility of the Wildlife Conservation and Management Department, the predecessor of KWS. The Ol Tukai enclave, however, is still the property of the County Government of Kajiado

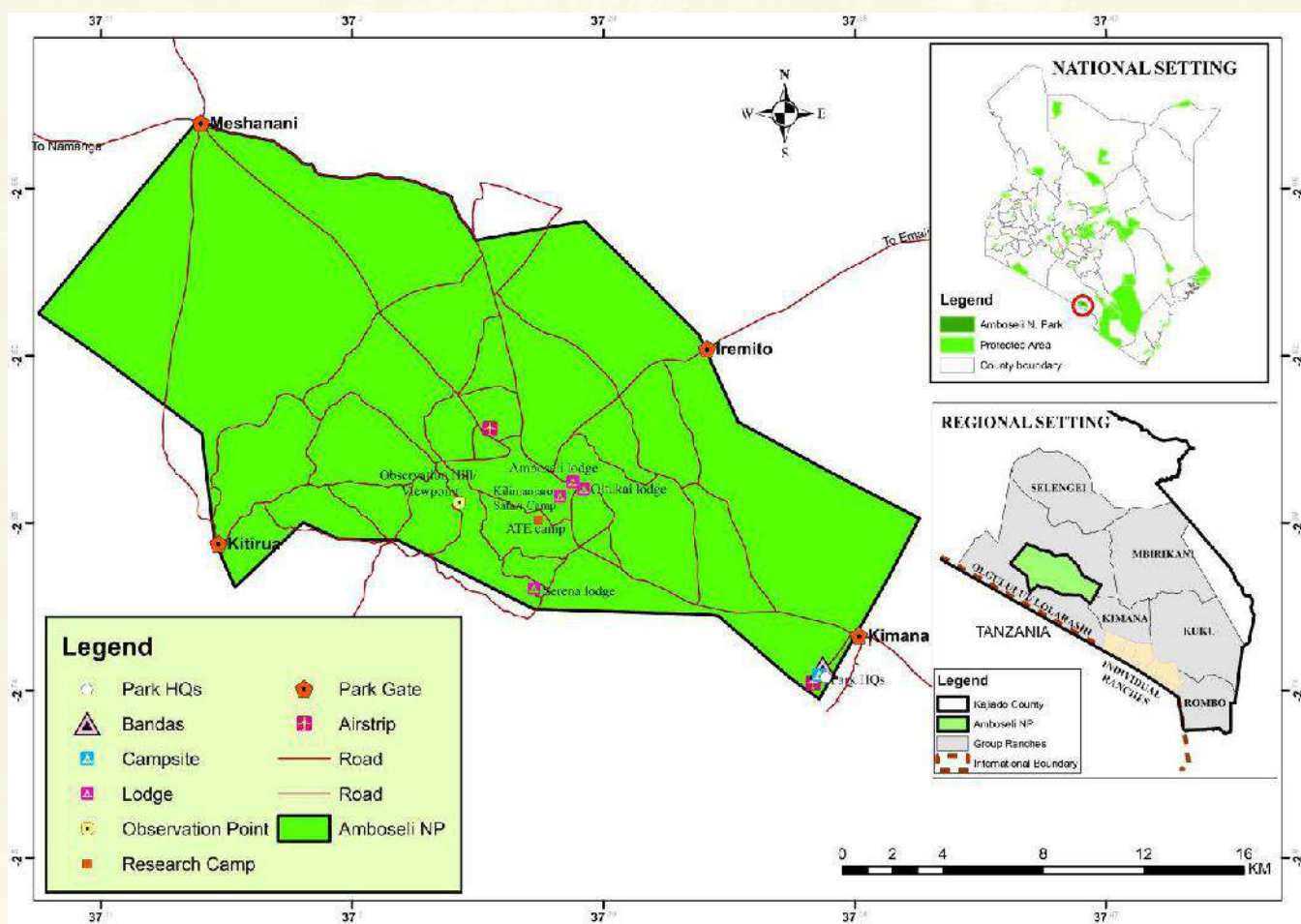
The applicable legal notices are no. 160 dated 7/8/73 and no. 267 of 1/11/74. The boundary plan is no 204/44.

The 1:50,000 topographic map sheets are 181/1 Amboseli and 181/2 Ol Tukai. On the 1:250,000 series, the Park is on the SA-37-9 Amboseli sheet.

Ecologically, ANP is located in the Amboseli ecosystem, which is defined as the area encompassing the dry and wet season wildlife dispersal areas of Amboseli National Park. The ecosystem is thus defined by the migratory limits of the major wildlife species.

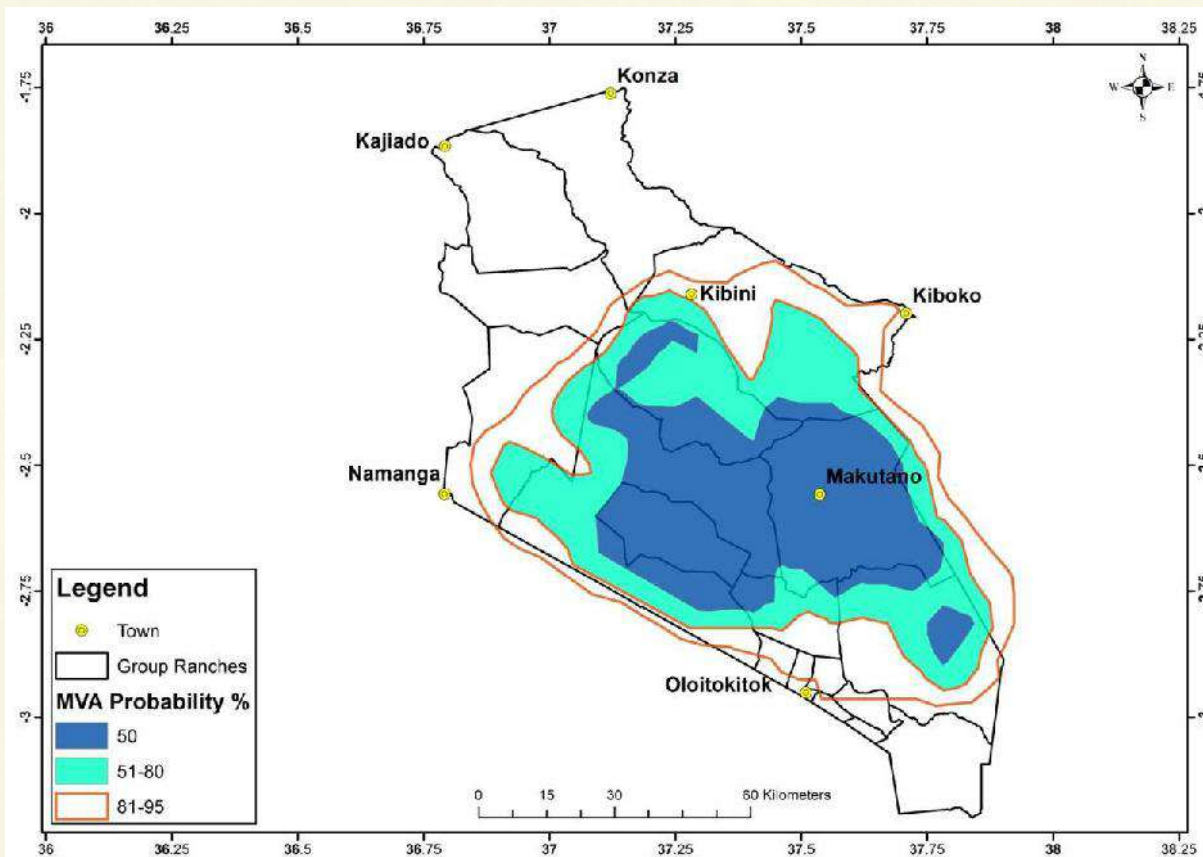
The Ecosystem comprises Amboseli National Park and the surrounding six group ranches which include; Kimana/Tikondo (now subdivided), Olgulului/Ololarashi, Selengei, Mbirikani, Kuku and Rombo, and cover an area of about 506,329 hectares in Loitokitok Sub County (see figure 2).

The ecological extent of the Amboseli Ecosystem is delineated by the extent of animal movements as represented by a wildlife occupancy map generated by Amboseli Conservation Programme (ACP) from the consolidated population distribution of all species and all seasons between 1973 and 2017 (Figure 3). The wildlife occupancy map gives a good statistical measure of the areas essential for maintaining the migratory species over extremes of climate over the last four decades. The area delineated is the minimum area that should be conserved to maintain a good representation of all elements of biodiversity in the ecosystem maintaining the capacity for its ecological components to regenerate naturally (Figure 3)<sup>1</sup>.



**Figure 2. Amboseli National Park: National and Regional Setting**

1 Western et al, 2018. The Amboseli Ecosystem: Status, Changes and Recommendations for the Amboseli Ecosystem Management Plan 2018-2028



**Figure 3. The Amboseli Ecosystem as defined by the extent of wildlife movement**

## ANP Vision Statement

A management plan vision is an inspiring, forward-looking statement that describes the managed place as it could be in 10 years as a result of the actions carried out in the planning area. It provides the overarching frame for determining the results stakeholders hope to achieve, while describing the most outstanding features of the planning area and how stakeholders would like it to be known and experienced.

Establishing a clear and insightful vision of what stakeholders would like the ecosystem to look like in the future not only helps build consensus and understanding on what the plan aims to achieve, but more importantly, also ensures that the main thrust of the plan is to proactively work towards achieving the agreed vision for the planning area, rather than simply reacting to problems.

The vision of Amboseli National Park is as follows:

***Amboseli National Park features a diversity of ecological processes, with rich and varied biodiversity interactions. The animal dispersal areas have been secured resulting in free and safe wildlife movement, thereby supporting robust nature and cultural tourism that offers memorable experiences to visitors. The park demonstrates how local communities can be integrated into the management and conservation of biodiversity, making the park and its ecosystem worthy of its designation as a UNESCO Man and Biosphere Reserve.***

- ▶ The Amboseli National Park is supporting a wide array of savannah wildlife species that are managed based on sound scientific information.
- ▶ The communities resident in the Amboseli ecosystem are receiving tangible benefits from conservation and, consequently, they are supporting conservation efforts by maintaining community conservancies in their land. The community is also benefiting from payment of ecosystem services programmes supported by KWS and other stakeholders.

- ▶ The visitors are guaranteed a memorable and transformational experience as they interact with the park and its ecosystem in a peaceful, serene and secure environment. A variety of culture and nature-based tourism activities are enjoyed in this unique savannah setting.
- ▶ The park has adequate, efficient, effective and modernized operational capacity, which include skilled and motivated human capital, efficient transport and communication network, reliable infrastructure (roads, fences, staff housing and offices) and security equipment.

## ANP Purpose Statement

The ANP purpose statement summarises the importance of the ANP, clarifies the main reasons for its existence and provides the overall goals that managers are striving to achieve.

The purpose of the Amboseli National Park is:

**To conserve the ANP's expansive swamps and associated scenic assemblage of large herds of ungulates, avian diversity, and threatened species such as elephants and large carnivores, their habitats, and ecological processes that support them, and promote sustainable development of the ANP for the benefit of the present and future generations**

ANP's supplementary purpose statements are:

- ▶ To provide a coordinated framework for park management activities
- ▶ To conserve representative samples of acacia-woodland savannah, edaphic alkaline grassland, and swamp habitats.
- ▶ To maintain where possible the diversity of and population of the faunal life found in these habitats.
- ▶ To continue support of the economic development of Kajiado County and the surrounding Group Ranches through revenue returns generated from tourism usage of the Park and improvement of human wildlife coexistence
- ▶ To provide wildlife viewing and related opportunities to national and international visitors in relation to and consistent with the intrinsic resources of the Park.
- ▶ To provide opportunities for education and interpretation to achieve an increased appreciation of the natural and human resources of the Amboseli area.
- ▶ To promote research on the Amboseli ecosystem for the purpose of supporting its management and education purposes.

The development of the above Purpose Statement was based on the ANP's Exceptional Resource Values (ERVs). These ERVs are elaborated in the following sections.

## ANP'S Exception Resource Values

The ERV's for the ANP describe the key natural resources and other features that offer outstanding benefits to local, national and international stakeholders. ERV's are important for maintaining the park's uniqueness and they are the values that are critical to maintenance of the park's integrity. The ERVs are categorized as: Biodiversity, scenic, and Socio-cultural (Table 1).

**Table 1. Amboseli National Park Exceptional Resource Values**

Category	Exceptional Resource Value
<b>Biodiversity</b>	Habitat diversity
	Landscape diversity
	Big tusker elephants
	Masai Giraffe
	Array of ungulates
	Large carnivores
	Rich birdlife
	Wildlife Corridors
<b>Scenic</b>	Mount Kilimanjaro
	Swamps
	Lake Amboseli
<b>Socio-cultural</b>	Authentic Maasai culture
	Rich history
	Employment
	Tourism
	Long term research programmes
	Amboseli as a Biosphere Reserve
	Community wildlife conservation initiatives

## Biodiversity Values

### Habitat diversity

The Amboseli National Park falls under the Chyulu/Kilimanjaro volcanic natural region which is an Acacia dominated dry woodland savannah. This vegetation type supports the pastoralist lifestyle of the local Maasai and a wide range of savannah wildlife species, the cornerstone of tourism in the park and its ecosystem.

Although the park falls in semi-arid climatic zone, it is endowed with copious amounts of water as several springs associated with Mt. Kilimanjaro emanate in the park giving rise to several swamps, which are critical to maintaining wildlife in the park and its ecosystem. The high primary productivity of the swamps is able to sustain a vast array of wildlife species in a semi-arid environment and contributes to the high biodiversity and tourism value of the ecosystem.

According to a survey of the distribution of protected areas in relation to the biotic communities of eastern Africa, samples of three major biotic communities are protected in Amboseli National Park. These are: Acacia dominated dry woodland and savannah, edaphic alkaline volcanic ash grassland, and swamp<sup>2</sup>.

<sup>2</sup> Amboseli National Park Management Plan, 1981

## Big tusker elephants

The African elephant is classified by IUCN as vulnerable (Table 2). Amboseli ecosystem has an elephant population of about 1800 according to latest data. These elephants are a major driving force in the ecology of the Amboseli Ecosystem and are closely associated with habitat changes in the Amboseli National Park. The elephants have been the subject of the longest running elephant study in the world and as a result of the long and close interaction with researchers, Amboseli elephants are approachable giving visitors excellent opportunities for watching them at close range. They further attract a lot of interest from wildlife filmmakers, especially the impressively large-tusked males, which promotes Amboseli as a tourist and research destination.

## Maasai Giraffe

The park hosts Masai Giraffe, which are listed by CITES on Appendix II to protect their numbers which are estimated to be between 100,000 and 110,000 globally. The Masai Giraffe is also classified as endangered by IUCN.

## Array of ungulates

The park supports an agglomeration of a wide range of ungulates (such as wildebeest and zebra) making Amboseli an important wildlife conservation area and tourism destination, in Kenya. The ungulate habitat utilization pattern outside the park closely overlaps with livestock, making the park and its ecosystem a unique mosaic of people and wildlife for which it is famous.

## Large carnivores

The main large carnivore species in the park are: lion, cheetah, and hyena, all of which can be seen easily in the park. They are among the principal tourist attractions in the Park and adjacent areas and play a significant role in the overall ecosystem dynamics especially in controlling the herbivore populations.

**Table 2. Threatened mammals of Amboseli National park**

Common Name	Scientific Name	IUCN Red List Category
1. Masai Giraffe	<i>Giraffa camelopardalis</i> ssp. <i>Tippelskirchi</i>	Endangered
2. African Elephant	<i>Loxodonta Africana</i>	Vulnerable
3. African Lion	<i>Panthera leo</i>	Vulnerable
4. Cheetah	<i>Acinonyx jubatus</i>	Vulnerable
5. Hippopotamus	<i>Hippopotamus amphibius</i>	Vulnerable

## Rich birdlife

Amboseli National Park is one of the 62 Important Bird Areas (IBAs) in Kenya and thus, it is globally recognized as a significant site for bird conservation. The ecosystem has a rich birdlife, with 503 species recorded, of which 17 species are listed by IUCN under critically endangered, endangered and vulnerable categories<sup>3</sup> (Table 2). It also accommodates globally threatened bird species (e.g. Lesser Kestrel), restricted-range birds that are found only in a very small area such as the Taveta golden weaver, bird species that live only in a particular vegetation type such as the Grosbeak weaver, and regionally threatened bird species such as Martial eagles. The bird-life in Amboseli is diverse due to the varying habitats. In October-December when the rains are on or about, the local birds are joined by migrants such as European storks from the Northern hemisphere, sometimes in fairly large numbers, which makes Amboseli a popular destination for birding safaris and research<sup>4</sup>.

3 <https://avibase.bsc-eoc.org/checklist.jsp?lang=EN&p2=1&list=clements&synlang=&region=KErvkj01&version=text&lifelist=&highlight=0>

4 BirdLife International (2020) Important Bird Areas factsheet: Amboseli National Park. Downloaded from <http://www.birdlife.org> on 26/03/2020.

**Table 3. Checklist of Threatened Bird Species in Amboseli National park**

Common Name	Scientific Name	IUCN Red List Category
1. White-headed Vulture	<i>Trigonoceps occipitalis</i>	Critically endangered
2. Hooded Vulture	<i>Necrosyrtes monachus</i>	Critically endangered
3. White-backed Vulture	<i>Gyps africanus</i>	Critically endangered
4. Rüppell's Griffon	<i>Gyps rueppelli</i>	Critically endangered
5. Steppe Eagle	<i>Aquila nipalensis</i>	Endangered
6. Basra Reed Warbler	<i>Acrocephalus griseldis</i>	Endangered
7. Egyptian Vulture	<i>Neophron percnopterus</i>	Endangered
8. Lappet-faced Vulture	<i>Torgos tracheliotos</i>	Endangered
9. Madagascar Pond-Heron	<i>Ardeola idae</i>	Endangered
10. Gray Crowned-Crane	<i>Balearica regulorum</i>	Endangered
11. Shoebill	<i>Balaeniceps rex</i>	Vulnerable
12. Martial Eagle	<i>Polemaetus bellicosus</i>	Vulnerable
13. Tawny Eagle	<i>Aquila rapax</i>	Vulnerable
14. Imperial Eagle	<i>Aquila heliaca</i>	Vulnerable
15. Southern Ground-Hornbill	<i>Bucorvus leadbeateri</i>	Vulnerable
16. Secretarybird	<i>Sagittarius serpentarius</i>	Vulnerable
17. Maccoa Duck	<i>Oxyura maccoa</i>	Vulnerable

## Scenic Values

### Mount Kilimanjaro

Mount Kilimanjaro, the highest mountain in Africa, lies on the Kenya-Tanzania border. It has three scenic peaks, Shira, Kibo and Mawenzi. The mountain is very popular with both local and international mountain climbers. Since the best views of the mountain can be enjoyed from the Amboseli National Park, the mountain is among the key tourist attractions in the area. Amboseli National Park has therefore been branded as the “Courtyard of Kilimanjaro”

### Hills

Amboseli National Park has three sites (Observation, Ilmerishari and Kitirua Hills) where one can enjoy a panoramic view of the park and beyond. From these hills one is able to get a synoptic view of the park, the Kilimanjaro, the Chyulu Hills and Namanga Hills.

## Social and cultural Values

### Wildlife based tourism

Amboseli National Park operates as a highly profitable enterprise. Direct revenues from tourism use of the Park are received by the Central Government and the surrounding group ranches. The Park is an important contributor to Government revenue from park entry fees as one of the highest visited protected areas, second to Masai Mara, hosting over 150,000 visitors annually. In Amboseli the Government also receives revenue rental fee for the use of Park land by one of the lodges (Amboseli Serena). Additional revenue accrues from use of KWS bandas and campsite. Wildlife tourism and associated activities in the park and ecosystem is a source of employment for many Kenyans.

The main attractions to which 70% of the visitor viewing time is devoted are lion, cheetah, elephant, giraffe, and the Observation Hill.

## Authentic Maasai culture

Maasai culture is unique because of its relative preservation in the face of rapid cultural changes across the world in general, and in defiance of Western influence to which the majority of other cultures in Africa have succumbed. This has made Maasai people very popular and their culture is a desirable tourism product and one of the greatest tourism assets in the ecosystem. Further, their livestock and nomadic grazing has been an important ecological process that has shaped Amboseli ecosystem.

## Rich history

**Mount Kilimanjaro:** The Amboseli-Kilimanjaro ecosystem boasts of a rich history. The Wachagga people of Tanzania talk of Mawenzi receiving fire for its pipe from his younger brother Kibo. Another of their legends talks of demons and evil spirits living on the mountain and guarding immense treasures. Arab and Chinese traders in history told of a giant mountain lying inland from Mombasa. Slave traders passed below it and sometimes raided the villages of the Wachagga but it was not till the middle of the 19th century that a more serious interest was taken in the mountain and attempts were made to scale it. In 1848 Johann Rebmann, a missionary from Gerlingen in Germany, while crossing the plains of Tsavo, saw Mount Kilimanjaro. Rebmann's report stimulated great interest in Germany and in the following years several expeditions were organized.

**Swamps:** Water from Kilimanjaro trickles down porous rocks and underground channels and erupts into numerous springs in the Amboseli Ecosystem. The swamps support irrigated agriculture in the ecosystem and are the major sources of water and forage for livestock and wildlife during the dry season.

## Long term research programmes

**The Amboseli Baboon Project:** The Project was started in 1963 and it focuses on baboon research at the individual, group, and population levels. Since the early 1960s, more than 50 researchers have carried out studies on baboon ecology, documenting vast knowledge on population, behavioral and reproductive ecology of the species. Figure 7 shows the area used by the studied baboons.

**Amboseli Conservation Programme (ACP):** The ACP was started in 1967 and focuses on providing long-term data on the structure, dynamics and changes of the Amboseli ecosystem and technical support for its conservation. ACP has played a central role in conservation in the Amboseli ecosystem, and is credited with foundational scientific information that supported establishment of Amboseli National Park and it also prepared the initial Park development plans. Further the programme provided the management plan frameworks, plan foundation documents, for Amboseli Ecosystem Management Plan 2008-2018 and the current AEMP 2020-2030.

**Amboseli Elephant Research Project (AERP):** This project started in 1972 and makes the Amboseli elephants the most studied free-ranging population in the globally. The AERP has generated a wealth of knowledge of the elephants making the Amboseli elephants one of the most famous wild elephants in the world, attracting large numbers of local and foreign tourists to the Amboseli ecosystem. The original research done by AERP has transformed our understanding of elephant biology and behavior, and this dataset serves as an important baseline for elephant populations across Africa, detailing individual life histories for more than 3,500 elephants, most of who have been tracked from birth to death. Since the 1990s, AERP has trained elephant researchers and managers from across Africa and Asia.

## Amboseli as a Biosphere Reserve

Amboseli ecosystem is a member of the global network of biosphere reserves, which are areas of terrestrial and coastal/marine ecosystems or a combination thereof, which are internationally recognized within the framework of UNESCO's programme on Man and the Biosphere (MAB). They are nominated by governments to promote solutions to reconcile conservation and sustainable use.

Amboseli ecosystem was listed as a biosphere reserve in 1991 becoming the fifth biosphere reserve<sup>5</sup> in Kenya. The core area of the reserve is the protected Amboseli National Park while the buffer zone comprises the six group ranches, Olgulului-Ololarashi, Eselengei, Mbirikani, Kimana, Kuku, and Rombo.

### Community wildlife conservation initiatives

**Amboseli Ecosystem Trust:** Amboseli Ecosystem Trust is a registered charitable Trust incorporated under the provisions of the Trustees (Perpetual Succession Act) chapter 164 of the Laws of Kenya. AET is mandated to mobilize resources for the implementation of Amboseli management plan<sup>6</sup>. AET works directly with over 27,400 land owners and reaches thousands of people, supporting projects and programmes that promote socio-economic services and building people's capabilities to meet their basic needs and claim their basic rights.

**Amboseli/Tsavo Group Ranches Association (ATGRA):** The Amboseli-Tsavo Group Ranches Conservation Association (ATGRCA) was established in 1997 to provide a platform for Group Ranch representatives to coordinate conservation activities that impact across Group Ranch boundaries. It is credited with the establishment of the Amboseli-Tsavo Game Scouts Association (now Amboseli/Tsavo Community Wildlife Rangers Association).

**Amboseli/Tsavo Community Wildlife Rangers Association (ATCWRA):** ATCWRA is an umbrella body that coordinates all the community rangers' activities in the ecosystem. It was formed originally under the auspices of ATGRA, with the purpose of enhancing wildlife conservation and management in the group ranches. Community game scouts/rangers are natural resource managers based at the village level that are involved in day-to-day management of wildlife in the group ranches.

The ATCWRA set up the *Amboseli Conservation Academy* as a training resource for local community rangers.

## MAJOR ISSUES OF CONCERN

### Park-specific Issues

#### ISSUE 1: SMALL PARK SIZE

ANP forms a small, but significant fraction of the Amboseli ecosystem, which as mentioned elsewhere in the plan, is defined as the area encompassing the dry and wet season wildlife dispersal areas of Amboseli National Park. The major concentrations during the wet season dispersal period are to the north and east, largely within the boundary of Olgulului-Ololarashi Group Ranch and partially into the Lengism area and Mbirikani group ranch. During the dry season however, the bulk of the wildlife biomass some (90%) remains no more than 8 km from Amboseli's swamps within an area of 450 km<sup>2</sup>. As such, viability of the park's large herds of wildlife is dependent on unhindered wildlife access to the dispersal areas during the wet season. This calls for integrated land use management of the entire Amboseli ecosystem.

5 As of 2020, Kenya had six biosphere reserves. These are: Mt Kenya, Mt. Kulal, Malindi/Watamu Marine, Kiunga Marine, Amboseli and Mt. Elgon

6 <http://www.amboseliconservation.org/about-the-board.html>

## ISSUE 2: ELEPHANT AND WOODLAND DYNAMICS

During the 1960's evidence of a major ecological change in Amboseli was signaled by the rapid and progressive die off of *Acacia xanthophloea* woodland in the Park and the subsequent spread of the salt tolerant bush *Suaeda monoica*. Those changes were accompanied by an expansion of the swamps which grew to approximately 2.5 times their 1950 extent. The swamps expanded sufficiently to flood former woodland sites and areas of formerly dense *Acacia xanthophloea* have been replaced by marsh. Approximately 90% of the trees were lost during the period from 1950 to 1969. Accompanying this is the spread of *Suaeda* shrubland and an increase in the area of *Cynadon dactylon* grassland along the swamp edges<sup>7</sup>.

Long-term experiments and restoration of sizeable areas of woodland in Amboseli National Park have demonstrated that elephants are the only factor preventing woodland recovery in the park. The reduction in woody vegetation has caused loss of habitat and species diversity in Amboseli National Park and a reduction in the diversity of large herbivores. The most conspicuous loss has been in the browsing species associated with the woodlands—impala, giraffe, bushbuck and lesser kudu. This calls for habitat restoration measures to ensure habitat conducive for browsers is available both inside and outside the Amboseli National Park<sup>8</sup>. As such, to conserve the parks biodiversity degraded woodlands will be restored and maintained to protect enough habitat and seed bank to halt and reverse biodiversity loss. Towards this, new woodland enclosures will be established and existing ones maintained to ensure that founder populations and seed reserves are maintained for future recolonization<sup>9</sup>.

## ISSUES 3: FLOODING OF THE PARK

The extensive woodlands and shrub cover (mentioned under issue 1) arrested and contained the heaviest rainfall in small isolated pans. The loss of vegetation cover, coupled with extensive erosion from the higher elevations north and south of the Amboseli basin has caused excessive inflow of water channelled into Longinye Swamp the far end across the central basin. This has resulted in flooding of some of the tourist facilities at the Ol Tukai Enclave. It seems that the two channels that drained water from the Longinye Swamp to Lake Amboseli have been silted over the years and require desilting to control flooding which is leading to destruction of roads and tourist facilities at or near the Enclave.

## ISSUE 4: DEVELOPMENT AND MANAGEMENT OF TOURIST FACILITIES AT OL TUKAI ENCLAVE

The Ol Tukai Enclave is a 162-hectare area located in the centre of Amboseli National Park, which, since the park was gazetted, was set aside for establishment of tourism facilities to generate revenue for the County Government of Kajiado. Three major lodges are located in the Enclave – the Ol Tukai Lodge, the Amboseli Lodge which is the oldest tourism accommodation facility in the park, and the Kilimanjaro Safari Camp. The latter two facilities are, however, currently derelict and some of their buildings have been flooded by water from the expanding Longinye swamp. The dilapidated buildings are an eyesore in the heart of the park. The Enclave was previously enclosed by an electric fence to prevent human wildlife conflict, especially elephants, but with time the fence later fell into disrepair and currently only the Ol Tukai Lodge is currently fenced. To ensure that the Enclave serves the purpose for which it was established (i.e. to generate income to the County Government of Kajiado), there is need to reclaim the parts of the Enclave that have been lost to swamp expansion and implement measures to ensure that visitor facilities can be developed in the Enclave safely. The Enclave will also require fencing and a site level local land use and physical development plan.

7 Western, D. and Maitumo, D. 2004. Woodland loss and restoration in a savannah park: A 20-year experiment. African Journal of Ecology, Afr. J. Ecol., 42, 111–121

8 ibid

9 ibid

## ISSUE 5: TOURISM INFRASTRUCTURE DEVELOPMENT AND MAINTENANCE

Amboseli National Park is one of the leading parks in Kenya in terms of visitation. As such, due to the high visitor traffic, the access roads and viewing roads require frequent costly maintenance unlike the less visited parks. In addition, apart from the Observation Hill where a visitor can alight from a vehicle and walk and picnic, the park lacks other sites where a visitor can get out of the vehicle and engage in another activity. Consequently, there is need to upgrade both access and viewing roads as well as diversify the tourism product in the park.

## Ecosystem-wide issues<sup>10</sup>

### ISSUE 6: HABITAT LOSS AND DEGRADATION

The biggest threat to the viability of the Amboseli National Park and the free-ranging wildlife herds is land subdivision and subsequent sale and conversion from pastoralism to agriculture and other uses that exclude wildlife. Despite widespread concerns that group ranch subdivision will fragment wildlife dispersal areas and interfere with their movement patterns, subdivision has been adopted in all group ranches in Amboseli ecosystem and currently the ranches are in different stages of the land subdivision process (Table 4).

Further, unplanned expansion of agriculture and settlement areas are leading to loss of grazing for livestock and wildlife, and blockage of corridors such as in Kimana and along Nolturesh pipeline. Drought refuges (e.g. swamps) for both wildlife and livestock have been lost. There is therefore need to consider establishment of pragmatic long-term mechanisms that will ensure that a minimum viable conservation area is maintained to support viable wildlife populations as well as traditional pastoralism after the group ranches are subdivided. This calls for support of a local community-led land banking trust that will be buying any land on sale in the Amboseli Ecosystem and holding it on behalf of the entire community to perpetuate pastoralism and conservation.

**Table 4. Group ranch subdivision status**

Group ranch	Date incorporated	Size in Hectares	Registered Members	Land subdivision stage
Kimana/Tikondo	1972	25,120	843	Subdivided
Olgulului/Olo-larashi	1975	147,050	11,485	Members have approved subdivision. Subdivision has been carried out at arable areas at Namelok swamp and Entonet-Kitenden area
Kuku "B"	1975	96,000	6052	Subdivision carried out in the arable areas at Kisanjani, area bordering Kimana, and area bordering Tsavo West
Kuku "A"	1984	18,712	6517	Not subdivided

10 Adopted from the Amboseli Ecosystem Management Plan 2020-2030

Group ranch	Date incorporated	Size in Hectares	Registered Members	Land subdivision stage
Rombo	1973	38,000	3665	Half of the ranch is subdivided and subdivision is now extending to the rangeland.
Eselengei	1975	74,794	3413	Land survey is to commence soon. The whole ranch apart from the area set aside as a conservancy will be subdivided.
Mbirikani	1981	122,893	4627	Subdivision carried out in the arable areas around the swamps.

Land subdivision and land use conversion from pastoralism to other uses are leading to decline in ecological connectivity in the Amboseli Ecosystem as shown in tables 5 and 6<sup>11</sup>.

**Table 5. Key threats to ecological connectivity in Amboseli National Park**

Threat	Location of threat	Impact
Farming, settlement and land subdivision	Dispersal areas south of Amboseli National Park	Wildlife corridors to and from the Kilimanjaro forest are being lost
Settlement	Loitokitok Pipeline	Migrations between Amboseli and Mbirikani dispersal areas as well as access to the Chyulu Hills are being curtailed
Subdivision, crop farms and fences	Namelok and Kimana	Wildlife and especially elephant movements to and from Amboseli are being curtailed
Farming and irrigation	Kimana and Lenker Swamps	Swamps critical to livestock and wildlife populations on Kimana, Kuku and Mbirikani Group Ranches are being eliminated. Also wildlife sanctuaries and tourism facilities on all three ranches are also threatened by the loss of both swamps.
Unplanned tourism development	Kimana individual plots	Wildlife and especially elephant movements to and from Amboseli are being curtailed

11 Western, D. 2007. The Ecology and Changes of The Amboseli Ecosystem Recommendations for Planning and Conservation. <http://www.amboseliconservation.org>

**Table 6. Key threats to ecological connectivity between Amboseli National Park and adjoining ecosystems**

Threat	Location of threat	Impact
loss of forest cover on the upper Chyulus, as well as farming and settlement on the lower slopes	Chyulu Hills	Ecological link with the Amboseli National Park is being severed.
Settlement and farms along the corridor at the base of the Chyulus	Tsavo West	Wildlife movements that connect Tsavo West to Amboseli through Kuku and Mbirikani Group Ranches are being severed
Subdivision and settlement	Selengei	The link between the Amboseli and Eastern Kaputei populations of migratory herbivores is being severed
Farming and fencing	Kilimanjaro	The last remaining link in the ecological gradient running down the northern face of Kilimanjaro to Amboseli as well as an elephant and ungulate corridor between the mountain forest and lowlands is being severed
Loss of water down the Ngaserai furrow	Ngaserai	There is a slump in dry season wildlife numbers, reducing the flow of animals to and from Amboseli
Land subdivision in Matapato	Rift Valley	Wildlife movements, especially elephants, west to the rift valley is being severed
Water off take from the rivers and swamps fed by the Chyulus and Kilimanjaro	Rivers and swamp systems	Drought refuge vital for livestock and wildlife in the Amboseli meta-ecosystem is being lost and habitat diversity created in large part by gravitational water flow from Chyulus and Kilimanjaro is being degraded.

## ISSUE 7: GRAZING AND BROWSING PRESSURE, AND LOSS OF GRASSLAND

A major threat to the Amboseli ecosystem is the loss of grassland and the attendant drop in pasture production due to heavy grazing pressure. The results of the long-term counts of livestock and wildlife show that heavy sustained grazing is the primary cause of livestock and wildlife losses in the Amboseli ecosystem. The increasing grazing and browsing pressure on the Amboseli rangelands and national park is causing decline in plant and animal productivity and diversity and contributing to an increase in human wildlife conflict. The loss of productivity has intensified impacts of droughts (measured by lack of pasture) as manifested in heavy loss of livestock and wildlife in 2009<sup>12</sup>. The loss of grassland is mainly as a result of increasing dryland farming, wetland irrigated farming, sedentary pastoralism, land use segregation effects, and failure of traditional pasture management and grazing rotation systems. To ensure that viable wildlife populations are conserved in the park and its ecosystem, there is need to ensure that traditional pastoralism remains the main land use option despite the ongoing land subdivision in the group ranches.

<sup>12</sup> Western et al, 2018. The Amboseli Ecosystem: Status, Changes and Recommendations for the Amboseli Ecosystem Management Plan 2018-2028

## ISSUE 8: HUMAN - WILDLIFE CONFLICTS

Human-wildlife conflict has risen sharply to the point of undercutting gains in community-based conservation. This is manifested mainly in form of livestock predation, crop raiding and human injury and death.

## ISSUE 9: POACHING

Poaching has declined to manageable levels since 2008 when the previous plan was developed. This could be partly attributed to the formation of a large well-managed community ranger force. However, incidents of trophy and bush meat poaching, though not common, are reported. The threat of poaching is inextricably linked to the livelihood stability and welfare of the communities whose information and activities directly influence the success of anti-poaching initiatives. As such, it is important that measures are put in place to improve benefits received by the community from wildlife conservation to gain support of the community in combating poaching.

## ISSUE 10: HUMAN - RECURRING DROUGHTS

Drought is recurrent in Arid and Semi Arid Lands (ASALs), such as Amboseli, occurring every 10-15 years<sup>13</sup>. The rising frequency and severity of drought has a direct impact on livelihoods of the local pastoralist community. For instance, the 2009 drought was far more severe than in the 1970s due to the restricted space and pasture available to livestock and wildlife. Over 95 percent of the wildebeest, 60 percent of the zebra and cattle, and a quarter of the elephants died in the course of six months. Wildebeest numbers dropped to 200 and would unlikely have recovered without the immigration of herds from Tsavo West and Ngaserai in Tanzania<sup>14</sup>.

The potential impact of droughts has increased as the number of residents in ASALs has grown, and as access to key resources has become more competitive. During droughts, farmers and herders maintain a range of coping strategies including mobility and diversity of income sources. Past droughts have triggered changes in the attitudes and values of Maasai pastoralists with a considerable impact on land use patterns. Some pastoralists have adopted rain-fed farming at the foot slopes of Kilimanjaro and irrigated cropping at perennial water sources (swamp edges and rivers) as a drought coping mechanism. These arable areas also happen to be dry season grazing areas for wildlife and the conversion of such areas to agriculture depletes the wildlife habitat.

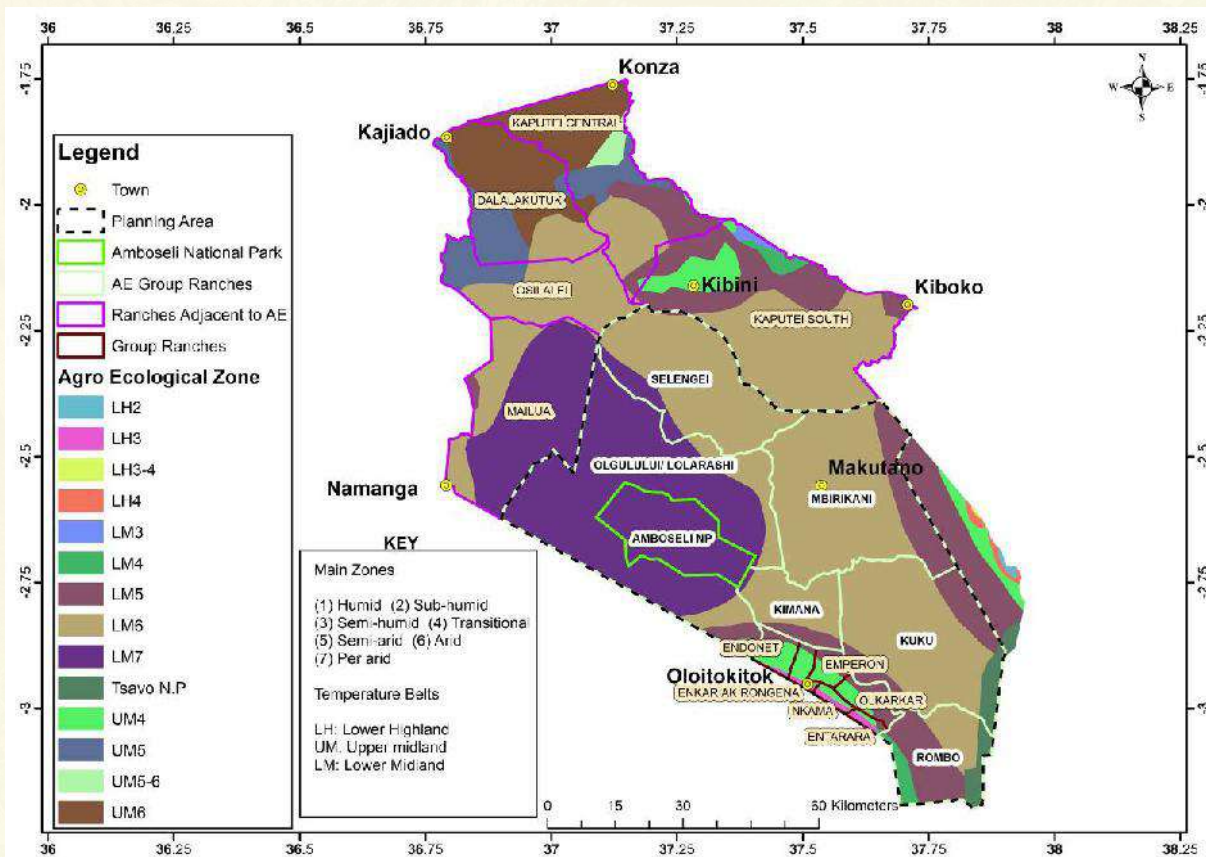


13 In the last four decades widespread droughts occurred in 1975, 1977, 1980, 1983/84, 1991/92, 1999/2000, 2004, and 2007/09 (source: Republic of Kenya (2004), National Policy on Disaster Management; KWS&TAWIRI, 2010)

14 Western et al, 2018. The Amboseli Ecosystem: Status, Changes and Recommendations for the Amboseli Ecosystem Management Plan 2018-2028

**ISSUE 11: POTENTIAL FOR AGRICULTURAL EXPANSION**

The area most suited for non-intensive rain-fed agriculture in the ecosystem is restricted to the agro-ecological zones LM5 (Lower- Midlands Livestock-Millet Zone) and UM4 (Upper-Midlands Sunflower-Maize Zone) at Loitokitok-Entonet area and the south-eastern corner of the Olgulului group ranch bordering Entonet. In terms of production capabilities, UM4 is the more productive of the two, with good yield potential for a variety of crops such as beans, chick peas, sweet potatoes, sunflowers, soya beans and onions. LM5 is less productive and the zone is mainly suitable for millet and livestock; however, it has a fair yield potential with limited maize production. Land falling within these AEZs in Olgulului/Ololarashi have already been subdivided into 10-acre plots and allocated to members for cultivation. With rain fed arable area completely subdivided, subdivision has now extended to marginal areas in LM6 and LM7 zones, in Kitenden area, where the Kitenden Corridor linking Amboseli and Kilimanjaro montane forests is located<sup>15</sup>. Figure 4 shows the Agro-ecological zones.



**Figure 4. Agro-ecological zone map of the Amboseli Ecosystem**

15 Source: Campbell, D.J, Lusch, D.P., Smucker, T., and Wangui, E.E. 2003. Root Causes of Land Use Change in the Loitokitok area, Kajiado District, Kenya. Land Use Change Impacts and Dynamics (LUCID) Project Working Paper 19. Nairobi, Kenya: International Livestock Research Institute.

## ISSUE 12: THE SOCIAL, ECONOMIC AND DEMOGRAPHIC CHANGES

The social, economic and demographic changes underway among the predominantly pastoral community of the Amboseli ecosystem are causing fundamental changes in livelihoods, both out of necessity and choice. In the long run, social and economic development is likely to relieve land pressure. Meanwhile, for the many pastoralists who remain herders, land subdivision, sedentarization and a loss of seasonal grazing decreases their mobility, herd sizes and resilience to drought. The same pressures pose severe threats to wildlife in the Amboseli ecosystem and national park and intensify competition between people and wildlife over shrinking space and resources.

According to the 2009 National Population Census, the population of Kajiado County in 2009 was 690,000, up from around 149,000 in 1979. This five-fold increase in population is due to both immigration and fertility rates (averaging just over 2.6% annually). The increase at the County level is also reflected at the ecosystem level where membership of group ranches has also been increasing at a similar rate. For instance Olgulului-Ololarashi GR increased its membership from 1300 in 1987 to 13,428 by 2012 which is an increase of around 3.6% annually. An increase in population results in an increased demand for land to settle and livelihood support (e.g. agriculture and livestock keeping). It also necessitates increase in public infrastructure thereby negatively impacting rangelands.

The social, economic and demographic changes have transformed Amboseli from a savannah ecosystem dominated by free-ranging wildlife and livestock populations driven largely by rainfall, to a highly transformed landscape shaped by human activity.





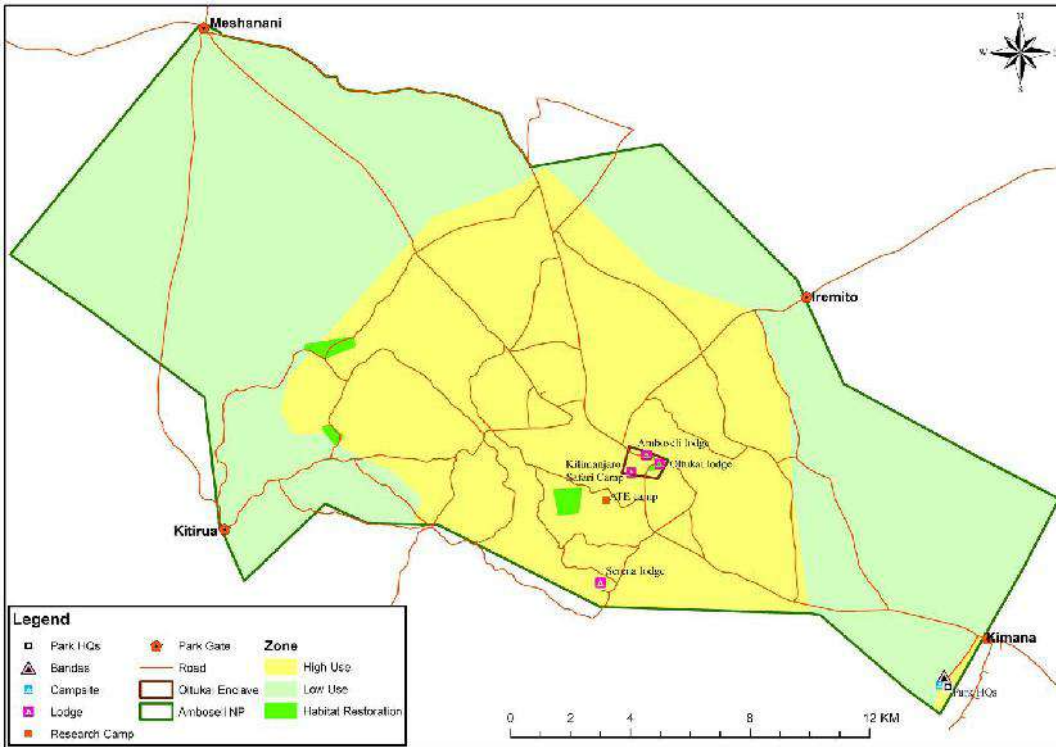


# Zonation Scheme

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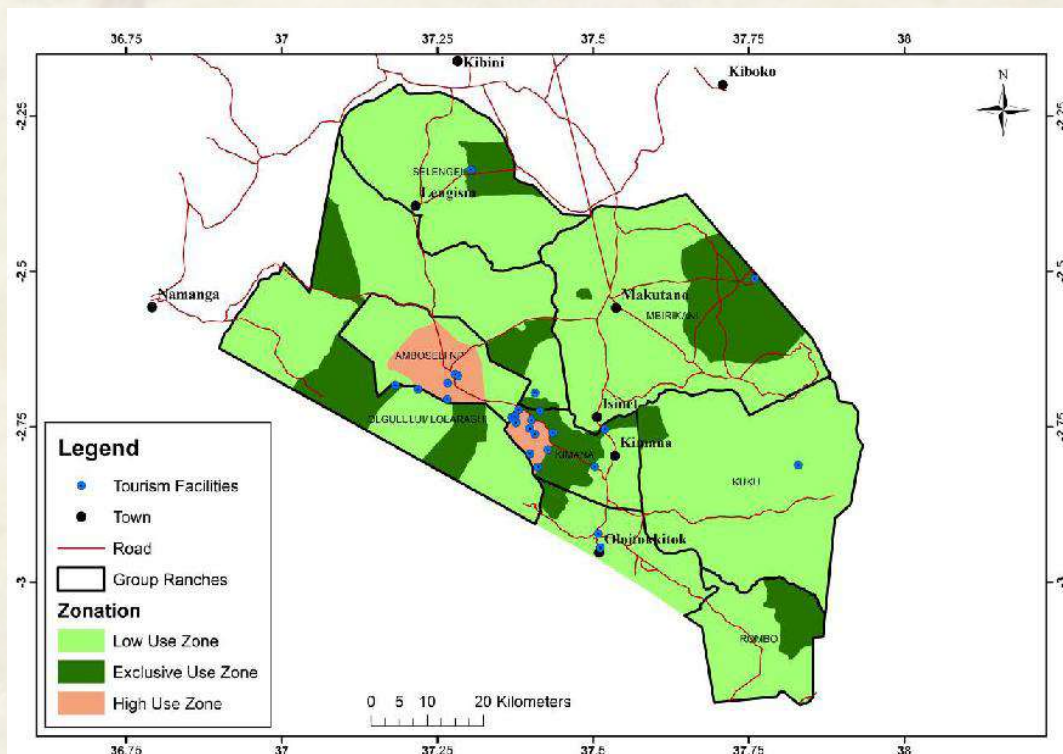
# INTRODUCTION

Zoning is a tool used to assist management in applying specific management policies and objectives to specific areas of the Park. Amboseli's zoning is based on the character and distribution of the Park's resources and the level of use to which they are put (Figure 5).



**Figure 5. Park Zoning**

The zoning plan is also aligned with the Amboseli Ecosystem visitor use and land use zoning schemes (Figures 6 and 7).



**Figure 6. Amboseli ecosystem visitor use zoning**

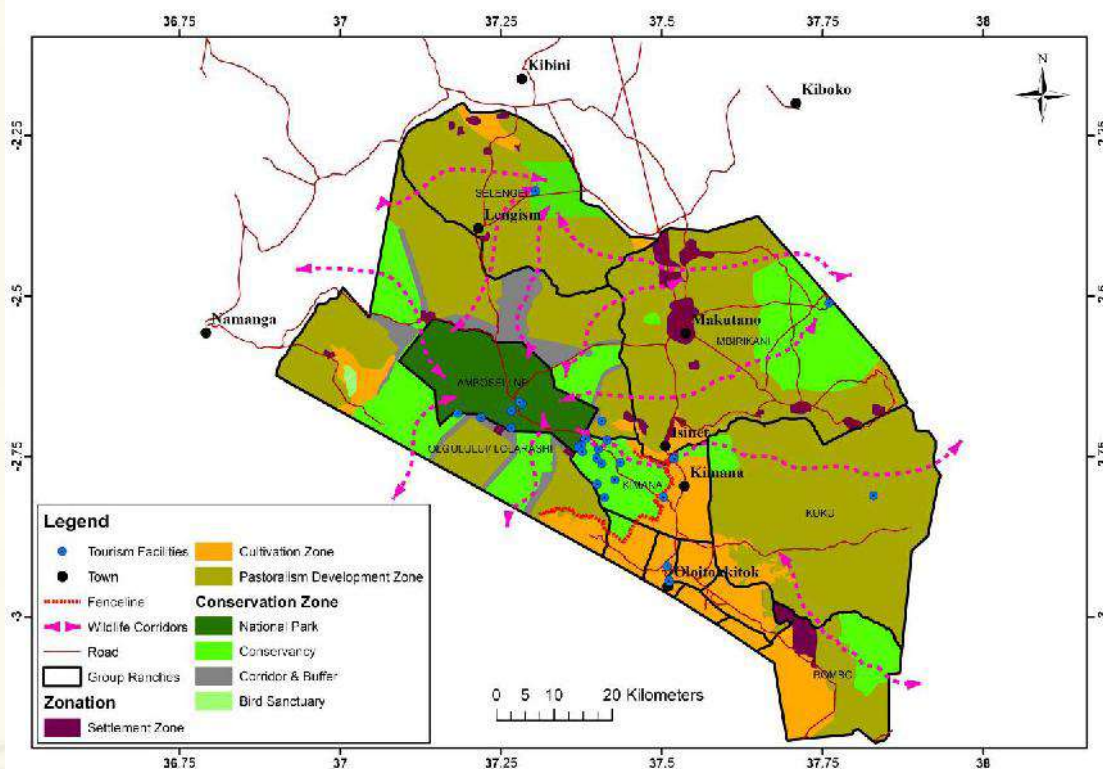


Figure 7. Amboseli ecosystem land use zoning

## High Use Zone

**Description:** The zone contains the prime wildlife habitat in the Park and is thus also the prime viewing zone. This area comprises the two expansive swamps, Longinye and Enkongo Narok, the lifeline of Amboseli’s wildlife. Ol Tukai Orok swamp which is dominated by doulm palms is also located in this zone. The zone also includes the Ol Tukai enclave at the center of the Park, which unlike the rest of the Park, is managed by the County Government of Kajiado. The park headquarters and associated tourism facilities are located in this zone. All the tourist lodges, KWS Bandas and public campsite are found in this zone (see table 7). Other physical features of tourism interest include the Observation Hill, the highest point in the Park.

Table 7. Accommodation prescriptions for Amboseli NP HUZ

Status	Facility Name	Type	No. of Beds	Status
Existing	Amboseli Serena Lodge	Lodge	182	Functional
	Ol Tukai Lodge	Lodge	170	Functional
	Amboseli Lodge	Lodge	240	Not functional
	Kilimanjaro Safari Camp	Lodge	160	Not functional
	KWS Bandas	Bandas		Functional
	Public campsites	Public campsite		Functional
Proposed	<ul style="list-style-type: none"> <li>Additional accommodation facilities are not permitted in this zone.</li> <li>It is recommended that the non functional lodges are replaced by an ecolodge.</li> </ul>			

### Specific Objectives are to:

- Provide a system of viewing tracks throughout the area.
- Provide interpretive wayside exhibits at selected viewpoints and sites.
- Provide sites where visitors will be allowed to leave their vehicles and walk.

### Zone Prescriptions:

- No driving will be permitted that occurs off the defined viewing roads.
- No accommodation or operational structures will be built.
- Interpretive facilities will be of unobtrusive design and will blend as close as possible with the natural environment.

## Low Use Zone

**Description:** The low use zone lies in the western (Kitirua area and the seasonal Lake Amboseli), the northern and eastern parts of the park. This zone covers portions of the Park that are not currently utilized to any appreciable extent by tourists due to distance factors and because of their lower viewing potential. This zone is characterised by a very low density of viewing roads and is devoid of tourist accommodation facilities. It however gives the discerning naturalist an opportunity to enjoy the panoramic landscape from vantage viewing points such as Kitirua and Imerishari hills.

### Specific Objectives are to:

- Provide an area where visitors wishing to leave the more developed areas of the Park can do so.
- Provide opportunities for walking and picnicking

### Zone Prescriptions

- Walking trails and picnic sites will be developed at Kitirua Hill and Imerisahri Hill

## Habitat Restoration Zone

**Description:** The habitat restoration zone comprises the habitat enclosures that have or will be established in the park.

### Specific Objectives are to:

- Provide an area where degraded habitat will be restored to enhance habitat and species diversity in the park.
- Provide opportunities for camping and look out points.

### Zone Prescriptions

- Camping and raised viewing platforms will be allowed in mature woodland enclosures



# Ecological Management Programme

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# PROGRAMME PURPOSE AND STRATEGY

The purpose of the ecological management programme is:

To ensure that the ecological components and processes that shape Amboseli National Park are understood, restored and sustainably conserved, and threats to the park's key ecological features are minimised

The ecological management programme will help in formulating guidelines for managing the changes that may hinder the future viability of the park and its ecosystem as a key wildlife conservation area. To guide the managers within the park to achieve a sustainable balance between conservation and development, the ecological programme will provide technical assistance, and generate and disseminate relevant planning and management information to ensure that sound management interventions are designed and implemented.

## Guiding Principles

*In implementing the ANP's Ecological Management Programme, ANP Management and stakeholders will strive to ensure that:*

### **The Minimum Viable Conservation Area (MVCA) concept is applied in the conservation and management of wildlife and its habitats in the Amboseli Ecosystem**

Analysis of long term wildlife monitoring data collected by ACP from the 1960s show that two migratory grazing species, zebra and wildebeest show large differences in wet and dry season distribution. They share the same dry season concentration area centered on the Amboseli Basin and, to a lesser extent, the swamps to the east of Amboseli (Namelok, Kimana, Lenker and Soit Pus). The wet season ranges overlap extensively and lie mainly north and northwest of Amboseli, while the dry season ranges are far smaller in comparison. They are also highly predictable. This predictability makes it easier to locate and plan for the conservation of the dry season range of Amboseli migratory ungulates. However, wet season ranges are far larger and vary greatly in location, depending on the distribution of seasonal rains. This makes it hard to define a clear-cut wet season range or to demarcate meaningful corridors between dry and wet season ranges.

On the other hand, the two browsers, Grant's gazelle and impala, show little seasonal variation in distribution compared to the migrants. Grant's gazelle is widespread, while impala is more confined to the woodland areas along the highland fringes and low-lying swamps of the ecosystem<sup>16</sup>.

Hence, as prescribed by the Amboseli Ecosystem Management Plan 2020-2030, a guiding principle for this programme is application of the MVCA Concept in the conservation and management of Amboseli wildlife. The MVCA is determined by a composite distribution map of all counts conducted by ACP for all seasons for all species. The contour map gives a good statistical measure of the areas essential for maintaining the migratory species over climatic extremes rather than narrow connecting corridors between seasonal ranges (Figure 8).

16 Western, D. 2007. Ecology and Changes of the Amboseli Ecosystem: Recommendations for Planning and Conservation.

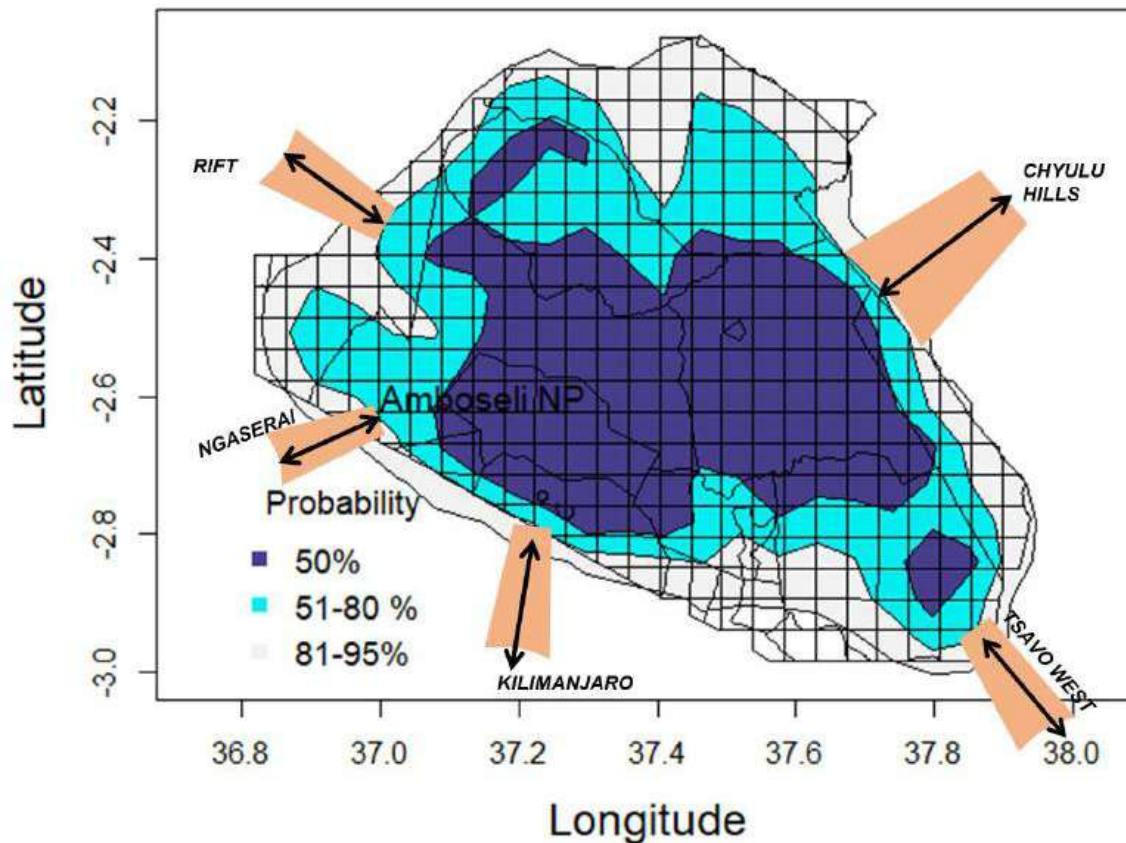


Figure 8. Revised Minimum Viable Area (2018)<sup>17</sup>

## Habitat connectivity between ANP and its wildlife dispersal areas is maintained

ANP's wildlife and sustainability of the ecosystem at large depend on the connectivity of the park and surrounding community land. Due to the semi-arid nature of the ecosystem, water availability is limited and wildlife mainly concentrates within wetlands in and out of the park in the dry season. During the wet season, wildlife disperses widely within the ecosystem. It is therefore critical that habitat connectivity is maintained by securing wildlife dispersal areas to safeguard against biodiversity loss that could arise if wildlife access to areas adjacent to the Park is inhibited. As such, under this programme, KWS and stakeholders will take proactive measures that will ensure that habitat connectivity in the ecosystem is maintained. This will include purchase of land on sale in wildlife dispersal areas, leasing land for conservation and other payment of ecosystem services (PES) schemes agreeable to land owners.

## Critical ecological processes are maintained

To maintain Amboseli's biological diversity, integrity and resilience, vital internal and external processes need to be maintained. Maintaining these processes limits disruptions and reduces the need for intensive management. The link between the Amboseli Ecosystem and the surrounding landscape is crucial to prevent its ecological isolation and degradation. The external processes that need to be maintained are: the Kilimanjaro-Chyulu water catchments and the eco-climatic gradient governing landscape diversity; while the internal processes include:

- Large scale wildlife and livestock seasonal migrations.
- **Drought refuges.** The lowland swamps and highland forests which sustain large herbivores during the dry seasons
- **Habitat diversity.** Amboseli's mixed habitats created by varied water and soil conditions which account for its primary species richness.

<sup>17</sup> Western, D., Mose, V., Maitumo, D., Mburu, C., Ochwangi, E., Kimiti, S., and Thomas, B., 2018. The Amboseli Ecosystem: Status, Changes and Recommendations for the Amboseli Ecosystem Management Plan 2018-2028. Amboseli Conservation Program

- **Grazing succession.** The interaction of herbivores in relation to forage within and between habitats which creates a subsystem that creates local heterogeneity and secondary species richness.
- **Community structure.** The wide spectrum of body sizes and feeding guilds among Amboseli's large mammals which is crucial to sustaining species richness and patchiness.
- **Keystone species.** In particular Elephants and the Maasai livestock have a large influence on the ecological dynamics of the Amboseli ecosystem. Their numbers, mobility and interactions play a large role in shaping habitats and habitat mosaics.

Since the mandate of KWS to manage land use outside ANP is limited, maintaining internal and external processes will require collaboration between landowners and other stakeholders.

## Conservation of threatened species is enhanced

The park along with its ecosystem is home to several threatened species, such as elephant, Maasai Giraffe, and lion, among others. The elephant population in Amboseli has been increasing for the last two decades from an initial decline caused by insecurity outside the park. They however, face the threat of habitat loss as a result of increased human activities outside ANP. There is as well a threat from increasing human-wildlife conflicts, which occasionally results to injuries and deaths of both humans and elephants. In addition, incidents of lion poisoning and spearing have been reported and it has been linked to decline in the lion population. Further, wildlife are injured by snares or people prompting veterinary intervention to treat the injuries and reduce stress to injured animals. Disease transmission from wildlife to livestock is also common in the ecosystem calling for surveillance of wildlife diseases. Further, young elephants are found abandoned and they have to be rescued and translocated to elephant orphanages. Management actions under this programme aim at ensuring that human-wildlife conflicts in the Amboseli Ecosystem are minimized and wildlife health is improved.

## Ecological components of the AE are monitored and understood

Monitoring the trends and threats to the viability of the Amboseli Ecosystem is key to designing sound management interventions. While the ecosystem has largely retained its species richness, a number of human induced threats that are likely to negatively affect the ecological integrity of the ecosystem have been noted. Studies show that:

- ◆ Livestock numbers have increased since the 1960s.
- ◆ Human activity and settlements have increased steadily since the 1960s.
- ◆ Sedentarization by pastoralists has progressively increased
- ◆ Crop farming has spread steadily down the rainfall gradient from higher (Kilimanjaro slopes) to lower elevations (wetlands).
- ◆ And subdivision and fencing are on the rise.

The ecological management programme will provide the information needed to discern trends and threats to wildlife, and propose measures needed to mitigate the threats.

# TARGETING ECOLOGICAL MANAGEMENT ACTION

The Protected Area Planning Framework (PAPF) prescribes the use of the *Nature Conservancy's (TNC) Conservation Action Planning (CAP)* process as a foundation for designing the PA plan's Ecological Management Programme. The rationale underlying this is that, with limited human and financial resources available to PA managers, it is impractical to attempt to manage and monitor every single aspect of the complex ecology of a protected area.

The first step in the TNC CAP methodology is the identification of a small suite of species, communities, and ecological systems that represent and encompass the biodiversity found in the planning area and which form the basis for setting goals, carrying out conservation actions, and measuring conservation effectiveness. The second step is the identification of characteristics or key ecological attributes (KEAs) that can be used to help define and assess the conservation target's ecological viability or integrity. These attributes are critical aspects of the target's biology or ecology that, if missing or altered, would lead to the loss of that target over time. The third step is to identify the various factors that immediately affect the identified conservation targets and then rank them to focus conservation actions where they are most needed. The fourth step involves developing strategies to counter the threats considering the need to get the most impact from the available resources. And the final step involves measuring success to gauge whether the strategies are working as planned and thus whether adjustments are needed.

Details on the conservation targets identified for the ANP and their key ecological attributes are given in Table 8, while a conservation target-threat matrix is provided in table 9.

**Table 8. ANP's Conservation targets**

	Conservation Target	Rationale for Selection	Important subsidiary targets	Key ecological Attributes
<b>Systems</b>	<b>Swamps and springs</b>	<ul style="list-style-type: none"> <li>➤ Only few swamps</li> <li>➤ Critical habitats for wildlife</li> <li>➤ Important wildlife viewing area</li> </ul>	<ul style="list-style-type: none"> <li>➤ Enkongo Narok Swamp</li> <li>➤ Longinye Swamp</li> <li>➤ Ol Tukai Orok Swamp</li> <li>➤ Lake Conch</li> <li>➤ Wetland associated avifauna</li> <li>➤ Hippopotamus</li> <li>➤ Reptiles and amphibians</li> <li>➤ Waterbuck</li> </ul>	<ul style="list-style-type: none"> <li>➤ Water quality and quantity</li> <li>➤ Riparian habitats</li> <li>➤ Aquatic life forms</li> <li>➤ Associated catchments</li> </ul>
	<b>Wildlife dispersal areas</b>	<ul style="list-style-type: none"> <li>➤ Critical to maintenance of ecosystem connectivity and ensuring integrity of a minimum viable conservation area</li> </ul>	<ul style="list-style-type: none"> <li>➤ Wildlife corridors in the ecosystem</li> <li>➤ Wildlife conservancies</li> </ul>	<ul style="list-style-type: none"> <li>➤ Size and status of the corridor</li> <li>➤ Wildlife use of corridor</li> <li>➤ Size and status of conservancies</li> </ul>

	Conservation Target	Rationale for Selection	Important subsidiary targets	Key ecological Attributes
Habitats	<b>Acacia Woodland</b>	<ul style="list-style-type: none"> <li>➤ Important area for browsers and grazers</li> <li>➤ Important for breeding and wildlife cover</li> <li>➤ Threatened by elephant browsing pressure</li> </ul>	<ul style="list-style-type: none"> <li>➤ Browsers: impala, grant's gazelle, Masai Giraffe,</li> <li>➤ Grazers: zebra, wildebeest, hippopotamus, buffalo</li> <li>➤ Birds: Ostrich, Martial eagles, fish eagles, Kori Bustard</li> </ul>	<ul style="list-style-type: none"> <li>➤ Size of Acacia woodland/bush land</li> <li>➤ Vegetation composition and structure</li> <li>➤ Graze and browse availability</li> <li>➤ Composition and size of herds of ungulates</li> </ul>
	<b>Grassland-shrubland mosaic</b>	<ul style="list-style-type: none"> <li>➤ Important area for browsers and grazers</li> </ul>	<ul style="list-style-type: none"> <li>➤ Array of ungulates</li> <li>➤ Diverse birds</li> </ul>	<ul style="list-style-type: none"> <li>➤ Graze and browse availability</li> <li>➤ Plant species composition</li> <li>➤ Abundance of bird species</li> </ul>
Species	<b>Lion</b>	<ul style="list-style-type: none"> <li>➤ A key tourist attraction</li> <li>➤ Classified as vulnerable by IUCN</li> <li>➤ Threatened by poisoning, spearing, habitat fragmentation, diseases</li> </ul>	<ul style="list-style-type: none"> <li>➤ Cheetah</li> <li>➤ Hyena</li> </ul>	<ul style="list-style-type: none"> <li>➤ Population size and structure</li> <li>➤ Habitat size and quality</li> <li>➤ Genetic diversity</li> <li>➤ Prey species and availability</li> <li>➤ Health</li> </ul>
	<b>Elephants</b>	<ul style="list-style-type: none"> <li>➤ Keystone species in maintaining habitats</li> <li>➤ Classified as vulnerable by IUCN</li> <li>➤ Listed on Appendix 1 of CITES</li> <li>➤ Of great tourism and scientific interest</li> </ul>	<ul style="list-style-type: none"> <li>➤ Migratory grazers such as wildebeest and zebras</li> </ul>	<ul style="list-style-type: none"> <li>➤ Population size and structure</li> <li>➤ Habitat size and quality</li> <li>➤ Water availability</li> <li>➤ Dispersal areas/ migratory corridors</li> </ul>
	<b>Masai Giraffe</b>	<ul style="list-style-type: none"> <li>➤ Classified as endangered by IUCN</li> </ul>	<ul style="list-style-type: none"> <li>➤ Coke's hartebeest</li> <li>➤ Impala</li> <li>➤ Dik dik</li> <li>➤ Grant gazelle</li> </ul>	<ul style="list-style-type: none"> <li>➤ Population size and structure</li> <li>➤ Habitat size and quality</li> <li>➤ Dispersal areas</li> </ul>

**Table 9. Threats to ANP's Conservation Targets**

TARGETS	Swamp and springs	Acacia Woodland	Grassland-shrubland mosaic	Wildlife dispersal areas	Lion	Elephants	Giraffe
THREATS							
Bush meat poaching							High
Water abstraction	Very High					High	
Illegal harvesting		High	High	High			
Land subdivision and sedentarization	Very High	Medium		Very high	Medium	Very high	Medium
Water pollution	High						
Livestock overgrazing	High	High	High	High		Medium	High
Human settlement	High	Medium	Low	High	Medium	Medium	Medium
Charcoal burning	Medium	High	Low	Medium	Medium	Medium	Medium
Human-wildlife conflicts					Very High	High	Low
Land sale	Medium	Medium	Low	Medium	Low	Low	Medium
Tourism infrastructure	High	Low	Low	High		Medium	Low
Poor information sharing mechanism	Low	Low	Low	Low	Low	Low	Low
Diseases					High	High	High
Accidental fires	Low	Low	Low	Low	Low	Low	Medium

# MANAGEMENT OBJECTIVES AND ACTIONS

The identification and ranking of the threats to the conservation targets and their KEAs provides the basis for developing the Ecological Management Programme's management objectives and actions. Objectives have been developed to address the clusters of threats or conservation targets shown in Table 8 and 9. Three objectives have been developed addressing threats to critical wildlife habitats; addressing (conservation targets: Swamp and springs; Acacia Woodland; Grassland-shrubland mosaic and Wildlife dispersal areas); and addressing threats to Wildlife species; and addressing generation and dissemination of scientific information, which cross cut the conservation targets and threats. The three objectives developed for ANP's Ecological Management Programme are:

**MO 1. Critical wildlife habitats within the park and its ecosystem maintained**

**MO 2. Wildlife species conservation and management enhanced**

**MO 3. Scientific information to support park management generated and disseminated**

These management objectives and their corresponding management actions are described in detail in the sections below. Under each management objective there is a brief description of the relevant management issues and opportunities, which provide the specific context and justification for the management actions.

The 3-Year Activity Plan for the Ecological Management Programme, which details the activities, responsibilities, timeframe and milestones necessary for the delivery of each management action over a 3-year timeframe (2020-2023) of this management plan, is presented in Annex1.

## Objective 1: Critical Wildlife habitats within the park and its ecosystem maintained

Connecting Amboseli National Park and Kilimanjaro Forest on the Tanzanian side is a narrow strip of land, the Kitenden Corridor, which allows wildlife movement, and particularly elephant movement, between the two protected areas. The Amboseli populations may act as an important gene pool, particularly for the small population of eland in the moorland and alpine zones of Mt. Kilimanjaro, which might be prone to natural extinction if passage through the corridor is blocked. Many other mammal species, such as zebra, giraffe, impala, and patas monkey, lesser kudu and fringe-eared Oryx utilize the corridor, particularly during the dry season when the area is less used by cattle. Whereas the Tanzanian section of the corridor is protected, the Kenyan side has not been given legal protection, but a conservancy has been established through a lease programme funded by IFAW to secure this corridor. Moreover, with the ongoing subdivision of Olgulului-Ololarashi Group Ranch, wildlife corridors connecting the park to Selengei and Mbirikani Group ranches could be lost if urgent measures are not implemented to maintain these corridors.

In addition, Kimana Sanctuary entirely relies on the Kimana corridor to link it to the Amboseli population to boost its wildlife diversity thereby enhancing tourist experience. Increased developments in form of tourist accommodation facilities and cultivation in the individually owned land in the former Kimana Group Ranch to the east is progressively blocking free movement of wildlife between the Park and the eastern part of Amboseli ecosystem.

Further, there are about 1800 elephants in the Amboseli ecosystem giving a density of approximately five elephants/km<sup>2</sup> if they were to be confined in Amboseli National park. This density is far beyond the threshold of one (1) elephant/Km<sup>2</sup>, which has been shown to result in decline in woody vegetation cover through elephant destruction. Similarly, the large wildebeest and zebra populations in Amboseli require extra range for survival. It is during their wet season migration to the Amboseli ranches that the vegetation in the Park rejuvenates. As such, isolation of the park from the rest of the ecosystem would have adverse impacts on wildlife populations and tourism in the area. If the park is isolated, there would be less wildlife species diversity, which would necessitate a reduction of elephant numbers and

15% biomass potential of wildlife in the ranches could be lost. Also, extensive flooding in the park limits wildlife occupancy all year round.

The critical wildlife habitats face the challenge of climate change and global warming whose indicators include droughts, floods, high temperatures, degraded habitats, loss of biodiversity, the spread of invasive plant species, resource use conflicts, and impaired human health, amongst others. These effects have been observed in the Amboseli ecosystem, both inside and outside the park. Habitat degradation is one of the most manifested impacts of climate change in the ecosystem. Droughts have been experienced in the area leading to loss of vegetation cover, including grass, herbaceous and woody plants. Tree cover inside the park has reduced drastically. The same impact is also being experienced outside the park.

Drought brings about limited browse for both wildlife and livestock, leading to overgrazing and ultimately habitat degradation. Water resource for both wildlife and domestic use becomes scarce resulting in competition for the little resources available thereby causing conflict between wildlife and humans and also amongst the people themselves.

Drought is followed by massive soil erosion at the onset of rains. As a result, gullies have formed in many areas of the ecosystem. The soils are deposited, causing siltation on the ecosystem's lowlands and rivers. To mitigate the negative impact of climate change on habitat degradation in the park, different measures can be implemented, ranging from planting trees, promoting natural woody plant regeneration through establishing restoration plots in viable areas, eradication of invasive plant species, control of soil erosion and grass reseeding.

Herbaceous indigenous plants are slowly being replaced by invasive plant species that are not utilised by either wildlife or livestock. Invasive species colonise an area and suppress growth of other species.

The management actions that have been developed to ensure that critical wildlife habitats continue to be available to wildlife and also mitigate the effects of climate change are set out in the following sections.

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### **Action 1.1: Establish and maintain vegetation restoration enclosures**

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Woodland restoration experiments have been conducted in ANP and results published. These experiments have demonstrated that woodland habitat can be restored in areas where it formerly existed to provide conservation refugia for woodland species of plants and animals that have become extinct or are disappearing in the park; restore seed production to avert the complete loss of *A. xanthophloea* and other woodland plants in the park; and create habitat that can screen visually intrusive buildings at Ol Tukai enclave, and park administration centres e.g. gates and park headquarters. The establishment of woodland refugia therefore ensures that founder populations and seed reserves are maintained for future recolonization<sup>18</sup>.

Based on the outcome of these experiments ACP, and KWS, with support from USAID, Parks Canada and Naga Foundation, have established woodland restoration enclosures in the park and immediate adjacent areas (Table 10 & Figure 9).

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18 Western, D., & Maitumo, D., 2003: Woodland Loss and Restoration in a Savanna Park: A Twenty-Year Experiment Wildlife Conservation Society and African Conservation Centre

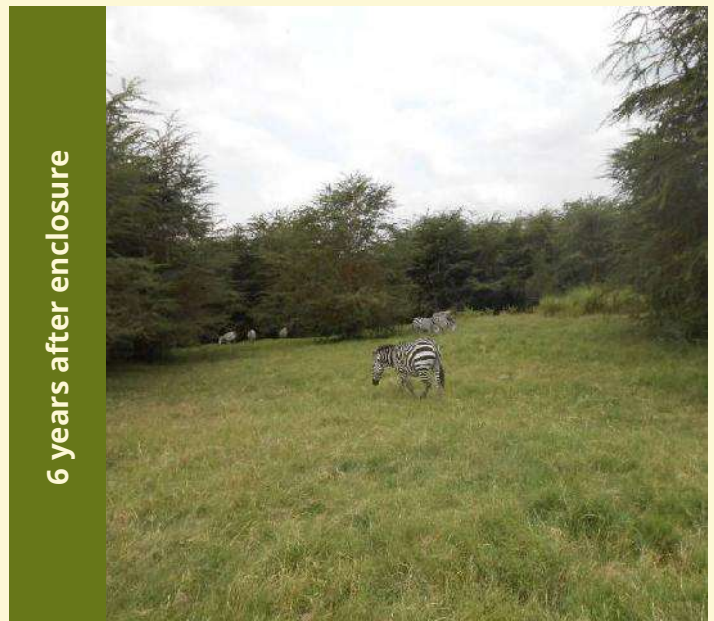
**Table 10. Habitat restoration enclosures and their status**

Enclosure name	Year established	Purpose	Status
Western enclosure	2002	to restore the wetland and <i>Acacia xanthophloea</i>	<ul style="list-style-type: none"> <li>➤ Has mature trees</li> <li>➤ Fence in disrepair and elephants are felling the trees</li> </ul>
Makindu enclosure	2010	to restore <i>Acacia xanthophloea</i> and <i>Phoenix reclinata</i> woodland	<ul style="list-style-type: none"> <li>➤ Has mature trees and it is still in good condition</li> <li>➤ Fence in disrepair</li> </ul>
Daraja la mbao	2012	to restore the wetland and <i>Acacia xanthophloea</i>	<ul style="list-style-type: none"> <li>➤ Has mature trees and it is still largely intact</li> <li>➤ Fence in disrepair</li> <li>➤ Signs of tree destruction by elephants</li> </ul>
Oldare 1	2013	to restore completely degraded <i>Acacia tortilis</i> and <i>Balanitis spp</i> woodland, 60% of the site is bare ground, seedlings are propagated from the tree nursery and transplanted to this enclosure	<ul style="list-style-type: none"> <li>➤ Fence in disrepair</li> <li>➤ Tree propagation failed</li> </ul>
Kitirua	2013	to restore degraded acacia woodland	<ul style="list-style-type: none"> <li>➤ Fence in disrepair</li> </ul>
Noonkotiak	2013	to restore degraded acacia woodland	<ul style="list-style-type: none"> <li>➤ Fence in disrepair</li> </ul>
Oldare 3	2013	to restore degraded acacia woodland	<ul style="list-style-type: none"> <li>➤ Fence in disrepair</li> </ul>

Habitat restoration measures, especially woodland restoration, are a priority in order to reverse the current environmental degradation underway in the Park, largely resulting from the high density of elephants in the area. To restore woodland habitat and thereby increase habitat and species diversity in the park, habitat restoration enclosures will be established in selected degraded areas where woody vegetation, especially *Acacia spp* trees, existed and viable seed banks exist. The selected sites will be restored by establishing enclosures that will keep out elephants, which have been the major cause of decline in woody habitats in the park. Enrichment planting will also be undertaken in the enclosures to accelerate increase in tree cover. In addition, all the perimeter fences for the existing enclosures will be rehabilitated and maintained. Enclosures will also be established in degraded grassland areas and reseeding done to restore such sites.



Daraja Mbao Enclosure Before enclosure



6 years after enclosure

**Figure 9. Habitat restoration through establishment of enclosures**

### Action 1.2: Establish a sustainable long term tree growing programme

KWS established a tree nursery at the park Headquarters in 2011. The purpose of this tree nursery was to produce tree seedlings for enrichment planting in habitat restoration enclosures. The tree nursery was expanded in 2012 with support from Parks Canada and in 2015, the Naga foundation greening project supported seedling production at the nursery. The nursery has the capacity to produce 20,000 seedlings per planting season and provide tree seedlings used for enrichment planting in the park. KWS also provides tree seedlings to be planted in schools and other public spaces in the park's adjacent areas. Currently, the tree nursery is in dire need of resources to maintain the wildlife proof fence and tree seedling operations, otherwise the tree nursery will eventually not meet the purpose for which it was established.

As such, to ensure that the tree nursery is producing tree seedlings as envisaged, the current tree nursery wildlife proof fence will be rehabilitated. Seed beds for propagation of tree seedlings will be constructed and a watering system installed. The green house, which is currently in disrepair, will be rehabilitated. Moreover, nursery attendants will be employed to carry out seedling production activities. KWS will also ensure that tree seedlings planted in enclosures and public spaces are tended to increase their chances of survival.

### Action 1.3: Control and manage invasive plant species

Invasive plant species have a high rate of proliferation, the effect of which is detrimental to other plant species, ecosystems and even human development. They impact negatively on the environment through replacement of local indigenous plant communities leading to change in the ecological functioning of ecosystems, reduction in forage resources for wildlife, changes in habitat structure and quality, reduction in overall biodiversity and generally causing imbalance in ecological processes. *Solanum incanum* is the dominant invasive plant in ANP and it has invaded large swathes of the park's wetlands (Figure 10). Other notable invasive species include *Senna didymobotrya* and *Opuntia stricta*. Manual removal of invasive plant species started in 2011 and it is ongoing.

During the plan period, KWS will map and continue manual removal of invasive species particularly around the swamp habitats.



**Figure 10. Invasive *Solanum incanum* shrub at the Enkongo Narok Swamp edge**

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#### **Action 1.4: Support establishment of a buffer zone around the park**

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The success of Amboseli as a showcase for community conservation is now threatened by land subdivision and settlement forces closing off land thus displacing wildlife across the pastoral lands. Olgulului-Ololarashi Group Ranch, which spans most of the migration range of Amboseli's wildlife, is currently subdividing the group ranch land into individual holdings. Selengei and Mbirikani Group Ranches are following suit. If subdivision follows the Kaputei route of permanent settlements on each allotment, the future of wildlife and pastoral herds is bleak. If on the other hand Olgulului-Ololarashi carries out its land use plan to keep the pastoral lands open and set up a land trust for its members, it could sustain a healthy population of livestock and wildlife as it has done in the past<sup>19</sup>.

Kajiado County Government, through the Land Subdivision and Amalgamation Regulations, has zoned land within 10Km of the park, in the former Kimana Group ranch, as an eco-tourism zone. Under this management action, KWS will work with the County Government to extend the eco-tourism zone to cover the now subdivided Olgulului-Ololarashi Group ranch.

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#### **Action 1.5: Mitigate impacts of flooding in the park**

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The location of the park in a basin makes it prone to flooding when heavy rains are experienced in the area and runoff from the higher ground surrounding Amboseli drains in the park, and particularly in Lake Amboseli. In some cases floods can lead to closure of the viewing roads and the airstrip inconveniencing visitors which can lead to travel cancellations and heavy revenue losses to the hotels and the KWS.

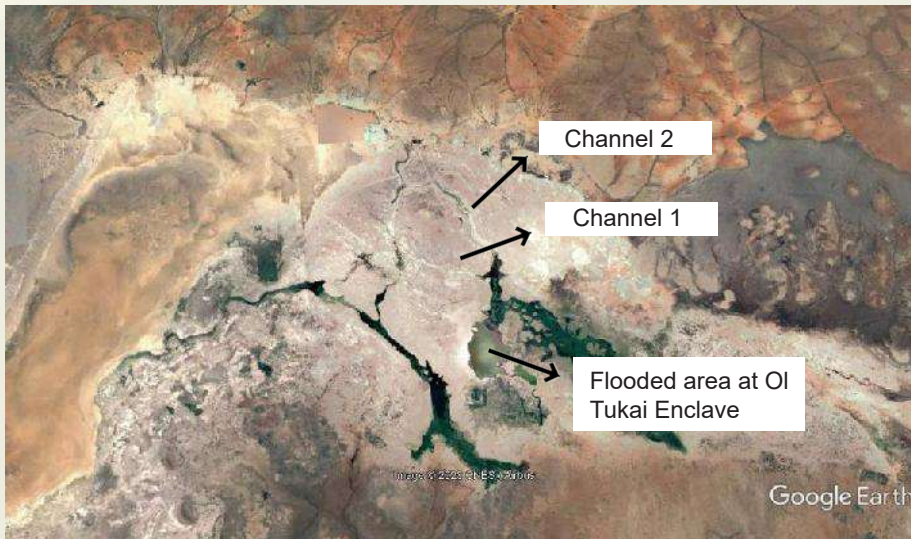
At a stakeholder meeting held in January 2020 to discuss the extreme flooding that was experienced in the park in December 2019, the workshop observed that until 1992 the basin did not flood as it now does. The extensive woodlands and shrub cover arrested and contained the heaviest rainfall in small isolated pans; the loss of vegetation cover, coupled with extensive soil erosion from the higher elevations north and south of the basin has caused the excessive inflow of water channelled into Longinye Swamp and exits at the far end across the central basin. The erosion is due to proliferation of permanent human settlement and heavy livestock grazing around Amboseli. The extensive flooding began in 1992 after migratory livestock herders set up permanent homes. The heavy permanent grazing caused loss of ground cover and heavy erosional runoff flooding into the basin<sup>20</sup>.

19 ACP, 2020. Bucking the dismal decline in wildlife: Amboseli numbers are going up. [www.amboseliconservation.org](http://www.amboseliconservation.org)

20 ACP, 2020. Extreme flooding in Amboseli National Park. [www.amboseliconservation.org](http://www.amboseliconservation.org)

To curb future floods, the two channels stretching across the basin that drained Longinye Swamps into Lake Amboseli during historical periods of high rainfall that have silted up over the decades will be desilted to carry excess future flooding into Lake Amboseli (Figure 11). Towards this end, KWS will work with ACP and Lodges in Amboseli to conduct a topographic survey to determine the desilting levels needed to channel the Longinye Swamps' excess flood waters into Lake Amboseli. The survey and works will be prioritised to avoid another closure of tourist circuits. However, enough seasonal flood waters will be retained to maintain the great flamingo and other waterfowl attraction in the park.

In the longer term, KWS will collaborate with AET and African Conservation Centre in the implementation of the ongoing range-land restoration programmes to combat erosion and restore pasture on the surrounding Olgulului-Ololarashi Group Ranch.



**Figure 11. Channels draining Longinye swamp (26/3/2019)<sup>21</sup>**

**Action 1.6: Undertake environmental impact assessments (EIA) and environmental audits (EA)**

Any project listed in schedule II of Environmental Management and Coordination Act (EMCA) cap 387, and Environmental Impact Assessment and Audit Regulations, 2016 must be subjected to EIA and EA. The objective is to ensure that the project is environmentally sound and sustainable, and that any anticipated adverse environmental consequences of the project are taken into account in project design, implementation and operation. The study identifies as early as possible information necessary for facilitating informed decision making, significant impacts, and factors and alternatives to be considered during the project implementation. EIA studies will therefore be undertaken on all projects (park administration and tourism) that will be implemented inside the park to ensure sound environmental management plans (EMP) are prepared and implemented. Environmental Audits for the ongoing projects inside the park will be undertaken from time to time to ascertain that their EMPs are properly implemented and also to address and mitigate any unanticipated negative impacts.

**Objective 2: Wildlife species conservation and management enhanced**

Species management is an integral aspect of wildlife conservation in Amboseli ecosystem. This objective targets to address two aspects of species management namely (a) human wildlife conflict and (b) animal health. Most of the wildlife is found outside the park and as a result cause a lot of human wildlife conflicts among them crop raiding, livestock predation, property damage, threat to human life, and human deaths. Conflicts may result to retaliatory killing of wildlife and wildlife intolerance.

Wildlife health depicted in wildlife disease prevalence and injuries pose a conservation challenge. Some zoonotic diseases are transmissible to livestock and humans. There is therefore need for constant

21 Source: Google Earth

disease surveillance for preparedness and mitigation as well as veterinary interventions for animals in distress.

Large mammal species in the park categorized by IUCN as threatened include the elephant, Masai Giraffe, Hippopotamus and Lion. Large and medium-sized carnivores in the ecosystem are a key tourist attraction. Despite this, however, the large carnivores are threatened with local extinction mainly due to killing and poisoning by pastoralists in retaliation for livestock predation.

This objective has therefore been designed to ensure that conservation and management of wildlife species is enhanced. To realize this objective the following management actions will be implemented.

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### **Action 2.1: Undertake wildlife disease surveillance and veterinary clinical interventions**

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Carnivore diseases are a major threat to the viability of small populations of threatened carnivore species like those found in the AE. A disease such as Canine distemper which commonly affects lions has wiped out many populations in the Past. Similarly Feline Immunodeficiency Virus infects lions thereby suppressing their populations substantially. Frequent rabies outbreaks among domestic and wild carnivores also threaten the small wild dog population in the AE.

Wild animals time and again get injured during their routine activities. These injuries could be human induced for instance as a result of conflict or poachers' snares, or they could be due to territorial fights or predator-prey interactions. While some injuries can heal unattended, some would be fatal without human interventions.

As such, to enhance wildlife health, the Amboseli Mobile Vet Unit will undertake prompt diagnosis and treatment of injuries and diseases in wildlife; undertake proactive disease surveillance and monitoring the health of wildlife in consultation with relevant government agencies and other stakeholders; investigate disease outbreaks and implement appropriate control and prevention strategies in consultation with the Head Vet Services and relevant government agencies; assist in problem animal control by capturing and relocating problem animals as may be requested by relevant wildlife managers; and rescue orphaned or abandoned young animals that may be in distress and recommend their adoption.

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### **Action 2.2: Work with others to enhance the conservation of special status species**

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Several conservation stakeholders are involved in minimising threats to elephants and large carnivores. The park management will continue to work with these partners to ensure these special status species recover. If any listed threatened or endangered species are found in areas that would be affected by visitor use, or restoration activities proposed under any of the actions in this plan, park management will consult with other stakeholders in the Amboseli Ecosystem.

The park staff will cooperate with stakeholders in inventorying, monitoring, protecting, and perpetuating the natural distribution and abundance of all special status species and their essential habitats in the Park and ecosystem. KWS will also continue to partner with stakeholders in the on-going efforts to enhance protection of elephants and lions. The preservation of populations and habitats of migratory species inhabiting the park and its ecosystem, such as large ungulates will be ensured.

The expansive Amboseli ecosystem is contiguous with the conservation areas in Tanzania forming the large conservation landscape encompassing the two countries. Animals move across the international boundary to and from Kilimanjaro National Park. KWS and partners will therefore collaborate with Tanzanian authorities to undertake regular cross border censuses for elephant and other large animals.

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### **Action 2.3: Coordinate and guide large carnivore conservation measures**

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Like elsewhere in the country, increasing human encroachment into predator range is displacing prey species resulting in increased livestock-predator interactions that in turn increase livestock predation incidents. Livestock predation is therefore the main reason why the local community kills predators in the AE. In addition, suppressed carnivore populations, particularly of lions, are also partly attributed to diseases like Canine distemper and Feline Immunodeficiency Virus which have killed a substantial number of carnivores in the recent past.

One way of minimizing carnivore-livestock conflict and retaliatory killings of carnivores is through establishment of carnivore conservation zones. Such zones can be set aside with the aim of ensuring the protection of carnivores and hence would have limited and controlled livestock and human use. Since the target carnivore species have large home ranges that are located mostly in community land, it is critical that the conservation zones are identified and set aside with full community participation to ensure success. As such, under this management action, potential carnivore conservation zones will be identified through analysis of lion monitoring data. Carnivore ranging patterns will be mapped and the map overlaid with spatial data on socio-economic activities in the carnivore home ranges to establish threats and the extent of suitable habitat, including critical corridors. It is on this basis that the communities in the identified potential carnivore conservation zones will be engaged in an incentive-based dialogue to set aside such areas for purposes of carnivore conservation.

### **Objective 3: Scientific information to support park management generated and disseminated**

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#### **Action 3.1: Support establishment a research sub-centre at Amboseli**

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In order for research to play a central role in guiding the management of the AE, it is essential that wildlife related research is focused on management oriented research and be driven by KWS needs. Currently, KWS does not have a major research presence in the AE; hence research is carried out by other stakeholders whose objectives are not necessarily similar to those of KWS. As such, realizing the scientific value of the AE as a base for ecological research and studies on Park-people interactions, KWS will support the Wildlife Research and Training Institute in establishing a research sub-centre in the ANP. The Research Sub-Centre will be equipped with the relevant staff and standard research equipment and its functions will mainly focus on:

- a) ecological monitoring;
- b) Ecological surveys;
- c) Management oriented research;
- d) Single species and community research;
- e) Environmental Impact Assessments and Audits of facilities in the Park;
- f) Coordinating wildlife research in the AE; and
- g) Monitoring water quantity and quality.

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#### **Action 3.2: Collaborate with stakeholders in establishing a digital library of published and unpublished reports on Amboseli National Park and its Ecosystem**

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Although enormous scientific data and information has been generated through research in Amboseli Ecosystem, this information is not readily available as it is held at offices of various government institutions (e.g. KWS, DRSSRS), individual researchers, or long-term research projects. To ensure that

research information is available to park management and enhance science driven management, a comprehensive digital library of research papers, reports and books on Amboseli will be established. As a first step, an annotated bibliography of all research work that has been carried out in the ecosystem will be done. Efforts will then be made to solicit for the research papers and reports that are not readily available to the public. In the implementation of this action, KWS will specifically work with AET, which intends to establish a digital library at the Noonkotiak Community Resource and Cultural Centre<sup>22</sup>.

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### **Action 3.3: Monitor the range condition within the Amboseli Ecosystem**

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To mitigate against range deterioration which can eventually lead to loss of biodiversity, range condition will be monitored on regular basis to determine those areas that need improvement or rehabilitation. The range condition and status of woody and herbaceous plants will be assessed in various parts of the AE to determine seasonal browse and graze availability in the ecosystem and facilitate development of sound range management interventions. The parameters to be monitored will include plant biomass, forage quality and availability, and the degree of soil erosion.

In addition, to have an insight on the impact of elephants on the woody species, assessments will be carried out to determine the level and extent of elephant damage in different habitats and for specific woody species. *Acacia spp.* will be targeted for monitoring as this form the bulk of the dry season forage for most wild herbivores and small livestock.

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### **Action 3.4: Monitor top carnivores to determine population trends, distribution and movements**

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Knowledge of the movement and ranging patterns of carnivores is important in the development of practical species conservation strategies. Several lions have been collared and their movement patterns monitored over the years. To gain insight on population status and trends of large carnivores, and efficacy of management interventions, apart from collecting data on lions only, park management will liaise with the KWS Species Programme department to extend carnivore monitoring to other top carnivores (cheetah, hyena and wild dogs). In regard to this, species monitoring protocols for top carnivore species in the AE will be developed and implemented in collaboration with stakeholders. The collected data will include population demography, threat status, and population distribution.

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### **Action 3.5: Study wildlife numbers and distribution**

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For effective and efficient wildlife management, information on what is being conserved, the quantity and quality, location, and status are very important. This management action will therefore ensure that information on the wildlife numbers and distribution is current through:

- Conducting regular aerial census for large mammals and large birds
- Conducting regular ground counts for large mammals and large birds
- Conducting regular carnivore censuses
- Monitoring wildlife movement through satellite collars fitted on selected animals (e.g. elephants, lions and giraffes)

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22 See Action 4.1 under the Institutions and Governance Programme of AEMP 2020-2030

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### Action 3.6: Undertake a comprehensive biodiversity inventory

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There is limited information on the biological diversity of ANP. Information on the big mammals of the park is available, but little is known of other fauna and flora species. A comprehensive biodiversity inventory is necessary to study and document different species of different taxa in the park. Studies covering ornithology, herpetology, small mammals, invertebrates and plants will therefore be undertaken.

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### Action 3.7: Conduct wildlife genetic studies

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This management action entails studying genetic diversity of the animals of ANP for purposes of genetic reinvigoration. This will ensure animals of a specific species (e.g. Cheetah) do not interbreed thereby weakening their genes that in turn reduce their survival abilities.

When animals are immobilized either for disease surveillance, injury treatment or translocation, tissue samples will be extracted for genetic profiling and analyses.

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### Action 3.8: Monitor elephant movement patterns

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KWS with support from IFAW has collared 6-elephants to enhance the study of elephants in the ecosystem. One vehicle has also been availed to facilitate elephant monitoring. This project is expected to run for the next 4 years. KWS will support this project by ensuring that data is collected by park management based on the designed data collection protocols.

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### Action 3.9: Identify priority applied research

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Amboseli Ecosystem has been a subject of numerous ecological and socio-economic studies which have contributed greatly to the current appreciable understanding of ecosystem functions and dynamics. Despite this, there are still several aspects of the ecosystem that are little understood and since they are critical to ecosystem integrity, measures are required to generate insights on these aspects. For instance, the hydrology of the Kilimanjaro catchment and its contribution to the Amboseli swamp system, the lifeline of Amboseli biodiversity, is little understood. Similarly, the status of the bird species assemblages has not attracted intensive research to shed light on their role in the ecosystem. Hence, under this management action, KWS will identify the most crucial ecosystem aspects that need to be studied and work with researchers to conduct research in these areas. Preliminary priority research topics identified are shown on box 3.

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#### **Box 3. Preliminary priority research identified for the AE:**

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1. The status of ungulate population in the Amboseli ecosystem
2. The status of large carnivores in the Amboseli Ecosystem
3. Ornithological studies targeting both migratory and resident species
4. Elephant-habitat interactions within the park and wider ecosystem
5. The impact of bush meat poaching on ungulates in the Amboseli ecosystem
6. Status of specific elephant corridors in the Amboseli Ecosystem
7. Status of fringe eared Oryx and its habitat
8. Potential solutions to human-wildlife conflicts related to elephants and large carnivores
9. The nature and extent of illegal sandal wood harvesting in the Amboseli Ecosystem
10. Habitat restoration studies
11. Natural resource valuation study

# ECOLOGICAL MONITORING FRAMEWORK

The Ecological Monitoring Framework set out in table 11 is an important complement to the Ecological Management Programme's objectives and actions. This framework aims at ensuring that the ecosystem health is assessed during the plan period to continuously gauge the effectiveness of the implementation of management actions under this programme. The framework is however not exhaustive and will therefore need further elaboration into a comprehensive AE Ecological Monitoring Plan which will provide a comprehensive basis for future ecological monitoring activities in the AE.

**Table 11. Framework for the development of the Ecological Monitoring Plan**

KEA/Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
<b>Conservation Target 1: Swamps and springs</b>						
<b>KEA:</b> Catchments forest size <b>Threat:</b> Habitat conversion	Area under forest catchments	Analysis of satellite images and aerial photos	Every 5 years	Land cover changes report	WRTI; ACP	Data is available
<b>KEA:</b> River regime (flow and pattern) <b>Threat:</b> Water abstraction	Level of water in key rivers	Installing and taking reading from water flow meters	Daily	Water flow monitoring reports	WRTI/WRA	Data is available
<b>KEA:</b> Water quality <b>Threat:</b> Chemical pollution	Amounts of dissolved chemicals in water	Direct measurements and laboratory analysis of chemicals in water samples	Seasonal (wet and dry)	Water quality analysis reports	WRTI;SFS;WRA	Data is available
<b>KEA:</b> Riparian habitat <b>Threat:</b> Habitat conversion	Area under riparian habitats	Analysis of satellite images	Every 5 years	Land cover changes report	WRTI;SFS;WRA	No data is available
<b>Threat:</b> Drainage of swamps	Area under swamps	Analysis of satellite images	Every 5 years	Land cover changes report	WRTI;SFS;WRA	No data is available
<b>Conservation Target 2: : Acacia Woodland</b>						
<b>KEA:</b> Population of key grazing species	Number of individuals of different sex and age classes of key grazing species	Aerial surveys, ground counts	Seasonal (wet & dry) after every 3 years	Ground counts and aerial survey reports	WRTI;ACP	Baseline data available for all species
<b>Threat:</b> Bush-meat poaching	Number of arrests made and snares removed	Analysis of occurrence book; removal	Monthly	Reports on arrests and snares	WRTI/security	Baseline data available
<b>KEA:</b> Extent of grassland	Area under grassland woodland	Analysis of satellite images and aerial photos	Every 5 years	Land cover changes report	WRTI; ACP	Baseline data available

KEA/Threat	Indicator of change	Method of measurement	Collection frequency	Data source	Responsibility	Data currently collected?
<b>KEA:</b> Vegetation structure and composition	Number of species and vegetation cover	Sampling transects to assess vegetation composition & structure	Seasonal (wet and dry) after every 3 years	Reports on floral structure	WRTI; ACP	Baseline data available
<b>Threat:</b> Fire	Number of fire outbreaks; Area burnt	Analysis of MODIS satellite reports	every 3 years	Land cover changes report	WRTI; ACP	No data is available
<b>Conservation Target 3: Grassland-shrubland mosaic</b>						
<b>KEA:</b> Vegetation structure and composition	Number of species and vegetation cover	Sampling transects to assess vegetation composition & structure	Seasonal (wet and dry) after every 3 years	Reports on floral structure	WRTI; ACP	Data available
<b>Threat:</b> tourist activities	Vegetation cover	Land cover assessments	Every 3 years	Land cover survey reports	WRTI/security	No data is available
<b>Conservation Target 4: Wildlife dispersal areas</b>						
<b>KEA:</b> Habitat size and quality	Extent of suitable grasslands; quantity and quality of preferred forage species	Mapping of habitat through satellite image analysis; lab forage quality analysis; transects & quadrants to establish forage quantity, rainfall to relate to primary productivity	Bi-annual; Daily (rainfall data)	Monitoring and mapping/ land cover changes report	ACP; WRTI/ consultant	data is available
<b>Threat:</b> Cultivation and settlement	Extent of settlement , cultivation and fences	Mapping land cover using aerial photos and mapping fences using GPS	Every 3 years	Land cover survey reports	ACP; WRTI	No data is available
<b>Conservation Target 5: Lion</b>						
<b>KEA:</b> Optimal population size, recruitment and structure	Large carnivore population performance; Habitat availability	Radio tracking	continuous	Carnivore monitoring reports	WRTI	Baseline data is available





# Tourism Development and Management Programme

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# PROGRAMME PURPOSE AND STRATEGY

The purpose of the Tourism Development and Management Programme is:

To develop high quality and sustainable tourism that offers memorable visitor experiences and benefits the local community

Amboseli National Park is one of Kenya's most important tourist destinations receiving over 150,000 visitors annually. The high visitation is attributed to unique and diverse tourism resources that offer varying tourism opportunities to local and international visitors who include Amboseli in their itinerary. The major attractions include the scenic view of the snow capped Mt. Kilimanjaro, the easily approachable elephants, large herds of plains wildlife found in the mosaic of habitats, and the authentic Maasai culture. These tourism resources offer not only excellent viewing opportunities, but also present opportunities for development of visitor activities and attractions that are specific to Amboseli. The swamps found in the Park and in the neighbouring ranches are the lifeline of the ecosystem's wildlife. They offer critical watering points and grazing areas for most grazers particularly during the dry season. They are therefore the best wildlife viewing areas as they host high densities of animals that congregate in these swamps during the dry season.

This tourism development and management programme sets out actions that ANP management and stakeholders will implement in the next 10 years. In implementing these actions the park management hopes to realize sustainable tourism development, by increasing the socio-economic benefits that accrue to the stakeholders and at the same time ensure that tourism does not impact negatively on the natural resource base. The following sections set out the strategic principles that will guide park management in implementing the Tourism Development and Management Programme and in achieving the programme purpose.

## Guiding Principles

***In implementing the ANP's Tourism Development and Management Programme, ANP Management will strive to ensure that:***

### **Tourism infrastructure is developed in a sustainable manner**

The NTB2030 aims to develop Amboseli as an **"African Safari"** destination. Under NTB2030's Infrastructure Strategy, actions to improve tourism infrastructure in Amboseli include: improve road connectivity on Classic Mara, Mombasa Connection and Southern Safari corridors; introduce standard format statutory signage and branded route and facility identification; introduce SOS and Hotline services along corridors linked to KTPS hotline; and develop Park entrance/exit and vehicle support infrastructure<sup>23</sup>. Hence, under this ANP Tourism Development and Management Programme, KWS will support implementation of these strategic actions, among others, to make ANP a **"must see"** tourist destination. It will also ensure that infrastructure to be developed in the park will be subjected to Environmental Impact Assessment in accordance with EMCA, 1999.

### **The tourism product is diversified to enhance visitor experience**

One of the strategic objectives of the KWS Strategic Plan 2019-2024 is **"enhance financial sustainability"** through increasing visitation to parks and developing new products and enhancing existing ones. As such, in line with this strategic objective, a guiding principle under this programme is to diversify the tourism product to increase park visitation without compromising the park's ecological integrity. Diverse tourism products will not only ensure that visitor experience is enhanced, but they will keep visitors from the

23 MoT&W, 2017. National Tourism Blueprint 2030

roads minimizing congestion. In addition, visitors participating in these activities would spend more time and cash in the Amboseli ecosystem further boosting the local economy.

In addition one of the strategic thrusts for the product strategy of the NTB2030 is to **“Elevate Amboseli’s status to ‘must see’**. To achieve this the existing tourism products (mainly wildlife viewing and cultural tourism) will be enhanced while new activities, such as *wilderness trails, walking, special interest tours (e.g. birds, trees, insects etc.), bush meals, star gazing, local community visits etc.* will be introduced into the area. Visitor experience will be enhanced through development of a visitor information and interpretive strategy and policy (includes directional, information and interpretive signage) as well as developing new events. Further, under the strategic thrust **“Develop niche tourism”** the existing and niche tourism products will be enhanced while new ones (Avitourism (Birding), Photography, Voluntourism (Communities and wildlife/nature conservation), Flora, Entomology, Scientific research, Film) will be developed. Moreover, KWS will ensure that tourism product development and packaging in ANP is value and market-driven and underpinned by a culture of service excellence in line with NTB2030.

### **Ensure visitor awareness, appreciation, understanding and enjoyment through interpretation of the natural and cultural attributes of Amboseli National Park**

To date, there are no interpretation or education programmes in Amboseli. The need for one and the demand by visitors for information necessitates a robust interpretation programme to diversify and enhance visitor experience and, in turn, aid greatly in the management of the Park. Park interpretation is an integral part of any Park operation. It facilitates an important flow of understanding between the administrator of the Park and the visitor. As such, under this programme, a guiding principle will be ensuring visitor awareness, appreciation, understanding and enjoyment through park interpretation. This is in line with Strategic Objective **“C1: Enhance excellence in service delivery”**, of the KWS Strategic plan 2019-2024 which seeks to enhance interactions with customers by using multiple channels, including revamping the KWS website, developing mobile apps and using social media and other media forms as well as develop products and services that respond to or anticipate customer needs. KWS will also aim to “sustain a powerful and distinctive destination experience that is competitively positioned and marketed in line with NTB2030”.

### **Local communities in the Amboseli Ecosystem are benefiting from tourism**

Tourism development in the Amboseli Ecosystem has, and continues to play an important role in the socio-economic development of the local people through generation of income and employment. Wildlife tourism has been adopted by some land owners as an alternative land use option through the establishment of community conservancies that are leased to tourism investors.

Since a viable and sustainable wildlife tourism sector depends primarily on maintaining connectivity between the Park and adjacent ranches to allow wildlife to access forage, it is vital that local communities receive tangible benefits for them to continue supporting wildlife tourism.

As such, KWS will support development of tourism-support infrastructure and unique products (e.g. cultural tourism, home stays) in the wildlife dispersal areas to ensure that the community is receiving tangible benefits from tourism.

These guiding principles are intended to guide the implementation of the three tourism management and development objectives. The three objectives are:

- MO 1. Tourism-support infrastructure developed and managed in a sustainable way**
- MO 2. Tourism is diversified and visitor experience enhanced to boost visitor satisfaction**
- MO 3. Visitor appreciation, understanding and enjoyment of the park’s resources is enhanced**

The following sections describe these management objectives and describe the management actions

needed to achieve them. Under each management objective there is a brief description of the relevant management issues and opportunities providing the justification for the actions.

The 3-Year Activity Plan for the Tourism Development and Management Programme, which details the activities, responsibilities, timeframe and milestones necessary for the delivery of each management action over a 3-year timeframe (2020-2023) of this management plan, is presented in Annex 1.

## MANAGEMENT OBJECTIVES AND ACTIONS

### Objective 1: Tourism-support infrastructure developed and managed in a sustainable way

Amboseli National Park is one of the most popular national parks in Kenya. Currently, the destination of the bulk of visitors to the rest of the Amboseli Ecosystem include the Park in their itinerary as tourism facilities, such as viewing roads are not developed in the Amboseli group ranches. As such, there is potential of visitor over-concentration in the Park if the current increasing development of tourist accommodation facilities continues outside the Park without the development of corresponding viewing circuits to support more vehicles. To ensure that tourists are dispersed widely in the ecosystem and beyond; and hence forestall further tourist-related ecological degradation of the park and ecosystem, tourism development will have to be coordinated with all infrastructures, existing and proposed, being subjected to environmental impact assessment or audit in line with the requirement of the Environmental Management and Coordination Act (1999). In addition, development of tourism accommodation facilities will be guided by the limits of acceptable use set out in the Amboseli Ecosystem Management Plan 2020-2030.

Over a very long time, development of tourism facilities within the Amboseli Ecosystem has mainly been investor driven and therefore not coordinated. Tourist facilities have therefore been developed without any regard to their potential impact on the environment. For instance at the 1.6 km<sup>2</sup> Ol Tukai enclave, which is at the centre of the Park, but owned by the County Government of Kajiado, there are currently three lodges (Amboseli and Kilimanjaro (derelict) and Ol Tukai), which have become a significant visual intrusion. In addition, the KWS visitor facilities such as the Bandas, campsite and Observation picnic site require prompt upgrade to enhance their appeal to visitors.

To upgrade the tourism facilities in the Park, several management actions have been identified as described below.

#### Action 1.1: Work with the County Government of Kajiado in rehabilitation of the Ol Tukai Enclave

At the establishment of the Park, the Ol Tukai Enclave (162 ha) at the centre of Amboseli National Park was allocated to the Ol Kejuado County Council for revenue generation from tourist accommodation facilities. It is currently managed by the County Government of Kajiado, the successor of the County Council. The enclave has three lodges, two of which are derelict. The expansion of Longinye swamp to the Ol Tukai area has claimed the Kilimanjaro Safari Camp and staff quarters for Amboseli Lodge, making these buildings an eyesore. A large area of the enclave to the south is also flooded. The enclave had a perimeter fence, which facilitated regeneration of Acacia trees but this fence broke down due to lack of maintenance.

As such, under this management action, KWS will collaborate with the County Government of Kajiado to enhance the aesthetics of Ol Tukai. It is expected that measures that will be implemented to control flooding in the park (e.g. desilting the channels that drain excess water from Longinye Swamp) will result in the reclamation of part of the enclave that is flooded. If this happens, the derelict facilities will be removed and replaced with a high-end ecolodge. The area will also be fenced to keep out elephants and allow regeneration of the Acacia woodland to screen the accommodation facilities. However, to facilitate new developments, the County Government of Kajiado and Amboseli stakeholders will collaborate in the development of a physical land use and development plan for the enclave in accordance with the Physical Planning and land Use Planning Act, 2019.

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### **Action 1.2: Establish, upgrade and maintain ANP Bandas and campsites**

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Amboseli is one of the most popular national parks in Kenya; hence there is need for upgrade of visitors facilities to enhance the experience of visitors in the Park.

The Park has four self-catering Bandas namely Kilimanjaro guesthouse (7beds), Kilimanjaro (4 beds), and Simba and Chui bandas (2 beds each). In addition, the Park has one public campsite located near the Park office. These facilities offer budget friendly accommodation and are normally used by Citizens and Residents. The facilities were last renovated in 2013 and have deteriorated with time, hence need renovation to enhance customer experience.

This management action will aim at undertaking activities that will help to rehabilitate Park Bandas and campsite to enhance competitive advantage of the Park accommodation facilities when compared to the emerging budget friendly facilities located outside the Park. Specific activities will include: renovations of existing bandas, installation of campsite benches, construction of a cooking shed, washrooms and perimeter fence.

Moreover, it has been observed that lack of maintenance of habitat restoration enclosure fences has led to failure of most of the enclosures. In addition, to enhancing habitat diversity, the enclosures can be used for camping increasing their value and ensuring that maintenance of their perimeter fences is prioritised. Consequently, a public campsite will be established at Daraja Mbao enclosure and special campsites in other enclosures as appropriate.

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### **Action 1.3: Redevelop the observation hill visitor site**

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The Observation Hill is the highest point in Amboseli National Park, and it is an ideal place for appreciating the scenic view of the park attracting at least 80% of the park's visitors. It is the only point in the park where tour operators take visitors to rest and have lunch after a game drive. Park management in collaboration with KWS Marketing and Business Development section has attempted to improve visitor facilities at this place. Stairs were developed to ease hiking up the hill and reduce soil erosion, a resting shade, information boards and washrooms have been installed.

Customers' comments have, however, indicated that the development did not consider the needs of People Living With Disability (PLWD). To address this problem the Observation Hill toilet will be remodelled to provide for the needs of PLWD. The hill side trail will be remodelled to allow the use of a wheelchair. A walkway ramp will also be constructed from the parking area to the washrooms and guard rails installed along the trail, rumps and observation points. The picnic shed and benches will also be renovated.

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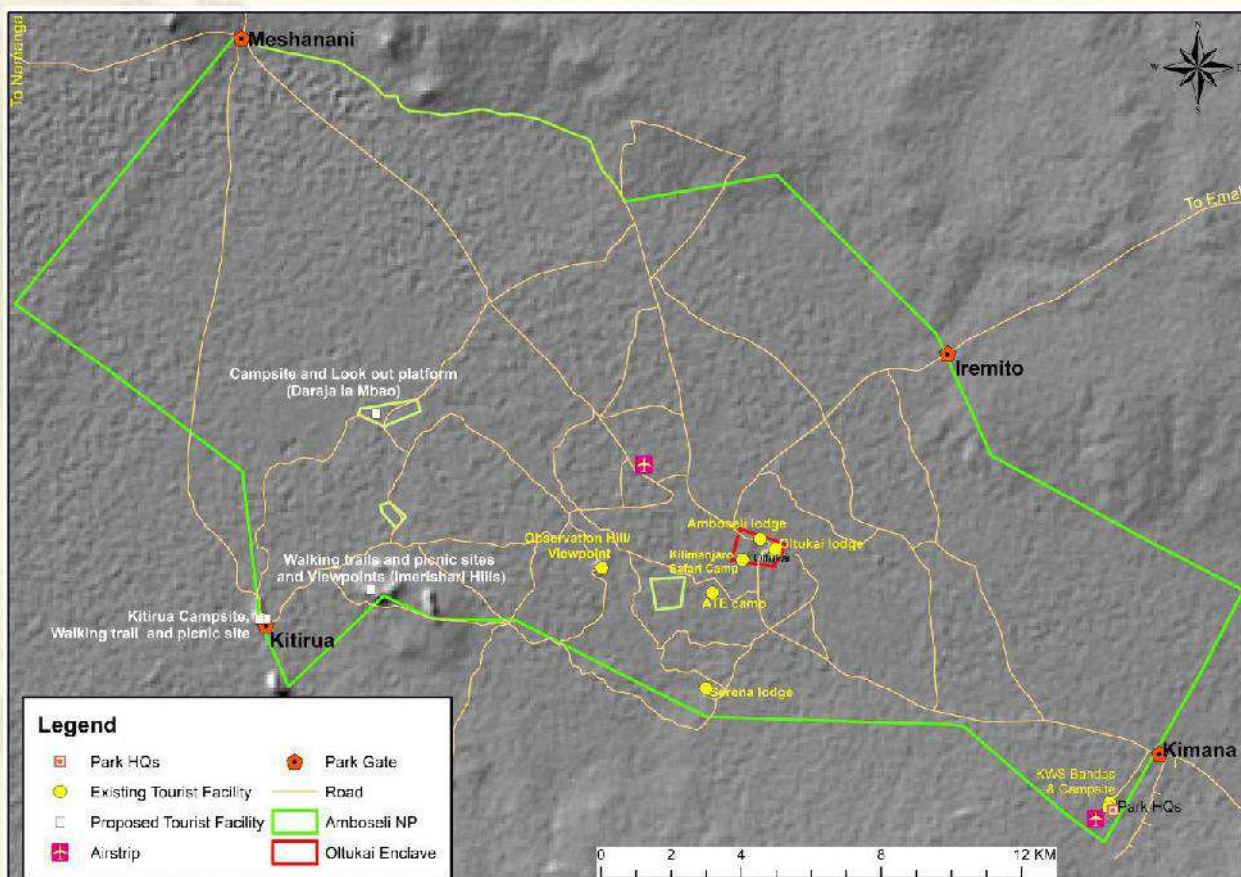
### **Action 1.4: Establish walking trails and picnic sites at vantage viewing points such as Imerishari and Kitirua hill**

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As mentioned above, a walking trail and picnic site have been constructed at the observation hill in the

Park. However, there are also other hills in the park where walking trails and picnic sites can provide visitors an opportunity to enjoy scenic views. These hills are Imerishari and Kitirua hills located at the southern boundary between the ANP and Olgulului-Ololarashi Group ranch.

To increase and diversify tourist activities in the park, a walking trail will be constructed at the Imerishari hill. Visitors will drive or walk up the hill and then either have a picnic, or a walk on the flat hill top (about 200 meters long), enjoying the panoramic scenic views of the Amboseli landscape. In addition, two picnic sites with minimum standard picnic site infrastructure, such as benches, and tables will be provided at the hill top. Similarly, Kitirua hills, which are located at the south western boundary of the Park, have a vehicle track to the top of the hill and a picnic area usually used for sundowners. This sector of the Park is rarely used by visitors, and it therefore offers a sense of solitude and wilderness that is preferred by solitude-seeking tourists. To enhance and streamline the use of this hill by visitors, a walking trail will be constructed at the hill and a picnic site provided at the hill top (Figure 12).



**Figure 12. Proposed and existing tourist facilities**

### Action 1.5: Develop raised observation platforms

One site, the Daraja Mbao enclosure that overlooks Lake Conch, has been identified as a suitable site for development of a raised observation platform. Other potential sites where raised platforms can be developed are at Sinet Swamp, Enkongo Narok Swamp and Longinye Swamp. The platforms will encourage visitors to slow their pace and take notice of what is around them. The locations will, however, be designed so that diverse wildlife can be observed. Appropriate interpretive signs will be placed along observation platforms' railing identifying the species that would prove to be most visible from the selected sites. However, the identification of the actual platform sites will be done by KWS in collaboration with relevant Amboseli stakeholders before construction. In addition, the sites will be subjected to Environmental Impact Assessments in accordance with EMCA, 1999.

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## Action 1.6: Support establishment of well designed community curio shops

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Curio shops provide visitors an opportunity to step out of vehicles and stretch as they buy local works of art on display. In the past, lack of curio shops close to ANP led to the emergence of a thriving, but uncontrolled curio hawking trade at the three busiest Park gates i.e. Meshanani, Kimana and Iremito. The hawkers, in their spirited attempt to sell their curios, used to annoy visitors with their insistence, ultimately affecting visitor experience. As a temporary measure, KWS and the County Government of Kajiado have collaborated to provide curio sellers metal containers at the gates to operate their businesses. However, to ensure that ANP remains a powerful and distinctive destination experience, KWS will work with the CGK to establish well designed and environmentally friendly curio shops at the gates. These curio shops will have stalls that will be leased to individual curio traders and they will be provided essential services, such as water, from the Amboseli water supply system.

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## Action 1.7: Promote connecting circuits between ecosystems adjacent to ANP

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Amboseli is currently on three tourist circuits. One is Nairobi-based and includes Amboseli and Tsavo as 3 to 4 day loop trip. A second is Mombasa-based and similarly links Tsavo and Amboseli. A third circuit is Mombasa/Amboseli/Mara/Tsavo/Mombasa by air.

To enhance access to ecosystems (Tsavo and Mara) and tourist sites adjacent to the Amboseli ecosystem, a Chyulu Hills connection between Amboseli and Tsavo will be established. This circuit will be a great improvement on the existing connection between the two ecosystems. An Amboseli/Chyulu/Tsavo circuit will provide an outstanding wildlife and scenic opportunities.

The ongoing upgrading of the Malindi-Namanga Road, which traverses three parks (Tsavo east, Tsavo West and Amboseli National Park) to low volume bitumen standard, will improve tourism linkage between the three parks. A southern link of this road to Masai Mara National Reserve will greatly use tourism resources in southern parts of Kajiado and Narok Counties. This linkage will therefore be promoted.

## Objective 2: Tourism diversified and visitor experience enhanced to boost visitor satisfaction

Amboseli is currently marketed as a premium wildlife safari destination where the Big Five can be viewed with the backdrop of Kilimanjaro. Hence most of the tourist activities revolve around wildlife viewing. Tourist activities in Amboseli Park are limited to wildlife and scenery viewing as the high concentration of wildlife, and the plain landscapes do not favour activities that are carried out outside vehicles. Hence, increased visitor traffic in the park has resulted in congestion on Amboseli's roads particularly during peak viewing periods, thereby devaluing visitor experience.

However, opportunities for tourists to engage in other equally satisfying activities exist in the park.

This objective is therefore designed to enhance visitor experience by providing a range of additional tourist activities based on the park's tourism resources. The management actions to realise this objective are elaborated in the following sections.

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### Action 2.1: Provide night game drives and wildlife tracking at a premium

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As part of efforts to diversify the experiences offered to visitors, KWS offers visitors alternative activities to the traditional game viewing. These include activities such as, night game drives, which are offered

in several national parks to give the visitor an opportunity to see nocturnal animals. In addition, visitors can be offered an opportunity to participate in research activities such as wildlife tracking. Several elephants, lions and giraffe have been collared and scientists track their movement to understand their home ranges. As such, to diversify visitor activities in the ANP, night game drives and wildlife tracking will be offered at a premium.

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### **Action 2.2: Support establishment of volunteer tourism**

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The Amboseli ecosystem is in a perfect position to be a leader in volunteer tourism where people volunteer to visit a destination to contribute their energy, skills and intellectual capital to a worthwhile cause. The rich Maasai culture, long term research programmes, a prominent and world renowned Park, the ecosystem challenges ranging from health issues, water supply problems, illiteracy, overgrazing and environmental degradation in the AE, present excellent opportunities for development of a viable volunteer tourism programme in the park and its ecosystem. Under this management action, KWS will partner with the community and other stakeholders to design a volunteer programme that will exploit the opportunities offered in the ecosystem. Visitors will be encouraged to volunteer in the Park and participate in various park activities such as vehicle and plant maintenance, visitor education and park interpretation, construction and rehabilitation of Park infrastructure and wildlife research. In areas outside the Park, volunteer opportunities exist in teaching and health institutions. Initially, volunteers will be accommodated at the KWS self-catering Bandas, but as the programme gains popularity, other alternative accommodation facilities such as 'home stays' will be provided by members of the local community.

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### **Action 2.3: Promote research tourism**

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The park is globally renowned for its long term research programmes on ecology, elephants, and Baboons, and recently lions. These research programmes have facilitated academic research for students from local and foreign higher learning institutions, thereby generating scientific information needed to support ecosystem conservation and management. Given the high research potential in the ecosystem, KWS will work with the Wildlife Research Training Institute and the established research programmes to attract more researchers to the Amboseli Ecosystem.

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### **Action 2.4: Introduce ANP bus hire and customized vehicles for game drive**

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Currently the Park does not have a game drive vehicle/ shuttle bus service for hire by visitors. This has slowed down local visitation to the park since the local low and middle class are unable to hire expensive tour vehicles to ferry them to the Park. Through this management action KWS will provide a bus and special vehicles for hire to visitors at affordable rates.

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### **Action 2.5: Promote and facilitate development of cultural tourism showcasing authentic local Maasai culture**

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The Maasai community is one of the few ethnic groups in Kenya that has preserved its culture. This outstanding cultural distinctiveness is a tourist attraction that has been marketed widely. Culture-related tourism is currently low and it usually involves visits to cultural centres, which are included in the wildlife viewing tour packages offered by tour operators. In order to reap maximum benefits from the opportunities offered by the cultural experience, measures that consider the interests of visitors and respect the Maasai culture will be taken. First, KWS will support members of the local Maasai community to display their way of life in its unadulterated form. This will involve promoting and supporting development of 'home stays' for cultural tourists. Second, cultural events such as

circumcision ceremonies will be promoted widely and visitors wishing to participate in, or film such events will be booked in advance. Third, the management of the existing cultural centres will be revamped through training of cultural centre operators in management and governance issues to ensure that the beneficiaries of these facilities are not exploited by visitors through acts that demean the community and its culture. These operators will also be trained in basic ways of interpreting the cultural aspect of the ecosystem to visitors.

Currently, cultural centres have to negotiate with tour drivers to get visitors, as inclusion of these facilities in the visitors' itinerary is determined by the tour drivers. Due to the increasing number of these facilities, there is need for coordination among the facilities to ensure that authentic Masai culture is displayed in a way that meets visitor expectation. Under this management action therefore, an Amboseli Cultural Centres Association consisting of representatives from the existing cultural centres will be established to set up standards and brand the cultural centres in terms of design, construction and operation, and liaise with tour operators regarding issues on cultural centres. One of the issues that will be addressed through this association concerns the small fraction of tourism revenue received from visitors who enter these facilities. Since these facilities rely entirely on the good will of tour drivers to have visitors, the management of these facilities are forced to strike a deal with the tour drivers where the drivers get up to 90% of the revenue. The association, with assistance from KWS and other stakeholders, will establish a revenue collection and transfer arrangement with prominent tour operators to ensure that the cultural centres are not fleeced by tour drivers.

To strengthen the capacity of this association and make it effective in developing and managing cultural tourism in the ecosystem, cultural centre operators will be trained in various aspects of enhancing cultural tourism including, tourism product development, display of culture, and delivery of quality service.

### **Objective 3: Visitor appreciation, understanding and enjoyment of the park's resources is enhanced**

To enjoy Amboseli National Park, visitors must have access to adequate information about how to get to the park, activities available in the park, and park rules and regulations. Adequate facilities must be available, as must opportunities to learn about park resources. There is need for interpretive actions to bring the park's stories to visitors in a form they can enjoy and understand.

There is a great scope for development of an interpretive/education programme in Amboseli. It is a major focus of this plan to outline the elements of an interpretive programme, based on the background work done during previous planning initiatives.

The management actions that have been designed to achieve this objective are elaborated in the following sections.

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#### **Action 3.1: Develop detailed interpretive themes based on identified concepts and sub concepts**

The interpretive conceptual themes for Amboseli have been identified in previous plans and form a coordinated and comprehensive interpretive framework for the Park. The following identified six themes are designed to focus 'the Amboseli story' around six general topics. Within each topic or theme are the detailed 'messages' or sub concepts that will be conveyed to the visitor. These concepts have been condensed to 84 specific sub concepts (Annex 3) the overall conceptual themes are as follows:

- ▶ **Conceptual Theme I:** The Amboseli basin environment has been strongly influenced by late Pleistocene volcanic. Sub concepts will deal with Amboseli Lake formation, volcanic of Kilimanjaro, soil formation, geomorphology.

- ▶ **Conceptual Theme II:** Mt. Kilimanjaro is a dominant influence on the Amboseli Park environment, affecting its topography, drainage system, soils and plant distribution. Sub concepts will deal with weather, water sources, spring formation, and drainage system.
- ▶ **Conceptual Theme III:** Amboseli is an example of high diversity community which, in an ecological sense, reflects a high degree of specialization. Sub concepts will deal with vegetation distribution, rainfall effects, vegetation zones, Lake Amboseli, and wildlife distribution and behaviour, behavioural patterns, species recognition, niche selection, habitat preference.
- ▶ **Conceptual Theme IV:** Amboseli wildlife population undergo annual seasonal dispersal and are highly dependent on the surrounding area of Ilkisingo Masai land. Sub concepts will deal with limiting factors of carrying capacity, dispersal patterns, causes for dispersal, seasonal habitat distribution.
- ▶ **Conceptual Theme V:** Large scale habitat changes have occurred in Amboseli over the last three decades which are representative of a larger ongoing cycle of climate and vegetation fluctuations. Sub concepts will deal with agents for habitat change, salinization, elephant damage, historical patterns.
- ▶ **Conceptual Theme VI:** The role of man in the Amboseli ecosystem has exerted a significant influence on the wildlife and vegetation. Sub concepts will deal with Masai ecology, history of Park establishment, effects of tourism, and history of man.

Under this management action, KWS will develop interpretation materials guided by the already identified interpretive framework.

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### Action 3.2: Establish tourism information centres

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Tourist information centres can be instrumental in conveying park interpretation to visitors, influencing where they visit and what they look out for once they are in the park. Currently, park information is provided at the gates, but it is not conveniently displayed as there is no space to do this. Consequently, most visitors go through the gates without knowledge of the availability of the information. To enhance visitor experience, information centres will be established at the key entry points to the park namely: Kimana, Meshanani, Iremito, and Empusel (airstrip) gates. These information centres will provide park interpretation materials and services to visitors before they enter the park. The tourist information centres will be required to be proactive acquiring and providing up-to-date information to visitors.

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### Action 3.3: Install directional and information signages

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Present informational and interpretive signage in the park is inadequate. Hence, to interpret on site to park visitors the natural processes historical events or physical features of Amboseli National Park; provide visitors with an expanded awareness of the park environment in addition to a sense of personal orientation and discovery; and focus visitor perceptions and activities towards preferred features and locations, the following guidelines will be followed:

- ▶ All park facilities will be identified with adequate and proper signage, interpretive signs will be designed/written based on the interpretive themes identified under action 3.1 under this objective;
- ▶ signs conveying rules, regulations, restrictions and other park management messages will be worded in a positive approach emphasizing what the public may do and should briefly explain the nature of the restriction;
- ▶ all signs will be periodically checked for vandalism, weathering and other forms of modifying agents, such as animals, and be maintained or replaced as required or deemed appropriate;
- ▶ any sign conveying misleading or inaccurate information will be removed and/or replaced; and

- ▶ Local materials will be considered where their use will contribute to the theme of the area.

The Observation Hill is singled out as a major interpretive exhibit site. Display panels will be placed at the top of the hill where the key interpretive messages would be revealed to visitors in two languages. Text should be as succinct as possible with an emphasis on illustrations or photographs.

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### **Action 3.4: Develop and update park interpretation materials**

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Guidebooks and tourist maps are very important in increasing appreciation of tourism resources in a tourism destination. They provide the much needed information on what is on offer, where it can be found, and how to get there. This information helps a visitor to understand the tourism products enhancing visitor experience and satisfaction. High quality guidebook and tourist maps have been developed for Amboseli National Park, but the information in these interpretation resources need updating. In addition, additional park information needs to be packaged and availed to visitors. As such, the following interpretation materials will be prepared:

- Tourist Map- Prepare an updated tourist map
- Guide book- Prepare an updated guide book that includes all the tourist facilities and attractions in the park and its environs
- General Park Brochure – a small, folding low-cost brochure which provides a map of the park and circuits, explains basic park opportunities, dos and don'ts and values. It will be designed to enable people to get themselves about efficiently while providing an overview of the more important aspects of Amboseli.
- Wildlife and People – a small brochure to indicate the best methods of ensuring safe wildlife recreation opportunities with tips on how to approach wildlife and how to get good photographs.
- Amboseli Walking Guide – illustrated booklet for Ilmerishari Hills, which describes the available interpretive resources in an orderly, progressive and interesting way.
- Interpretive Guide to the Road Circuits – this illustrated guide would interpret the varied features, dynamics and general natural history of each of the designated circuits. A fee would be charged for this publication.
- Wildlife Checklist – produced in folded pocket size. A fee would be charged for this publication.
- Birds of Amboseli – Illustrated guide to birds in the park. A fee would be charged.
- Trees and Shrubs of Amboseli – illustrated guide to park floral features.

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### **Action 3.5: Provide personal information services**

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No designated interpretation or education personnel presently exist in Amboseli. No programmes of any sort are currently presented in the evening at lodges or elsewhere. The tourist's perceptions of the Amboseli environment are largely dependent upon the personality and competence of private tour drivers. Increased visitation and improved information will further stimulate visitor enquiries. Park personnel will continue to interface with visitors and the demand for information and interpretive services will at least continue and will probably increase.

To enhance the park user experience by providing person-to-person communication on specific topics of a varied nature; provide an informal and pleasant contact with an informed representative of KWS for the purpose of clarifying visitor concerns while promoting a positive image of the park, its employees and the country; and contribute to the protection of park resources by explaining existing regulations and restrictions and the reasons behind them, the range and type of personal services that will be conducted by interpretive staff in Amboseli National Park are as follows:

- ▶ Evening or afternoon programmes from the Observation Hill. This site has a high potential for such programmes, but its effectiveness is dependent upon a well-researched format, carefully executed with a sense of dramatics suitable to bring it to life;

- ▶ Evening programmes conducted through power point presentations and videos, in lodges or to special groups;
- ▶ General interpretive guiding performed by ranger interpreters accompanying tour vans. The message must be purposefully communicated; convey insights into the life history and behaviour of species observed, embrace topics of geology and vegetation; expand visitor awareness to a wide variety of wildlife species (e.g. birds) and provide insights into current management problems or environmental issues affecting the park; and
- ▶ Guided interpretive walks into normally restricted regions of the park.

All stations manned by customer service personnel will maintain a neat and clean working atmosphere and will be stocked with the necessary supplies pamphlets, etc.

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### **Action 3.6: Provide ranger and community guiding services**

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Amboseli being a must visit park, needs experienced tour guides as they are currently lacking, and depends on customer service and gate rangers to undertake guiding services. Under this management action, ANP will partner with the local community to engage, train and build the capacity of community guides to handle the ever dynamic customer needs. These guides will be vetted and approved by KWS to offer guiding services at a fee in the park.

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### **Action 3.7: Reduce tourism environmental impacts**

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Due to high visitation and visitor congestion at wildlife viewing points, some rogue tour drivers go off road damaging fragile habitats and interfering with natural survival of the animals. To reduce impacts of off-road driving, park management will enforce park rules and regulations, install physical barriers, and sensitize drivers and tour operators on the impacts of off-road driving on the ecology and aesthetics of the park. Daily enforcement patrols both by vehicles and aircraft during peak periods will be conducted for enforcement of regulations. In the case where off road driving is occasioned by impassable road sections, park management will prioritise maintenance of these roads or temporarily close these roads to facilitate repairs.

Further, there is need to improve on litter disposal in the park through installation of baboon proof bins and collection centres for recycling waste and regular collection of litter and emptying of bins at tourist sites to keep the park clean.

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### **Action 3.8: Upgrade the revenue Management System**

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The park currently has two revenue management systems, the *Sun system* used by accountants and Safari card system for revenue collection at the gates. These are outdated systems that are not integrated and are inefficient. As a result, there is a need for a system that is: real time, able to monitor payments, verify bank transaction and fast in processing gate tickets to avoid inconveniencing visitors. As such, the park management will liaise with KWS headquarters for procurement of a user and customer friendly revenue management system.

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### **Action 3.9: Establish a tourism monitoring programme for the ANP**

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To understand the nature, extent and trends of tourism impacts, and consequently intervene promptly to avert major negative environmental and social impacts arising from tourism activities, ANP management, will establish a tourism monitoring programme in collaboration with the tourist facilities

and resident research NGOs in the ANP. Visitor satisfaction in the park will be monitored to determine the factors likely to affect the desirability of the park by visitors. Frequent interviews and visitor surveys, will be carried out and results used to improve the tourism product in the park. The results will also be disseminated to the tourism stakeholders through regular briefings and reports to facilitate them to take corrective action. Some of the data to be collected through the tourism monitoring programme will include bed occupancy, resource use by the facilities, amount of solid waste disposed at campsites and picnic sites, visitation, and visitor activities.

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### **Action 3.10: Collaborate with NEMA in conducting regular inspections of the AE tourism facilities**

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It is a statutory requirement under the Environmental Management and Coordination Act (1999) for all tourist Camps and lodges to conduct an initial environmental audit and subsequent annual audits. However, this provision is rarely followed partly because NEMA lacks the requisite capacity to enforce this legal requirement. To ensure that tourist lodges in the AE are environmentally compliant, hence minimize environmental pollution emanating from these facilities, ANP management will liaise with the KWS headquarters and NEMA to have a resident researcher or any other qualified resident environmental researcher, appointed by NEMA as an Environmental Inspector in accordance with the EMCA, 1999. The Environmental Inspector will be responsible for leading quarterly inspections of facilities to assess their adherence to environmental mitigation measures outlined in environmental Impact assessment and environmental audit reports. These inspections will be impromptu to ensure that facilities are continuously compliant. The Inspection will also focus on activities that contravene park rules and regulations and the WCMA, 2013, such as habituation and feeding of animals at the tourist facilities.

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### **Action 3.11: Establish a functional tourism-stakeholders' forum and hold regular forum meetings**

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Because of their vested interests, tourism investors can play a positive role in influencing future tourism development in the Amboseli Ecosystem. The investors share common interests of enhancing their clients' satisfaction to ensure repeat visits and positive marketing of their facilities by the clients. In addition, investors would like to recoup their investment and make profits from their enterprises. However, this cannot be achieved in an environment where land use is not controlled and therefore there is need for current investors, although they are competitors, to forge a common front to ensure that high quality tourism is developed in the AE. Development related issues have already emerged in the areas to the east and south of the park. Fences installed by developers are limiting animal movement by either hemming the animals in, or preventing traditional movements. It is therefore important that new entrants in the Amboseli tourism development sector find a cohesive and collaborating tourism industry to avoid chaotic development. Towards this, a tourism development and management committee consisting of the current tourism stakeholders and KWS will be established for purposes of lobbying for coordinated and sustainable tourism development in the ecosystem. Issues of concern among the tourism stakeholders such as asset devaluation (due to increased overcrowding by similar facilities), reduction of the natural and aesthetic appeal of the area, blockage of wildlife corridors, threat to visitor safety, will be addressed by this forum. In addition, this forum will agree on modality of joint implementation of management actions of benefit to all stakeholders.

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### **Action 3.12: Develop and market tourism products targeting the domestic tourism market**

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Park Visitation in Amboseli has been increasing over the last four years (2016-2019) with the park hosting an average of 150,000 visitors annually (Table 12). Visitors' trends in Amboseli show that tourist numbers have been an average of 60,000 (35%) citizen visitors compared to an average of 110,000 (60%) Non-resident visitors recorded for the same period. In view of the unpredictable perturbations in the international tourism market, it is important that the domestic tourism market is wholly exploited to maximize revenue collection in the park which will in turn support conservation.

**Table 12. ANP Visitation (2014-2019)**

Date	Visitor category			Total visitors
	Citizens	Residents	Non Residents	
2014	43,177	7,277	66,585	<b>117,039</b>
2015	38,144	6,016	42,780	<b>86,940</b>
2016	48,845	5,886	59,978	<b>114,709</b>
2017	54,024	5,974	77,626	<b>137,624</b>
2018	63,327	5,667	106,804	<b>175,798</b>
2019	<b>63,237</b>	<b>6,218</b>	<b>122,201</b>	<b>191,656</b>

To make significant inroads in the domestic tourism market, AE stakeholders will collaborate in developing tourism products specifically targeting local visitors. First, the existing tourist camps and lodges will offer special discounted prices during the low tourism season to make the facilities affordable to a wide range of Kenyans. Secondly, visitor accommodation facilities targeting the middle class domestic tourism segment will be developed by the local communities in collaboration with tourism investors. These facilities will include self catering Bandas and tented camps, and tents for hire. The development of the domestic tourism products will, however, be informed by results of research that will be carried out to find out the requirements of the various market segments of the domestic tourism market in terms of tourism experiences and packages of interest.

The other domestic tourism market segment to be exploited is the educational tourism. This is currently hampered by lack of suitable accommodation facilities for students in the AE. There is therefore significant room to grow this market if student hostels are provided for organised school groups. With regard to this, student hostels will also be constructed in the high use and low use tourism zones outside the park.

**Action 3.13: Market the park through the local and international media**

Amboseli ecosystem has received extensive local and international media coverage focusing on the Maasai culture, the rich wildlife biodiversity, particularly the famous long-studied Amboseli elephants, and its tourist attractions

To ensure that tourism resources in the park and its ecosystem are widely known by potential visitors, KWS will solicit regular local and international media coverage of the ecosystem’s activities such as cultural events, habitat restoration, wildlife counts and translocations. Moreover, KWS will collaborate with other stakeholders (researchers, community and tour operators) to ensure that at least two television interviews, two radio interviews, five newspaper articles and one magazine article are produced every year.

The ecosystem’s tourism activities are currently advertised in many internet websites including the KWS website. The web content of these sites is, however, shallow and does not display tourism resources in the ecosystem adequately to create continuous interest in the ecosystem. To enrich the ecosystem’s web content and give updated and relevant information to visitors through the KWS website, KWS will solicit relevant information from AE stakeholders and incorporate it in the Amboseli web page.

**Action 3.14: Hold special events to promote tourism in the Park**

An effective way of promoting the park is by organising special events that are attended by both local and international visitors. Some of the events that the Amboseli stakeholders will organise will be geared towards marketing cultural tourism and wildlife based tourism. In regard to this, under this management action, “Elephant Naming event” will be organised annually to celebrate the park’s flagship species.

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### Action 3.15: Develop specific brand strategy for the Park

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Whereas the Masai Mara National Reserve is famous for its annual spectacle of wildebeest migration, Amboseli National Park prides itself for having big tusked elephants that are known individually having been monitored for about 50 years. The park's other attraction is the excellent view of Kilimanjaro, which influenced branding of the park as the "Kilimanjaro Courtyard". Hence, under this management action, the park will be rebranded to bring out its uniqueness in the protected area system. This calls for development of a brand strategy for the park.







# Community Partnership and Conservation Education Programme

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# PROGRAMME PURPOSE AND STRATEGY

The purpose of the Community partnership and Conservation Education Management Programme is

**To enhance community participation in wildlife conservation for socio-economic empowerment**

Three things stand out as key in wildlife conservation in community-owned land in Amboseli ecosystem i.e. increasing community participation in decision making to create an environment for sound land use planning; creating economic incentives for conserving wildlife; and reducing the cost of living with wildlife through implementing prudent measures to manage the escalating human-wildlife conflict.

The aim of the Community Partnership and Conservation Education Programme is therefore to push for sustainable conservation of community land. In particular, the programme seeks to address issues related to implementation of group ranch land use plans, enhancing human-wildlife co-existence, enhancing environmental education, and increasing benefits accruing from natural resource management and use. This programme will be guided by a set of principles which are set out in the following sections.

## Guiding Principles

***In implementing the ANP's Community Partnership and Conservation Education Programme, ANP Management will strive to ensure that:***

### **Local communities are recognized as key partners in wildlife conservation**

Amboseli NP is completely surrounded by Maasai owned group ranches. These are now subdividing to smaller, individual holdings, creating an enormous conservation challenge as tenure changes are likely to result in land use changes that will increase human-wildlife conflict. Critical wildlife dispersal areas and migratory corridors that buffer ANP and link it with other adjacent protected areas, such as Tsavo West, Chyulu and Kilimanjaro National Parks are all in community or private lands. To ensure that wildlife dispersal areas and corridors remain open for wildlife to roam freely, under this Programme, and in line with strategic objective "**C2: Strengthen relationships with stakeholders and partners**" of the KWS Strategic Plan 2019-2024, KWS will work closely with the local communities through their established governance structures, to ensure that wildlife conservation remains a viable land use option in the park's dispersal areas.

### **Socio-economic benefits to the local communities and private land owners are enhanced**

For the local community in the AE to continue hosting wildlife on their land, it is imperative that wildlife is seen to contribute positively to the community's economic aspirations. There is potential for increasing revenue accruing to the community if the enormous tourism potential is exploited and financial management is enhanced. In addition, there is potential for increasing benefits to the community if KWS invests in the community livelihood projects contained in the Amboseli Ecosystem Management Plan 2020-2030. For instance, KWS could invest in projects aimed to improve livestock breeding and husbandry, and livestock marketing system to ensure that pastoralism, which is compatible with wildlife conservation, remains an important livelihood. This programme will therefore aim to support community projects that yield tangible benefits to the community.

### **Human-wildlife co-existence is enhanced**

Wildlife continues to affect the AE community negatively through incessant crop raiding, human injury,

and livestock predation. Crop raiding is rampant in irrigated areas around wetlands, and the rain-fed agricultural areas at the foot of Mt. Kilimanjaro. Conflict mitigation measures adopted by KWS and other stakeholders include: raising the wildlife tolerance threshold of affected people by paying some form of compensation, problem animal control through scaring or shooting culprit wildlife, improving the habitat by providing water outside the park, and using physical barriers to keep wildlife out of farms. Despite the implementation of these measures, HWC seems to be increasing particularly in the cultivated areas leading to increased resentment of wildlife. To gain support for conservation outside the park and minimize wildlife resentment, effective measures to curb HWC will be put in place.

### **Awareness of the park's ecological as well as socio-economic importance at the local and international levels is enhanced**

Public awareness of the importance of the park is critical to the continued support of its conservation. Conservation in the ecosystem is under serious threat from competing land uses and unless the local community is made aware of the opportunities and benefits of conserving wildlife and its habitats, conservation might lose out in the long run. Increasing outreach and educational programs will help connect diverse audiences to the park's resources, build a local and national constituency, and gain public support for protecting the park's resources. Hence, under this programme an elaborate conservation awareness programme targeting key stakeholders will be carried out. This will be mainly through outreach programmes in schools, the mass media, internet and participation in local, regional and national environmental events.

The above guiding principles are meant to guide the development and implementation of three management objectives that have been identified to achieve the Programme Purpose. These are:

- MO 1. Community benefits from existence of the park and its wildlife enhanced**
- MO 2. Human-wildlife co-existence in wildlife dispersal areas enhanced**
- MO 3. Awareness about the park and ecosystem at the local and national level enhanced**

The following sections describe these management objectives and corresponding management actions needed to achieve them. These management objectives and their management actions are described in detail in the sections below.

The 3-Year Activity Plan for the Community Partnership and Conservation Education Management Programme, which details the activities, responsibilities, timeframe and milestones necessary for the delivery of each management action over a 3-year timeframe (2020-2023) of this management plan, is presented in Annex 1.

## **MANAGEMENT OBJECTIVES ACTIONS**

### **Objective 1: Community benefits from existence of the park and its wildlife enhanced**

Community enterprises in Amboseli are mostly tourism based. This has been risky as tourism associated business is very vulnerable to local and international uncertainty. In addition, tourism enterprises do not involve a large section of the community and thus benefit spin-offs are much localized. Thus there is an urgent need to diversify enterprises with a view to increasing benefits from natural resource use as a way of reducing impacts of a tourism slump.

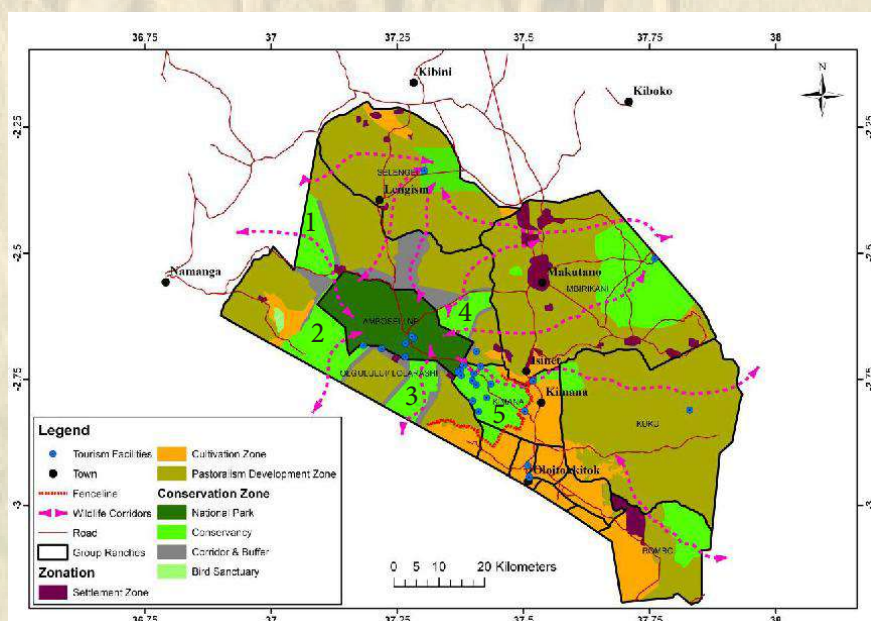
Wildlife based income to local community through groups like the group ranches have limited impact in influencing perceptions and appreciation of wildlife conservation. On the other hand, incomes reaching households directly is considered critical to convincing the community to support wildlife conservation efforts. Improved income from wildlife will not only create economic value for habitats and wildlife but will justify their preservation or sustainable use under very competitive land use options.

This objective seeks to enhance community benefits accruing from the existence of the park and ensure that the benefits trickle down to the household level. The management actions designed to achieve this objective are set out in the following sections.

### Action 1.1: Support establishment of functional community wildlife conservancies in the group ranches to create opportunities for wildlife enterprises

One of the major challenges facing wildlife conservation in the AE is the increasing loss of wildlife corridors and dispersal areas due to increased farming and settlement which is exacerbated by the ongoing subdivision of group ranches. The major corridors linking AE to other ecosystems that need to be secured include the Kitenden corridor, which links ANP to the high rainfall afro-montane Kilimanjaro ecosystem and the Kimana corridor linking ANP and Kimana swamp. With the ongoing subdivision of Olgulului-Ololarashi Group Ranch, the corridors linking the park to Selengei, Mbirikani and Mailua Group ranches require urgent attention.

Enhancing conservation benefits is one of the incentives that can motivate communities to set aside land for conservation purposes ultimately saving wildlife corridors and dispersal areas. To secure critical wildlife dispersal areas and corridors in the AE, and to ensure that livestock has adequate grazing areas during droughts, under this management action, park management will collaborate with land owners to establish functional wildlife conservancies (Figure 13). As a first step, KWS will support establishment of functional conservancies in Olgulului/Ololarashi Group Ranch, which has been subdivided and 80% of members have allotment letters. The group ranch has set aside four conservancies i.e. Ingarunyoni, Kitirua and Ole Narika and Kitenden Conservancies to link the park to the rest of the ecosystem and beyond. A wildlife corridor has also been set aside to link the park with Selengei Group Ranch. KWS will work closely with the Olgulului-Ololarashi Group ranch members in the development of tourism and administrative infrastructures for these conservancies. It will also support development of the management capacities of the conservancies as required under the Wildlife Conservation and Management Act, 2013. In addition, KWS will support strengthening community mechanisms that will be established to secure land for pastoralism. This will include supporting land trusts that will be established by the community to buy land parcels on sale and retain them for pastoralism and wildlife conservation uses.



- 1-Ingarunyoni
- 2-Kitirua
- 3-Kitenden
- 4-Ole Narika
- 5-ALOCA

Figure 13. Amboseli Conservancies bordering the ANP

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### **Action 1.2: Support community livelihood projects**

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Community benefits from wildlife have customarily been through Community Based Institutions (CBI) such as a group ranch. The community has been benefiting from concession fees paid by tour operators for the exclusive use of designated conservation areas and lease fees paid by hoteliers for the development of tourist accommodation facilities. Additionally, tourism related revenue is also derived from the operation of cultural centres. However, despite the fact that the group ranches receive a fairly significant amount of money annually, very little trickles down to the household level. Consequently, benefits from wildlife have not contributed to improved livelihoods and reduction of poverty. As such, under this management action, KWS will directly support community projects whose benefits can be felt at the household level. These projects will include pasture and livestock improvement programmes and other social projects aimed at uplifting the community's welfare e.g., water supply, health, and education projects. To ensure these projects' sustainability, capacity building is needed in enterprise conception, business plan development, and project and finance management. Hence, the management teams of the supported projects will be trained in leadership, project management, and basic entrepreneurial skills, to enhance their capacity in business development and financial management.

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### **Action 1.3: Support the Amboseli/Tsavo Community Wildlife Scouts to increase wildlife related benefits within the community**

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Considerable benefits accrue to the local communities from wildlife-tourism in the ranches and the National Park. Since the early 1990s, KWS has been sharing a proportion of the tourism revenue from Amboseli Park with the local community. However, as mentioned above, although significant revenues accrue to the community, very little of it trickles to the common group ranch member, most of it being consumed by management operation costs and community projects. In view of this, there is general disillusionment with tourism benefits among the group ranch membership leading to increasing acts that are not supportive of conservation and tourism such as elephant spearing and lion poisoning.

To enhance the distribution of resources and increase support for wildlife-based tourism, KWS will collaborate with other stakeholders to enhance the strength of the community wildlife scouts by engaging more local youth in wildlife protection and help build a sizeable local constituency benefiting from wildlife-tourism. Towards this, scouts will be recruited for the new conservancies to be established with support from KWS. And to ensure that the scouts have requisite skills to address wildlife and tourism issues, all the scouts will receive basic training in wildlife management skills and tour guiding. On completion of training, efforts will be made to designate the scouts as Kenya Police Reserve to make their policing work more effective. In addition, stakeholders will collaborate to ensure that the Amboseli community wildlife scouts are provided with essential tools, such as vehicles and communication equipment, to address wildlife issues outside Amboseli National Park effectively.

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### **Action 1.4: Support training of cultural centre managers**

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The cultural centres are places where individual members of the local community can trade in artefacts and obtain direct income from tourism. However, cultural centres operators are not trained in marketing, business management, and accounting putting them at a disadvantage when negotiating deals with customers. Business management skills are critical for the success of such businesses and indeed, cultural centre performance has been hindered by a lack of such skills. Under this management action, a deliberate attempt will be made to improve the management of the cultural centres in financial and administration skills. Managers of each cultural centre will be trained in developing and implementing business plans. This action will be implemented in conjunction with action 2.5 of the Tourism Development and Management Programme.

## Action 1.5: Support implementation of group ranch land use plans

As mentioned above, Amboseli National Park is fully surrounded by community owned land whose tenure and use is changing very rapidly to the detriment of the park and wildlife conservation in general. Kimana and Olgulului/Ololarashi group ranches envelop the park and they contain critical habitats and wildlife dispersal areas. Eselenkei group ranch further north provides a wet season foraging area for mega-herbivores such as elephants, while Kuku and Mbirikani group ranches provide critical linkages to Chyulu and Tsavo West ecosystem respectively. Changing land use arising from changes in tenure and socio-economic values among the local Maasai community that is increasingly expanding agriculture in the region, is likely to have a significant effect on traditional wildlife movements in the ecosystem. Fortunately, although all group ranches are subdividing, they have all developed land use plans to guide and control development of competing land uses in the ranches. These land use plans have recognized that pastoralism is the mainstay of the local community. Consequently, the land use plans have set aside majority of the land for pastoralism. The pastoralism zones have further been re-zoned into wet season and dry season grazing areas that are managed through traditional governance systems. In addition, if other group ranches adopt the Olgulului-Ololarashi Group Ranch land subdivision model, pastoralism and wildlife conservation will thrive in the AE. In this model, group ranch members will settle in community service centres and individual land parcels will be consolidated and managed communally for livestock production.

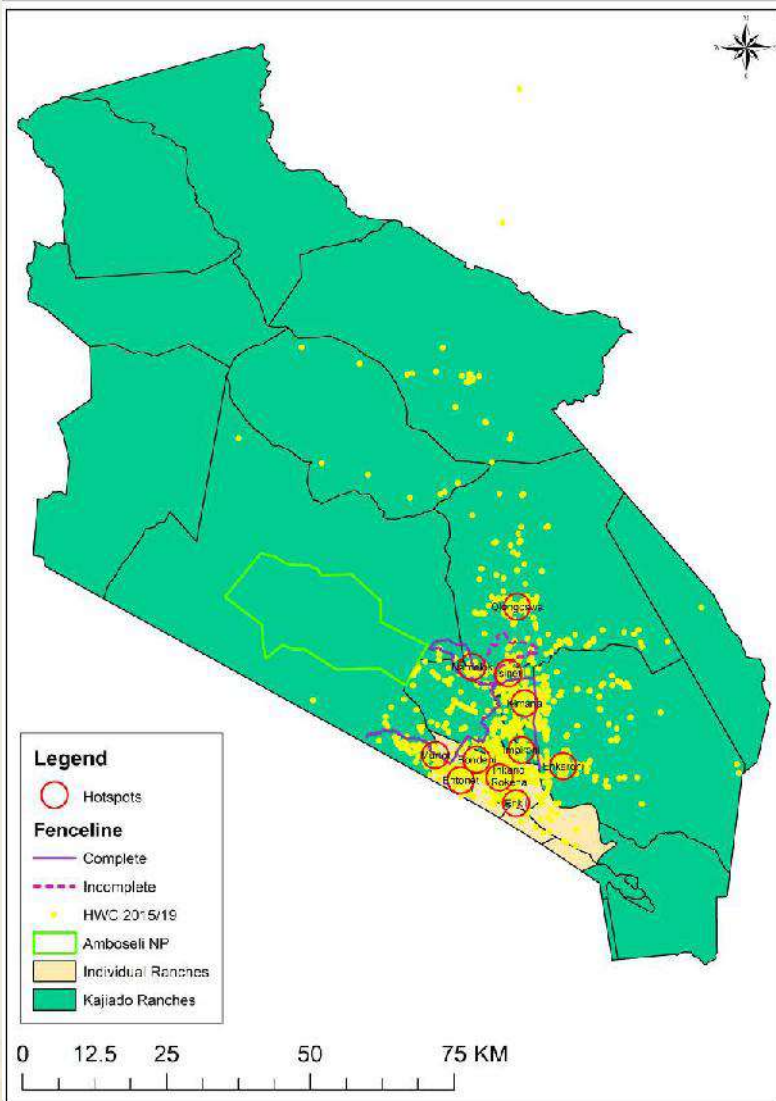
Through this management action, the community will be supported to implement the livestock grazing plans designed for management of the pastoralism zone and implementation of the community service centres (nucleated settlements). In regard to this, park management will collaborate with other stakeholders to provide funding support for organizing community meetings that will be required to control livestock grazing to maintain traditional pastoralism despite the ongoing individualization of land tenure. In addition, rangeland rehabilitation programmes will be supported and water supply for livestock enhanced in the livestock grazing zones. Infrastructure development (e.g. water, roads and electricity) at the community service centres will also be supported.

## Objective 2: Human-wildlife co-existence enhanced

Human-wildlife conflict in the AE takes five dimensions which include the following: crop and property damage by wildlife especially elephants, injury and death of people caused mainly by elephants, livestock killing by elephants and lions, competition for resources and disease transmission from wildlife to livestock. Analysis of HWC information has assisted in identifying and mapping the HWC hotspots in the ecosystem and the associated problem animals (Table 13 and Figure 14)

**Table 13. HWC hotspot areas in the Amboseli Ecosystem**

HWC Hot spot area	Problem animal/HWC
Lenkism	elephants and lion
Enkii	Elephants
Osewani	elephants and lions
Lorakir	Elephants
Sopa	Elephants
Kitirua	Lions
Olgululuimapuli borehole	Elephants
Oldule	Lions
Marba	lions, buffalo and elephants
Kisajani	bush meat and elephants
Entonet	bush meat
Simba cement	bush meat



**Figure 14. Human Wildlife conflict hotspots based on georeferenced HWC data from 2015-2019**

This objective has therefore been designed to address the perpetual human-wildlife conflicts in the AE. The actions designed to realize this objective focus on construction, rehabilitation and maintenance of wildlife barriers, supporting the Amboseli Human-Wildlife Co-existence Committee (HWCC), building the capacity of the community and Amboseli KWS Community Wildlife Service Section to respond to human-wildlife interaction issues, working with the Community Wildlife Conservation Committee to fast track processing of wildlife compensation claims, controlling livestock incursion inside the park, and ensuring prompt response to problem animal control incidents. These actions are elaborated in the following sections.

### **Action 2.1 Construct, rehabilitate and maintain wildlife barriers**

Wildlife barriers such as electric fences, if well maintained, can be very effective in keeping out elephants and other crop raiding wildlife from farms minimizing losses significantly. As such, KWS will collaborate with other stakeholders in maintaining the existing wildlife fences e.g. Kitenden-Kimana Fence. In regard to this, KWS will support the Big Life Foundation-maintained Kitenden-Kimana fence to ensure that it remains effective in keeping elephants from farms at the foot of Kilimanjaro and Kimana area. And in case other human-wildlife conflict hot spots emerge during plan implementation, EIAs will be carried out and the community will be assisted in installing effective barriers based on the EIA recommendations.

## Action 2.2: Support the Amboseli Human-Wildlife Co-existence Committee (HWCC)

Conflict management involves dialogue and negotiation, which requires a platform for aggrieved parties to air and get solutions to their grievances. Human-wildlife conflict adversely affects people and the absence of a platform for dialogue only serves to increase and amplify the intensity of the conflict. In case of loss of human life, crop destruction, or livestock killing by wildlife, retaliation raids on offending wildlife are carried out by Morans who are mobilized to search and kill the perceived problem animal. The most affected problem animals in the ecosystem are the elephants and lions which are categorised as threatened species by IUCN.

To promote positive coexistence between the AE community and wildlife, KWS and the Amboseli Ecosystem Trust (AET) have facilitated the establishment of a HWCC to coordinate and support implementation of measures geared towards promoting human-wildlife coexistence that are being implemented by diverse stakeholders operating in the ecosystem. Hence under this management action, KWS will support the HWCC by facilitating the committees meetings. KWS will also build the capacity of the HWCC and Amboseli CWS to promptly respond to human-wildlife co-existence issues.

## Action 2.3: Mitigate livestock predation by lions

One of the major problem animals in the ecosystem is the lion. The lion preys on livestock leading to retaliatory killing by the Maasai Morans. To minimize these incidents, efforts in preventing lions from preying on livestock will be enhanced through support offered towards improving herding strategies and constructing predator proof Bomas. Towards this, KWS will work with Born Free Foundation and other stakeholders to construct lion proof Bomas in the home range of Amboseli Lions. So far Born Free Foundation has constructed 326 predator proof Bomas in livestock predation hotspots in the Amboseli Ecosystem (Figure 15)<sup>24</sup>

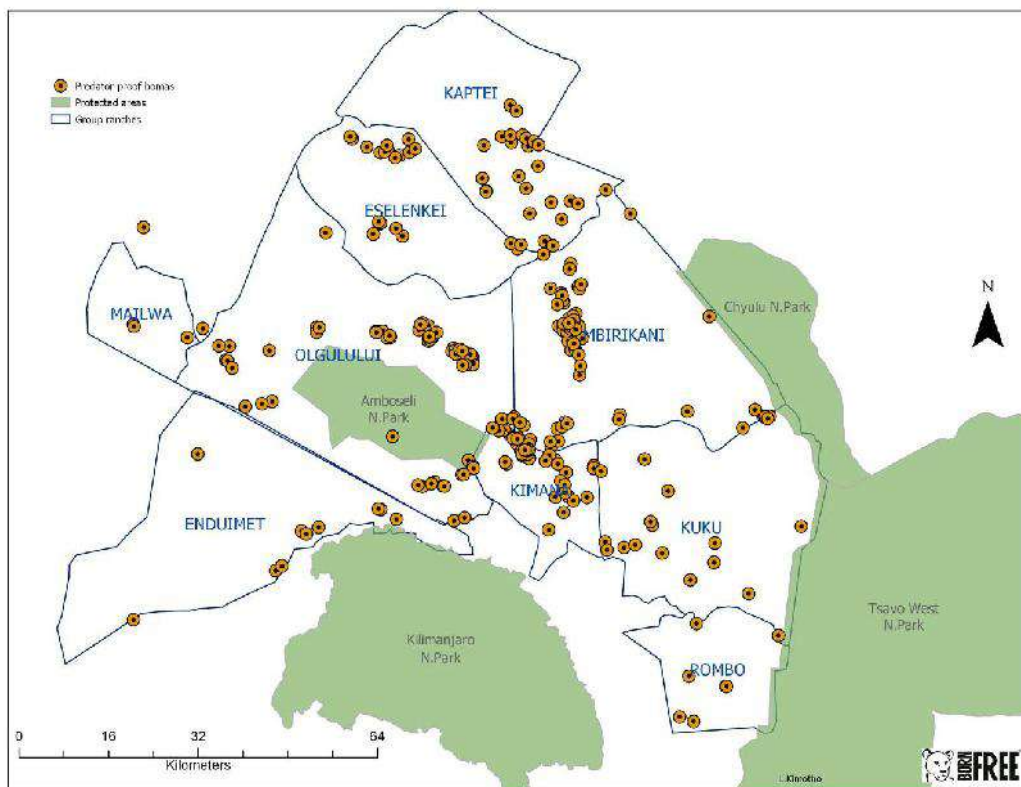


Figure 15. Distribution of predator proof Bomas in the Amboseli Ecosystem

24 Source: David Manoa. Born Free, Kenya

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## Action 2.4 Establish problem animal control (PAC) outposts

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For the HWC hotspots (Table 11 above), PAC outposts manned by well-equipped rangers will be established. The outposts will be established in the following areas: Selengei, Oltiasika; and Olgulului-Ololarashi. In addition, mobile PAC teams will be provided with complete camping gear sets to enable them to set camp in the affected areas and respond to cases from close proximity.

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## Action 2.5: Control livestock incursion inside the Park

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Sometimes the absence of continuous park patrols can encourage community members to bring their livestock inside the park searching for water and pasture. The presence of people and livestock inside the park might attract wild animals, resulting in human-wildlife conflict. Hence, to control such conflicts, livestock patrols will be intensified in the park. In addition, ANP management will support the Wildlife-Livestock Interactions Management Committee whose membership comprises of KWS, local community representatives and representatives of the local administration so that it is effective in controlling livestock incursion in the park.

In addition, under this management action, KWS management will work with the Ministry of Water and Irrigation, County Government of Kajiado and the local community to implement measures that will mitigate livestock impacts. Towards this, KWS will rehabilitate the existing old 90km Amboseli Water Supply pipeline whose source is at Serena, while the Ministry of Water and Irrigation will install a new water pipeline from Serena to increase water supplied to the community and thereby mitigate livestock impacts in the park. Community water pans, earth dams and boreholes will also be maintained.

## Objective 3: Awareness about the Park and ecosystem at the local and national level enhanced

The desired future state for the AE is one where the local community and the Kenyan public at large appreciate efforts being made to conserve AE's exceptional resource values for the present and future generations. This is in line with the KWS Conservation Education Strategy, which notes that educating the Kenyan public and international community on the value of Kenya's wildlife resources is vital if KWS is to win support for wildlife conservation in the wake of competing land uses.

To achieve this objective and gain the required support for conservation in an environment filled with discontent arising from human wildlife conflicts, five management actions focusing on designing an outreach programme that targets different social strata in the Amboseli community; developing conservation education and outreach materials; creating awareness among the public on the importance of the AE through the mass media, internet, and organizing and participating in conservation awareness events; establishing sponsored park tours for the local community; and promoting Citizen Science, will be implemented. These actions are elaborated in the following sections.

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### Action 3.1: Design a conservation education outreach programme based on the local community's social stratification

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Three social strata can be discerned in the local community at Amboseli including the elite group comprising of the wealthy and educated, the middle class comprising of less wealthy and those who have formal education of up to college level, and lastly the poor who are the majority and generally have low education. The perceptions of these social strata on wildlife conservation are very different with the elite and middle class being more accommodative of wildlife than the poor. This may be attributed to the fact that community leadership is mainly drawn from the elite and middle class strata which have been the focus of an intense conservation awareness Programme. In addition, the conservation and awareness education activities in the AE have focused mainly on the male gender with women, the youth and school children receiving minimal attention.

To gain conservation support across all the social strata in the AE, a robust outreach programme with education products designed for specific groups is required. Towards this, the education programme will develop educational materials and activities targeting various groups. In the case of school children, this will include giving wildlife lectures and video shows in local schools. Local schools will also be encouraged to visit the park and use it to learn ecological principles and dynamics. The habitat enclosures will be used to demonstrate the role of elephants in habitat modification. The schools will also be sensitized to form wildlife clubs that will liaise with KWS in organizing environmental activities such as, Park cleaning, drama, and essay competition, to enhance conservation awareness amongst school children. In addition, to encourage school children to visit the park, KWS will avail transport to local wildlife clubs at a modest fee.

On the other hand, the other mature groups will be reached through seminars and workshops specifically targeted at a particular group (the youth, elders, and women). In addition to this, sponsored study tours to areas experiencing similar challenges as Amboseli e.g. Maasai Mara and Samburu National Reserves, will be organized for these groups to help them appreciate challenges facing conservation in Amboseli and Kenya at large.

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### **Action 3.2: Develop conservation education and outreach materials**

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Conservation education materials specific to the AE are lacking. However, materials targeting tourists such as maps and guidebooks are available, but they focus on the park. These materials are therefore inappropriate for the local community which is not sophisticated enough to appreciate information presented in guidebooks and maps. In order to enhance appreciation of wildlife amongst the local community and Kenya at large, KWS will produce simplified education materials in both English and Kiswahili in form of guidebooks and brochures elaborating on the key resources in the ecosystem. These materials will then be disseminated through community outreach activities to increase local support for wildlife conservation.

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### **Action 3.3: Create awareness among the public on the importance of the AE through the mass media, internet, and organizing and participating in conservation awareness events**

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Amboseli ecosystem faces challenges which require stakeholders to cultivate support from a large constituency of both local and international public. To do this, the public has to understand and appreciate the outstanding ecological as well as socio-economic significance of the ecosystem. Indeed, the core area of the ecosystem, Amboseli National Park, was established by presidential decree as a consequence of lobbying from like minded stakeholders who feared for the loss of the park's exceptional Resource values in the face of increased pressure from human activities.

To ensure that the public is aware of the park's importance and challenges facing it, park management will work closely with other stakeholders to continuously inform the public on the status of the natural resources and activities taking place in the park and its ecosystem. As such, park management will liaise with the KWS headquarters Conservation Education Department to produce regular radio and TV programmes on Amboseli and have them aired on the main radio and TV stations. AE stakeholders will continue to produce films and write articles on Amboseli's exceptional resources such as elephants to reach the international public. Also, a conservation education web page will be included in the Amboseli NP web page on the KWS web site. And to make the web page quite active, AE stakeholders will continuously provide content for this web page. This will include essay competitions, wildlife quizzes, among others. This web page will also be linked to the web sites of the other AE stakeholders to increase internet visits.

In addition, AE stakeholders will actively support and participate in local, national as well as international events organized to create awareness on various aspects of the ecosystem. Such events include the World Environment Day, World Wetlands Day, and Agricultural Society of Kenya (ASK) shows. During these events, the community will be enlightened on the unique AE natural resources, and issues and challenges facing their conservation through exhibitions.

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### **Action 3.4: Establish sponsored park tours for the local community**

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Sponsored park tours for local communities are an effective tool to increase awareness of natural resources found in a protected area. Most community members, because of poverty or lack of means, do not appreciate conservation, as they are unable to visit the parks and hence are not familiar with the biodiversity therein. To increase conservation awareness and bring about positive community attitudes towards wildlife conservation among the local community, during the plan period, KWS will introduce sponsored park tours specifically to cater to the local community. The aim of this action will be to generate interest and appreciation of the park among the local community and as a result, win public support for wildlife conservation in the AE.

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### **Action 3.5: Involve the public in park management**

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To involve the public in park management and by so doing gain wide support for the park, park management will work with stakeholders to design and implement research and management programmes that are suitable for participation of the public. This will include hands-on engagement opportunities for visitors in research, habitat restoration, litter clean ups, wildlife counts, invasive species removal, citizen science, and special days.







# Security Management Programme

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# PROGRAMME PURPOSE AND STRATEGY

The purpose of the Security Management Programme is:

**To enhance security of wildlife, their habitats, visitors and KWS assets in close collaboration with stakeholders**

Traditionally, Amboseli National park and its ecosystem has not had serious security threats. Wildlife poaching is currently limited to bush meat and mainly affects the ungulates. Park management and its security partners, especially ATCWRA, are vigilant to ensure that bush meat poaching does not escalate and trophy poaching remains insignificant in the ecosystem. The low security threats notwithstanding, the safety of wildlife, visitors and property remains an important management issue. To enhance security in the wildlife-tourism sector, KWS has adopted several strategies including expanding the intelligence network and anti-poaching operations to ensure that wildlife crime is prevented.

The Security Management Programme aims to ensure that park management will be able to counter any security threats. The guiding principles that will be taken into consideration in implementing the Security Management Programme are briefly highlighted in the following sections. These guiding principles describe key factors taken into account in the development of the security programme and which influence the way the programme is implemented to achieve the programme purpose.

## Guiding Principles

***In implementing the Security Management Programme, Park Management will strive to ensure that:***

### **Security of wildlife and their habitat is expanded to cover the entire wildlife dispersal area**

Currently, the wildlife security network can comfortably confront wildlife security challenges in the Ecosystem as attested by the low poaching levels and negligible visitor security incidents. However, with the anticipated growth in tourism in the AE during the plan duration, it is important that the security is expanded to cover the entire AE. This is in recognition that any incident affecting visitors anywhere in the AE can adversely affect the attractiveness of the entire area as a tourist destination. To ensure that the entire AE is secure, KWS will adopt a multi-pronged security strategy that involves the following: increasing the security staff strength, enlisting the involvement of stakeholders in security activities, and increasing the application of technology in gathering and processing information.

### **Stakeholder collaboration in delivery of effective security of wildlife, their habitat, visitors, staff and assets is strengthened**

Since KWS security cannot be everywhere in the vast Amboseli ecosystem, stakeholder collaboration in security matters is vital for effective security that ensures a conducive environment for wildlife conservation and tourism development. Considering that most of the illegal activities take place outside the park, in community land, it is paramount that the local community is incorporated in the overall security strategy. In addition, much of the bush meat poaching takes place along the Kenya-Tanzania border and is perpetrated by locals from either side of the border. It is therefore vital that cross-border cooperation in anti-poaching operations be enhanced to stem the problem.

To ensure that the entire AE is safe for wildlife and visitors, management activities in this programme will focus on enhancing local and cross-border collaboration in security matters. KWS will work closely with its Tanzanian counterparts, local security agents, and the local community to minimise wildlife and visitor threats. By enlisting the support of AE stakeholders, it is hoped that the security programme will be successful in turning the tide against wildlife related crime.

## Security of Wildlife and its habitats in the Amboseli Ecosystem is well coordinated

Section 112(2) of the WCMA, 2013 mandates KWS to coordinate and control all wildlife security issues in all the national parks, national reserves, wildlife conservancies and sanctuaries in collaboration with other law enforcement agencies, counties and community wildlife scouts. As such, under this programme KWS will put in place a wildlife security coordination mechanism that will ensure that wildlife security in the ecosystem is under KWS control.

The above guiding principles are intended to guide the implementation of the Security Management Programme's three management objectives that, when taken together, achieve the Programme Purpose. These objectives are:

**MO 1. Security operations for the protection of AE's wildlife resources enhanced**

**MO 2. Effectiveness of resource protection improved**

**MO 3. Security of visitors, staff, and KWS assets enhanced**

The following sections describe these management objectives and provide an outline of the management actions needed to achieve them. Under each management objective there is a brief description of the relevant management issues and opportunities, which provides the specific context and justification for the management actions.

The 3-Year Activity Plan for the Security Management Programme, which details the activities, responsibilities, timeframe and milestones necessary for the delivery of each management action over a 3-year timeframe (2020-2023) of this management plan, is presented in Annex 1.

## MANAGEMENT OBJECTIVES AND ACTIONS

### Objective 1: Security operations for the protection of AE's wildlife resources enhanced

The future desired state of the AE is one where wildlife poaching is minimised to a level that does not pose any threat to the survival of targeted species. Wildlife poaching, especially for bush meat, is a major security concern in the AE. The problem is getting worse as the local community, who traditionally abhorred eating or killing wildlife, are also getting involved in the bush meat trade. The most commonly poached wildlife species are the Maasai giraffe, Burchell's zebra, Thomson's gazelle and Grant's gazelle. The meat is either sold locally, or ferried to markets in Kajiado and Nairobi in Kenya, or across the border, in Tanzania. However, poaching can be checked if there is an increased presence of KWS security agents in the poaching prone areas to deter poachers.

This objective has been developed to strengthen the resource protection operations in the entire AE, and particularly in the poaching hotspots along the Kenya-Tanzania border. The actions needed to achieve this objective are elaborated below.

#### Action 1.1: Strengthen the capacity of AE security team

Amboseli's significance as a major tourist destination and an important biodiversity area makes it one of the focal areas for security operations. This ensures that these values are not threatened by criminal

activities leading to their degradation. KWS has deployed a Wildlife Protection Unit (WPU) to deal with the security threats in the area. The unit is responsible for wildlife protection, controlling livestock incursion in the park, and providing visitor security along the park's major access roads.

Currently, the major security related threat is bush meat poaching which mainly occurs along the Kenya-Tanzania border. Trophy poaching, particularly of elephants is rare. However, due to increase in poverty locally, cases of bush meat poaching have increased necessitating a boost in the capacity of the AE security team. As such, in order to deal with wildlife security threats effectively, security in the AE will be enhanced through establishment and equipping an Amboseli Ecosystem Security Company, with three platoons based in Olgulului, Kuku, and Kitirua areas, to cover the entire AE.

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### **Action 1.2: Intensify patrols in the AE**

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The main illegal activities currently taking place within the AE include livestock grazing in the park and poaching. Although livestock is not legally allowed in the park, frequent breakdown of the Amboseli community water supply system and lack of alternative water sources outside the park has led to park-adjacent communities being allowed to bring their livestock in the park during designated times. However, in some cases the community misuses this goodwill gesture from the park administration and instead of taking out their livestock from the Park immediately after drinking, they graze the livestock in the Park leading to livestock-wildlife conflicts and erosion of visitor experience.

Poaching for bush meat and trophies takes place in the AE and is mostly carried out outside the park. The poaching hotspots include areas such as Kitirua, Namelok, Lengisim, and Isinya, and along the Kenya-Tanzania border. To curb illegal grazing in the park and poaching in the surrounding areas, ANP management will expand and intensify both ground and aerial patrols. This will involve carrying out of at least two aerial surveillance flights per month to improve aerial coverage. Regular foot and vehicle patrols will also continue to be carried out across the AE. Further, ANP security team will conduct joint patrols with the community wildlife scouts and other security agencies. An additional patrol base will also be established within the park.

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### **Action 1.3: Enhance bush meat control and de-snaring operations**

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The increase in the country's urban population, coupled with poverty, is fuelling a thriving bush meat trade which compromises the AE's ecological balance. The common mode of wildlife capture is by snaring animals. Target species are mainly the plains game including both small and large antelopes, and giraffes. There are three main routes to the trade: across the international border southwest through Namanga to Arusha; southeast to Moshi; and north to Nairobi.

This management action therefore, targets to control poaching of wildlife products, specifically bush meat. Towards this, park management will support community wildlife scouts and other partners such as conservation groups, in carrying out regular organized de-snaring operations in the bush meat poaching hotspots. And to ensure that the de-snaring operations are effective in minimizing bush meat poaching, at least two de-snaring operations will be organized by stakeholders every month.

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### **Action 1.4: Liaise with Tanzania's wildlife authorities on cross-border natural resource protection**

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In order to address cross border wildlife security issues, the ANP management has been holding regular cross border inter agency security meetings and conducting synchronized security operations with its Tanzanian counterparts along the common border. Under this management action, AE management will continue with these initiatives and develop additional activities aimed at strengthening cross border partnerships for effective wildlife security at the Kenya-Tanzania border region. This will include

holding joint security seminars and meetings semi-annually to discuss cross-border natural resource management issues. In addition to this, wildlife authorities from both countries will share wildlife intelligence to enhance security patrols along the border.

## **Objective 2: Effectiveness of natural resource protection improved**

The future desired state of the AE is where environmental crime is minimised through security intervention measures that pre-empt crime, averting possible resource degradation. This calls for a strong, efficient and effective intelligence network that sufficiently covers all the corners of the AE. This objective will therefore focus on strengthening the AE security capacity to enhance the effectiveness of AE. The management actions that will be implemented to achieve this objective are elaborated in the following sections.

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### **Action 2.1: Strengthen and maintain an ANP security database**

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The ANP lacks a security database and as such, all the security information is sent to KWS HQ where it is included in the centralised security database that covers all KWS security operations in the country. The ANP security staff is, therefore, denied an opportunity of having quick access to security information that is crucial in developing an informed security strategy for the AE. The development of an ANP-specific security data base would facilitate planning, monitoring and evaluation of AE security through identification of hot spot areas, optimal location of security bases and in planning of security operations.

This management action will seek to develop an ANP security database to address specific information needs of the AE. The key information will include the details of patrols carried out, observations made, number and location of arrests made and prosecution outcome. The database will also incorporate a Geographic Information System (GIS) to facilitate the use of digital maps in the analysis of security issues. To facilitate the establishment of the database, a computer and associated accessories will be procured. In addition, a security officer who will be in charge of the database will be trained in database management and maintenance.

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### **Action 2.2: Expand the wildlife intelligence network**

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A practical and functional intelligence network is important in detecting and reacting to potential security threats in and around the AE. The ANP Intelligence network is distributed throughout the AE and its activities include carrying out surveillance and monitoring of illegal activities. Specifically, this involves collecting, collating and analyzing intelligence information to support decision making.

The AE is an expansive area thus there is need to enhance the intelligence gathering system to effectively cover the poaching prone areas. As such, additional intelligence capacity will be deployed to the AE to cover the area effectively.

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### **Action 2.3: Improve wildlife crimes prosecution processes**

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The police and the judiciary can be very instrumental in deterring wildlife crime in the ecosystem if they are aware of the adverse consequences of poaching on the survival of targeted species. Due to lack of appreciation of the impacts of poaching among the judiciary that convicts and sentences offenders, these convicts usually get away with light sentences or penalties that do not prevent repeat or new offences

To ensure that offenders get deterrent penalties, the ANP management will collaborate with the police and the judiciary to improve on the prosecution of wildlife related cases and create awareness on the

effects of wildlife offences to the integrity of wildlife biodiversity. ANP Management will organize wildlife sensitization study tours for the Oloitokitok police and judiciary to expose the police and judiciary to the conservation importance of the AE, and threats faced by wildlife.

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#### **Action 2.4: Establish an AE command centre**

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The AE has six ranches surrounding the park with community wildlife scouts whose duties include conducting wildlife patrols to detect poaching activities. These scouts operate under the aegis of the Amboseli/Tsavo Community Wildlife Rangers Association (ATCWRA), funded by the Big Life Foundation and the group ranches. The Association is equipped with vehicles and surveillance equipment to assist the scouts to monitor illegal activities in the ranches. They are also linked to the KWS radio communication network to facilitate timely reporting of wildlife related incidents.

The WCMA, 2013 requires KWS to coordinate and control all wildlife security issues. Hence, under this management action, KWS will work closely with ATCWRA to establish a programme of work for the scouts. The ATCWRA will also be giving KWS regular reports on its wildlife management activities outside the park. And to facilitate reporting by community scouts, KWS will establish a well-equipped command centre to coordinate wildlife security issues in the AE. In addition, KWS will support training of community wildlife scouts and KWS rangers and build their operational capacity.

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#### **Action 2.5: Liaise with ecosystem stakeholders to enhance security operations**

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The communities surrounding the AE have well-developed structures that govern their social life and most of the crimes committed in the AE are known to their leaders or elders. Influential members of the community, such as elders, can be very instrumental in countering the escalation of the observed wildlife injury or killing, particularly of elephants and lion, if they subscribe to conservation principles. This is because the elders are responsible for making decisions and issuing penalties to offenders in the society; hence command respect among the community members including those who engage in wildlife crime.

This management action aims to improve the relations and linkages between the community and the park managers to ensure close collaboration in dealing with wildlife security issues. First, the community elders will be sensitized through security seminars on the importance of cooperating and sharing wildlife intelligence with the park wildlife security unit. Second, members of the local communities will also be sensitized on security matters through community Barazas.

### **Objective 3: Security of visitors, staff, and KWS assets enhanced**

The AE encompasses vast tracts of land either under communal or private ownership and it also shares an international boundary with Tanzania. This poses a number of serious and significant security threats and risks which need to be addressed and managed. A major aim of this objective is thus to ensure effective visitor, staff and asset safety measures. This will ensure that tourist perceptions are maintained in order to protect the AE's high premium wildlife safari brand, the AE's reputation, and Kenya's tourism industry at large. Most potential threats are linked to other illegal activities in and around the core of the AE, the ANP, including illegal entry and trespassing, theft and vandalism, and poaching.

As such, the desired future state of the AE is therefore one where staff and visitor safety, and security of KWS assets are guaranteed. This objective has therefore been developed to bring about this desired future state through the three management actions elaborated in the following sections.

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### **Action 3.1: Improve visitors security in liaison with other stakeholders in AE**

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This management action aims to enhance visitor security in the park and ecosystem in general. Towards this, KWS will liaise with the tourist police to ensure that tourist facilities both inside and outside the park are secure. KWS will also provide ranger escort services to tour operators who take visitors on walking safaris and researchers who at times operate in risky areas. However, the tour operators and researchers requiring escort services will have to notify the security section well in advance to help in planning.

Additionally, the security of tourism facilities within the park (the Bandas, gates, campsites, lodges) will be enhanced. Strategic observation points will be maintained and CCTV cameras installed at the main points of entries within the park (Kimana, Iremito and Meshanani Gates). Moreover, surveillance along the tourist circuits within the park and its ecosystem will be enhanced and a telephone hotline established for visitors and tour drivers. Security escort for visitors on night game drives will also be provided.

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### **Action 3.2 : Provide adequate security for KWS assets**

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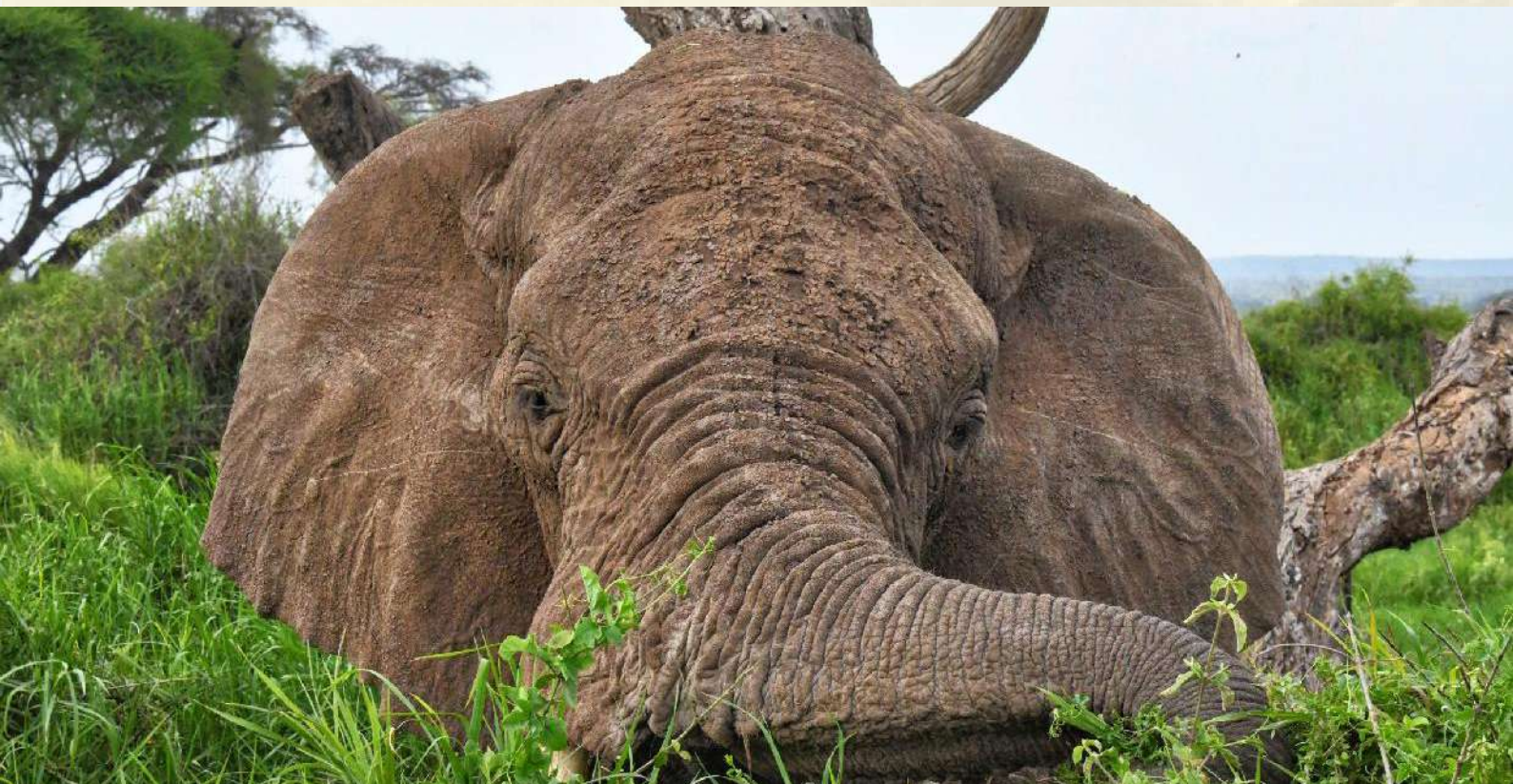
Ensuring safety of KWS assets is one of the key functions of the Park's Security Department. At the ANP, security is provided at all KWS facilities both day and night. It is therefore critical that sufficient resources are provided to ensure that security is not compromised. Thus, under this management action, adequate security resources will be provided at key KWS facilities.

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### **Action 3.3: Minimize loss of revenue through fraud and related activities**

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A key revenue-related challenge in the ANP is revenue fraud perpetrated by some of the tour operators. These tour operators use the porous park boundary to access the park without paying the requisite entry fees. Hence, under this management action, surveillance will be enhanced to detect unauthorised park entry.







# Park Operations Management Programme

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# PROGRAMME PURPOSE AND STRATEGY

The purpose of the Park Operations Management programme is:

To ensure that ANP's wildlife conservation and management activities are efficiently and effectively executed in collaboration with other stakeholders

The Park Operations Programme is geared towards improving service delivery by KWS staff and collaborators within and outside Amboseli National Park. The ANP management challenges can only be addressed through a rationalized process that promotes active engagement and partnership with landowners and other key stakeholders in the park and its ecosystem. The programme targets stakeholders, management personnel and the support services.

The following sections set out the strategic principles that will guide ANP Management in the implementation of the Park Operations Programme and the achievement of the Programme Purpose.

## Guiding Principles

*In implementing the Park Operations Programme, ANP Management will strive to ensure that:*

### Collaboration with key stakeholders is enhanced

ANP is a small fraction of the entire Amboseli ecosystem. Its importance as a tourist destination and for nature conservation largely depends on the adjacent community land. Wildlife associated with ANP is known to make seasonal movement into and out of the park. This means a constant interaction between ANP management and the local people. In the face of increasing human population, and land use and tenure changes, KWS and other stakeholders need to invest more and solicit the support of the local people in order to ensure that the wildlife dispersal area remains viable. The AE has an array of stakeholders with diverse interests such as tourism investors, researchers, local administration and security agents, conservationists and land owners. There is currently weak coordination among these stakeholders, at times resulting to duplication of efforts. It is therefore important that working relations between stakeholders are strengthened and coordinated to generate synergy and strengthen unity of purpose.

### Human resource capacity for effective park management developed

The operations of all the management programs depend on the availability of resources to undertake those programs. Motivated staff and adequate funds determine the levels of programme success. Currently, there are inadequate personnel within the ANP to effectively address conservation related issues. Strategic objective **"IP3: Improve internal business processes"** of the KWS Strategic Plan 2019-2024 stresses the need to build the capacity of staff through training and other incentives such as instituting performance-based rewards and recognition. These staff improvement measures aim to improve the staff capacity and morale and ultimately their performance. The branding of ANP improved the facilities for the protected area staff, but there is still need for continuous improvement of staff facilities. Further Strategic Objective **"LG1: Strengthen institutional capacity"** stresses that employee wellness programmes such as health and safety, first aid, HIV & AIDS, counselling and chaplaincy services will be promoted and staff welfare aspects will be enhanced. And to promote a culture of teamwork employee participation in sports, music and other talent activities will be supported. As such, this programme will be implemented in line with the prescriptions of the KWS Strategic Plan 2019-2024.

## Management infrastructure support delivery of effective services to customers

The main issues regarding park infrastructure relate to an inefficient water supply system, shortage of accommodation and office facilities, and the development and maintenance of roads. The Amboseli community water supply pipeline has deteriorated with time resulting in frequent failure of the system. As a result, livestock has to drink in the park conflicting with tourism interests. Accommodation facilities for KWS staff are far below the required number. In addition, the road network within ANP is well developed, but it requires routine maintenance to keep it in good condition. Outside the Park, the road network is in a poor state making many areas inaccessible during the wet season. There is a need to link all the existing tourism investments outside the park with all weather roads. In regard to telecommunication, the area is covered by the major mobile telephone networks that currently operate in the country.<sup>25</sup> There is, however, a need to improve the radio-network to link relevant stakeholders. The improvement should target the security hot spots for wildlife and visitors and the remote parts of the Ecosystem where there is no mobile phone network.

As such, in line with the strategic objective “**C1: Enhance excellence in service delivery**” of the KWS Strategic plan 2019-2024, a guiding principle under this programme will be to ensure that management infrastructure support delivery of effective service to customers.

These guiding principles are intended to guide the implementation of the three park operations programme objectives. These objectives relate to enhancing stakeholder collaborations, improving staff welfare and enhancing management infrastructure. The three objectives are:

- MO 1. Institutional collaborations formalized and strengthened**
- MO 2. Staff welfare and performance improved**
- MO 3. Management infrastructure enhanced**

The following sections describe these management objectives and the management actions needed to achieve them. Under each management objective there is a brief description of the relevant management issues and opportunities providing the justification for the actions.

The 3-Year Activity Plan for the Park Operations Management Programme, which details the activities, responsibilities, timeframe and milestones necessary for the delivery of each management action over a 3-year timeframe of this management plan, is presented in Annex 1.

# MANAGEMENT OBJECTIVES AND ACTIONS

## Objective 1: Institutional collaborations formalized and strengthened

The future desired state for the ANP is one where there are strong and effective working relationships between ANP management and other stakeholders in the ecosystem. This is in view of the fact that wildlife management challenges cut across many disciplines, necessitating interventions by diverse players. Challenges that can be addressed effectively through structured collaboration with other stakeholders include park management issues such as curbing pollution from poor waste disposal and control of unplanned developments. Moreover, wildlife and visitor security and research can be enhanced markedly through liaisons with other security agencies and the local community.

25 Safaricom, Airtel and Telcom

This objective is therefore designed to develop and enhance supportive stakeholder relations aimed at minimizing resource use conflicts and enhancing wildlife management in the park and its ecosystem. To achieve this objective, a series of management actions have been developed. These are elaborated in more detail in the following sections.

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### **Action 1.1: Work with legally recognised institutions to enhance wildlife conservation outside the park**

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In an environment with land uses that can out-compete conservation, KWS must work with other stakeholders to balance conservation and development. Currently the Amboseli Ecosystem Trust (AET) is the only ecosystem-wide stakeholder forum that can be used to coordinate the implementation of conservation related activities. To ensure that management actions specified in this plan are implemented and hence achieve the park purpose, KWS will work closely with AET in the implementation of the management actions outlined in this park plan and in the Amboseli Ecosystem Management Plan 2030.

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### **Action 1.2: Improve the effectiveness of the Park Management Committee**

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A stakeholder forum, the Park Management Committee, with members drawn from the major tourist accommodation facilities and research NGOs has been functional, albeit intermittently, as it largely functions at the pleasure of the Warden in Charge of the Park. As such, if the Warden does not organise meetings, the forum ceases to function. To enhance this committee's effectiveness, it will be reconstituted to include all the key stakeholders in the park and its ecosystem with clearly-defined terms of reference to guide it. The committee will hold regular quarterly meetings, which will be organised by the Park Warden who will also be the Chair of the committee. The committee will address natural resource and tourism management issues in the park, and catalyze and monitor implementation of management actions outlined in this plan.

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### **Action 1.3: Enter into formal agreements with key stakeholders to strengthen collaboration and ensure coordination of the wildlife management sector**

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KWS has the leadership mandate over wildlife conservation, and it is, therefore, fitting that it coordinates all wildlife conservation and management activities in the AE. The AE has several active stakeholders in the wildlife conservation sector. These include large NGOs<sup>26</sup> that are wildlife research and Community Conservation oriented, and smaller NGOs and CBOs, which focus on community conservation issues. The research organizations have been carrying out long-term research, which has played a vital role in enhancing understanding of elephant behaviour and ecological dynamics, which in turn have been used to market the ecosystem both locally and internationally. It is therefore prudent for KWS and the Wildlife Research and Training Institute not to duplicate what these NGOs are doing, but instead to support their efforts within an agreed collaborative framework. Similarly, the community conservation NGOs have done a commendable job of sensitizing the community on conservation leading to the establishment of community wildlife Conservancies that are reserved primarily for wildlife tourism. The community wildlife scouts have also been actively involved in promoting human-wildlife co-existence in the ecosystem.

To streamline the AE wildlife sector activities, KWS will enter into formal agreements with the conservation NGOs so that their work can complement the efforts of KWS. The MOUs will specify an individual NGOs conservation work in the AE, expected outputs, and the role, obligations and expectations of KWS.

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26 ACC and ATE

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#### **Action 1.4: Participate in Kajiado County administrative and other relevant stakeholder forums**

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KWS's participation in the administration of the County increases its visibility, and provides opportunities where the organization can lobby other government agencies and win support for its core mandate, wildlife conservation. The County is administered through a number of committees that have been formed to address specific economic, social, management, or administrative sectors. KWS, being a prominent government agency in the County, is a member of many of these committees.

Under this management action, KWS will be represented in all the relevant County Committees. The Community Wildlife Officer based at Loitokitok Station will represent KWS at the Kajiado East Sub-County meetings, while the Senior Warden-ANP and the Security Warden will participate in the County Security Committee. The Senior Warden will also represent KWS in all County functions and in case the Senior Warden is not available, the Community Wildlife Officer will attend.

In addition KWS will participate in County level meetings through the officer in charge, Kajiado Station.

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#### **Action 1.5: Liaise with honorary wardens to enhance wildlife conservation and management**

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KWS has appointed several Honorary Wardens to assist in carrying out the provisions of the WCMA, 2013 in the Amboseli Ecosystem. These wardens ensure timely response to human-wildlife conflict issues outside the park, and assist in controlling poaching across the ecosystem. Some of the Honorary Wardens are doing a superb job of enhancing the capacity of Community Wildlife Scouts to successfully address human-wildlife conflicts and minimize bush meat poaching outside the park. In recognition of the importance of Honorary Wardens as key close allies in wildlife management, park management will design a framework for working with them. To begin with, the Senior Warden will assess the strengths and areas of interest of each honorary warden and identify the wildlife issues they can address effectively. The honorary wardens will thereafter be assigned tasks and they will be reporting on progress regularly to the Senior Warden.

## **Objective 2: Staff Welfare and motivation improved**

The future desired state for the ANP is one where staff morale is high, and staff are effective and efficient in performance of their duties. There are currently challenges that hinder the realisation of this desired state. For instance, some administrative sections are understaffed, and staff accommodated is inadequate. Also, recreation facilities need to be improved.

As such, this objective has been developed to promote staff motivation, training and optimum staffing to ensure that staff can deliver on their assigned tasks. To achieve this objective, a number of management actions have been developed. These actions are set out in more detail in the following sections.

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#### **Action 2.1 Liaise with KWS Headquarters Human Capital Department to deploy relevant staff in the AE**

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The park has 103 permanent staff against the projected 283 optimum number of staff. The staff are not sufficient in some essential cadres. For instance, the ranger cadre is not sufficiently staffed to adequately address the diverse and challenging security tasks.<sup>27</sup>

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<sup>27</sup> controlling livestock grazing in the park, problem animal control, patrolling the Namanga-Amboseli access road, ticket inspection, and maintaining security at ANP headquarters and gates

To have an effective staff, ANP management will liaise with the KWS Human Capital Department to ensure that staff is deployed according to the already determined optimum staffing levels for the park.

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### **Action 2.2: Promote employee wellness programmes**

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The Amboseli health clinic is located at the edge of the park on community land and it provides health care to both park staff and the local community. The Ministry of health has posted a Clinical Officer at the health clinic while KWS has provided a nurse attendant. The clinic is however, short of basic equipment needed to provide quality health care to patients as it lacks laboratory equipment to carry out diagnostic tests. This prompts patients to seek lab services at Loitokitok hospitals about 32 km away from the park and sometimes in Nairobi. In addition, the clinic lacks a VCT services where staff can get tested.

Through this action, ANP management will liaise with the Ministry of Health, through Loitokitok Referral Hospital, to establish a simple medical laboratory at the Amboseli clinic and post a Laboratory technician to the clinic to be carrying out essential medical tests. In addition, in order to maintain a high level of AIDS awareness among staff. ANP management in liaison with the KWS Employee Wellness office and the Ministry of Health will make arrangements to establish a VCT for the clinic. It will further deploy relevant staff like a lay counsellor and peer educator who will create awareness on HIV & AIDS and provide guiding and counselling services.

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### **Action 2.3: Collaborate with the Ministry of Education and Olgulului/Ololarashi group ranch committee to improve the standard of education at the Amboseli Primary School**

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The staff's children attend the Amboseli Primary School located 200 metres from the staff quarters, at the community centre. The school has two permanent classrooms built by KWS and six semi-permanent timber classrooms built by parents. It has no staff houses; hence teachers are provided accommodation by KWS at its staff quarters.

To ensure that Amboseli primary school pupils receive quality education, KWS will collaborate with the Ministry of Education to ensure that adequate teachers are posted to the school. Essential classroom furniture, such as desks will be provided. The school compound will also be fenced to keep off elephants.

Since substantial funds are required to upgrade the school, KWS will collaborate with the Olgulului/Ololarashi group ranch committee to ensure that part of the revenue sharing funds received by the ranch are used to upgrade the school.

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### **Action 2.4: Refurbish the ANP staff canteen**

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ANP has a staff canteen comprising of a bar, a shop, butchery, and a small café. The canteen is managed by the ANP management, which has rented the businesses to private entrepreneurs. Currently, the canteen requires refurbishment. Hence, through this management action, the canteen will be refurbished to the same standard as other staff buildings. In regard to this, the canteen will be painted and it will also be furnished with quality furniture.

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### **Action 2.5: Train staff in relevant skills**

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Training is vital in ensuring that staff have necessary and up-to-date skills to carry out their work efficiently. With the fast evolution of technology there is need for continuous up skilling of staff for effective service delivery. As such, ANP management will conduct a training needs assessment of staff

and liaise with KWS Human Capital Department in training staff to bridge the skill gaps.

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### **Action 2.6: Promote a culture of teamwork, respect and excellence**

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ANP has a Heads of Departments committee that meets frequently to address park management issues and to ensure that park management activities are well planned and coordinated. The park has a staff welfare association, Amboseli Staff Self Help Group, which brings together all cadres of staff to collaborate on staff welfare issues. However, this Association is currently dormant. As such, under this management action, the Staff Welfare Association will be revived and its by-laws revised to ensure that it remains vibrant. Weekly Heads of Departments meetings will also continue to be held to promote team work.

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### **Action 2.7: Facilitate employee participation in sports, music and other talent activities**

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The human capital section coordinates all issues concerning sports. ANP has football, volleyball and darts teams that participate in tournaments within and outside the ecosystem. The football team is currently participating in Kajiado South Sub-county Branch league. To enhance staff morale ANP staff will be provided with resources for sports training and participation in tournaments.

## **Objective 3: Park management and administrative resources improved**

The future desired state of the ANP is one where sufficient, efficient, and effective management infrastructure is provided to facilitate conservation-related activities. To achieve this, a few management challenges have to be overcome. Adequate staff housing is required in the park to accommodate all staff cadres as there are no rental houses in the park-adjacent areas. And although the wildlife viewing roads and park access roads are currently in a fair condition despite the heavy use especially in certain sections of the park, these roads will require major rehabilitation work during the second half of the plan period to repair road sections that will require restoration. Water supply, particularly to the local community, is another challenging infrastructure related issue in the ecosystem. The community water supply system, established in the 1980s, is prone to frequent breakdowns, which are expensive to repair; hence an overhaul of the water supply system is essential.

This management objective has therefore been designed to ensure effective park management infrastructure is developed and maintained. The management actions designed to realize this objective are discussed in the following sections.

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### **Action 3.1: Rehabilitate the Amboseli water supply system**

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The Amboseli water supply system consists of the Amboseli water pipeline and a series of boreholes and dams that supply water to the park and the surrounding community (Figure 16). The Amboseli water supply pipeline has surpassed its expected lifespan. The pipeline is, therefore, currently prone to frequent bursts that require repair. Due to its unreliability, the water pipeline is not effective in supplying water to the community as intended, and therefore, the local community is forced to bring their livestock to the park swamps. To ensure that the community has adequate water for people and livestock and to minimise the high water pipeline maintenance costs, efforts will be made to replace the entire pipeline fittings with new ones. In addition, the current generators at five community boreholes<sup>28</sup> are old and prone to frequent breakdown. These generators will therefore be replaced with new ones.

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28 Marba, Kitenden, Ormoti, Ole Mbaa and Emotoroki,

And to further boost water resources outside the park, five dams<sup>29</sup> will be desilted.

To ensure that the rehabilitated water supply system is sustainable, the community will be supported to establish water committees to manage the water points and ensure that they are not neglected. These committees will be trained on borehole maintenance, record keeping and tariff setting.

On the other hand, a water requirement study will be carried out to assess water demand for the community and inform further development of water resources in the area. In carrying out this study and other improvements on the water supply system, KWS will work closely with the Ministry of Water and Irrigation to ensure that the necessary legal requirements for management of water resources are met.

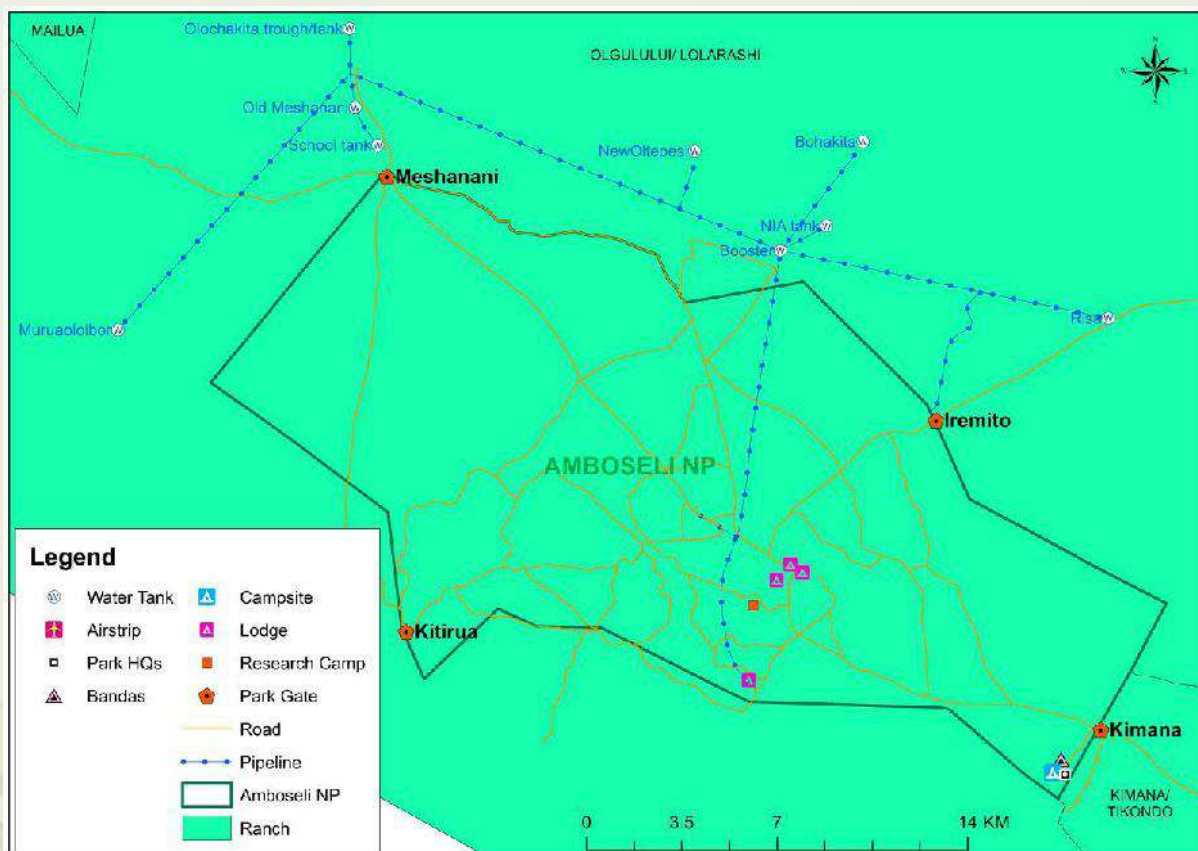


Figure 16. Amboseli Water Supply pipeline

### Action 3.2: Construct and rehabilitate residential and non-residential buildings

The main staff accommodation facilities are located at the park headquarters and the gates. Most buildings in the park are old having been built in the early 1980s, and they require regular maintenance in terms of painting and replacement of worn-out fixtures to restore them to a decent condition. Through this management action therefore, park management will strive to ensure regular maintenance of existing park buildings. New houses will also be constructed to address the shortage of staff houses in the ANP. Reliable water and electricity supply will also be provided at all the gates.

### Action 3.3: Upgrade and maintain the park and access roads in good motorable condition

There are two major classes of roads in the ecosystem i.e. classified roads and unclassified roads (viewing roads). The total road network in the park is 214km of which 53 km is classified (Figure 17). The

29 Risa, Loormogi, Kitenden, Marite, and Selengei

Ministry of Transport, infrastructure Housing, Urban Development and Public Works contracts KWS to maintain classified roads. The classified and unclassified roads are:

- 1. Kimana junction C102-Namanga town C103:** The total length of C103 under park management is 112km. The whole road section is of gravel standard with high traffic volume. It's one of the main park access roads crossing the park through Meshanani and Kimana gates. This road section starts at Namanga town junction C104 (C103) and ends at Kimana junction- C102 (103)
- 2. Ol Tukai park boundary junction C103-junction C102 Mbirikani (E397):** The total length of this class of road under park management is 31km. The whole road section has gravel wearing course with high traffic volume. It's the busiest park access road. This road links the park through Iremito gate. This road section starts at Ol Tukai lodge-junction C103(E397) and ends at Mbirikani junction C102 (E397)
- 3. Unclassified Roads:** The total length of all unclassified roads is approximately 160 km.

To ensure that the road network in the park is in good condition, routine road maintenance work involving light grading, spot gravelling of isolated failed sections, bush clearing, drainage improvement and culvert cleaning, and maintenance of bridges, will continue during the plan period. This is the most important aspect of maintenance as it is the most cost effective activity. Its cost-benefit ratio is normally far higher than that of rehabilitation or periodic maintenance, and therefore, it will always be given top priority. Thereafter periodic road maintenance, which involves continuous gravelling works and the construction of new drainage structures, will be carried out at a rate of 16 km annually, while rehabilitation work involving restoration of the road network will be carried out at a rate of 5km annually.

To curb off-road driving, ditches will be dug across the junction of the existing off-roads to dissuade drivers from using these tracks. In cases where off road driving occurs because sections of official roads are impassible, these roads sections will be repaired. And to prevent over speeding along the long straight road sections, earth bumps will be installed at intervals of one Kilometre.

In addition, the classified road sections in the park will be upgraded to Emulsion Treated Base (ETB) standard while those outside the park (Iremito to Mbirikani Junction; and Kimana Gate to Loitokitok Emali road) will be upgraded to low volume seal roads.



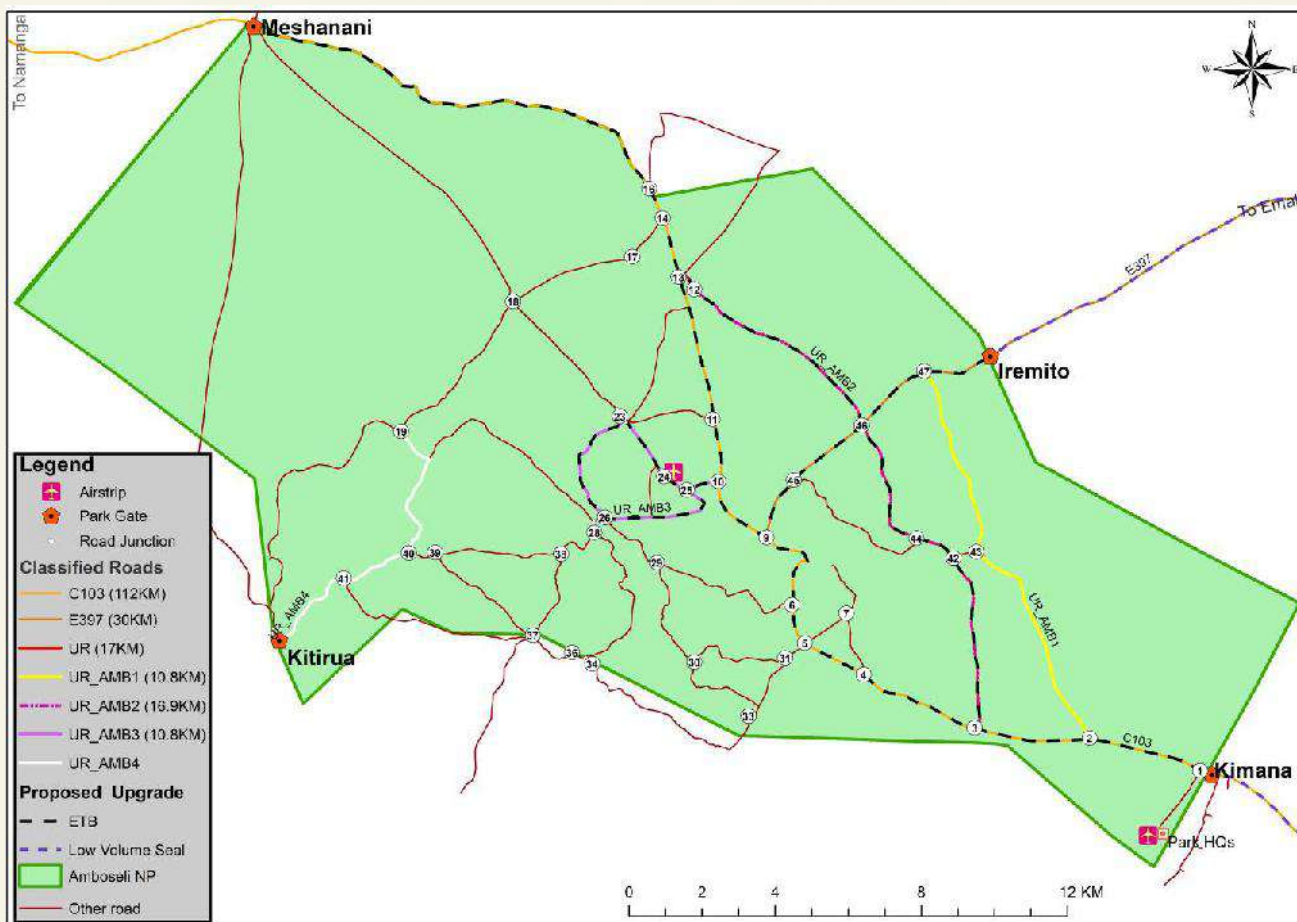


Figure 17. Amboseli National Park roads

### Action 3.4: Improve park entry gates

The entrance gate is the first feature the park visitor uses, giving him the first impression of the park. For this reason, entrance gates should be functional, inviting places, where the visitor feels welcome and where they can find basic facilities such as toilets. The main entrance gates in the ANP have a few challenges, such as lack of information centres. In addition, entrance through Kitirua gate is regulated using a steel pipe barrier, as there is no standard gate. To enhance the services at the gates, construction and rehabilitation works will be carried out as outlined in table 14.

Table 14. Required Construction and rehabilitation works at ANP gates

Gate	Construction or Rehabilitation work required
Kimana	<ul style="list-style-type: none"> <li>Fence the compound;</li> <li>Construct Information Centre</li> </ul>
Meshanani and Iremito Gates	<ul style="list-style-type: none"> <li>Provide larger Water storage cisterns (1200 litres) for the toilets,</li> <li>Install fences around the compounds,</li> <li>Provide reliable water and electrical power supply to the gate and residential houses</li> <li>Renovate the gates</li> </ul>
Kitirua	<ul style="list-style-type: none"> <li>Construct a gate,</li> <li>provide water and solar power to the residential houses,</li> <li>establish a picnic site and a campsite,</li> <li>rehabilitate the fence around the staff compound</li> </ul>

### Action 3.5: Install and maintain signages throughout the park

Effective signage demonstrates a commitment to improving communication among locals and visitors.

Signage educates and minimizes confusion. Confusing, obsolete or hard-to-find information leads visitors to question the quality of other services or products in a park. Signage should, therefore be clear, accurate, and strategically placed. To enhance visitor experience, signposts in the park will be maintained and wording on signposts will be checked for mistakes and rectified as appropriate. In addition, quality and highly visible signposts will be maintained at the junctions of the major trunk roads and the three park access roads.

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### **Action 3.6: Liaise with KWS Headquarters in the provision of adequate vehicles, plants and other equipment**

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ANP has a total number of twenty nine (29) vehicles, plants and other equipment, a moderately equipped workshop, and an able team of mechanical staff, whose mandate is to offer continued support to the core mandate of KWS, through the provision of transport services. It has a fleet of 18 vehicles, six (6) of which are seven years old and below and the rest are above seven years old. As such, there is need to replace the ageing fleet. Hence under this management action the following will be undertaken:

- ▶ A fleet assessment will be conducted to assess the state and adequacy of the current fleet. This will help management in understanding the cost of maintenance of this fleet in the long-term and make appropriate recommendations to KWS management (e.g. whether a vehicle can be boarded or maintained).
- ▶ Park management will undertake fleet rationalization to generate performance data for each vehicle's deployment within the park's departments. This will ultimately give the management the information required to effectively re-align the user departments with the most cost effective vehicle necessary for optimum service delivery. It is expected that matching a vehicle with activities will reduce the maintenance cost.
- ▶ An effective workshop needs to have a recovery vehicle, especially for field breakdowns which are really common in the park. However, currently, the available mechanical service vehicle is not customized for recovery work. Hence, several fabrication works will be done on the vehicle to make it suitable for mechanical works service delivery.

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### **Action 3.7: Carry out regular maintenance of the airstrips**

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The park has two airstrips; one is gravelled while the other has a bitumen surface. The gravelled airstrip is located at the park headquarters and it is mainly used for park administration, while the bitumen airstrip caters to visitors. The volume of the air traffic at the visitor airstrip has increased over the years and the size of aircrafts landing has increased too. The visitor airstrip is also prone to flooding. Through this action, therefore, fire fighting equipment and the wind sock will be maintained. Measures will also be put in place to channel flooding waters away from the visitor airstrip to ensure that aircrafts can land safely during the wet season. To facilitate smooth landing of aircrafts, the airstrip staff will collaborate with tour operators to ensure that animals that are at the runway are driven away as an aircraft approaches to avert accidents. In addition, the administration airstrip will be gravelled and maintained in serviceable condition always.

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### **Action 3.8: Install fire fighting appliances at the ANP offices, mechanical workshop, and airstrip and train staff in fire preparedness**

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The park has inadequate emergency plans to address fire hazards. Fire extinguishers are not available nor are there any procedures to be followed in case of accidental fires. To enhance emergency preparedness, fire-fighting appliances will be procured and installed at sites where accidental fires are likely to occur given the activities carried out at these sites. Priority will be given to the ANP office, mechanical workshop and the airstrip. The fire fighting appliances at all these sites should be effective on the four types of fires that are likely to start in the park i.e. electrical, gaseous, flammable liquids, and fires fuelled by thatching materials, timber or linen. Apart from the fire extinguishers, the park will be provided with a water bowser that can be used to transport water to put out fires.





# Plan Monitoring

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# THE PLAN MONITORING FRAMEWORK

The plan monitoring framework set out in the following tables has been designed to provide guidance for the assessment of the potential impacts resulting from the implementation of each of the five management programmes. The framework sets out the desired positive impact of each programme's objectives, as well as any potential negative impacts that may possibly occur. The framework also includes easily measurable and quantifiable indicators for assessing these impacts, and potential sources of the information needed (see tables 15, 16, 17, 18 and 19).

**Table 15. Ecological Management Programme Monitoring Plan**

Objective	Potential Impacts ( <i>Positive</i> and <i>Negative</i> )	Verifiable Indicator	Sources and means of verification
Objective 1: Critical Wildlife habitats within the park and its ecosystem maintained	ANP's Wildlife dispersal areas are maintained	Area available to conservation and pastoralism outside the park	Land use surveys
	Habitat and species diversity in the park is improved	Area of habitat restored	Habitat monitoring reports and Invasive species management reports
Objective 2: Wildlife species conservation and management enhanced	Increase in populations of species of conservation concern	Population numbers of species of conservation concern	Wildlife monitoring and surveillance data
	Wildlife diseases are controlled	Wildlife mortality from diseases	ANP veterinary reports
Objective 3: Scientific information to support park management generated and disseminated	Scientific information is generated and available in a timely manner	Research studies, wildlife census and vegetation monitoring studies carried out	Research and monitoring reports

**Table 16. Tourism Development and Management Programme Monitoring Plan**

Objective	Potential Impacts ( <i>Positive</i> and <i>Negative</i> )	Verifiable Indicator	Sources and means of verification
Objective 1: Tourism-support infrastructure developed and managed in a sustainable way	Increased income to the County Government of Kajiado from facilities at Ol Tukai Enclave	Tourism facilities developed and concession fees remitted	County Government of Kajiado revenue reports
	Increased visitor satisfaction due to upgraded accommodation facilities and new tourist activities	Number of visitors using KWS accommodation facilities and ranger services	ANP tourism reports
	Environmental degradation from new tourist activities and/or supporting infrastructure	Evidence of pollution/litter or habitat degradation at sites where activities or infrastructure are located	ANP tourism reports

Objective 2: Tourism diversified and visitor experience enhanced to boost visitor satisfaction	Increased visitor satisfaction	Visitor satisfaction index	Customer feedback reports
Objective 3: Visitor appreciation, understanding and enjoyment of the park's resources is enhanced	Increased visitor satisfaction	Visitor satisfaction index	Customer feedback reports

**Table 17. Community Partnership and Conservation Education Management Programme Monitoring Plan**

Objective	Potential Impacts ( <i>Positive and Negative</i> )	Verifiable Indicator	Sources and means of verification
Objective 1: Community benefits from existence of the park and its wildlife enhanced	Increased in income and social benefits from wildlife conservation	Number of people employed by wildlife conservancies and income accruing from facilities in the wildlife conservancies	Community Wildlife Service records
		Number of community livelihood and social projects supported	Community Wildlife Service records
	Decreased conversion of critical wildlife corridors and dispersal areas to agriculture	Area covered by permanent agriculture, and trends in rate of conversion	AE land use/cover surveys
Objective 2: Human-wildlife co-existence enhanced	Enhanced relationships between ANP management and surrounding communities	Human-wildlife conflict incidences	Community Wildlife Service records
	Reduced costs of wildlife to AE adjacent communities	Incidents of human-wildlife conflict around the AE	Community Wildlife Service records
Objective 3: Awareness about the park and ecosystem at the local and national level enhanced	Increased community awareness and appreciation of the park as a national heritage	Number of domestic tourists visiting the park	ANP visitor statistics
	Reduced illegal natural resource use in the AE	Number of local community members arrested for illegal natural resource use in the AE	AE Security Section Records

**Table 18. Security Management Programme Monitoring Plan**

Objective	Potential Impacts ( <i>Positive and Negative</i> )	Verifiable Indicator	Sources and means of verification
Objective 1: Security operations for the protection of AE's wildlife resources enhanced	Increased wildlife security	Number of poaching incidents	ANP Security Section records
Objective 2: Effectiveness of natural resource protection improved	Reduced impact of poaching on wildlife	Number of pre-empted wildlife crimes and number of snares collected	ANP Security Section records

<b>Objective 3: Security of visitors, staff, and KWS assets enhanced</b>	<b>Increased safety of KWS assets</b>	<b>Number of security incidents related to visitors, KWS assets or KWS staff</b>	<b>ANP Security Section records</b>
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**Table 19. Park Operations Management Programme Monitoring Plan**

<b>Objective</b>	<b>Potential Impacts (<i>Positive and Negative</i>)</b>	<b>Verifiable Indicator</b>	<b>Sources and means of verification</b>
<b>Objective 1: Institutional collaborations formalized and strengthened</b>	<b>Enhanced collaboration between KWS and Amboseli stakeholders</b>	<b>Number of formal collaboration agreements entered between KWS and relevant Amboseli stakeholders</b>	<b>KWS legal reports</b>
	<b>Increased stakeholder support for park management</b>	<b>Number of park management committee meetings or other stakeholder collaboration events held</b>	<b>Meeting minutes or ANP quarterly and annual reports</b>
<b>Objective 2: Staff Welfare and motivation improved</b>	<b>Improved efficiency of ANP staff undertaking their roles</b>	<b>Staff performance against 3-Year Activity Plan “milestones”</b>	<b>ANP annual reports</b>
	<b>Improved morale of ANP staff</b>	<b>Number of poor morale related incidences</b>	<b>ANP annual reports</b>
<b>Objective 3: Park management and administrative resources improved</b>	<b>Reduced livestock incursion in the park</b>	<b>Number of livestock brought to drink in the park</b>	<b>ANP security section reports</b>
	<b>Reduced maintenance costs of roads</b>	<b>Funds spent on road maintenance annually</b>	<b>ANP quarterly and annual reports</b>
	<b>Improved visitor satisfaction</b>	<b>Visitor satisfaction index</b>	<b>Customer feedback reports</b>
	<b>Enhanced ability of management to implement the management plan</b>	<b>Percentage of 3-Year Activity Plan milestones achieved</b>	<b>ANP annual reports</b>

# Plan Annexes



## Annex 1. Three-Year Activity Plans, 2020 – 2023

The following tables outline the 3-Year Activity Plans for implementation of the five management programmes. The activity plans detail the activities, responsibilities, timeframe and milestones necessary for implementation of each management action over the first 3-year timeframe of this management plan.

### 1. Ecological Management Programme

Management Action and Activities	Responsibility	Timeframe												Milestones	
		FY 2020-21				FY 2021-22				FY 2022-23					
		1	2	3	4	1	2	3	4	1	2	3	4		
<b>Objective 1: Critical Wildlife habitats within the park and its ecosystem maintained</b>															
<b>Action 1.1 Establish and maintain vegetation restoration enclosures</b>															
1.1.1 Assess the status of existing enclosures for rehabilitation	SW, RS,														Status of existing enclosures report done by November 30 <sup>th</sup> 2020
1.1.2 Assess and map other viable sites for enclosure establishment	SW, RS, SRS														
1.1.3 Mobilize resources for enclosure construction and maintenance	SW, SRS														
1.1.4 Monitor woodland regeneration progress	SW, RS														
<b>Action 1.2 Establish a sustainable long term tree growing programme</b>															
1.2.1 Mobilize resources for running the tree nursery	SW, Resource mobilization														Tree nursery up and running with seedlings by 31 <sup>st</sup> October 2020
1.2.2 Rehabilitate tree nursery game proof fence	SW, RS														
1.2.3 Procure and install a greenhouse	SW, RS														
1.2.4 Procure necessary tools and equipment	SW, RS														
1.2.5 prepare seedbeds for propagation of seedlings	RS, ARS														
1.2.6 Install watering system	SW, RS														
1.2.7 Retain tree nursery attendants	SW, HC														
1.2.8 Undertake routine tree husbandry on transplanted seedlings (weeding, pruning, watering etc)	RS, ARS, stakeholders														
<b>Action 1.3 Control and manage invasive plant species</b>															
1.3.1 Map areas invaded by invasive plant species	SRS, RS														Invasive species distribution report to be ready by February 2021
1.3.2 Mobilize resources for mechanical removal of invasive plant species	SW, Resource mobilization														
1.3.3 Undertake mechanical removal of invasive plant species	SW, RS, ARS														
1.3.4 Assess effectiveness of invasive plant species control and management	SRS, RS														

Management Action and Activities	Responsibility	Timeframe																Milestones
		FY 2020-21				FY 2021-22				FY 2022-23								
		1	2	3	4	1	2	3	4	1	2	3	4					
<b>Action 1.4 Support establishment of a buffer zone around the park</b>																	Appeal to County Government of Kajiado made for inclusion of 10 Km from the park as an eco-tourism zone by February 2021	
1.4.1 Undertake biodiversity inventories of designated conservancies	SRS, SW, RS, conservancy management																	
1.4.2 Undertake feasibility studies for designated conservancies	SRS, SW, RS, conservancy management																	
1.4.3 Assist conservancies to develop management plans	SRS, SW, RS, conservancy management																	
1.4.5 Liaise with County Government of Kajiado in zoning 10 Km from the park boundary as an eco-tourism zone	AD-SCA, SW																	
<b>Action 1.5 Mitigate impacts of flooding in the park</b>																	Report on impacts of extreme flooding on biodiversity to be ready by May, 2021	
1.5.1 Undertake topographic surveys and water flow regime studies to inform management on flooding controls	SRS, H-technical dept.																	
1.5.2 Study the impacts of extreme flooding on ANP biodiversity	SRS, RS																	
1.5.3 Desilt existing drainage channels that are no longer working properly	SW, H-technical dept.																	
1.5.4 Establish water pans at suitable locations in Amboseli Ecosystem	SW, partners, H-technical dept.																	
1.5.5 Restore ANP woodlands	SW, SRS, RS																	
<b>Action 1.6 Undertake environmental impact assessments (EIA) and environmental audits (EA)</b>																	Report on identified proposed projects to be ready by December, 2020	
1.6.1 Identify all proposed projects in ANP that require EIA	RS, ARS																	
1.6.2 Undertake EIAs for all identified project	SRS, EIA section																	
1.6.3 Undertake regular EIAs for all development projects in ANP to ensure compliance with Environmental Management and Coordination Act (EMCA) provisions	SRS, EIA section																	
1.6.4 Enforce EMCA provisions	NEMA, SRS, RS																	
<b>Objective 2: Wildlife species conservation and management enhanced</b>																		
<b>Action 2.1 Undertake wildlife disease surveillance and management and veterinary clinical interventions</b>																		
2.1.1 Capture sick and injured animals, diagnose, treat and rehabilitate them	RS-Vet, SRS, RS																	
2.1.2 Undertake proactive disease surveillance and monitoring in consultation with other stakeholders	RS-Vet, SRS, RS																	
2.1.3 Investigate disease outbreaks and implement appropriate control and prevention measures in consultation with relevant stakeholders	RS-Vet, SRS, RS																	
2.1.4 Capture and relocate problem animals	RS-Vet, SRS, RS																	
2.1.5 Rescue orphaned young animals in distress	RS-Vet, SRS, RS																	

Management Action and Activities	Responsibility	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Action 2.2 Work with others to enhance conservation of special status species</b>														
2.2.1 Undertake aerial and ground censuses to establish population status of species of special concern	SRS, RS, Stakeholders													Deployment of at least 10 collars for different species will be undertaken by December, 2020
2.2.2 Undertake regular species monitoring	SRS, RS, Stakeholders													
2.2.3 Implement species-specific strategies	SRS, RS, Stakeholders													
2.2.4 Collar selected individuals of species of special concern to monitor their movement and ranging patterns	RS-Vet, RS, partners													
2.2.5 Collaborate with Tanzanian authorities to undertake regular animal cross border censuses for elephant and other large animals	SRS, H-Ecological monitoring, TAWIRI													
<b>Action 2.3 Coordinate and guide large carnivore conservation measures</b>														
2.3.1 Collar identified carnivores to monitor their movement and ranging patterns to mitigate human-carnivore conflicts	SRS, RS, partners													Procure collars by 31 <sup>st</sup> October 2020
2.3.2 Map large carnivore home ranges to inform management decisions on their conservation	SRS, RS, partners													
2.3.3 Undertake regular population surveys for large carnivores (call backs & spoor counts)	SRS, RS, partners													
<b>Objective 3: Scientific information to support park management generated and disseminated</b>														
<b>Action 3.1 Support establishment of a research sub-centre at Amboseli</b>														
3.1.1 Identify suitable location of the sub-centre	WRTI, KWS													
3.1.2 Construct and equip Amboseli research sub-centre	WRTI, KWS													
<b>Action 3.2 Collaborate with stakeholders in establishing a digital library of published and unpublished reports on Amboseli National Park and its Ecosystem</b>														
3.2.1 Procure necessary hard and software	H-ICT, SW, RS													
3.2.2 Develop data/ information sharing protocols with partners	D-BR&P, H-Ecological monitoring, SRS													Data sharing protocols developed by February, 2021
3.2.3 Operationalize the digital library	D-BR&P, H-GIS, SRS													
<b>Action 3.3 Monitor the range condition within the Amboseli Ecosystem</b>														
3.3.1 undertake studies to establish ANP range conditions	SRS, RS													Weather station up and running by December, 2020
3.3.2 Monitor water quality and quantity	RS, ARS													
3.3.3 Design strategies to improve the range conditions	SRS, RS, partners													
3.3.4 Procure and install weather monitoring station	SW, RS, ACC													
3.3.5 Monitor wildfires	RS, ARS													
3.3.6 Monitor habitat degradation/ soil erosion	RS, ARS													
<b>Action 3.4. Monitor top carnivores to determine population trends, distribution and movements</b>														
3.4.1 See 2.3 above														

Management Action and Activities	Responsibility	Timeframe																Milestones
		FY 2020-21				FY 2021-22				FY 2022-23								
		1	2	3	4	1	2	3	4	1	2	3	4					
<b>Action 3.5 Study wildlife numbers and distribution</b>																		
3.5.1 Undertake regular aerial counts for larger animals	SRS-SCA, RS																	Wildlife census conducted as scheduled
3.5.2 undertake regular ground counts	SRS-SCA, RS																	
3.5.3 undertake regular carnivore censuses	SRS-SCA, RS																	
3.5.4 Undertake regular waterfowl counts	SRS-SCA, RS																	
<b>Action 3.6 Undertake a comprehensive biodiversity inventory</b>																		
3.6.1 Mobilize resources to undertake biodiversity inventory	H-resource mobilization, SW																	Inventory of one taxa conducted by December 2022
3.6.2 Organize and coordinate biodiversity inventory exercise	SRS, RS																	
3.6.3 Draft comprehensive biodiversity inventory report	SRS, RS																	
<b>Action 3.7 Conduct wildlife genetic studies</b>																		
3.7.1 Immobilize animals for tissue collection	Capture, RS-Vet																	Genetics study progress report prepared annually
3.7.2 Collect tissue and blood samples	RS-Vet																	
3.7.3 Collect ectoparasites and endoparasites where appropriate	RS-Vet																	
<b>Action 3.8 Monitor elephant movement patterns</b>																		
3.8.1 Refer to action 2.2	SRS, RS																	Research topics identified by June 2021
<b>Action 3.9 Identify priority applied research</b>																		
3.9.1 Organize scientific conference for stakeholders to identify priority study areas	SRS, RS																	
3.9.2 Fundraise to undertake identified studies	SRS, RS																	
3.9.3 Establish wildlife study/ research networks	SRS, RS																	

## 2. Tourism Development and Management Programme

Management Action and Activities	Persons Responsible	Timeframe																Milestones
		FY 2020-21				FY 2021-22				FY 2022-23								
		1	2	3	4	1	2	3	4	1	2	3	4					
<b>Objective 1: Tourism-support infrastructure developed and managed in a sustainable way</b>																		
<b>Action 1.1: Work with the County Government of Kajiado in the rehabilitation of the OI Tukai Enclave</b>																		
1.1.1 Survey the OI Tukai enclave boundaries	SW, AD-SCA, H-lands																	Land use and physical development plan for the enclave developed by June 2023
1.1.2 Develop a land use and physical development plan for the enclave	SW, AD-SCA, H-lands; CGK																	
<b>Action 1.2: Establish, upgrade and maintain ANP Bandas and campsites</b>																		

Management Action and Activities	Persons Responsible	Timeframe												Milestones		
		FY 2020-21				FY 2021-22				FY 2022-23						
		1	2	3	4	1	2	3	4	1	2	3	4			
1.2.1: Renovate of existing facilities	SW														Bandas and campsite renovated by December 2020	
1.2.2: Construct campsite benches, kitchen shed, washrooms and perimeter fence for the campsite	SW															
1.2.3 Identify suitable camping sites in the habitat enclosures	SW															
1.2.4 Provide campsite facilities at new sites	SW															
<b>Action 1.3: Redevelop the observation hill visitor site</b>															Renovations of at the Observation Hill done by December 2021	
1.3.1: Convert store to a toilet for PLWD and convert one of the extended veranda at gents' side to a store	SW															
1.3.2: Smoothen the trail to allow for wheelchair use	SW															
1.3.3: Construct walkway rump from parking to washrooms	SW															
1.3.5: Renovate sheds	SW															
1.3.6: Replace logs with concrete benches	SW															
<b>Action 1.4: Establish walking trails and picnic sites at vantage viewing points such as Imerishari and Kitirua hill</b>															Walking trail designs prepared by December 2021	
1.4.1. Develop designs for walking trails at Imerishari and Kitirua Hills	SW															
1.4.2. Construct walking trails at Imerishari, Kitirua Hills	SW															
<b>Action 1.5: Develop raised observation platforms</b>															Conceptual design for the raised platform prepared by December 2022	
1.5.1: Collaborate with researchers and tourism stakeholders in identifying suitable sites for establishment of viewing platforms	SW, SRS--SCA															
1.5.2 Design and construct viewing platforms	SW															
<b>Action 1.6: Support establishment of well designed community curio shops</b>															Curio shop sites identified by December 2021	
1.6.1. Identify suitable sites for establishment of curio shops	SW															
1.6.2. Establish well designed, large and environmentally friendly curio shops	SW, CGK, Conservancies next to gates															
<b>Action 1.7: Promote connecting circuits between ecosystems adjacent to ANP</b>																
1.7.1 Promote establishment of an Amboseli-Chyulu-Tsavo circuit	SW															
1.7.2 Promote establishment of a southern tourist route from Tsavo-Amboseli-Masai Mara	SW															
<b>Objective 2: Tourism diversified and visitor experience enhanced to boost visitor satisfaction</b>																
<b>Action 2.1: Promote night game drives and wildlife tracking at a premium</b>																
2.1.1. Liaise with hotels to market night game drives and wildlife tracking	SW															Night game drives and wildlife tracking are being undertaken by December 2021
2.1.2. Provide rangers for night game drives at a fee	SW															
<b>Action 2.2: Support establishment of volunteer tourism</b>																
2.2.1. Identify opportunities for volunteer tourism	SW															

Management Action and Activities	Persons Responsible	Timeframe												Milestones				
		FY 2020-21				FY 2021-22				FY 2022-23								
		1	2	3	4	1	2	3	4	1	2	3	4					
2.2.2. Prepare advertising materials and advertise the volunteer programme in the internet	SW																	Volunteer tourism introduced by December 2022
2.2.3. Engage retired wildlife conservationists	SW																	
<b>Action 2.3: Promote research tourism</b>																		
2.3.1. Identify opportunities for research and education tourism	SW																	Research tourism introduced by June 2023
2.3.2. Liaise with KWS headquarters to develop and market research and education tourism as a package	SW																	
<b>Action 2.4: Introduce ANP bus hire and customized vehicles for game drive</b>																		
2.4.1. Introduce KWS bus hire and customized land cruisers for game drive	SW																	Customized game drive vehicles availed by June 2023
2.4.2. Pick and drop visitors during weekend and holidays	SW																	
<b>Action 2.5: Promote and facilitate development of cultural tourism showcasing authentic local Maasai culture</b>																		
2.5.1. Identify traditional homesteads that can accommodate cultural tourists	SW																	Local Home stays identified and registered by June 2023
2.5.2. Liaise with the Ministry of Tourism and wildlife in registering suitable homesteads as 'home stays'	SW																	
2.5.3. Market the Home stays and cultural events through the media and internet	SW																	
2.5.4. Train cultural centre operators on tour guiding, management and governance issues	SW																	
<b>Objective 3: Visitor appreciation, understanding and enjoyment of the park's resources is enhanced</b>																		
<b>Action 3.1: Develop detailed interpretive themes based on identified concepts and sub-concepts</b>																		Current interpretive themes reviewed and updated by June 2022
3.1.1. Review identified themes of identified concepts and sub-concepts	SW																	
<b>Action 3.2: Establish tourism information centres</b>																		
3.2.1. Convert old Kimana gate to education centre and Gift shop	SW																	Kimana information centre constructed and functional by December 2020
3.2.2. Provide information material	SW																	
3.2.3. Provide gift shop items for sale	SW																	
3.2.4. Enhance sales of recyclable products to support ban on use of plastic items	SW																	
3.2.5. Employ staff for information dissemination to visitors and to manage the gift shop	SW																	
<b>Action 3.3: Install and maintain information and directional signage</b>																		
3.3.1. Repair broken park signage's	SW																	All road junctions have directional park signages by December 2021
3.3.2. Construct signage's as appropriate	SW																	The ANP tourist map is updated by December 2021
3.3.3. Update park signage's information	SW																	
<b>Action 3.4: Develop and update park interpretation materials</b>																		
3.4.1. Update tourist maps, brochures and guide books	SW																	
3.4.2. Renovate existing park information panels	SW																	

Management Action and Activities	Persons Responsible	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Action 3.5: Provide personal information services</b>														Evening talks given to lodges by December 2020
3.5.1. Provide general interpretive ranger guiding services	SW													
3.5.2. Provide evening talks to local lodges	SW													
3.5.3 Provide guided interpretive walks into normally restricted SW regions of the park	SW													
<b>Action 3.6: Provide ranger and community guiding services</b>														Community and ranger guides trained by December 2021
3.6.1.Partner with the community to engage, train and build the SW capacity tour guides	SW													
3.6.2.Employ qualified tour guides	SW													
<b>Action 3.7: Reduce tourism environmental impacts</b>														Baboon proof bins installed at all picnic sites and gates by December 2021
3.7.1. Install baboon proof bins and collection centres for recycling waste	SW													
3.7.2. Collect litter on weekly basis	SW													
3.7.3. Liaise with hotels and lodges to support the ban on plastic SW bottles	SW													
3.7.4. Enforce ban on single use plastic in the park	SW													
3.7.5. Increase patrols to deter off-road drives	SW													
3.7.6. Provide park rules and regulation leaflets to customers	SW													
3.7.7. Implement Greening initiative	SW													
<b>Action 3.8: Upgrade the revenue management system</b>														
3.8.1. Liaise with Director general's office for support	SW													
<b>Action 3.9: Establish a tourism monitoring programme for the ANP</b>														Customer feedback report prepared quarterly
3.9.1 Conduct visitor satisfaction surveys	SW													At least one random inspection conducted in the ecosystem biannually
<b>Action 3.10: Collaborate with NEMA in conducting regular inspections of the AE tourism facilities</b>														ANP Tourism forum formed by June 2021
3.10.1 Conduct random inspection of tourism facilities	SW													
<b>Action 3.11: Establish a functional tourism–stakeholders’ forum and hold regular forum meetings</b>														Tourism products marketed to domestic tourists continuously
3.11.1 Organise a meeting to discuss the terms of reference for the SW forum	SW													
3.11.2 Hold quarterly tourism forum meetings	SW													
<b>Action 3.12 Develop and market tourism products targeting the domestic tourism market</b>														
3.12.1. Participate in exhibitions, ASK shows	SW													
3.12.2. Use social media to market the park locally	SW													
3.12.3. Develop an application for availing information about the park and its activities	SW													

Management Action and Activities	Persons Responsible	Timeframe												Milestones	
		FY 2020-21				FY 2021-22				FY 2022-23					
		1	2	3	4	1	2	3	4	1	2	3	4		
<b>Action 3.13 Market the park through the local and international media</b>															At least 4 radio talks given in the local radio stations and 2 TV interviews annually
3.13.1 Prepare radio and TV programmes on Amboseli															
3.13.2. Update the KWS Amboseli web site page by including current content	SW														
3.13.3 Partner with KTB and hotels for global marketing	SW														
<b>Action 3.14: Hold special events to promote tourism in the park</b>															Elephant naming event held annually
3.14.1. Organise the elephant naming event with the stakeholders annually	SW														
<b>Action 3.15: Develop specific brand strategy for the park</b>															A documentary on the park prepared by December 2023
3.15.1. Develop unique documentary for the park	SW														

### 3. Community Partnership and Conservation Education Management programme

Management Action and Activities	Persons Responsible	Timeframe												Milestones	
		FY 2020-21				FY 2021-22				FY 2022-23					
		1	2	3	4	1	2	3	4	1	2	3	4		
<b>Objective 1: Community benefits from existence of the park and its wildlife enhanced</b>															
<b>Action 1.1: Support establishment of functional community wildlife conservancies in the group ranches to create opportunities for wildlife enterprises</b>															
1.1.1 Support preparation of conservancy management plans	SW, SRS, CWO														At least two currently non-functional conservancies operationalized by December 2021
1.1.2 Support development of tourist-support infrastructure in the conservancies	SW, CWO														
1.1.3 Support establishment of strong conservancy governance systems	SW, CWO														
<b>Action 1.2: Support community livelihood projects</b>															
1.2.1. Support livestock improvement programmes	SW, CWO														At least one Livestock improvement project supported by June 2021
1.2.2 Support implementation of social projects	SW, CWO														At least one training session organised for Community Wildlife Scouts by December 2021
<b>Action 1.3: Support the Amboseli/Tsavo Community Wildlife Scouts to increase wildlife related benefits within the community</b>															
1.3.1: Support training and equipping community wildlife scouts	SW, CWO														

Management Action and Activities	Persons Responsible	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Action 1.4: Support training of cultural centre managers</b>														At least one workshop organise for cultural centre managers by December 2021
1.4.1 Organise training workshops for cultural centre managers	SW, CWO													
<b>Action 1.5: Support implementation of group ranch land use plans</b>														Group ranch level livestock grazing meetings held as scheduled with support from KWS
1.5.1 Facilitate livestock grazing committee meetings	SW, CWO													
1.5.2 Support development of infrastructure in community service centres	SW, CWO													
<b>Objective 2: Human-wildlife co-existence in wildlife dispersal areas enhanced</b>														
<b>Action 2.1 Construct, rehabilitate and maintain wildlife barriers</b>														
2.1.1 Support maintenance of the Kitenden-Kimana fence	SW, CWO													Wildlife fences are functional always
2.1.2 Support establishment of fences in HWC hotspots	SW, CWO													
2.1.3 Monitor fence performance	SW, CWO													
<b>Action 2.2: Support the Amboseli Human-Wildlife Co-existence Committee (HWCC)</b>														
2.2.1 Provide resource to the community to ensure that HWCC meetings regularly to address Human-Wildlife interaction issues	SW, CWO													Human-Wildlife co-existence protocols adopted by KWS by June 2021
2.2.2 Work with Stakeholders and Morans to implement the wildlife interaction protocols	SW, CWO													
2.2.3 Pursue the adoption of the human wildlife co-existence protocols by KWS BOT	SW, AD-SCA													
<b>Action 2.3: Mitigate livestock predation by lions</b>														
2.3.1 Support communities in construction of predator proof bomas	SW, CWO													At least 5 predator proof bomas constructed by KWS by December 2022
<b>Action 2.4: Establish animal control (PAC) outposts</b>														
2.4.1 Establish PAC outposts in hotspot areas such as Selengei, Oltiasika; Olgulului-Ololarashi	SW, CWO													
2.4.2 Provide equipment to PAC teams	SW, CWO													
2.4.3 Ensure a rapid response vehicle is always serviceable and on standby	SW, CWO													At least three outposts established by June 2022
2.4.4 Fabricate and deploy animal traps	SW, CWO													
2.4.5 Identify, trap and relocate problem animals	SW, CWO													
2.4.6 Use technology to track wildlife movements	SW, CWO													
<b>Action 2.5: Control livestock incursion inside the park</b>														
2.5.1 Organise regular livestock control committee meetings	SW, CWO													Livestock control committee meetings held as scheduled
<b>Objective 3: Awareness about the park and ecosystem at the local and national level enhanced</b>														

Management Action and Activities	Persons Responsible	Timeframe												Milestones	
		FY 2020-21				FY 2021-22				FY 2022-23					
		1	2	3	4	1	2	3	4	1	2	3	4		
<b>Action 3.1 Design a conservation education outreach Programme based on the local community social stratification</b>															
3.1.1 Organise conservation seminars and workshops for various social strata of the local community	SW, CWO														At least two outreach activities organised biannually
3.1.2 Organise study tours for organized groups	SW, CWO														
3.1.3 Conduct outreach activities targeting schools and the local community	SW, CWO														
<b>Action 3.2: Develop conservation education and outreach materials</b>															
3.2.1 Prepare conservation education materials in collaboration with other stakeholders	SW, CWO														Education and outreach materials targeting various social groups developed by June 2023
<b>Action 3.3: Create awareness among the public on the importance of the AE through the mass media, Internet, and organizing and participating in conservation awareness events</b>															
3.3.1 Produce educational videos and radio programmes on Amboseli	SW, CWO														At least ANP participates in all local environmental awareness events
3.3.2 Include educational content in the KWS Amboseli web page	SW, CWO														
3.3.3 Participate in local, national and international environmental awareness events	SW, CWO														
<b>Action 3.4: Establish sponsored park tours for the local community</b>															
3.4.1 Provide transport to school groups and other organised local groups intending to visit the park	SW, CWO														At least two sponsored park tours organised biannually
<b>Action 3.5: Involve the public in park management</b>															
3.5.1 Involve local communities in ground census, and wildlife tracking	SW, CWO														Local communities are involved park activities by June 2021
3.5.2 Incorporate tradition knowledge in wildlife monitoring	SW, CWO														
3.5.3 Use community knowledge in identifying problem animals targeted for collaring	SW, CWO														
3.5.4 Promote citizen science	SW, CWO														

#### 4. Security Management Programme

Management Action and Activities	Persons Responsible	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Objective 1: Security operations for the protection of AE's wildlife resources enhanced</b>														
<b>Action 1.1 Strengthen the capacity of AE security team</b>														
1.1.1 Procure adequate security equipment for the AE Team	SW, ATCWRA, AET													At least 90% of the security staff are able to use the security equipment effectively
1.1.2 Train the AE security team in use of the security equipment	SW, ATCWRA													
1.1.3 Strengthen effectiveness of community scouts through attachment of KWS officers	SW,SOOPS,ATSGA													
1.1.4 Design and develop an organogram/structure for the community scouts	SW, AET													
1.1.5 Arm the AE community scouts	SW, AET, ATCWRA													
1.1.6 Develop ATCWRA strategic plan	SW, AET, ATCWRA													
1.1.7 Develop and implement work programme for the community scouts	ATCWRA													
<b>Action 1.2 Intensify patrols in the AE</b>														
1.2.1 Carry out aerial patrols	WS, SW, ATCWRA, AET													Routine patrols carried out as per the security strategy
1.2.2 Carry out ground patrols	WS, SW, ATCWRA, AET													
1.2.3 Collect and collate intelligence information	Intel.OC, SW, ATCWRA, AET													
<b>Action 1.3 Enhance bush meat control and de-snaring operations</b>														
1.3.1 Carry out de-snaring operations	WS, SW, ATCWRA, AET													De-snaring operations carried out monthly
1.3.2 carry out bush meat operations in hotspot areas	SW, HCOY													
<b>Action 1.4 Liaise with Tanzania's wildlife authorities on cross-border natural resource protection</b>														
1.4.1 Hold cross border wildlife security meetings	SW, WS, ATCWRA, AET													Cross-border wildlife security meetings held annually and 50% of security team trained on cross border patrols
1.4.2 Share intelligence information on wildlife security	WS													
1.4.3 Train the security teams on cross-border special patrol	WS, ATCWRA, AET													
1.4.4 conduct synchronized cross-border patrols	SW, WS, ATCWRA, AET													

Management Action and Activities	Persons Responsible	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Objective 2: Effectiveness of natural resource protection improved</b>														
<b>Action 2.1 Strengthen and maintain an ANP security database</b>														
2.1.1 Procure computers and accessories	SW, ATCWRA, AET													Security database fully functional by December 2022
2.1.2 Procure a GIS based security database system	SW, ATCWRA, AET													
2.1.3 Train security officers in database management	SW, ATCWRA, AET													
<b>Action 2.2 Expand the wildlife intelligence network</b>														
2.2.1 Recruit, train and deploy adequate intelligence staff to the AE	SW													The AE has adequate intelligence staff always
<b>Action 2.3 Improve wildlife crimes prosecution processes</b>														
2.3.1 Train security staff in arrest and prosecution processes	SW, WS													All Security staff in the AE trained in arrest and prosecution procedures
2.3.2 Organise sensitization study tours for the local police and judiciary	SW													
2.3.3 Liaise with HQ for gazettement of KWS prosecutors	SW													
2.3.3 Explore feasibility of inter institutional exchange program on prosecution processes	SW													
<b>Action 2.4: Establish an AE command centre</b>														
2.6.1 Designate and equip a command centre room within the park	SW													A command centre established by June 2021
2.6.2 Deploy and train personnel to operate the command centre	SW													
2.6.3 Designate a common radio frequency for all stakeholder communications	SW													
<b>Action 2.5 Liaise with ecosystem stakeholders to enhance security operations</b>														
2.5.1 Organise wildlife security seminars for local leaders	WS													At least one security Seminar organised Annually
2.5.2 Organise security public meetings	WS													
<b>Objective 3: Security of visitors, staff, and KWS assets enhanced</b>														
<b>Action 3.1 Improve visitor security in liaison with other stakeholders in AE</b>														
3.1.1 Ensure security checks at barriers and points of entry to all tourist facilities	SW, Hoteliers													All tourist facilities have manned barriers and routine security checks are carried out
3.1.2 Provide ranger escort to filming parties, researchers	SW, WT													
3.1.3 Ensure multi-agency collaboration on visitor security while on transit	SW													

Management Action and Activities	Persons Responsible	Timeframe												Milestones	
		FY 2020-21				FY 2021-22				FY 2022-23					
		1	2	3	4	1	2	3	4	1	2	3	4		
<b>Action 3.2 Provide adequate security for KWS assets</b>															KWS assets are adequately secured
3.2.1 Maintain adequate security to all KWS facilities	SW														
3.2.2 Improve and maintain asset registry in all field stations															
<b>Action 3.3 Minimize loss of revenue through fraud and related activities</b>															Impromptu checks conducted continuously
3.3.1 Strengthen activities of the KWS revenue protection unit	SW														
3.3.2 Conduct impromptu checks	SW, RRU														
3.3.3. Conduct revenue analysis and check to identify loopholes	SW, RRU, Finance														

## 5. Park Operations Management programme

Management Action and Activities	Responsibility	Timeframe												Milestones	
		FY 2020-21				FY 2021-22				FY 2022-23					
		1	2	3	4	1	2	3	4	1	2	3	4		
<b>Objective 1: Institutional Collaborations Formalized and Strengthened</b>															
<b>Action 1.1: Work with legally recognised institutions to enhance wildlife conservation outside the park</b>															
1.1.1: Support community mobilisation efforts of AET e.g. supporting community meetings, seminars and workshops	SW, CWO														AEMP plan implementation committee meetings held as scheduled
1.1.2. Organise study/benchmarking tours for AET officials	SW, CWO														
1.1.3 Build the capacity of AET officials in leadership and management skills	SW, CWO														
1.1.4: Facilitate regular AEMP plan implementation meetings	SW, CWO														
<b>Action 1.2: Improve the effectiveness of the Park Management Committee</b>															
1.2.1: identify key stakeholders to constitute the PMC	SW														PMC reconstituted by June 2021
1.2.2: Organise initial PMC meeting to develop and agree on the PMC's terms of reference	SW														
1.2.3: Hold regular Park management committee meetings	SW														
<b>Action 1.3: Enter into formal agreements with key stakeholders to strengthen collaboration and ensure coordination of the wildlife management sector</b>															
1.3.1 Review and sign collaborative research and management agreements with the major conservation NGOs in the AE	SW														Collaborative agreements signed with key conservation NGOs by June 2022

Management Action and Activities	Responsibility	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Action 1.4: Participate in Kajiado County administrative and other relevant stakeholder forums</b>														ANP officers are participating in relevant stakeholder forums
1.4.1: Participate in the sub-county security and intelligence committee-Warden community	SW													
1.4.2: Participate in the court Users committee-Loitokitok-Warden Investigation	SW													
1.4.3: Participate in County meetings-SW-Kajiado	SW													
1.5.1: Attend all sub-county level meetings	SW													
<b>Action 1.5: Liaise with honorary wardens to enhance wildlife conservation and management</b>														Honorary wardens meetings held quarterly
1.5.1: Define and allocate tasks and responsibilities to honorary wardens	SW													
1.5.2: Monitor and evaluate the performance of honorary wardens	SW													
1.5.3: Organise regular Honorary wardens meetings	SW													
<b>Objective 2: Staff welfare and motivation improved</b>														
<b>Action 2.1 Liaise with KWS Headquarters Human Capital Department to deploy relevant staff in the AE</b>														Adequate staff deployed to ANP by June 2023
2.1.1: Assess staff needs and deploy adequate staff to the AE	SW													
<b>Action 2.2 Promote employee wellness programmes</b>														AIDS and COVID 19 awareness meetings organised monthly
2.2.1: Liaise with the Ministry of Health to establish and equip a small medical laboratory at the Amboseli Health Clinic	SW													
2.2.2: Organise AIDS, COVID 19 awareness and counselling meetings for KWS staff and the community	SW													
2.2.3: Collaborate with County department of Medical Health to enhance the management and delivery of medical services by the Amboseli health clinic.	SW													
<b>Action 2.3 Collaborate with the Ministry of Education and Olulului/Ololarashi group ranch committee to improve the standard of education at the Amboseli Primary School</b>														Teachers salaries paid throughout
2.3.1: Continue supporting two teachers salaries to Amboseli Primary School	SW													
<b>Action 2.4 : Refurbish the ANP staff canteen</b>														The staff canteen is refurbished by December 2021
2.4.1: Review the welfare association's by laws	SW													
2.4.2: Refurbish the ANP staff canteen	SW													
2.4.3: Procure merchandise for staff canteen	SW													
<b>Action 2.5: Train staff in relevant skills</b>														Training needs assessment report prepared by December 2021
2.5.1: Undertake staff training needs assessment	SW													
2.5.2: Embrace multi skilling of staff (disaster preparedness, first aid, fire, flooding)	SW													
2.5.3: Allocate money to train staff on their area of specialization	SW													

Management Action and Activities	Responsibility	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Action 2.6: Promote a culture of teamwork, respect and excellence</b>														An innovative reward scheme adopted by December 2021
2.6.1: Develop a staff reward scheme apart from recommendation letters	SW													
2.6.2: Involve staff in key decision making	SW													
2.6.3: Conduct regular staff meetings and sometimes invite motivational speakers address staff.	SW													
<b>Action 2.7: Facilitate employee participation in sports, music and other talent activities</b>														The ANP football team is playing in the local football league by June 2022
2.7.1: Register and facilitate Amboseli football team to play in football leagues	SW													
2.7.2: Identify and nurture staff talents	SW													
<b>Objective 3: Park Management and administrative resources improved</b>														
<b>Action 3.1: Rehabilitate the Amboseli water supply system</b>														Water pipeline rehabilitated by June 2021
3.1.1 Replace and overhaul of the Amboseli water supply pipeline	SW													
3.1.2 Excavate and desilt dams	SW													
3.1.3 Replace the 5 old generators at the community borehole	SW													
3.1.4 Sink new boreholes	SW													
3.1.5 Purchase water tanks to act as reservoirs	SW													
3.1.6 Construct modern water troughs for the wildlife in dry parts of ANP	SW													
<b>Action 3.2: Construct and rehabilitate residential and non-residential buildings</b>														Staff houses rehabilitated by June 2023
3.2.1 Prepare tender documents - Rehabilitate and Maintain staff houses	SW													
3.2.2 Prepare tender documents and outsource construction additional offices to house research and procurement sections	SW													
3.2.3 Construct additional houses for the officers and junior staff	SW													
3.2.4 Construct information block at Kimana gate	SW													
3.2.5 Construct Kitirua gate	SW													
3.2.6 Construct visitor sheds at the gates	SW													
3.2.7 Construct airstrip hangers	SW													
3.2.8 Convert the toilets at the gates to cater for PLWD	SW													
3.2.9 Dispose the old asbestos roofing sheets appropriately	SW													

Management Action and Activities	Responsibility	Timeframe												Milestones
		FY 2020-21				FY 2021-22				FY 2022-23				
		1	2	3	4	1	2	3	4	1	2	3	4	
<b>Action 3.3: Maintain the road network in good motorable condition</b>														Road network in motorable condition always
3.3.1 Carry out grading works to the airstrips and roads	SW													
3.3.2 Carry out gravelling works	SW													
3.3.3 Install culverts	SW													
3.3.4 Desilt culverts	SW													
3.3.5 Fill in both soft and hard materials	SW													
3.3.6 Repair headwalls and wing walls to culverts	SW													
3.3.7 Install gabion boxes and gabion mattresses	SW													
3.3.8 Construct scour checks	SW													
3.3.9 Construct drifts	SW													
3.3.10 Excavate for structures	SW													
3.3.11 Clear bush along the roads shoulders	SW													
3.3.13 Install perimeter fence around the airstrip	SW													
<b>Action 3.4: Improve park entry gates</b>														Kitirua Gate constructed by June 2023
3.4.1 Construct a gate and office at Kitirua entry point	SW													
3.4.2 Survey and rehabilitate the Kitirua borehole	SW													
<b>Action 3.5: Install and maintain signages throughout the park</b>														Signages repaired and new ones installed by June 2022
3.5.1 Carry out routine maintenance of the signages	SW													
3.5.2 Construct and maintain directional and information sign posts at the main highway junctions to the park	SW													
3.5.3 install timber boards to the signages constructed	SW													
<b>Action 3.6 Liaise with KWS Headquarters in the provision of adequate vehicles, plants and other equipment</b>														A vehicle needs assessment report prepared by December 2020
3.6.1 Assess vehicle status	SW													
3.6.2 Conduct timely routine vehicle maintenance	SW													
<b>Action 3.7: Carry out routine maintenance of the airstrips</b>														Airstrips are safe for aircraft landing always
3.7.1 Patch bitumen to the airstrip	SW													
3.7.2 Gravel the ANP HQ airstrip	SW													
<b>Action 3.8: Install fire fighting appliances at the ANP offices, mechanical workshop and airstrip and train staff in fire preparedness</b>														Fire fighting appliances are installed in strategically by June 2023
3.8.1 Procure and install fire fighting appliances	SW													
<b>Action 3.9 Upgrade the radio network to improve communication among KWS, Community Wildlife Scouts and tourist establishments</b>														Radio link with community scouts achieved by December 2020
3.9.1 Include key stakeholders in the radio communication network	SW													
<b>Action 3.10 Mark the park Boundary</b>														Park boundary cleared by June 2022
3.10.1 Excavate the outline all-round the park to act as a temporary boundary	SW													

## Annex 2. Stakeholder participation in plan development

Name	Position and Organisation	Stakeholder Workshops			Plan Scoping Meeting	ANP CPT Meetings
		SPW	SPVW 1	SPVW 2		
1. Abraham Loomuna	AET	X	X			
2. Adam Hassan	KWS			X		X
3. Agnes Oundo	KWS			X		
4. Anastacia Mwaura	KWS			X		X
5. Andreas Fox	K&D/ KWT				X	
6. Anne Mugo	WWF-Kenya		X			
7. Apollo Kariuki	KWS	X	X	X		X
8. Benard Korir	KALRO-KIBOKO			X		
9. Bernard Tulito	IFAW		X		X	
10. Bonface Onyango	KWS					X
11. Catherine Sayialel	ATE	X	X	X		
12. Christine Mwinzi	KWS	X	X	X		X
13. Cornelius Muoka	KWS					X
14. Cyprian. Ondu	KWS					X
15. Daniel Mapi	SEC - MGR	X	X		X	
16. Daniel Kaaka	AET	X	X			
17. Daniel Kanchori	Amboseli		X			
18. Daniel Kipkosgei	KWS	X	X	X		X
19. Daniel Leturesh	OAGR/AET	X	X		X	
20. Daniel Muteti	KWS			X		X
21. Daniel Mututho	NEMA			X		
22. Daniel Njaga	PECS LTD	X	X		X	
23. Danson Mositet	Amboseli		X			
24. Darius Kayago	KWS	X	X	X		X
25. David Maitumo	ACC			X	X	
26. David Mito	MGR chairman				X	
27. David Mwanthi	KWS	X			X	
28. David Sambu	BLF			X		
29. David Kayian	Imbirikani				X	
30. David Manoa	BORN FREE			X		
31. David Sirinkoti	Amboseli		X			
32. Dickson Melita	ORT	X	X			
33. Dickson Mjomba	KWS					X
34. Dickson Oloitipit	ORT			X		
35. Dr. Bernard Kaaria	PECS LTD	X	X		X	
36. Dr. David Western	ACP			X	X	
37. Dr. Edward Kariuki	KWS			X		X
38. Dr. Francis Lesilau	KWS			X		X
39. Dr. Irene Amoke	KWT				X	
40. Dr. Patrick Kariuki	PECS	X	X			
41. Dr. Prof. Moses Okello	SFS	X				
42. Dr. Winnie Mwala	KWTA		X			
43. Dr. Kes Smith	ACC - EU				X	
44. Dr. Patrick Omondi	KWS			X		X
45. Edward Ng'ang'a	Amboseli		X			
46. Edwin Wanyonyi	KWS			X		X
47. Elijah Keen Naini	OAGR	X	X			
48. Emmanuel Mpararia	EGR	X			X	
49. Emmanuel Kanai	Kuku B chairman	X				
50. Eric Ole Kesoi	Lion Guardians			X	X	

Name	Position and Organisation	Stakeholder Workshops			Plan Scoping Meeting	ANP CPT Meetings
		SPW	SPVW 1	SPVW 2		
51. Evan M. Mkala	IFAW	X		X	X	
52. Faith Muchiri	KWS			X		X
53. Florence Mwikali	NEMA	X	X			
54. Francis Leriku	KWS			X		
55. Geoffrey Mwanzia	KWS			X		
56. Hebron Maina	KWS			X		
57. Henry Tola	KWS	X				X
58. Hezron Hezron	NPS			X		
59. Hon. Julius Moipaa	Kajiado County		X			
60. Irene Ndunda	INTERIOR			X		
61. Isaac Tipape	ROMBO.G.RANCH			X		
62. Jackson Mwato	AET	X	X	X	X	
63. Jackson Vefoin	OOP			X		
64. Jacob Keshiki	ALOCA		X			
65. Jacob Leshan	Eselengei				X	
66. James Kiparus	KWS					X
67. James Nyaga	KWS			X		
68. James Olamayiani	AET	X	X			
69. Japheth Mwanzia	OOP			X		
70. Jeremy Goss	BLF	X	X		X	
71. Joel Ketukei	Kuku A GR	X			X	
72. Johana Metui	CHR-KuKu A			X		
73. John Biko	KWS	X	X	X		X
74. John Gisa	ALOCA		X			
75. John Maina	NEMA			X		
76. John Ole Muii	OAGR				X	
77. John Sitelu	AET	X				
78. Johnson Sipitiek	ACC	X	X	X	X	X
79. Jonah Ole Maai	EGR	X		X	X	
80. Jonathan Kirui	KWS			X		X
81. Joneti Ayalual	ALOCA		X			
82. Joseph Parmuat	ALOCA				X	
83. Joseph Kaberere	KWS			X		X
84. Joseph Kipapu	ALOCA		X			
85. Joseph Kipespa	OAGR	X				
86. Joseph Lamuuko	AEMP		X			
87. Joseph M. Kopeto	NEMA	X				
88. Joseph Sitienei	KWS			X		X
89. Joshua Suyianka	MGR Treasurer		X		X	
90. Josphat Macharia	MDALF			X		
91. Judith Nasike	KWS			X		
92. Julius Sayianka	KWS			X		
93. Julius Muriuki	ACC				X	
94. Kasaine Kareto	Kajiado County		X			
95. Ken Nashuu	KWS	X	X		X	X
96. Kirapash Lepau	KUNAWA			X		
97. Kirruti Jackson	Amboseli		X			
98. KoiKai Oloiitip	AET/ATGRCA	X	X	X	X	
99. Kossing'et ole Nchana	AET		X			
100. Lawrence Sankale	KWS			X		
101. Lekishon Kenana	KWS			X		X
102. Lengen Victor	ACC				X	
103. Looma Ngoreni	OAGR				X	
104. Lucy Waruingi	AET		X	X		
105. Luke Maamai	Lion Guardian	X				

Name	Position and Organisation	Stakeholder Workshops			Plan Scoping Meeting	ANP CPT Meetings
		SPW	SPVW 1	SPVW 2		
106. Lydia Biri	MWCT	X				
107. Mangire Omondi	KWS			X		
108. Margaret Muriuki	UDM		X			
109. Martin Kirasi	Amboseli Rangers				X	
110. Martin Omondi	KWS			X		
111. Mathew Sulalu	Kajiado County Govt	X				
112. Max Lovatelli	MWCT			X		
113. Melton Melita	Amboseli		X			
114. Mepukari Ole Masii	KUKU			X		
115. Michael Wanjau	KWS					X
116. Michael Parts	Independent Journalist				X	
117. Molinka	Eselengei				X	
118. Moses Saruni	ATE				X	
119. Muterian Utanin	MWCT			X		
120. Nelly Palmeris	KWS	X	X			X
121. Noah Ntoyai	Amboseli		X			
122. Norah Njiraini	ATE			X		
123. Panian Ole Motua	ATGRA			X		
124. Patrick Mugo	KWS			X		X
125. Patrick Papatiti	OOGR				X	
126. Peter Solonka	ACC	X	X		X	
127. Philemon Wewo	KWS			X		X
128. Philip Lukose	KWS	X		X		X
129. Philip Mwangombe	IFAW				X	
130. Purity Kisemei	AET	X				
131. Purity Ntanin Kisemi	UNDP		X			
132. Reuben Muli	OCPD			X		
133. Richard Ngetich	KWS					X
134. Ripsang Milwom	KALRO-KIBOKO			X		
135. Robert Oloiptip	ORT			X		
136. Ruth Jepkemoi	CHD-conservation Kenya			X		
137. Sadallah Korinko	ALOCA		X		X	
138. Samuel Kaanki	ALOCA		X	X	X	
139. Samwel.Ojwang	KWS					X
140. Saruni Mulea	Kuku B treasurer	X				
141. Shadrack Ngene	KWS				X	
142. Sintoyia Nkonyoyo	CWCCC		X			
143. Solomon Kahenja	ALOCA		X			
144. Solomon Loombaa					X	
145. Sonali Agarwal	KWS-intern					
146. Stefano Cheli	Tortilis				X	
147. Susan Kinuthia	AET	X	X		X	
148. Tal Manor	ATE	X			X	
149. Tobias Kiplimo	KWS					X
150. Victor Mose	ACP	X				
151. Victor. Kimutai	KWS					X
152. Wachira Maina	KWTA		X			
153. Washington Ayiemba	UNDP	X	X			
154. William Lemaron	OGR			X	X	
155. Wilson.K.Lekutuk	INTERIOR			X		

### Key

**SPW**-Stakeholder Planning Workshop

**SPVW1**-Stakeholder Plan Validation Workshop 1

**SPVW 2**-Stakeholder Plan Validation Workshop 2

**ANP CPT**-Amboseli National Park Core Planning Team Meetings

## Annex 3: Amboseli Interpretive Themes and Sub-Concepts

Grouped under the six conceptual themes as discussed in Action 3.1 of the Tourism Development and Management Programme are 84 of the key 'message' or sub-concepts that comprise 'the Amboseli story'<sup>30</sup>. These are now defined in detail.

### Conceptual Theme I

The Amboseli basin environment has been strongly influenced by late Pleistocene volcanic activity.

1. During the late Tertiary, the Pangani River flowed southeast through the park, the headwaters draining the higher ground of Oldoinyo Orok, Kajiado and Machakos.
2. Emergence of the Kilimanjaro volcanic in late Pliocene or early Pleistocene produced basaltic lavas which flowed north against the remnant Tertiary hills of Iremito, damming the Pangani River.
3. The lavas east of Namalok were never breached by the erosional processes; consequently no outlet was available for the basin.
4. The Pangani River was redirected along the edge of the lava, gradually cutting it back and forming a trough, cut to a depth of 130m that became Lake Amboseli.
5. The Pangani was redirected during the upper Pleistocene and the down-cutting phase of the area was replaced by a depositional phase, consisting of water-carried sediments, water-born volcanic deposits from the Kilimanjaro slopes and ash fallouts from periodic eruptions.
6. Lake Amboseli, a closed basin, became infilled over time and eventually desiccated.
7. The present Lake Amboseli is a slightly depressed trough which floods seasonally during the wet season. It is a playa of some 300km squared.
8. Amboseli soils are derived from two principle sources, physical and chemical weathering of the Precambrian igneous rocks of the basement complex and from Kilimanjaro volcanic. The later are concentrated south of the basin, the former north of the basin, with the basin itself derived from both sources, forming the general category of lacustrine clays.

### Conceptual Theme II

Mt. Kilimanjaro is a dominant influence on the Amboseli Park environment, affecting its topography, drainage systems, soils and plant distribution.

9. Mt. Kilimanjaro is the dominant visual landscape feature of the park and is a desired backdrop for wildlife photographs.
10. Amboseli Park lies within the rain shadow of Mt. Kilimanjaro, resulting in low and erratic rainfall of less than 240mm to about 400mm annually.
11. The rainfall season in the park ranges from November to May, with peak rainfall occurring from March to May and from November to December.
12. Amboseli normally experiences a long dry period from June to October or November and a shorter dry period from December to February.
13. Daily mean temperature fluctuates relatively little throughout the year from 20 degree Celsius to 25 degree Celsius.
14. The northern slopes of Kilimanjaro are the principal water catchment for the park, with some additional inflow coming from the Ilaingurunyen Hills,
15. Longinye and Enkongo Narok swamps are the largest sources of water in the Amboseli basin, deriving their water from cold, clear non-saline springs which originate from Kilimanjaro through a series of aquifers.
16. The springs of Amboseli that are fed by rainfall on Mt. Kilimanjaro are a permanent source of water for the wildlife of the basin.
17. Emerging fresh water in the southerly basin is of relatively low salinity, but soluble salts in the soils increase the water salinity further north.

30 Source: Amboseli National Park Management Plan 1981-1986. Kenya Wildlife Service

18. Amboseli Park is a closed drainage system with the low lying Lake Amboseli as its sump.
19. The total drainage unit for Amboseli Park is some 5000 km squared in size.

### **Conceptual Themes III**

Amboseli is an example of a high diversity community which, in an ecological sense, reflects a high degree of specialization.

#### ***Concept Topic Area A – Vegetation Distribution***

20. The Amboseli basin habitat is a sensitive indicator of slight shifts in rainfall regime.
21. Twenty-eight distinct vegetation zones have been described and mapped as occurring within the Amboseli region, and each is recognized by a defined association of indicator species.
22. The Amboseli basin is covered in open short-grass plains, and in the south by woodlands and swamps.
23. Surrounding the basin is bushed grassland characteristic of the physiognomic type for the general region.
24. The playa of Lake Amboseli is a salt flat devoid of Vegetation, which floods during the wet season.

#### ***Concept Topic Area B – Wildlife Distribution and Behaviour***

25. All wildlife species of Amboseli exhibit distinct behavioural patterns and species recognition becomes the initial step in segregating behavioural information.
26. The large mammal community is comprised of a broad spectrum of herbivores and carnivores.
27. Different species of wildlife show a large variation in habitat specificity.
28. Impala are most habitat-specific to woodland environments which they associate with 89% of the time.
29. Elephants are associated with the swamps 82% of the time.
30. Zebra, Grant's gazelle and ostrich are the least habitat specific species in the park, largely utilizing all the habitats.
31. Large ungulates in Amboseli display differences in niche-separation.
32. The water-independent wildlife species in Amboseli are largely browsers, while the water-dependent species are predominantly grazers.
33. The succession of grazing pattern by wildlife is largely facilitative, with the early grazing by large herbivores.
34. Several wildlife species are generally distributed throughout the region as they are not dependent upon the basin for their water supply. Such species include giraffe gerenuk, Oryx, eland and lesser kudu.
35. Water-independent species, which include Grant's gazelle, gerenuk, Oryx, eland, lesser kudu and possibly giraffe and ostrich, constitute less than 2% of the total large mammal biomass.
36. Spatial tolerance between feeding animals of different species is characteristic of Amboseli herbivores.

### **Conceptual Theme IV**

Amboseli wildlife populations undergo annual seasonal dispersal and are highly dependent on the surrounding area of Ilkisongo Masailand.

37. Most of the wildlife species using the basin do so in the dry season only and are dependent upon the permanent water in the swamps.
38. The distribution of water is the most important determinant of biomass in Amboseli, governing both the seasonal movements and the extent of the dry season range.
39. During the rainy season most of the wildlife populations disperse into the surrounding area of Ilkisongo Masailand and return to the basin following the rains.
40. Wild herbivores principally disperse to the north and northeast to the Emotoroki and El Mau plains.
41. Elephants leave the basin along well-defined trails dispersing over a wider area to Selengei and the Namanga River area.
42. Some wildlife species show no evidence of seasonal emigration from the basin. Such species include

rhino, Thomson's gazelle, Grant's gazelle and impala.

43. During dispersal, zebra range wider than wildebeest and are more tolerant of bush areas, while the later remain in open plains or mbugas.
44. During the rainy season local concentrations of plains game are found associated with areas of green flush and most frequently in open grasslands or floodplains.
45. Extensive flooding of the basin may act as a dispersal stimulus for some wildlife, but the major reason for such dispersal may be due to nutritional factors
46. The protein level of grasses is higher in the dispersal areas than in the basin
47. A higher standing crop exists in dispersal areas as grasses have not been depleted to the extent of the dry season ecosystem.
48. The saline alkaline grasses of the basin may contain higher fibre content than those of the wet season range.
49. Most wildlife species show a changing distribution in relation to habitat throughout the dry season.
50. Dry season forage availability within foraging distance of the basin swamps is the ultimate limiting factor of wildlife in Amboseli.
51. The movement of wildlife through the dry season, with the exception of oryx and eland is progressively from the northern bushlands, woodlands and eventually into the swamps.

### **Conceptual Theme V**

Large scale habitat changes have occurred in Amboseli over the last three decades which are representative of a larger ongoing cycle of climate and vegetation fluctuations.

52. Many African National Parks are presently undergoing major habitat changes. Those of Amboseli remain somewhat different as elephants, fire, grazing pressure and wild herbivores have all been cited as the principal agents for change.
53. *Acacia xanthophloea* woodlands in Amboseli has declined by 90% over a thirty year period.
54. The demise of the Acacia woodlands has been accompanied by abrupt changes in the associated flora to those of more arid conditions.
55. Plant habitats of the park have been markedly influenced by the salinity and alkalinity of the basin as well as y the high water table.
56. Salinization of the basin area has been the principal cause of the habitat change through an increase in the level of soluble salts in plant rooting horizons deposited by a water table raised by increased long-term rainfall.
57. Plant communities in the basin have undergone a marked shift from a hydrophytic to halophytic community.
58. Recent habitat changes are reflective of a habitat type which existed in the park during the last century when moisture climate prevailed in the region.
59. At the end of the last century reports suggest that Amboseli possessed a relatively high water table and a markedly halophytic association of plants with Acacia woodland virtually absent or at least much reduced.
60. The vegetation cycles of Amboseli reflect large scale hydrologic change relevant to most of East Africa.
61. Elephants, while not the principal cause, have played a contributing role in the decline of woodlands.
62. The principal cause of the decline of Acacia woodlands is the increased salinization of the soil, but debarking of trees by elephants is increasing the woodland die-off and progressively accelerating the decline.
63. The reason for bark consumption by elephants is not clear since bark contains a low nutrient content, although available evidence suggests that bark provides a source of roughage.

### **Conceptual Theme VI**

The role of man in the Amboseli ecosystem has exerted a significant influence on the wildlife and vegetation.

### ***Concept Topic A – Masai Ecology***

64. The Amboseli Masai represent a pastoral group who, until recently, operated at a subsistence level.
65. Masai are traditionally a highly efficient exploiter of the Amboseli ecosystem.
66. The Masai and their livestock contribute 50% of the large mammal biomass in Amboseli and, therefore, prove to be a significant component in overall ecosystem.
67. The Masai moved into the region of Amboseli with their mode of pastoralism around the fifteen or sixteen century, displacing an earlier group of pastoralists they called the Oloogalala.
68. Changes in Masai ecology have had repercussions on the rest of the Amboseli ecosystem.
69. Increased Masai cattle populations from 1940 – 1960 resulting in places of severe overgrazing which may have affected the area's carrying capacity for wildlife populations.
70. A well-documented instance of change in the relationship of Masai and wildlife has been the sharply reduced numbers of rhino as the result of spearing by the Masai.
71. The cooperation of the Masai is necessary to preserve the ecological balance of the Amboseli area.
72. Water from the permanent springs of Amboseli is pumped out to watering stations in the Masai reserve so that their herds do not need to be driven into the park for water where they would compete with the wildlife for grazing.
73. The Masai share in the financial return of wildlife to the area which is intended to compensate them for wildlife utilization of the Masai range.

### ***Concept Topic B – History of Park Establishment***

74. Early European explorers near the close of the century substantially reduced wildlife populations through shooting.
75. The area has been protected as a wildlife reserve since the establishment of the Ukamba Game Reserve in 1899, and was regazetted as the Southern Reserve in 1911.
76. In 1947 Amboseli became a National Reserve administered by the National Parks Trustees, a portion of which became a National Park in 1974.
77. Poaching has been a recognized resource – management problem in the Amboseli environment. Several famous individually recognized animals of Amboseli have been killed by poachers which served as focal points on the problem (for example, 'Odinga' a famous large elephant).

### ***Concept Topic C – Effect of Tourism***

78. Hunting success of predators, especially cheetahs and to a lesser extent lions, have been affected by the continual shadowing of vehicles.
79. Most animals in Amboseli have become progressively tamer with increasing tourist traffic, with little evidence of displacement as a result of tourism.
80. Tourism has progressively competed with the Masai for land rights in the basin.

### ***Concept Topic D – History of Man***

81. Evidence exists in the form of tool and other fossils that early man was present in the Amboseli basin and was probably dependent upon the fresh-water lakes since their formation.
82. The Kilimanjaro Slave Route, which lasted from prior to 1000 A.D to about 1880, used the fresh water swamps of Amboseli as a staging site. The route went from Mombasa to Rombo to Amboseli to Nairobi – north.
83. Direct relationships existed between the slave caravans and the ivory trade, and Amboseli was a staging area for the interface.
84. The Masai name for Observation Hill is NOMATIOR or place of pottery, a reference to the evidence of early 1850's elephant camps of the Wandorobo, the original hunter gatherers of Kenya, that were gradually absorbed by other groups.

# Annex 4: Suggested Observation Hill Exhibit Panel Text

## **Observation Hill Interpretive Panels**

The following panels are designed and written for placement on top of Observation Hill. Four separate panels (approximately 20" X 60") would be placed, facing north, south, east and west. Mounting should be low profile and angled.

The proposed entrance sign for Observation Hill, titled after the hill's Masai name NOMATIOR, would be located at the base of the hill immediately adjacent to the trail walk. As with the remainder of the interpretive texts, this sign would also be in English and German with the single common title NOMATIOR centred at top middle.

## **Entrance Sign for Observation Hill**

Text: NOMATIOR (NOOMOTIOO)

You are climbing a small volcano that over time many have ascended before you. Some came for the view, some came for business. Rangers scanned for poachers here. Others watched for the slave caravans and ivory traders. The early Wandorobo camped here as they hunted elephants. To the Masai the hill is NOMATIOR, the place of pottery. And certainly early man visited here. And sat where you will sit, and gazed where you will gaze.

## **Southern Panel**

Text: KILIMANJARO: MIGHTY SENTINEL – FAITHFUL PROVIDER

Kilimanjaro is the largest single – standing mountain in the world. Its great weight depresses the earth's mantle, creating a measurable depression in the surrounding landscape. The diversity of vegetation zones encountered climbing this mountain would be similar to a 10,000 mile walk from the equator to the arctic. The rainfall on Kilimanjaro's northern slopes flows forty kilometers underground through porous rock to emerge as the life-giving springs of Amboseli.

## **Northern Panel**

Text: WILDLIFE: THE SEASONAL PULSE

Wildlife populations of Amboseli fluctuate throughout the year because of seasonal migrations. During the rainy season, many species move north to the improved rainy season, many species move north to the improved grazing around the Emotoroki Plains. In the dry season they return to the dependable forage in the permanent swamps of the park. Amboseli is most noted for this concentration of wildlife in the park during the dry season.

## **Eastern Panel**

Text: LUSH SWAMPS AND ARID PLAINS

The swamps before you are the lifeblood of Amboseli. They attract the diverse and varied wildlife that make the park famous. The plains in the distance are a direct contrast and contain a low variety of plant and animal types. Without the influence of Kilimanjaro and the swamps all of Amboseli would be an open, arid plain with little habitat diversity, devoid of buffalo, giraffe, elephant and many other species. The distant Chyulu Hills perform a similar role for Tsavo West National Park, feeding Mzima Springs, another oasis in the parched Africa bushland.

## **Western Panel**

Text: FORESTS TO PLAINS: A CONTINUING CYCLE

Vegetation of Amboseli has been changing over the last century. Increased rainfall has raised the water table, bringing soluble salts up into root systems. The photos show that only ten percent of the acacia forest that was here fifty years ago still remains this is a natural cycle for Amboseli. Elephants are often blamed for destroying forests, but while they contribute to woodland decline in Amboseli, they are not the principal cause.





AMBOSELI NATIONAL PARK  
MANAGEMENT PLAN 2020 - 2030

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