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PROJECT LOGO

NYANZOU

COMMUNITY RHINO SANCTUARY

DEVELOPMENT AND MANAGEMENT PLAN

PROPOSAL

DRAFT THREE • JANUARY 1995

ELEPHANT PIC

RHINO PIC

PREPARED BY

J A M EDWARDS
On behalf of Environment 2000

ECO2000 LOGO

"Working together for a better environment"

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CAMPFIRE
LOGO

DEVELOPMENT AND MANAGEMENT PLAN

PROPOSAL

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FORWARD

by Anna Merz
Founder/Funder/Patron
of Ngare Sergoi Rhino Sanctuary, Kenya

"The object of creating the Ngare Sergoi Sanctuary was simply to try and keep some rhinos safe so that they could breed. It was, and is, an exercise in security and management, not a scientific experiment. My role in the sanctuary has been to monitor the rhinos daily. As my observations increased so did my fascination with these creatures and I very soon became aware that the African rhino is neither dull nor stupid. If you take the trouble to get to know them, most animals turn out to be individuals; and the more intelligent the species, the more this rule applies. All the rhinos in this sanctuary certainly have marked personalities which have emerged after years of observation. I hardly think that they are unique; it is merely that by living amongst them and caring about them we have been privileged to get to know them well.

Many people are now aware and increasingly worried about the rate at which plants and animals are becoming extinct. Although extinction of species has been part of the evolution of life in this world, the rate of extinction has increased greatly in the past decades. Almost all recent extinction has been due to mankind's activities. Often a species becomes extinct because man destroys its habitat, but in some cases all the members of a species are simply killed. This is what is happening to the rhino. To my way of thinking, to drive any species over the brink to extinction is a crime, and just about the worst crime that man can commit for it is irreversible. All living things are important, and in the whole fragile structure of life on earth we do not know which things by their passing could upset the balance of the planet's life support system."

Anna Merz - "Rhino - At the Brink of Extinction"

AIM

- To establish the first Community Rhino Sanctuary with the people of Pfungwe Communal Land, UMP District.
- Develop Eco Tourism within the sanctuary complex.
- Assist the community in developing self sustaining / income generating projects on the periphery of the sanctuary,
- Enhancing food security.

INTRODUCTION

In every country in Africa where the Black Rhinoceros (Chipembere) occurs there has been a serious decline of the species since the beginning of this century. In most countries the rhino is bordering on extinction. Zimbabwe's current black rhino population as of 1994 is 300 animals.

In 1987-89, two Zimbabwean born women, Charlene Hewat and Julie Anne Edwards, cycled from the UK to Zimbabwe to focus world attention on the plight of the black rhino and to raise funds for the Rhino Survival Campaign. Approximately £220,000 was raised and paid for the following equipment through the Zimbabwe National Conservation Trust-Rhino Survival Campaign-for the Department of National Parks and Wildlife Management, Operation Stronghold:-

- 1 x 5 tonne Lorry
- 2 x Petrol Landrovers
- Banana boats
- Anti Poaching equipment for men in the field
- Motorola radios
- Darting equipment for rhino translocation

The two women went on to form Environment 2000, a charitable organisation dedicated to the conservation of the environment and the improvement of the lives of Zimbabweans, (refer to E2000 information pack).

In 1993, Mrs Anna Merz, the founder, funder and patron of Ngare Sergoi Rhino Sanctuary in Kenya, was invited, by Environment 2000, to speak on rhino at the African Environment Expo. Following the Expo, a short trip, down to the Zambezi Valley, was organised. It was during this time that the Zimbabwe's rhino situation was discussed and the seed of an idea was sown. Mrs Merz invited Environment 2000 to visit her rhino sanctuary in Kenya to get an idea of how sanctuaries in Kenya operate, so successfully. A short video resulted from the visit and was shown at the Environment 2000 AGM. Environment 2000 had been focussing on the Umfurudzi Safari Area for some time. It was decided to embark on a field trip to Mutawatawa to meet with the Council, leaders and elders of the community. Environment 2000 was, subsequently, invited to view and research the area proposed for the community sanctuary.

HISTORICAL BACKGROUND (STATUS OF BLACK RHINO - ZIMBABWE)

"Earliest records show that the rhino existed in large numbers in the Zambezi Valley. Zimbabwe's black rhino population was probably at its highest level in the early 1980's. Rhino numbers are extremely difficult to estimate but it is unlikely that there were fewer than 3,000 in the country at that time. Illegal hunting of black rhino in Zimbabwe was first detected at significant levels in the last three months of 1984 in the lower Zambezi Valley. Heavy losses (approximately 500) were from 1985-1987 in the Valley and, in 1988, illegal hunting spread to all rhino populations in the country. By April 1992 and prior to dehorning operations, the Department of National Parks and Wildlife Management estimated the population of black rhino to be 1,500. By September 1993 the estimated black rhino population has dropped below 300.

Levels of illegal hunting have increased, during the past three years Zimbabwean locals have become significantly involved in both hunting and trafficking in horn. Whereas until 1990 virtually all illegal hunting was carried out by nationals of neighbouring countries, The rate of incursions from neighbouring countries has escalated from a level of one per week in the first few years of Operation Stronghold to about one incursion everyday in 1992".

VARIOUS MANAGEMENT OPTIONS

Over the last ten years the plight of the rhino has attracted attention both from official sources and interested individuals, not only in this country but from all over the world. Various international conservation organisations have become involved and others have been created purely because of the rhino situation. Much debate has taken place and the range of ideas and proposals has been numerous.

The dehorning programme has not led to significant discouragement of rhino poaching. In fact, even dehorned rhinos are being killed by poachers.

The rhino population is now so scattered and fragmented that the species is highly unlikely to ever build up again in the wild, even if all killing ceases immediately.

With the exception of the female with young, black rhino are a solitary and sedentary species. They are very regular in their movements, although their home ranges vary considerably according to the availability of food and surface water. These characteristics make the distribution of the animal equally as important as numbers for their survival; if they are widely scattered they are unlikely to meet up often enough and there will be no - or insignificant - recruitment. This has already occurred in other parts of Africa. The natural habits of the rhino make the situation all the more critical. Remaining populations are now so small that in-breeding will force a serious constraint on future viability and even if all killings could be prevented it is likely they will disappear of their own accord, unless special management is quickly implemented.

COMMUNITY PARTICIPATION

For the survival of any indigenous species the fate lies in the hands of its people; those individuals living side by side with the animals. Up until very recently rural communities did not receive any benefits from the wildlife and yet they bore the brunt of living unsupported.

Zimbabwe has been at the forefront in community participation through the CAMPFIRE programme. "Communal Areas Management Programme for Indigenous Resources. Environment 2000 believe that rhino can survive to form viable populations and help rural people.

What does Environment 2000 together with the Community of Pfungwe propose ?

Environment 2000 propose to adopt an area in the Pfungwe Communal Land, Nyanzou Ward, UMP District to establish the first Community Rhino Sanctuary in Africa. This project would be two fold. First a viable breeding population of rhino needs to be established. The community must be incorporated to develop self sustaining projects in their villages, on the periphery of the sanctuary. This involves the establishment of an Eco Tourism project.

CRITERIA FOR SELECTING THE PFUNGWE COMMUNAL LAND - NYANZOU COMMUNITY

- The community, through the local Council, had already taken the initiative to select an area of land that is suitable wildlife habitat. They have set this area aside and are participating in the CAMPFIRE philosophy. The Council is the planning authority of the area.
- The area is in agro-ecological Region 5 which is unsuitable for human agriculture but is suitable for wildlife management.
- The boundary of the game area has been determined.
- Pfungwe is situated in a remote part of the country and requires assistance for the future sustainable development of the area.

Dr Sue Hart, Director of Eco Link has been assisting the Environment 2000 Community Outreach Department. "We know we cannot achieve our mission unless we go out there ready to listen, to pool experience and above all share the earth wisdom that is inherent in the leaders and elders. We need to liaise, to take it slowly without rush or imposed stress, to be ever flexible and always plan with the people, for herein lies the key to nation building. Committed to serving the impoverished grass roots people, while at the same time developing an awareness of a need to protect, maintain and restore the natural environment as a necessary base for sustainable development". In accordance with Dr Hart, Environment 2000 believe that rhino can survive to form viable populations and be a direct benefit to the rural community.

MANAGEMENT REQUIREMENT FOR SPECIAL SANCTUARIES (Advisor - Peter Jenkins MBE, Kenya)

Proper legislation, security of the area, provision for water, controlled burning of the range if necessary, fencing and removal of animals to other areas (when necessary) to prevent in-breeding or over stocking, are essential management requirements for a well run conservation scheme.

A) SECURITY

The history of the black rhino in this country and the events of the last decade have clearly shown that poaching has been the major factor by which the species has been exterminated over most of its range. Habitat alteration has played a very minor, secondary, role. Good security is an imperative priority to ensure the survival of the species, which will depend very much on the communities commitment. Adequate protection from poaching is essential and is the most basic management requirement, if the survival of the species is to be guaranteed - or even considered.

B) FENCING

The rhino sanctuary must be properly fenced and include electrification to prevent rhino leaving the sanctuary area. This is a prerequisite for establishing this new population. The configurations of this fence will vary in relation to the type of terrain and area included, as well as the other wildlife included or excluded from the sanctuary area and the local security requirements.

C) WATER

Permanent water supplies are to be established and adequately distributed throughout the sanctuary. The northern boundary of the Nyanzou proposed rhino sanctuary is the Mazowe river and eastern boundary the Nyadiri rivers. These are large rivers and it is proposed that weirs be built along each boundary to keep rhino in and avoid placing a fence line along the river. This would also be a constant supply of water for the animals, providing that this does not damage ecosystems along the river.

D) BURNING

The use of fire as a management tool will be studied and understood. The reasons for burning will vary from place to place and depend upon the desire to stimulate a specific impact on certain plant communities, in order to create or maintain a balance between woody plants, grasses and herbs. For example, where there is a shortage of herbivores an increase in grass cover could result in accidental hot fires. This might be detrimental to the thickets that provide the main food source for the rhino and could be controlled through fire management.

E) STAFF

The sanctuary requires a permanent staff for routine patrolling / anti-poaching, surveillance, fence and water supply maintenance and any other management requirements. The establishment strength will vary with different areas and each area will have to be considered individually. It is proposed that a senior officer be appointed to co-ordinate and supervise the routine management of the entire project. Training of local staff would be assisted by Forestry Commission and National Parks, however further training will be encouraged through private organisations.

F) TRANSLOCATION

This will be a vital prerequisite for the success of the area, not only for initial stocking purposes but for on-going management to prevent over stocking and in-breeding. Rhino translocation is a highly specialised operation requiring equipment and carefully selected, well trained personnel; with modern methods it is believed that mortality can be kept to under 1%. A specialised professional capture unit will be deployed for this operation. If this is not done the results could be disastrous. The Natal Parks translocated hundreds of rhino every year and it would be appropriate to study their latest methods. Experience in other parts of Africa has shown that rhino should be kept in bomas for 2 - 3 weeks after capture and must not be released together irrespective of sex (Hitchins pers. comm. 1983). Close surveillance and monitoring of released animals will also be vital. Ramps and bomas will need to be constructed.

G) RESEARCH

A small research team will be assigned to the sanctuary area, but other than detailed ecological and behavioural studies all research will be for management requirements with a few simple measures routinely monitored.

H) POPULATION DENSITY

Population density will depend on a number of factors: availability of rhino for translocation , funding, suitability of habitat, water and sex ratio. Where artificially high densities are created stress, within the population can arise resulting in fighting and lowered reproduction. The initial stocking will be kept low, in order to reduce the calving interval and maximise reproduction. Birth intervals will be recorded and, once these increase greatly, surplus animals will have to be moved to new areas. Goddard 1969, defined the density stratum as :

- Very high density 1.5 rhino per km sq
- High density 1.0 rhino per km sq
- Medium density 0.5 rhino per km sq
- Low density 2.0 rhino per km sq
- Very low density 0.04 rhino per km sq

I) STUD BOOK

Within the sanctuary full details of every individual rhino will be maintained where possible in the form of a stud book. Records are to be kept and updated to include sex, age-where known (or approximation), place of origin, date introduced into the sanctuary , full particulars of any calves born-including mother and , if possible, father and other relevant details. These particulars will be kept in a card index system with close-up profile photographs of each animal, showing any peculiarity of horn shape and ear notches, as well as any other identifying marks. These records will be mandatory and uniform for the entire area.

J) VETERINARIAN

The services of a competent and experienced veterinarian, who can be called upon when needed, will be employed.

K) STOCKING

Determining where the initial stocks of rhino will come from is a prerequisite to establishing the sanctuary. This calls for a re-assessment of the scattered populations, in all areas, to determine their distribution, numbers , viability, in - breeding aspects-either now or in the future-and their security.

MANAGEMENT TEAM

Represented by an advisory team of specialists including appropriate community representative with representation from the coordinators and facilitators.

PLANNING CONSIDERATIONS (Advisor - Kenneth Khule, Chairman, Rhino Ark, Kenya)

The basis of the development planning for the Nyanzou Community Rhino Sanctuary hinges on seven main objectives:

- 1 To create the necessary management and infrastructure needed for a Rhino Sanctuary, based on the community management.
- 2 To develop the support factors needed for the future management of a viable Rhino Population.
- 3 To effect efficient translocation initially of up to 10 rhino.
- 4 To protect the crops and livestock of the communal farmers, on the periphery of the sanctuary, from vermin molestation and to enlist their help in the policing of the electrified perimeter fence.
- 5 To generate a viable Eco Tourism project so that benefits can be derived for the sanctuary and the community.
- 6 To obtain the necessary support both financially and politically.
- 7 To develop interactive environmental programme for communities and schools through a Community outreach project.

The development of these requirements is essential for the successful conservation of a viable rhino and elephant population as well as all other wildlife in the sanctuary.

The purpose of this project proposal is to identify and outline in brief the development stages that will be needed for the Nyanzou Community Rhino Sanctuary. Successful implementation of these objectives will require a coordinated programme supported by adequate equipment and funds.

The Government of Zimbabwe has expressed their determination to ensure the protection of Zimbabwe's natural resources. Environment 2000 and CAMPFIRE call on benefactors throughout the world to assist in achieving this ambitious aspiration. Environment 2000 and CAMPFIRE will hand over an experienced management team which, through the community based management, will advise the Nyanzou Community Rhino Sanctuary project and other donors.

DEVELOPMENT PLAN OUTLINE

The following development projects will be required for the successful implementation of the Nyanzou Community Rhino Sanctuary. The various stages which are to be implemented by non-governmental organisations (NGO) or private tenders are identified.

For effective rhino conservation, the first phase will be the fencing of approximately ? (to be established) km of the Sanctuary enclosing approximately ? sq km - ? hectares (to be established) which will contain the rhino. This barrier fence will stop animal encroachment on the adjacent community. The aim is to create a game corridor between Mocambique and Umfurudzi Safari Area.

The fence is designed to retain wildlife of all sizes and to act as a powerful deterrent to intruders. It will be electrified and monitored at several guard posts. At its base there will be a high tensile mesh wire, to retain vermin such as porcupine, hyena, leopard etc.

The establishment of the sanctuary constitutes the following stages:

STAGE 1 CLEARING

An area, 12 metres wide, will be cleared along the perimeter of the sanctuary. A fence will run down the centre of this strip, with area on either side to act as a patrol track and fire break. The clearing costs (to be determined) per kilometre, excluding the cost to keep it well maintained.

STAGE 2 PROCUREMENT OF TRANSPORT AND MATERIALS

Six vehicles are required to develop the clearing around the sanctuary:

- one five ton truck
- two Toyota Land Cruisers
- one 4wd pick-up (Toyota Hylux or Landrover) - for second phase surveillance and maintenance
- two motor bikes

STAGE 3 FENCING

A qualified, local company will be employed to build the fence around the rhino sanctuary.

STAGE 4 BRIDGES AND RIVER CROSSINGS

River crossings and service bridges will be established, concurrently with Stage 5, at points where either the fence or service roads cross rivers or ravines.

STAGE 5 ELECTRIFICATION OF FENCE

As sections of the fence are built, they will be electrified to protect it from damage by wildlife and from pilferage. Environment 2000 hopes that solar units will be sponsored to supply the energy source for the fence. Details of the fence electrification appear in Appendix 12.

STAGE 6 MAINTENANCE / SECURITY / STAFFING / OTHER

a) Access Roads, Tracks for Patrol, Surveillance and Tourism:

are required for policing and maintenance.

b) Maintenance Stations:

are essential to the maintenance of electric fencing. The fence will be monitored and checked daily.

Experience on Private Sanctuaries like Ngare Sergoi has proved that every yard of electric fence must be inspected daily. This is a commitment which cannot be avoided and the success of the Nyanzou Community Rhino Sanctuary will be dependent on effective and efficient maintenance of the electric fencing. With this in mind, the entire perimeter fence is to be divided into sections. Each section will be powered by its own energiser, with its own monitor unit, maintenance team and maintenance station.

The routine patrolling of the fence by the maintenance teams will also provide an extra security measure.

The fence maintenance teams must be efficient and these people will be carefully selected from the adjacent community. They will be trained in all aspects of fence maintenance and its electrification requirements. The initial training of these staff is incorporated in the fencing Tender Document.

Location of Maintenance Stations

- 1 (To be decided)
- 2
- 3
- 4
- 5

c) Security Support

Poaching is the principal factor contributing to the extermination of the rhino. Even with an effective ground patrol, proper surveillance will be an essential management requirement if the survival of introduced rhino is to be guaranteed or even considered.

The Ranger staff who will be responsible for the routine patrolling and general surveillance of the Rhino population must be of the highest calibre in every respect and the selection of these people will be given very careful consideration.

The staffing of the Nyanzou Community Rhino Sanctuary may have to be increased as the Sanctuary will require the following manpower:

Officer Warden
 Senior Ranger
 Ranger
 Scouts
 Drivers
 Artisan
 Labourers

Staffing of Patrol Stations

(Still to be decided)

Staffing of Maintenance Stations

(Still to be decided)

d) Radio Network

A V.H.F. radio network must be established for the management of the Sanctuary in order to ensure efficient communications between:-

HQ and Sub HQ
Patrol Stations
Fence Maintenance Stations
Ground Patrols / Surveillance Teams
Vehicles assigned to management

The following additional V.H.F. Radio Requirements will be:-

Base set (to be decided)
Pack Sets
Mobile Sets
Repeater

e) Holding Pens

Rhino will be held in holding pens for a period after translocation in order to allow them to settle down before release. The movement and distribution pattern of released rhino will be carefully monitored in order to avoid over crowding. If necessary, one additional complex of two pens could be constructed in another area at a later stage.

f) Vegetation Survey

A detailed Vegetation Survey will be carried out and arrangements will be made to monitor the vegetation on a regular basis. World Wide Fund for Nature (WWF) have already undertaken a vegetation survey of the area.

g) Rhino Translocation

The initial stock of rhino will primarily come from privately owned reserves and National Parks. It must, however, be emphasised that, premature translocations into the area before the fence has been erected and electrified could be counter-productive. If animals escaped into the steeled areas surrounding the Sanctuary the objects and ambitions of this project would be seriously jeopardised.

h) Soil Survey

A detailed soil survey will be carried out by an agronomist through the Department of National Parks and Wildlife Management or Soil and Chemistry Research Institute.

STAGE 7 WATER

There are two main rivers on the boundary of the proposed site; The Mazowe and Nyadiri, which flow throughout the year making the water supply plentiful in that area. (This depends on results of surveys). The department of Agritex will be involved in the borehole construction, inside and outside the sanctuary. The boreholes constructed outside will be used to create nutrition gardens for the community, thus enhancing food security.

FURTHER CONSIDERATION

STAGE 8 ESTABLISH ECO TOURISM COMPLEX

Benefits will accrue to the community. Ten percent of every dollar raised for the sanctuary will be set aside in a community fund for development projects. An endowment fund of at least US\$5m to be set aside for 5 years with the interest going back into the rhino sanctuary development fund, so that in 5 years time the sanctuary will be able to continue to survive.

STAGE 9 COMMUNITY OUTREACH DEVELOPMENT PERIPHERY OF RHINO SANCTUARY

Interactive Environmental Programme For Communities and Schools
Advisor Eco Link - Dr Sue Hart

Eco Link - 'Helping others to help one another'

Earthcare Gardens

- Food gardens
- Recycling of litter
- Low fuel cooking methods
- Health and nutrition education

Nurseries

- Vegetable and herb seedlings
- Trees for fuel, shade and food
- Planting vetiver grass to prevent soil erosion
- Organic pest control and fertilisers

Self-Help care groups

- Community groups generate income through sewing
- Garden products
- Basic book-keeping courses etc.

Water Management

- Construction of water tanks
- Harvesting and protection of springs
- Construction of waterless toilets
- Water hygiene

Resource Design Unit

- Environmental design unit
- Development of materials
- Literacy projects

Research

- Agro-forestry
- Appropriate technology
- Ethnobotany - study of indigenous plants for medicine; / nutritional use

Training

- Training teachers and leaders
- Workshop courses incl. corporate
- Basic skills training
- In-house development programmes

Environment 2000 have established a Tree Fund - 'Trees for Life' promotion.

The aim of this programme is:

- To address the issues of deforestation and the need for afforestation.
- Develop a non formal environmental education programme specifically for the rural schools in the area on tree growing and tree care.
- Create nurseries for indigenous tree and grasses, in order to assist in tree planting programmes.
- Provide environmental awareness to all concerned as to the need to protect our indigenous forests.

STAGE 10 BENEFITS

The benefits for the community are ongoing .

initially a community development fund is to be established. Monies raised for the sanctuary 10% will be set aside in the development fund to assist with small projects.

The major portion of benefits will be derived through Eco Tourism.

CONCLUSION

As the overall rhino situation has deteriorated, there has been an increase in concern and-direct or indirect- involvement from various organisations and individuals. The essence of a sanctuary scheme is to provide a pool, which can, with successful breeding, produce enough animals to start re-introduction or to provide essential additions to other areas. ECO TOURISM will create a source of income for the community and generate awareness .

Environment 2000 believe that the rhino can help rural people if they, in turn, help the rhino. Every individual involved is taking a positive step towards protecting the environment and assisting a flag ship species such as the endangered black rhino continue into the future.

All interested organisations and individuals, both locally and overseas, can channel ideas and funding requirements through Environment 2000. The management / coordination and facilitation of the project is being administered through the Environment 2000. Environment 2000 accounts for every donation it receives. (please refer to the E2000 Information pack).

FOR FURTHER INFORMATION CONTACT

ENVIRONMENT 2000
P O Box A639
AVONDALE, Harare, Zimbabwe
TEL/ FAX : (263 4) 795461

CAMPFIRE ASSOCIATION
P O Box 661
HARARE, Zimbabwe
FAX : (263 4) 795461

Send your donations to Nyanzou Community Rhino Sanctuary, account no.

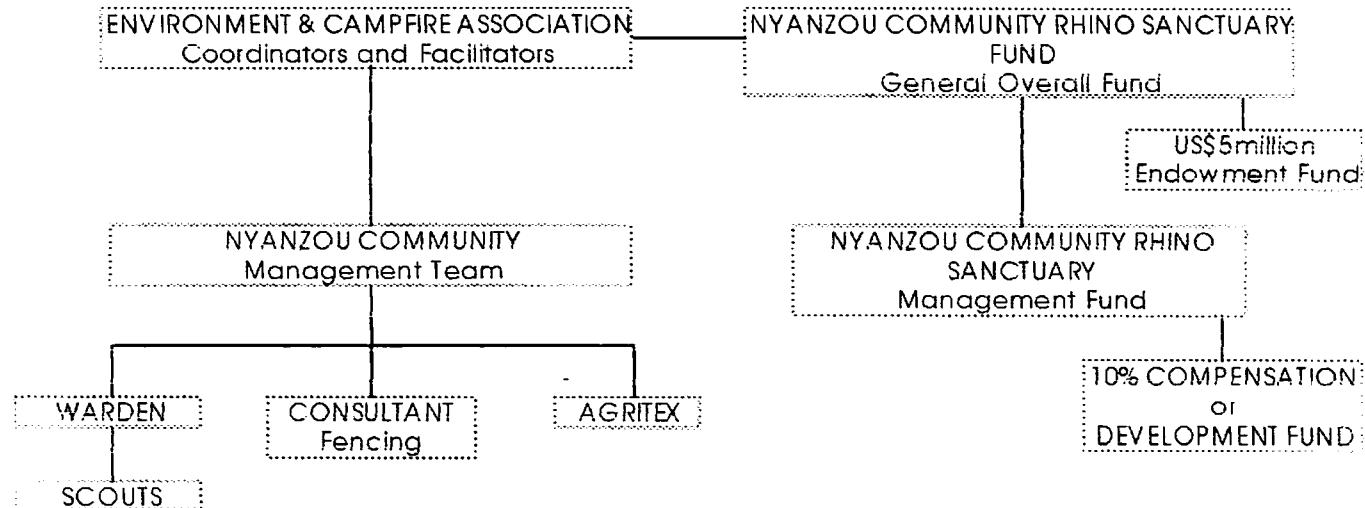
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Mr John Gibbs - Vice Chairman Environment 2000
Mr Ian Jackson - Video Creations
Mrs Daphne Sheldrick OBE - David Sheldrick Wildlife Trust

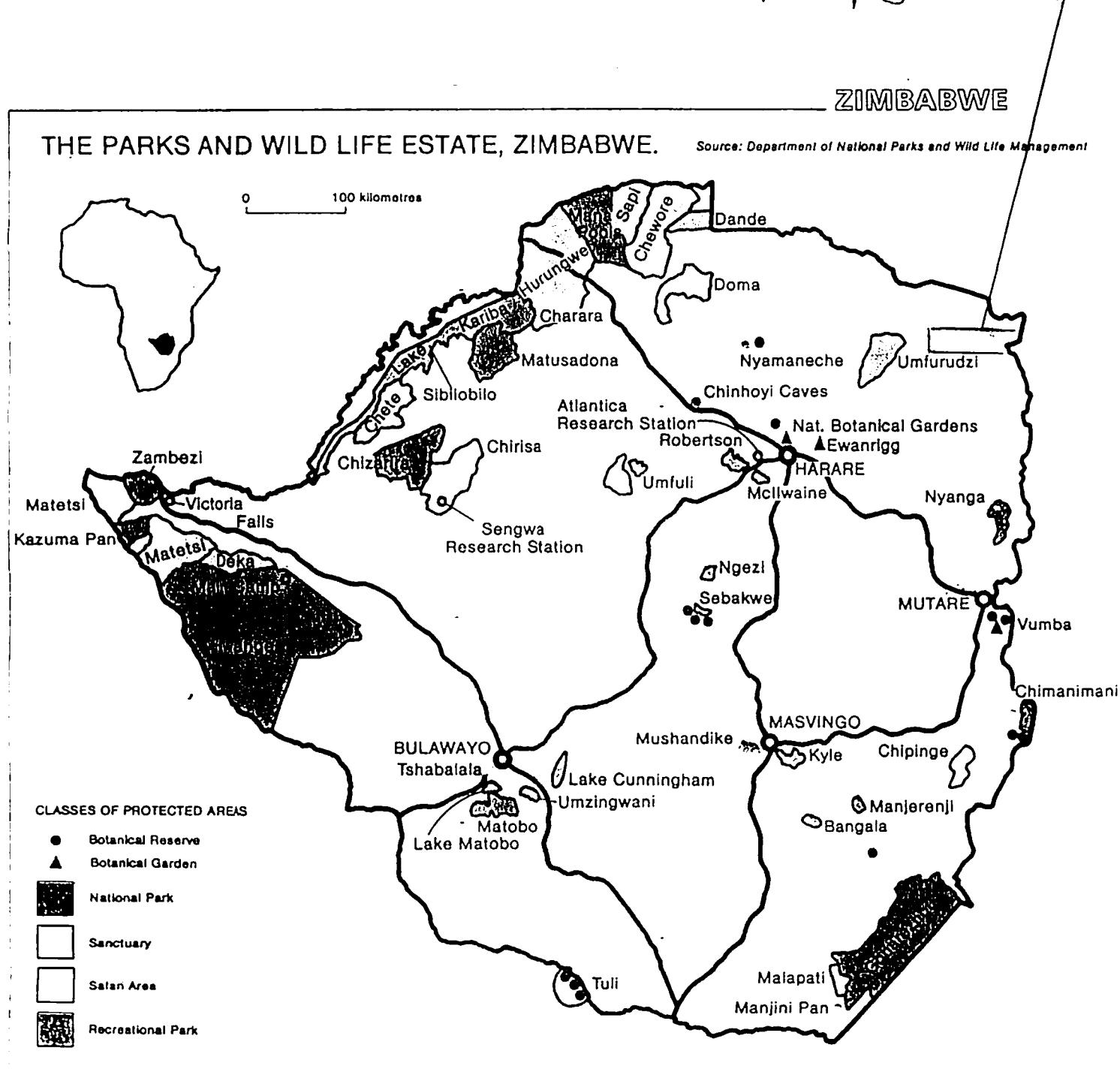
APPENDICES 12

PROGRAMME MANAGEMENT PLAN



NYANZOU COMMUNITY RHINO SANCTUARY

MAP INSERT - Proposed project site.



Proposed Project site - Draft only

