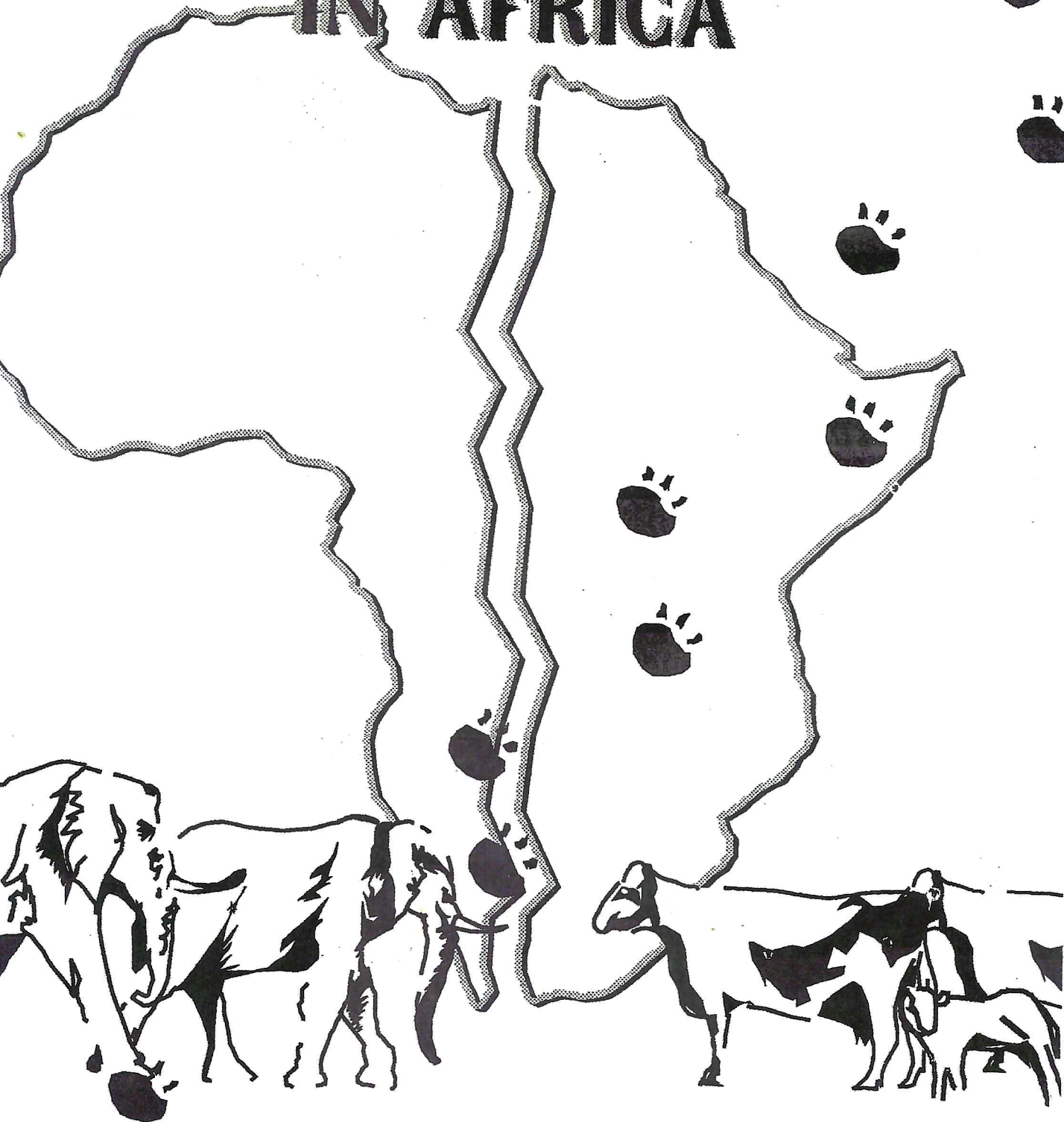


# THE FUTURE ROLE OF CONSERVANCIES IN AFRICA



Onderstepoort 1994

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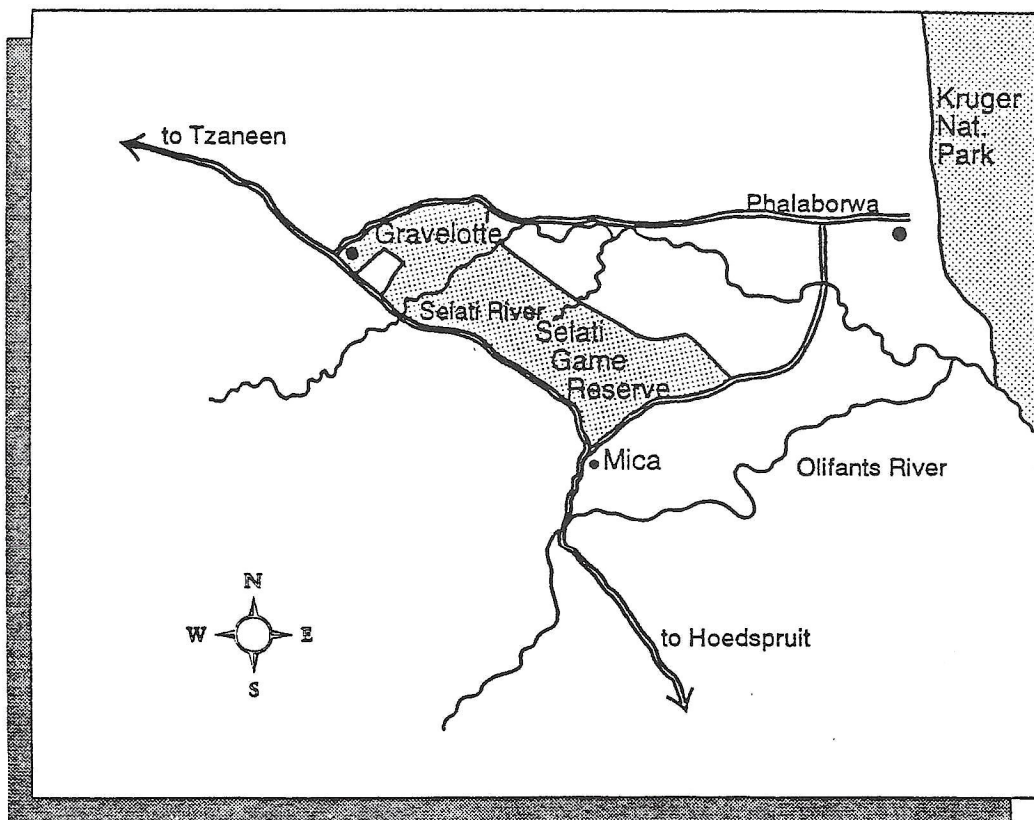
# GUIDELINES FOR THE FORMATION OF A CONSERVANCY

Dr R W L Snaddon<sup>1</sup>

## INTRODUCTION

This paper does not describe the outcome of an in-depth study of the processes and options for the formation of a conservancy. It is simply an account of the formation of the Selati Game Reserve and it is hoped that the experience gained by the participants will be of some benefit to others contemplating similar projects.

The Selati Game Reserve is perhaps one of the most recent large reserves or conservancies to be formed in the Republic of South Africa. The start-up core comprises 27 372 ha of pristine Lowveld wilderness located in the north-eastern Transvaal bushveld within the triangle formed by the tarred roads joining Phalaborwa, Mica and Gravelotte, the "Selati Triangle" (see Figure 1).



1 : 500 000

Figure 1 - Selati Game Reserve

<sup>1</sup> Chairman, Selati Game Reserve Association, c/o H L Hall & Sons Ltd, P O Mataffin, 1205, Rep. of South Africa

The 27 372 ha of the Reserve is made up of land owned by 7 founder members who have applied to the Transvaal Provincial Administration for registration and maximum protection under Section 14 of the Nature Conservation, Ordinance 12 of 1983 and Sections 16 and 18 of the Environmental Conservation Act No 73 of 1989. Through the participation of new members, the Reserve has the potential to grow to 55 000 ha within the Selati Triangle.

At the outset of the Selati project, the predominant land use within the Reserve was cattle farming with several low key hunting and tourist-oriented commercial operations. The varied topography of the area encompasses 6 different veld types and at the time of formation 22 different species of large mammals were to be found on the Reserve. These are listed in Table 1.

Veld Types	
1. Combretum	4. Mopani
2. Mixed Combretum and Marula on quartz	5. Mixed Mopani, Combretum and Cedarwood
3. Mixed Mopani and Combretum	6. Terminalia

Large Mammals		
White Rhino	Reedbuck	Sable
Eland	Warthog	Steenbok
Kudu	Cheetah	Zebra
Blesbok	Tsessebe	Impala
Bushbuck	Klipspringer	Giraffe
Blue Wildebeest	Mountain Reedbuck	Hartebeest
Nyala	Duiker	Sharpe's Grysbok
Leopard		

Table 1 - Veld Types and Large Mammals of the Selati

The area within which the Reserve lies is perhaps best known for its indigenous sable antelope herds. It is close to the Murchison Range and the mineral ore deposits of Phalaborwa which are amongst the largest in the world. This gives rise to a unique topography with varied and interesting geological formations manifesting themselves throughout the area. The Reserve is also home to a cycad, *Encephalartos dyerianus*, which does not occur naturally anywhere else in the world.

While these features are of obvious interest to conservationist and environmentalists, this paper deals with the process of setting up the Reserve. There are many groups of land-owners in the Republic of South Africa attempting to find ways of combining their resources to create larger, more viable entities. The seven founder members of the Selati Game Reserve have succeeded in doing this and the key features contributing to their success are described in this paper.

#### THE SELATI RECIPE

The success of the Selati project to date has entailed the following:

- a) The sharing of a common goal amongst the founder members.

- b) Recognition amongst the founder members that they were embarking on the formation and reliance of a set of new partnerships.
- c) Cognisance by the founder members that they were not striking a one-off deal but embarking on a process.
- d) Understanding that early focus should be given to the legal structuring of the project.

For a project of this nature to have any chance of success, it is essential that participants share a common goal. This should be agreed at outset and should be committed in writing. In the case of the Selati the stated common goal is:

***To conserve and enhance the bio-diversity of the ecosystem and to realize its full economic potential on a sustainable basis.***

In the early stages of this project it became clear to the participants that it was necessary for them to embark on and rely upon new partnerships. The existing partnerships between the land-owners and the environment would thus be strengthened. New partnerships amongst the land-owners themselves would need to be forged and nurtured. New links with the professional leisure industry and the access of the public to the area would be required in order to achieve the ultimate economic objectives. Finally, the long-term viability and sustainability would require the engagement and participation of the local indigenous population, primarily through the stimulation of economic activity and the provision of new jobs.

From the initial exploratory meeting of land-owners on 2 May 1992 to the signing of the first Agreements on 13 September 1993 many meetings and hours of negotiations were undertaken. Here, progress was greatly enhanced by the participants' early acceptance that they would not strike a single deal to achieve their goal. Rather, they realized that they were embarking upon a process which would evolve in phases and that it would take several years to reach a point where they would accomplish a well managed Reserve with no internal fencing and significant commercial activity.

It was understood that a successful project would have to be based on a sound legal foundation. Hence, the first 16 months was devoted almost entirely to this matter and great care was taken to ensuring that the legal structure provided the correct balance between commitment and flexibility. Commitment would secure the participation of the founder members on a fair basis and flexibility was necessary to make certain that unforeseen opportunities would not be excluded in the future development of the project.

#### **Factors Driving the Common Goal**

The response to the suggestion that the land-owners in the Selati Triangle should get together to discuss future prospects was extremely positive. On 2 May 1992 a meeting of landowners was called and it was attended by all 21 land-owners making up the 55 000 ha within the Selati Triangle. At that meeting several common factors were identified which had the effect of bringing the parties together to define their common goal. These included:

- a) Recognition of the eco-tourism/leisure opportunity.
- b) Severe drought.
- c) Public disclosure on proposals to move the Kruger National Park boundary.
- d) The new political dispensation.

With all the talk about future leisure and eco-tourism opportunities, it was clear to the members that there would be many advantages to be achieved from increased scale if they could agree on arrangements and mechanisms for pooling and managing their game and veld resources in a single reserve with no internal fencing. The advantages of scale included improved game viability, reduced unit costs, the potential for agreeing enhanced traversing rights for past and future members and improved prospects for attracting large "blue chip" professional leisure operators to participate in the development of the Reserve.

At the time of the start of the negotiations, the region had just suffered a very severe drought. This had further marginalized cattle and game farming in the region rendering most operations unprofitable. For people involved in game, the drought had also severely reduced animal populations, underscoring the severe limitations associated with small fenced-in sub-economic units.

At that time there had been disclosures regarding proposals on the movement of the Kruger National Park boundary. This would imply changes to the Foot-and-Mouth Disease red line and the various boundaries of the Foot-and-Mouth quarantine zones. Most of the farms in the Selati Triangle enjoyed third area or open area status which allowed freer trading in livestock, both beef and game. The proposed changes to the Kruger National Park boundary could therefore pose an economic threat if restrictions in trading resulted. An association of land-owners working together would be more effective at countering such threats.

It was realised that the new political dispensation would put land use under a close scrutiny. The prospects for preserving and enhancing the bio-diversity of the region would clearly be improved by working together in a fashion which would draw the local populations into the project by creating greater economic activity and employment opportunities.

To underscore this last point, H L Hall & Sons Limited who had been farming cattle in the region since 1943, undertook an exercise to compare the economic and employment prospects under cattle farming with those which could be achieved via the leisure/hospitality industry. From experience it had been established that beef farming required 9 ha per large stock unit in order that veld conditions be maintained and not run down through overgrazing. For a standard weaner production system with an 80% calving percentage, 3% mortality, a 20% replacement heifer policy and 220 kg weaner weights, a production of 16 kg of live weight per hectare per annum can be achieved. This translates into approximately 8.8 kg of usable protein per hectare per annum giving a gross revenue value of R48 per hectare per annum or a turnover of R1.32 million per annum for a reserve of some 27 000 hectares.

The historical mix of cattle and game farming in the Reserve area had resulted in limited permanent employment of 3 salaried staff positions and 27 wage earner positions.

This level of economic activity can be compared with a very conservative hospitality arrangement comprising 100 beds with a 60% occupancy. At R200 per day for bed, food and beverage from each occupant, such an arrangement would give a annual turnover of R4.3million. At the industry standard of 1.5 jobs per room this would create some 75 new jobs.

Clearly, leisure and eco-tourism offer greater prospects for all.

## LEGAL STRUCTURE

As previously mentioned, the legal structuring of the project was the main focus of the first phase which lasted some 16 months. Since the participating landowners came from varying backgrounds and were contributing varying types and quantities of game and varying areas and qualities of veld to the project, a unique legal structure was required to cater for their needs. It was agreed that the formation should take place at minimum cost to the landowners, that the pooling of the game and veld resource and the proceeds therefrom be accomplished in an equitable manner and that future leisure/eco tourism development and the proceeds therefrom be provided for in a flexible and equitable manner. This necessitated three new legal entities; namely, The Selati Game Reserve Association, The Big Five Game Company (Pty) Limited and, the as yet unregistered, LeisureCo. The relation between these is shown schematically in Figure 2 and is discussed below.

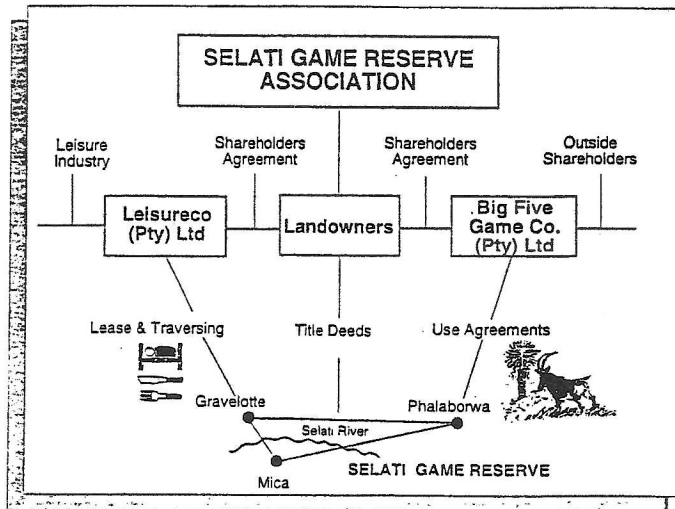


Figure 2 - Schematic Diagram of Legal Structure

### Umbrella Agreement

The legal initiation of the Reserve required the simultaneous signing of some five different agreements all dependant in some way on each other. An Umbrella Agreement was therefore required to pull together these interlinking arrangements and agreements.

### Usage Agreement

The central concept was the formation of a single large Reserve which would be achieved by the participants removing all of the internal fencing and by pooling the land and veld resource which would fall under a single professional management. The professional management was to be provided by a new company, The Big Five Game Company (Pty) Limited, hereinafter referred to as GameCo, in which the members would participate as shareholders. The Usage Agreement committed members to the formation of the Selati Game Reserve Association, to pooling their veld and game resource and to becoming shareholders in GameCo.

The questions of the ownership and transfer of ownership of game, the value of game and the equitable participation of the members in the new GameCo were complex. These difficulties were overcome in the following way: Firstly, it was decided that GameCo would not own the game or veld but that the land-owners would cede all their rights to the exploitation of the game and veld to GameCo. Secondly, it was decided that the game would be valued by aerial census according to a prescribed method and formula and members would be issued shares in GameCo for their contribution in both game and veld. At formation, 75% of the shares in GameCo were allocated to the total game contribution and 25% for the total veld contribution. Members were issued shares for their contribution of game pro rata to the total value of the game in the Reserve and members were issued shares for their contribution in land surface area pro rata to the total surface area of the Reserve.

The Usage Agreement together with the Constitution also provides for the fencing out and "return" of shares and or game in the event membership is terminated for any reason.



## **Land Values and Land Ownership**

It was recognised at the outset that members would never agree on the values of their properties and it was decided that land ownership should remain with members who would continue to hold the Title Deeds. The value of members' properties is thus simply dictated by market forces on a willing seller/ willing buyer basis.

## **The Selati Game Reserve Association and Constitution**

The constitution of the Association regulates membership in the Reserve, access and traversing in the Reserve and development policy. In form and content it is similar to the constitutions that have been set up for the other large Reserves in the region such as the Timbavati, Klaserie and Sabie-Sand but with some notable differences.

In the Selati, individual members will enjoy traversing rights over the whole Reserve. To preserve individual members' privacy, a system of A and B roads has been devised. Members traversing on neighbours' properties will be confined to A roads and each member will be compelled to provide a minimum length of A road per hectare in accordance with an overall development plan.

Key development policy agreed to thus far restricts the minimum sub-division to 1000 ha, the number of dwellings/buildings to one 20-bed camp or lodge per minimum sub-division and one game viewing vehicle per minimum subdivision.

As with other organisations, changes to the constitution are possible provided they enjoy the requisite majority support from members.

## **The Big Five Game Company (Pty) Ltd**

A Shareholders Agreement and Memorandum and Articles of Association govern the running of GameCo. The Company has a Board of Directors and Chairman elected from the shareholders and it has a management team appointed by the Board of Directors. The Company is entrusted with the professional management of the total game and veld resource within the Reserve which includes the stocking programmes, fencing programmes, road maintenance programmes, etc. It is planned that sufficient revenues will be generated from the careful commercial exploitation of game surpluses to meet all the management expenses.

GameCo will also provide services such as private road maintenance and camp repairs to the individual land-owners on an as agreed basis. The cost of these will be recovered directly from the users.

## **LeisureCo**

Provision has been made in the Umbrella Agreement and Constitution for the setting up of a new leisure company, LeisureCo, as a vehicle for exploring and exploiting the commercial leisure opportunities which are expected to flow from the project. To date, emphasis has been given to the setting up of the legal structure and to focusing on bringing the veld and game resource under a single professional management. This has been achieved through legal consultation and the competencies provided by the participating members. As has been previously stated, however, the members feel that successful exploitation of the leisure opportunities will require relationships with professional leisure/hospitality operators. It is anticipated that this will take the form of lease and traversing arrangements through which the members would benefit via their share-holding in LeisureCo pro rata to the land surface area which they have contributed to the project.

## **CONCLUSION**

The guidelines for the establishment of a conservancy which have been described in this paper are drawn from the experiences gained from the setting up of the Selati Game Reserve. The

project is now in its second phase of evolution which involves the establishment of the professional management team, the formulation and formalisation of the management principles and the removal of internal fencing. Beyond this, the members of the Reserve will be looking for opportunities to involve the professional leisure and hospitality industries in developing the eco-tourism potential of the Reserve. Efforts will also be directed to understanding how the local populations can be engaged in and derive benefit from the project beyond straight forward employment.

It is the author's belief that the success of the project to date has resulted from the willingness of the participant members to share in a common goal, to engage in new partnerships requiring negotiation and compromise, to their realisation that they were embarking on a process and to their understanding that early emphasis should be given to the legal structuring of the programme.

#### **ACKNOWLEDGEMENT**

The author wishes to acknowledge his colleagues, the other members of the Selati Game Reserve, as well as Mr Andre Scholtz, Chief Warden of the Selati Game Reserve, for their valuable inputs and enthusiastic support which have made the Selati Game Reserve possible.

# IS THERE A FUTURE FOR CONSERVANCIES, BIOSPHERE RESERVES AND PRIVATE GAME RESERVES IN SOUTH AFRICA?

Tony Ferrar<sup>1</sup>

The focus of this paper is on conservancies and biosphere reserves, as private game ranches are very diverse and do not involve cooperative management, a main focus of this paper. The area of relevance is also limited to South Africa, as the local concepts of conservancies and biosphere reserves are peculiarly South African and our local circumstances are very different from anything elsewhere on the continent.

It is necessary to define precisely what we mean when we talk of conservancies and biosphere reserves, and then to look at their key characteristics and the reasons for their existence. We may then consider their progress and prospects in the light of political and economic factors, now and in the future and also in the light of changing trends in conservation and eco-tourism.

## DEFINITIONS AND CHARACTERISTICS

### *CONSERVANCIES*

Adjoining private commercial farms with cooperative management agreements based on shared cultural (conservation) values and shared economic costs and benefits that are sustainable.

#### Characteristics

- Privately owned land
- Based on trust (& aesthetics!) (whole is better than sum of the parts)
- Response to non-sustainability of conventional farming - need to assist large-scale eco-system functions.
- Acknowledgement that greater bio-diversity provides insurance against economic and ecological failure or change.
- Expectations of public sector support from state or NGO's
- Anticipate entrenching legal provision for conservation into title deeds.
- Dependent on eco-tourism for economic benefits.
- Anglophone bias

### *BIOSPHERE RESERVES*

Representative conservation areas, usually based on a core nature reserve, but including many contrasting forms of land use. Cooperative management is achieved by adaptive agreements to improve sustainability and compatibility of land uses by means of comparative monitoring and research and through education and training.

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<sup>1</sup> Wildlife & Environmental Consultant, L & W Environmental, P O Box 39265, Bramley, 2018, Rep. of South Africa

### **Characteristics**

- Internationally conceived and assisted (MAB 20 years - Natal PB 5 adaptations)
- Adaption to difficulties in establishing and managing conventional ("island") protected areas
- **Variable** in application and success - especially in the research and education benefits
- Unlikely to operate without effective state agency acting as COACH
- Useful experiments for developing more sustainable land-use practices
- Various forms of ownership from communal subsistence to corporate and state-owned.

### ***PRIVATE GAME RANCHES***

Private title land owned by affluent corporations and individuals in areas selected for aesthetic value, private recreation and eco-tourism use.

### **Characteristics**

- Diverse, often strongly personal management objectives
- Small areas, game-fenced and artificially stocked
- Strong candidates for cooperative management agreements as most are too small to function in isolation
- Increasing commercialisation dependent on eco-tourism
- Financial viability usually difficult to establish
- Many are removed from agricultural productivity - clash of goals.

The key reasons for the cooperative management of land for conservation are:

- Larger sized units allow for a wider range of flora, fauna and landscapes, thereby enhancing the bio-diversity value and eco-tourism value of the land
- The anticipated boom in eco-tourism and the need for larger landscape units for visitor satisfaction and therefore competitiveness
- reaction to the sub-economic size of land units in areas with low agricultural productivity
- recognition of the complex nature of game management.

Having looked at the characteristics of these forms of cooperative land-use for a wildlife-based economy, we need to look wider at the political context in which this economy is going to have to work.

It is useful to look at various sets of guidelines that have been developed in the last few years to attempt to make conservation more "politically correct". They focus most sharply on the involvement of and the generation of benefits for local people - particularly the disadvantaged poor people who surround many of our protected areas.

### **SATOUR'S ECO-TOURISM PRINCIPLES**

1. Purpose: Improve quality of life
2. IEM, EIA, SIA essential prerequisite
3. Capture true character of eco-destination, natural spectacle and human culture
4. Balance visitor expectations (Hype!) with respect for local cultures (and eco-systems)
5. Requires participating management - sharing of decisions, responsibilities, benefits
6. Must integrate all components - visitor environment - local people and culture - industry
7. Must assist local development via effective communication, education and training
8. Public funding for eco-tourism projects must be subject to screening (these principles) and community acceptance (SIA)
9. Eco-tourism prospects to be evaluated against portfolio of case studies
10. Code of conduct for visitors - the industry - local people - to be developed and publicised.

### **BOPHUTHATSWANA PRINCIPLES**

1. Must be sustainable financially and ecologically
2. Must have formal representative community structures in order to institutionalize management
3. Thorough socio-economic understanding of the community essential
4. Effective communication (both ways) between all participants is essential to achieve democratic empowerment
5. Adequate community development expertise essential

## COMMUNITY-BASED CONSERVATION

### THE HWANGE PRINCIPLES

1. Bio-diversity is promoted by appropriate land-use
2. Empower communities by promoting their role in decision-making, planning, implementation and evaluation
3. Effective communication (both ways) is vital
4. Dialogue with all stake-holders essential
5. Control and responsibility for access and use of resources (wildlife) in hands of community
6. Development of people (self reliance/competence) only insurance against dependency and failure
7. Benefits will only be sustainable if inextricably linked to control over-use
8. Truly democratic decision-making/institutions essential for consultation, management, control
9. Top level politics and grass roots attended to
10. Enabling legislation based on monetary profit to individuals a prerequisite.

### "CAMPFIRE"

#### Three objectives

1. Develop human managerial capacity *in situ*
2. Sustainable improvement of human well-being
3. Sustainable use of wildlife and environment.

#### Six principles

1. Return benefits directly to producer communities - openly and to the lowest level
2. Producer communities to be small, homogeneous and structured
3. Producers to have full choice of expenditure
4. Community structures to be accountable - upwards to the authorities and downwards to the people
5. Marketing and deal-making to be open and freely competitive
6. Avoid selective taxation on wildlife or other revenue earning resources
7. Minimize bureaucracy
8. Formalize responsibility
9. Democratize decision-making.

### WORLD PARKS CONGRESS - CARACAS 1993

1. Build on foundations of local culture
2. Give responsibility to local people
3. Return selected areas or resource rights to traditional occupiers
4. Hire and train local people
5. Link regional state development to protected area economy
6. Prioritise small-scale local development
7. Involve neighbouring communities in management
8. Firm but fair law enforcement
9. Build holistic conservation culture into state apparatus
10. Educate for benefit of cultural and land-use diversity.

In general, these lists describe themes that repeat what has been described on the basis of "Green Tourism". They reflect a growing global trend which may become conditional for sophisticated socially and environmentally aware visitors before accepting an eco-tourism destination. There is a book on Green Tourism, applying equally to northern and southern hemisphere destinations, recently published.

So much for global trends, the great unknown is the future for conservation and eco-tourism in South Africa.

I have extracted the following points out of ANC and similar policy documents and advisory papers prepared by World Bank specialists. This represents the sort of advice that I believe the new South African government is likely to take, or be required to take in order to access development funds.

- ANC environmental policy is modern and more environmentally sound than that of the present government, but it is idealistic and lacks operationality.
- Agricultural subsidies will be totally reviewed and redirected at promoting small-scale as opposed to large-scale commercial farming.
- Land restoration/redistribution will be the highest priority. Legitimate land claims settled by purchase and use of unused state land will be first. Other more unilateral actions such as expropriation, are only implied at this stage. The best insurance against land redistribution is if the land pays taxes, i.e. is economically viable.
- Eco-tourism is recognised as a rural industry that has the potential to replace mining - but there is a feeling that it has yet to prove itself to be truly sustainable and to yield real benefits to a wide cross-section of society. Many see conservation as a ruse to keep land out of the reach of the mass.

In short, a new ANC-Alliance government will be cautiously supportive of eco-tourism, provided it delivers the goods - and at present there is widespread doubt that it can do so. The challenge is for the industry to demonstrate its potential, both domestically and in the international market.

## THE RELATIONSHIP - NATIONAL PARKS AND CONSERVANCIES

Dr P T van der Walt<sup>1</sup>

South Africa had the foresight, for a near century, to identify nature conservation as a major role player in the developmental process. No wonder the National Parks Board of South Africa was the first statutory body in this country in terms of Act 26 of 1926. This early choice of an effective enterprise type, is the most powerful ingredient of our now so sought after conservation success story.

National parks triggered the international conservation effort in 1872 and will forever remain the base for assuring biotic diversity. At the turn of the century the roots of the "parks movement" were found in the oriental religions, in European forest and hunting preserves, in South Africa itself and in North America's national parks and wilderness areas. It had as its basic purpose the benefit of mankind, individually and collectively.

In 1864 the Congress of the United States of America set apart some public land and granted to the State of California the Yosemite Valley upon the express condition "... that the premises shall be held for public use, resort and recreation; shall be held inalienable for all times". In these words are to be found the seed of an idea and the beginning of a new national public land policy, which in centuries to come, will be of invaluable benefit to mankind.

Therefore, alongside the most basic mission of the parks movement in every country to establish well-looked-after representative samples of its natural heritage, the urge for a wanted highly competitive venture was clear from the start. For a near century this wise use approach received a rather low priority in most countries in favour of a more preservationist approach. However, since the 1960s the inherent negative political and economic messages of "setting aside" and "protecting", have developed into a most promising land-use option for mankind, who should endeavour to develop and perfect the natural world in accordance with its potential. Today the sheer enjoyment of natural beauty (eco-tourism) is recognised by many an African country as the most promising option in the quest for sustainable development.

The proclamation of the matriarch of formal conservation in Africa, namely the Kruger National Park in 1926, proved to be a milestone in this process. It not only created a wider interest in wild species, eco-systems and landscapes, but also contributed to the upsurge of interest in environmental conservation in South Africa during the 1960s and 1970s. Many a local event proved that the quality of the environment is an overriding issue in any planning exercise.

The ever expanding and commercially viable game ranching industry which is under the spotlight here today, is also without doubt an outcome thereof.

Sielerus en wildernis-ervaring is karperte wat al van oudsher met die bosveld gekoppel word. Geen wonder dat die Nasionale Parkeraad, as ons land se oudste bewarings *cum* toerisme-organisasie, in die tropiese en sub-tropiese bosveldtipes van die Transvaalse Laeveld sy beslag gekry het. Tot vandag en seer sekerlik in die toekoms, pluk die Laeveld heerlike vrugte van hierdie verbintenis. Dit het van die Laeveld en die aanliggende Platorand Suid-Afrika se toeristemekka gemaak. Hierdie dele is vandag die mees welvarende streek in ons land. Die Nasionale Krugerwildtuin was die vernaamste katalisator in dié verband.

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<sup>1</sup> National Parks Board, P O Box 787, Pretoria, 0001, Rep. of South Africa



Noudat kundige natuurbenutting as 'n hoogs begeerde ekonomiese bedryf gevestig is, is die samekoms hier vandag van groot belang om die belangrikheid van die konsep van bewareas te bevorder. Dit is die sekerste basis om die reeds bekende waarde van 'n goed beplande wildbedryf op plaasvlak ten toon te stel. Ons mag nie net bewaar ter wille van bewaring of selfsug nie.

Die onnodige kompartementisering van ons weivelde met peperduur wildheinings wat ongelukkig in menige opsig deur bewaringswetgewing aangemoedig is, is een van ons land se grootste ekologiese nagmerries. Menige lang-gevestigde migrasiepatroon is die nek omgedraai. Geknelde wildpopulasies wat in 'n parasiet-besaaide en verboste habitat met 'n onsekere veldlaag moet oorleef, is allermins vertrekpunte vir 'n belowende bedryf. Daar is vandag 3 357 wildwerend-omheinde plase in Suid-Afrika, wat 8,5% van die landbougrond beslaan - of 6,3% van die totale grondoppervlakte van die land. In 1993 was daar reeds 'n ongelooflike 85 854 km wildheining op privaat wildplase te vind (Navorsingsentrum: Wildbedryf, Potchefstroomse Universiteit vir CHO). In 'n land soos Israel wat sukkel om sy karige wildlewe in 'n woestynomgewing te bevorder, is die span van enige draad bykans onwettig.

### **National Parks and cooperative cross-border conservation**

South Africa can be proud of a very healthy dispensation of its existing protected area estate. Action in the total conservation arena is already 80% confined to private nature reserves, while our track record in the formal conservation field is acknowledged world-wide. Table 1 depicts a well-founded conservation base for southern Africa when compared to that of the more developed countries of the world. It is important to note that large national parks (> 100 000 ha) are a significant feature. This is always the ideal because national parks represent prime ecological assets of a country. Management planning must avoid problematical ecological units in order to achieve success in applying the guiding principle of "minimum intervention" to the greatest possible extent.

The golden days of the past, whereby large conservation areas could be established relatively easily, have long since gone by. Now, in the twilight of a century where man has made his environment more favourable for his short-term multiplication, but less favourable for his long-term survival, new avenues need to be sought because, if you deal with nature, you need to be clever.

Over the past six years growing world-wide interest has come to the fore in the role that national parks play in fostering international cooperation, understanding and peace. One of the means by which this role is expressed, is through bilateral agreements between countries whose protected areas meet at their frontiers.

In 1993 there were 70 localities throughout the world where protected areas met at international borders, including South Africa. These involved 65 countries. There were 22 border parks in Africa, 13 in Asia, 23 in Europe, 6 in North America and 7 in Latin America.

A set of potentially very large and spectacular transfrontier parks awaits development in Southern Africa and can make the region the foremost eco-tourism destination in the world. This could centre along the main east-west conservation/tourist axis, stretching from the Mozambique/KNP complex along the Limpopo/Zambezi/Okavango/Kunene rivers - a natural green belt.

Despite this exciting option, which we must now really take advantage of, new partnerships also need to be forged between the National Parks Board, local and regional government and private land-owners, to promote sustainable development, both within national parks and the regions within which the parks are located. Long-term sustainability can only be achieved if efforts are networked on a regional, national, sub-continental and international level.

For the last 20-30 years, South Africa was excluded from international strategies aimed at reconciling the interests of humans with conservation of the environment, due mainly to political isolation. Our formal conservation family in South Africa is a long-standing, proud member of the global conservation community. Our National Parks Board is a founder member of the IUCN (The World Conservation Union) and the WWF (World Wide Fund for Nature), founded in 1948 and 1961 respectively. Now that South Africa has once again been granted State membership of the IUCN

at the January 1994 meeting, we must take part in international actions and programmes in order to gain the assistance of the international community and to share our own very significant pool of expertise in reconciling the interests of conservation and development.

To further the inherent advantages of the conservancy ideal, UNESCO's Biosphere Programme and the WRI's (The World Resource Institute) Bioregional Management Guidelines, can be of particular importance. The Biosphere reserve programme was launched in 1971, aimed at protecting representative natural habitats within a context of a global network, by extending research and financial support. This programme was extended in 1987 by UNESCO with the launching of their international "Man and The Biosphere" (MAB) programme defined as follows: "... it involves research by multi-disciplinary teams on the interaction between ecological and social systems".

The building blocks of the MAB programme are the establishment of Biosphere Reserves defined as follows: "...protected areas of representative terrestrial and coastal environments which had been internationally recognized under the UNESCO MAB programme for their value in conserving and providing the scientific knowledge, skills and human values to support sustainable development".

Over the past 20 years, approximately 300 biosphere reserves have been established world-wide in 65 countries. The objective is to cover all 193 biogeographical provinces of the world; the four situated in South Africa have not been included in the MAB programme.

With our network of national parks, provincial and private nature reserves, South Africa lends itself to the implementation of the Biosphere Reserve concept. From a preliminary scan, it would appear as though there are at least 12 regions within which biosphere reserves could be established in Southern Africa with their core areas already protected as national parks and/or provincial nature reserves.

There are two types of biospheres, namely Individual Biospheres and Cluster Biospheres. The types are represented diagrammatically in Figures 1 and 2.

Our conservation initiatives have traditionally focused on publicly owned or managed lands. However, our discussions here today and our conservancy track- record to date, especially in some provinces, show that substantial opportunities exist for conserving biodiversity on private lands kept wild or semi-wild. A bioregional approach is now a definite option in our endeavours to promote biodiversity conservation. It requires that conservation on private land becomes an integral part of the strategy. The private sector can often protect land at a lower cost and with less political opposition than the government.

In the opinion of the National Parks Board there is an urgent need for a debate at the level of central and regional government and non-government organisations, on the merits of applying bioregional planning principles. The infra-structural development and provision of facilities within national parks, will make a significant contribution to regional development as a whole. Of particular importance is the developmental role the National Parks Board could play in the region through the expansion of the tourism industry and the protection and enhancement of the natural attributes of the area.

It is of great value that the promotion of community involvement and the development of a new sense of purpose and community pride can be achieved through these actions.

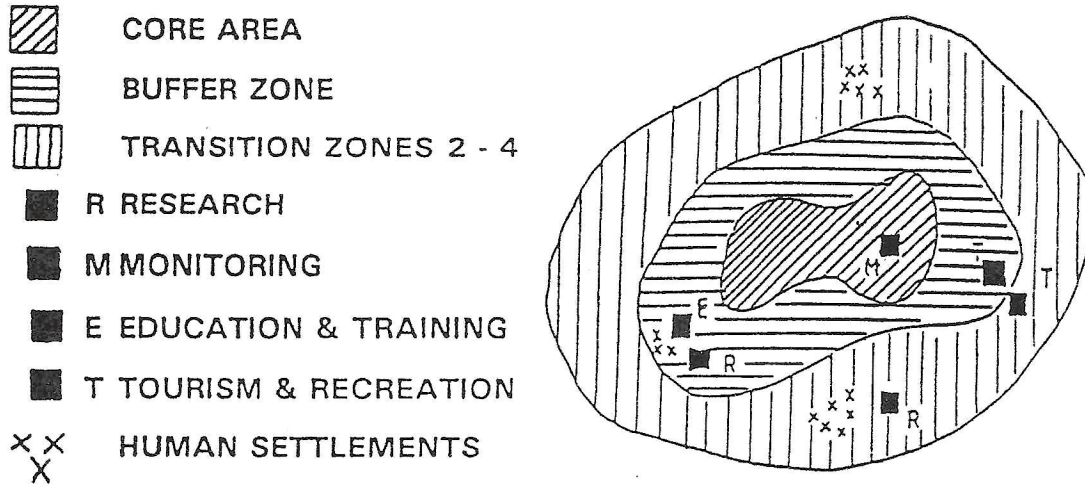


Figure 1: A schematic zonation of a Biosphere Reserve  
(From a "Practical Guide to MAB" - UNESCO 1987)

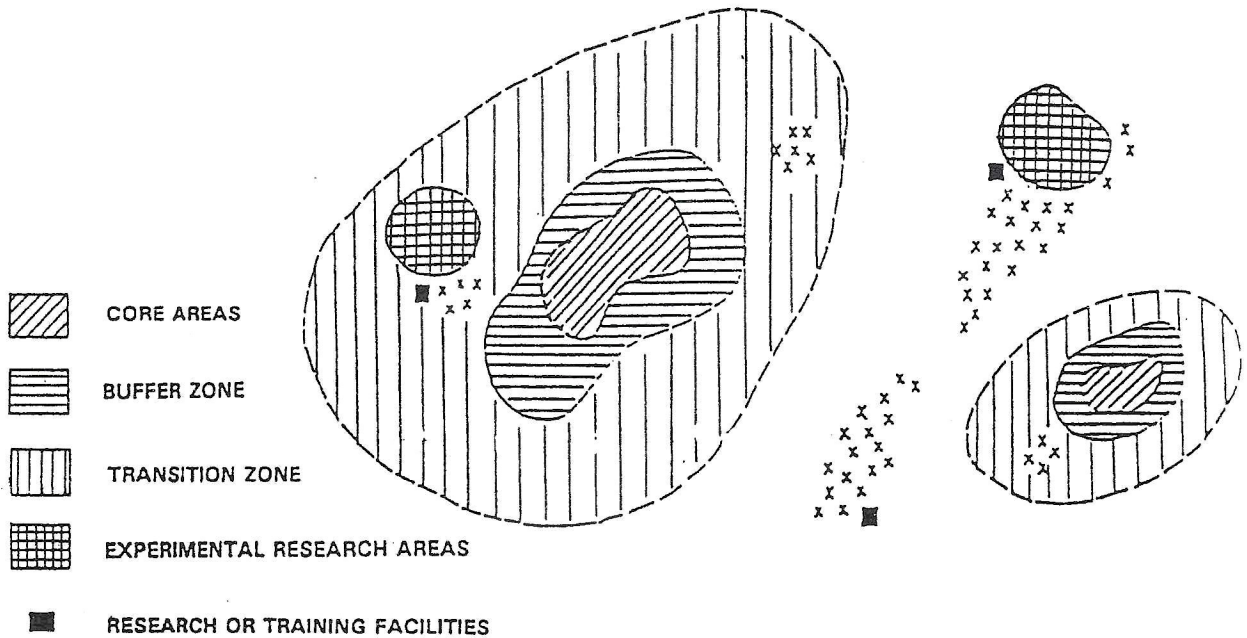


Figure 2: A schematic zonation of a Cluster Biosphere Reserve  
(From a "Practical Guide to MAB" - UNESCO 1987)

# PROTECTED AREAS IN THE TRANSVAAL

P F S Mulder<sup>1</sup>

## INTRODUCTION

One of the most fundamental and primary responsibilities of a government is to ensure the viability and versatility of its renewable natural resources and to strive for the maintenance of a healthy environment for its people to live in. Of equal importance is the universally accepted principle that the wise management of these resources should enhance the social, economic and spiritual welfare of all its people. Given the complex South African situation, conservation authorities are faced with an enormous task to attain these objectives. In line with the theme of this seminar, this short presentation will deal with Transvaal Nature Conservation's approach as regards the management of protected areas under its jurisdiction.

## PROTECTED AREAS IN TRANSVAAL

### Transvaal Provincial Administration

At present Transvaal Nature Conservation manages 67 nature reserves covering an area of 423 000 ha, 1,84% of the province's surface. Though at present proclaimed under the Provincial Ordinance (12 of 1983), several of these nature reserves which are of national and international importance, will be awarded the highest protection status in accordance with the most recent proposals for the classification of protected areas. Blyde River, Atherstone, Wolkberg and Nylsvley are prime examples. Though these areas include examples of more than 90% of Acocks veld types found in the Transvaal, the majority need considerable expansion to be considered as truly viable units. In spite of this, these areas have been instrumental in the protection and re-establishment of a large number of rare and endangered species.

As for visitor management in nature reserves, the main emphasis has always been to provide affordable access to a wide variety of nature-orientated activities. More than 1,3 million people per annum are exposed to nature through hiking, wildlife viewing, camping, angling and even limited hunting. Transvaal Nature Conservation does not cater for luxury accommodation and other related infrastructure on its reserves. Environmental education forms an integral part of reserve management and well-equipped educational centres and youth camps for approximately 300 people are provided at subsidized rates.

### Private sector involvement

There are at present 450 private nature reserves in the Transvaal. These are proclaimed in accordance with the Ordinance and have the same status as provincial nature reserves. World-renowned examples are those of Klaserie, Timbavati and Sabi Sand, whose owners pioneered the concept of jointly managed areas which have since been joined to the Kruger National Park, with the removal of the intervening fences. These areas will, no doubt, play an important role in the development of eco-tourism in rural areas in the near future. It has been proved that the gross income from an international tourist facility is as much as 15 times greater than cattle farming and provides 25 times more (and more skilled) employment.

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In addition to the private nature reserves, there are approximately 1750 nature farms (game farms) in the Transvaal. These are game-fenced areas (average size 1600 ha, totalling ca. 2,6 million ha) where the owners have been granted exemption as regards to the utilization of the game. As the backbone of possibly the largest and most active game industry in the world, these areas have proven that, where wildlife has a commercial value, the private sector becomes a most reliable and active partner in conservation. As in the case of private nature reserves, the eco-tourism potential has hardly been exploited. There are for instance more than 600 white rhino in the Transvaal (none in early 1960's) of which 90% are on private land.

The Transvaal has the largest number of National Heritage Sites and the Natal Conservancy concept is becoming increasingly popular. At present there are 14 of these informal protected areas, the most recent being a raptor conservancy of more than 400 000 ha stretching across South Africa's borders.

The Magaliesberg Protected Natural Environment is at present the only one of its kind proclaimed in the Transvaal. Utilizing the status provided for such areas under the Act, Transvaal Nature Conservation is at present in the process of establishing Collaborative Reserves.

This concept will result in large areas being jointly managed by Transvaal Nature Conservation and adjacent landowners. In line with the White Paper on Tourism, the private sector would provide the eco-tourism infrastructure while the province would be responsible for the management of the natural resources. Details are provided in a paper by A von W Lambrechts, read at an international symposium in Costa Rica (1993).

Though not under our jurisdiction, it is necessary to mention the sterling work done by the various conservation bodies in the self-governing and independent states. In the Transvaal alone, protected areas of more than 377 000 ha have been set aside for conservation purposes, an exceptional example being the Pilanesberg National Park. Also worth mentioning is the fact that nature areas under the jurisdiction of other state departments make an enormous contribution towards the conservation effort in the Transvaal. No conservation authority can function effectively without the support of non-government organisations, and in this regard exceptional contributions are made in the field of financial contributions, educational programmes and responsible criticism.

## CONCLUSION

Transvaal Nature Conservation has played an enormous role in the provision and management of protected areas in the Province and in facilitating the establishment of similar areas in the private sector. We believe that these incentives have provided a sound basis for the preservation of species diversity and for the social and economic upliftment of all its people. An unequalled 7 million ha of protected areas (more than 30% of the province's surface) provide tremendous opportunities for consumptive and non-consumptive utilization and this treasure house needs to be opened through innovative, yet ecologically acceptable, strategies.

Comparison of various categories of nature areas in the Transvaal			
Ownership	ha	No	%
<b>State</b>			
National parks	2 016 674	2	8,77
Provincial reserves	423 289	67	1,84
Protected natural environment	37 627	1	0,16
Forestry reserves	57 940	-	0,25
Military reserves	<u>111 338</u>	<u>23</u>	<u>0,48</u>
	<b>2 646 8668</b>	<b>93</b>	<b>11,50</b>
<b>Private sector</b>			
Private nature reserves	1 277 900	450	5,60
Nature ranches	2 653 315	1 763	11,50
Heritage sites	<u>150 000</u>	<u>78</u>	<u>0,70</u>
	<b>4 081 215</b>	<b>2 291</b>	<b>17,80</b>

## CONSERVANCIES FOR BIRDS OF PREY

Dr Gerhard H Verdoorn<sup>1</sup>

### INTRODUCTION

Birds of prey once were very common on the plains of Southern Africa. On their journeys through the sub-continent, 17<sup>th</sup> and 18<sup>th</sup> century travellers recorded amazing figures of thousands upon thousands of vultures and other raptors, and often admired the Martial Eagle as it soared over the vast open spaces of an uninhabited land, filled with a wealth of wildlife unsurpassed by any of the wildlife found in ancestral Europe. The Cape Griffon Vulture was often illustrated in the artwork of travellers as a bird of large flocks searching for dead and dying animals on the African plains. Europeans came to Southern Africa to tame the land, its wildlife and its indigenous peoples. Some of these active tribes had a very close relationship with birds of prey of all kinds. The Xhosa tribe regarded the Cape Griffon Vulture as a sacred bird with magical powers, while other tribes often sought the sage advice of their Sangomas who would use parts of the vulture to assist them in forecasting the outcome of future ventures. To this day, vultures have remained as spirits in African culture, even though times and customs have changed. In other parts of Southern Africa, the Bateleur was a bird of great esteem amongst the tribes and even in modern times is a well-protected species in some of the rural areas.

With the arrival of Europeans and the colonisation of South Africa, land once part of undisturbed nature was turned into farms producing beef, mutton, fruit and cash crops. Conflict between man and beast over the animals kept by man as livestock and sometimes allegedly used by birds of prey as a food source, resulted in heavy persecution of raptors and vultures by whatever means man could lay his hands on. Trapping, shooting, poisoning and habitat destruction took such a heavy toll of birds of prey that once abundant species like the Egyptian Vulture became extinct as a breeding species in the late 1920's in South Africa. Common vultures, such as the African Whitebacked Vulture, were regarded as vermin by the majority of farmers, while the totally harmless Bearded Vulture was mistaken for a killer of small stock. Every South African is acquainted with the name Lammervanger for the Black Eagle, which has also brought the wrath of stock farmers upon the bird. In spite of mystical folklore about the superb abilities of raptors such as the Lanner Falcon, birds of prey were poisoned in large numbers and people were even rewarded with a few shillings for killing birds of prey. In more recent times man's modification of the environment has also taken a heavy toll, electrocutions on power lines being only one of a number of lethal interferences in the lives of raptors.

### REALISING THE IMPORTANCE OF RAPTORS AS PART OF THE ECOSYSTEM

In the last few years people have slowly come to realise that the land animals are not the only creatures which warrant a conservation effort. The African elephant and the lion are no more important in the ecosystem than the Cape Griffon or the African Fish Eagle. The drastic decline in numbers of once common birds like the Tawny Eagle, have opened the eyes of landowners and conservationists to the plight of birds of prey. Not only do resident species warrant the serious attention of conservationists, but the vast numbers of migrant raptors visiting the country from as far as the steppes of Russia, are in dire need of a concentrated conservation effort. South Africa serves as a host for the Steppe Eagle and the Lesser Spotted Eagle and it is our duty to ensure safe passage for these birds through our country. If the right things are done, raptors readily adapt their life-styles to incorporate man-made structures into their general biology. Vultures use power lines

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extensively as perches and even as nesting platforms throughout South Africa. This change in behaviour may even benefit a species, should the rest of man's activities not be too negative on the ecology of the birds of prey.

#### **ACTIONS THAT SHOULD BE TAKEN AS CONSERVATION MEASURES FOR BIRDS OF PREY**

Many conservationists would advocate the initiation of captive breeding programmes as the ultimate in conservation actions for raptors. It is my personal belief that captive breeding should be the very last resort, even though there are some great advantages in keeping raptors in captive breeding units. A number of other very important issues need to be addressed long before large sums are invested in captive breeding centres. Looking at terrestrial ecosystems all over Southern Africa, one can easily come to the conclusion that the smaller mammals have been reduced drastically - the reasons for this may lead to another symposium. Smaller mammals, the predators and rodents in particular, have been persecuted as a result of their conflict with man over livestock and cash crops. These animals serve as the prey base for the majority of the hunting birds of prey. Mongooses and their allies like the ground squirrel form a critical component of the diet of Tawny Eagles and other raptors. The disappearance of these animals from the plains may be one of the reasons for the decline in predatory birds in large parts of the sub-continent. It is therefore important for the land-owner to stabilise the prey base for birds of prey on the farm or game ranch in order to secure the existence of raptors on the land. People also have to learn that birds of prey sometimes require large prey up to the size of young impala. As birds of prey are part of the ecosystem, so is their preying on animals which are worth a lot of money. We therefore have to learn that sacrifices have to be made in order to accommodate raptors on our land.

Other animals which are not obviously linked to the feeding biology of raptors, are often just as important as the prey species themselves. Large predators provide carrion through their kills which serve as a food source not only for the scavenging raptors, but also the avian hunters. Scavenging predators serve as indicator species for scavenging raptors who would follow them in their pursuit of food. It therefore boils down to one basic principle - healthy raptor populations require healthy and balanced ecosystems consisting of all the components, regardless of the preferences of man.

It is, however, often not possible to balance the ecology completely and this is prevalent particularly with the scavenging birds of prey. The abundance of food available to vultures a hundred years ago will never again exist in times to come. The Vulture Study Group initiated the concept of artificial feeding of vultures about twenty years ago. Other organisations followed suit and several successful vulture restaurants are now in operation all over the country. Vulture restaurants not only serve in supplementing food for the vultures, but also in providing poison-free meals for the birds which in some areas would have had a very good chance of falling victim to the deliberate and indiscriminate use of poisons. Through the years vulture restaurants have also developed their own culture. Hides are now erected at vulture restaurants from where nature enthusiasts can observe and photograph the avian scavengers. They also serve as research tools where birds can be trapped for all types of research projects. Rehabilitated birds can also be released from such sites.

One of the main aspects of raptor conservation is to eliminate the indiscriminate use of pesticides and other chemicals. This is perhaps the single most important factor in raptor conservation anywhere in the world. The Poison Working Group of the Endangered Wildlife Trust is working on several awareness projects to teach people the safe, correct and responsible use of pesticides and other agrochemicals. Areas which are free of pesticides are much richer in raptors than those with a high use of pesticides.

Habitats also need to be preserved. Too many hectares of land are laid bare, often for low-yielding cash crops. Without suitable habitat, raptors do not have breeding areas and may move away or simply stop breeding. Disturbance of their habitat may also cause birds of prey to abandon their territories. Development of land for commercial purposes or leisure may seem to have little visible effect on the ecosystem but could very well have a serious impact on the habitat required for sustainable breeding of birds of prey. The large eagles in particular, require territories of up to a few



hundred square kilometres and change of that area, how innocuous it may seem to the developer, can have a dramatic effect on the success of a resident pair of birds of prey.

## THE ROLE OF CONSERVANCIES IN RAPTOR CONSERVATION

Conservancies can serve as one of the most important conservation management tools for all birds of prey, including the large scavengers. The Wildlife Society should be given credit for initiating the first raptor conservancies in the Transvaal. The Limpopo Raptor Conservancy was established three years ago through a mutual agreement between the land-owners and conservation organisations. Farmers declared their land poison-free and started working towards bringing back the birds of prey into the area. The Blouberg community soon followed this example and hundreds of thousands of hectares of land was declared raptor-friendly by land-owners. Last year the Thabazimbi Raptor Conservation Forum was established through the initiative of Dr Wilhelm Schack, with inputs from various conservation organisations.

What should then be done on a conservancy to preserve birds of prey?

1. Eliminate the excessive use of pesticides and stop the use of poisoned bait or poison in carcasses to control problem animals.
2. Balance the ecology by starting to stabilise the prey base of birds of prey.
3. Preserve habitat as far as possible and re-establish natural vegetation in areas where agriculture has destroyed natural habitat.
4. Stop persecution of raptors completely.
5. Influence fellow land-owners to participate in the conservation effort for birds of prey.
6. Educate local people on the role and importance of birds of prey in the environment.
7. Establish vulture restaurants where gregarious species have their roosts and colonies.
8. Start using birds of prey as a source of income by promoting raptor watching as a tourist venture.

## THE ADVANTAGES OF CONSERVANCIES FOR RAPTOR

There are several advantages in establishing conservancies for raptors:

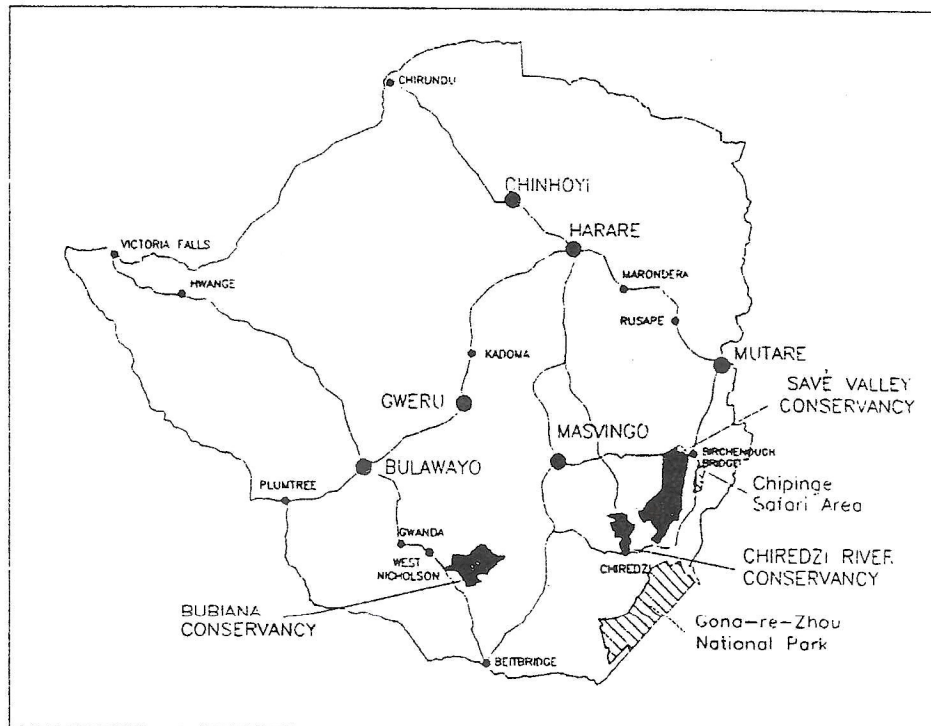
1. The areas do not need to be fenced in. Birds of prey fly and cannot be contained in any way, thus eliminating the need for fencing of the protected areas.
2. Birds cannot be bought for reintroduction purposes. This eliminates the capital expenditure which is often required for conservation programmes on mammals. The mere removal of lethal pesticides will naturally entice raptors to return to their breeding grounds.
3. Healthy raptor populations on conservancies will eventually serve as a source for recolonisation of other areas with birds of prey.
4. It is an overall inexpensive conservation effort which would not cost the land-owner anything.
5. Conservation of raptors will lead to healthier farming practices in balanced ecosystems where agrochemicals are used more responsibly and in smaller quantities.

# WILDLIFE VERSUS CATTLE IN CONSERVANCIES

Derek A de la Harpe<sup>1</sup>

## INTRODUCTION

This paper is based on a study undertaken in Zimbabwe during 1993, on behalf of the Savé Valley, Bubiana and Chiredzi River Conservancies, located in south-eastern and south-western Zimbabwe (see Map 1). This document was entitled "The Lowveld Conservancies: New Opportunities for Productive and Sustainable Land-Use", and was issued in draft form on 15<sup>th</sup> October 1993. This document is undergoing revision at this time, and is likely to be published in final form during February or March of 1994.



Map 1: The Savé Valley, Bubiana and Chiredzi River Conservancies

## BACKGROUND

Before discussing the methods used to prepare the report, it is necessary briefly to discuss two background aspects:

- Audiences and Purpose of the Report
- Importance of the Wildlife versus Cattle question.

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## Audiences and Purpose of the Report

Audience	Purpose
Conservancy members	Present arguments in favour of Conservancies, in case any members remain unconvinced.
Government	Explain land-use changes taking place, and discuss economic, socio-economic and conservation implications. Explain need for re-introduction of buffalo.
General Public (including Commercial Farmers' Union and Cattle Producers' Association)	Explain concept of Conservancies, and implications of land-use changes taking place.
Donors and Investors	Explain Conservancy concept, provide background information in order that these bodies can be properly informed while making decisions.

It is important to note that it was not intended that this study be used as a basis of undermining the cattle industry, or even for expressing doubts about its viability. However, because cattle was the dominant existing land-use, cattle-based enterprises were used as the basis for comparison with the proposed wildlife-based enterprises.

### The Importance of the Wildlife versus Cattle question

The wildlife versus cattle question is an important one in the context of the Zimbabwean conservancies, probably more so than it would be in South Africa. This is a result of the position of our Department of Veterinary Services (DVS) (in the Ministry of Lands, Agriculture and Water Development), with whom the responsibility for approving any buffalo re-introductions will rest. To date, DVS have refused to contemplate the re-introduction of buffalo [except foot-and-mouth disease(FMD)-free animals, of which there is a very limited supply] into areas where cattle are still present. Given that there are no prospects of securing sufficient numbers of FMD-free buffalo to re-stock areas as large as the Savé Valley Conservancy, it has really come down to a question of buffalo versus cattle. It is possible, however, that some of these restrictions may be lifted in the future, as research into transmission of FMD progresses.

In the case of the Savé Vale and Chiredzi River Conservancies, the decision was made in favour of buffalo. Bubiana Conservancy (located in the FMD-free zone) will be stocking with FMD-free buffalo in the short term. There were a number of reasons for this:

1. The proposed Conservancy developments are built around the concept of conducting multiple use of the wildlife resource, including offering (in the medium to long term) high-quality tourism. However, for this potential to be realised, the area must be stocked with the "big five", which means that buffalo are essential.
2. It is believed that ranchers cannot develop upmarket eco-tourism on ranches where cattle are managed according to conventional beef production systems (i.e. with fencing, dip tanks, roads and other infrastructure). It is theoretically possible to mix eco-tourism with cattle herding (which is likely to be employed in the transitional phase of the Bubiana Conservancy). However, it is also recognised that it is not possible to ranch cattle in a zoo, and it is equally impossible to develop a robust eco-tourism industry in a cattle paddock. The two land-uses are simply not compatible.

3. In the short term, while wildlife populations are building up, many properties in the various Conservancies will conduct hunting operations. This will mean that they can remain profitable, while waiting for the areas to become suitable for high-quality tourism. Buffalo have an important role to play in such hunting operations. Availability of buffalo on hunting quotas makes a substantial contribution to enhancing the profitability of hunting operations, for the following reasons:
  - 3.1 The duration of hunts offered can be increased from 7-14 days;
  - 3.2 The daily rate charged can be increased from US\$300/day (without buffalo) to US\$750/day (with buffalo);
  - 3.3 Present trophy fees for buffalo are approximately US\$1500. It has been calculated that, even with elephant and big cats on quota, adding buffalo will more than double the financial returns (see Child, 1988).
4. The ecological role of buffalo as coarse grazers, and as an important prey species for the larger predators.

It is also important to recognise that the re-introduction of buffalo into areas surrounded by cattle-producing areas, brings with it the requirement for creation of appropriate barriers between the buffalo and surrounding cattle herds. In the case of the Lowveld Conservancies, DVS have specified that the barrier shall consist of two fences separated by a road. The outer "game" fence will be a minimum of 1,9 m high, with ten strands of wire. This fence is electrified with two live and two neutral wires. The inner "buffalo" fence must be 1,2 m high with a minimum of six strands. This fence will also be electrified, with one live and one neutral wire.

## STUDY METHODS

The study was intended to investigate the economic, socio-economic and environmental implications of the land-use changes taking place in the Conservancies. In the main, any projections made were based on multiple uses of the wildlife resource, primarily through hunting in the short term, and high-quality eco-tourism in the longer term.

### Method of preparation

The study is in fact the result of inputs from a number of different qualified persons, including independent professional consultants and ranch owners. These various inputs have been compiled into a single document, which has then been brought together through the use of an executive summary.

In the report, extensive use has been made of case studies, which have then been extrapolated (where appropriate) to an entire Conservancy. The use of these case studies was felt to be appropriate for the following reasons:

1. Comprehensive and up-to-date data on which to base any projections were seriously lacking.
2. A large number of persons had valid contributions to make to the study.
3. There were a number of time and financial constraints in existence, precluding any large exercises to gather primary data.
4. Many of the hunting and tourism operations in the Conservancies are in their infancy. This means that the returns achieved from these operations in recent years, or even at the present time, are not necessarily indicative of the medium to long-term potential.

In addition, specific studies into certain aspects were incorporated into the report. The most significant examples of this were of the socio-economic issues in surrounding communal areas, and of the potential for wildlife utilisation on certain properties.

### **Specific aspects studied**

The following aspects received the most attention during the course of the study:

#### **1. The conservancy concept**

Given that there has been a great deal of confusion as to what is taking place in the Conservancies, and why, an entire chapter was devoted to the concept of the Conservancies. In the first instance, the concept of the Conservancy and its objectives and workings was discussed. Secondly, the conservation rationale for the Conservancies was discussed under three main headings:

- Endangered species conservation
- General wildlife conservation
- Soil and water conservation, and recovery of eco-systems.

#### **2. Each conservancy**

Thereafter, a chapter was dedicated to each Conservancy, explaining its membership, its location, a high-level overview of the environment, and of previous land-uses.

#### **3. Potential for wildlife utilization**

In order to ensure that there was a solid scientific basis for the financial projections produced in the various case studies, a chapter was prepared on the potential for wildlife utilisation. This chapter was prepared by a professional ecologist, based on actual experience in other parts of Zimbabwe. The hunting and culling off-takes used in financial projections were based on sustainable off-take levels calculated in this chapter.

#### **4. Financial and economic considerations**

The financial and economic aspects to be considered in evaluating the proposed land-use changes, were ascertained by the use of a number of case studies:

- 4.1 **Devure Ranch: Beef and game productivity comparison:** This comparison was based on a relatively low-key hunting and tourism operation, and was prepared by an experienced cattleman.
- 4.2 **Buffalo Range Ranch: Beef and game productivity comparison:** Buffalo Range is one of the longest-standing wildlife ranching operations in Zimbabwe, having been producing game for 30 years. The actual experience of beef and game production over that period has been summarised, reduced to annual averages, and then calculated in 1993 dollars for comparison.
- 4.3 **Senuko Ranch: Beef and game productivity comparison:** The Senuko Ranch case study was based on a combination of hunting, eco-tourism, and culling. The case study was based on the potential for such utilisation in approximately five years time, following a moderate wildlife restocking effort. The study was based on the experiences of an established cattle rancher and hunting/tourism operator.
- 4.4 **Zimbabwe Sun Case Study:** Financial projections based on the experiences of the Zimbabwe Sun Group were then included, as an illustration of the tourism potential in the medium term. This case study was based on the results of an actual Zimbabwe Sun operation located elsewhere in Zimbabwe.

- 4.5 **Londolozi Case Study:** As an illustration of the tourism potential in the longer term, the case of Londolozi was then considered. Information provided by the management of The Conservation Corporation was incorporated in this study.
- 4.6 **Madikwe Game Reserve:** Given that a detailed study of cattle versus wildlife had been undertaken for Madikwe, and that much primary data gathering had taken place during that study, the results of that exercise were summarised for inclusion in the report. It was interesting to note that a similar range of findings emerged between the Madikwe and Conservancy studies.
- 4.7 **Cattle, Wildlife, Both or Neither:** This is the title of a study published by the WWF Multispecies Animal Production Systems Project. This report summarises the results of an extensive study conducted into the comparative economics of established cattle and wildlife enterprises on ranches in the arid regions of Zimbabwe.

## 5. Technical issues

Two technical issues were also considered:

- The significance of buffalo to the Conservancies
- Animal disease control factors to be taken into consideration.

These two items were covered, in order to clear up any misconceptions which might exist in Government or in the general public, and to allay any fears about disease transmission risks.

## 6. Socio-economic considerations

The final aspect studied, but perhaps one of the most important, was the socio-economic implications of the land-use changes. In particular, the study considered:

- 6.1 Socio-economic and demographic issues in neighbouring communal and resettlement areas.
- 6.2 Potential Conservancy contribution to off-setting development constraints in these areas.

Given that the Savé Valley Conservancy is more than 80% surrounded by communal resettlement areas, and given the sensitivity of land in Zimbabwe, it was considered essential to review these aspects.

## STUDY RESULTS

The results of the study are summarised in Table 1 on the following pages, which compares wildlife- and cattle-based land-uses on the basis of a number of different criteria.

## CONCLUSION

On the basis of these factors, it was concluded that multiple use of rangeland based on wildlife utilisation is an appropriate land-use in the Lowveld Conservancies of Zimbabwe. This conclusion is based on:

1. Greater financial returns and profitability than cattle.
2. Increased potential for employment creation, both direct and indirect.

3. Greater potential than cattle ranching to contribute to local levels of economic activity and regional development.
4. Contribution to wildlife conservation (especially endangered species), compared with ongoing environmental degradation.
5. Increased capacity to generate foreign currency.
6. Low risks of disease transmission, as a result of precautionary measures.
7. Such land-uses do not compromise options for future land-uses, and in fact keep options open for the future more effectively than any other forms of land-use.

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Table 1: Summary of Factors to be considered in comparing Cattle- and Wildlife-based Land-uses in the Conservancies

Wildlife-based land-uses	Factor	Cattle-based land-uses
<p>Short term: gross revenues \$61 - \$67/ha, net revenues ca. \$37/ha</p> <p>Medium term: gross revenues up to \$300/ha, net revenues up to \$117/ha</p> <p>Long term: gross revenues up to \$618/ha</p>	Financial	<p>Short term: gross revenues between \$17 and \$37 (unsustainable) per hectare</p> <p>Gross revenues not increased in medium or long term</p>
<p>Short term: 10%, medium term: 22%, long term: ?</p>	Return on capital employed	1% to 3% in short, medium, long term
<p>Short term: \$35 - \$40/ha</p> <p>Medium term: ± \$180/ha</p> <p>Long term: Up to \$400/ha</p>	Forex generation	Nil: although does release beef from clear zones for export
<p>Diversify local economy and reduce dependence on agriculture</p> <p>International prestige for pioneering developments (especially translocating instead of culling elephants)</p> <p>Linkage with major Zimbabwe/Mozambique/South African wildlife complex (from Gona-re-Zhou to Kruger)</p>	Strategic importance	Maintain (relatively minor) contribution to cattle industry
<p>Enhanced levels of economic activity will lead to formation of new, supporting businesses. Backwards and forwards economic linkages strong, and in project region (largely)</p>	Economic	<p>No potential for expanded contribution.</p> <p>Backwards and forwards economic linkages moderate, but outside project region</p>
<p>Potential to double employment in Conservancies in short term</p> <p>Potential to treble employment in Conservancies in medium term</p> <p>Potential to quadruple employment in Conservancies in long term</p> <p>Potential to enhance employment in neighbouring communities through increased economic activity</p> <p>Average wages higher than in cattle industry</p>	Employment creation	<p>Full potential now exploited. Therefore, no potential for new job creation.</p> <p>No potential for enhanced employment in surrounding areas.</p> <p>Average wages lower than tourism industry.</p>



Table 1 (continued): Summary of Factors to be considered in comparing Cattle- and Wildlife-based Land-uses in the Conservancies

Wildlife-based land-uses	Factor	Cattle-based land-uses
Will enhance living standards in local communities through increased levels of employment, increased economic activity, stimulation of new businesses	Socio-economic	No further contribution possible, due to full development of cattle industry
Short term: \$3,4 million Long term: \$36 million	Spent in local economy (entire conservancy)	About \$1,7 million per annum
Contribute to endangered species conservation General contribution to wildlife conservation Contribute to soil and water conservation Sustainable land-use Restoration of degraded land	Environmental	Potential for increased environmental degradation, through over-stocking <sup>1</sup>
1,47kg/ha (per Senuko case study). All consumed in region of origin, possibly at subsidised prices	Meat production	3,60kg/ha (per Senuko case study). All leaves region of origin.
Low to medium (with DVS-specified precautions)	FMD transmission risk	Low to medium
Higher than cattle production	Drought resilience	Low

<sup>1</sup> It is also possible for wildlife to be over-stocked, leading to environmental degradation. It should be remembered, however, that the most common reason why cattle are overstocked, is to improve viability. With wildlife, this incentive to overstock does not exist, owing to the inherent viability.

It should be noted that these results are specific to the Lowveld Conservancies in Zimbabwe, and may not necessarily be applicable to other areas or other countries, because of the following factors:

1. These areas are marginal for cattle production, largely as a result of low and erratic rainfall.
2. The potential to create large continuous wildlife ranges.
3. Some wildlife populations already in existence.

# THE ECOLOGICAL MANAGEMENT OF LARGE CONSERVANCIES

Raoul du Toit<sup>1</sup>

## INTRODUCTION

In Southern Africa, a considerable body of literature has built up on the subject of adaptive ecological management of protected areas. Most professional rangeland managers have been exposed to the concepts of defining and selecting management objectives, initiating the actions which are thought to lead towards the attainment of these objectives, and ensuring adequate feedback from monitoring systems in order to assess whether the desired progress is being made or whether the objectives need to be changed. The theme of adaptive management is thoroughly explored by Bell and McShane-Caluzi (1984). The thrust of my presentation is to investigate some of the issues of adaptive management which are of particular relevance to large conservancies.

Crowe (1987) presented a simple outline of what he calls a "planned management system" (i.e. "a structured method of directing activities and budgets towards defined objectives"). His outline consists of four sequential questions, which I believe constitute the essence of adaptive management:

1. Where are we?
2. Where do we want to be?
3. How will we get there?
4. Did we make it?

These questions provide a convenient framework for my presentation, which will be based almost entirely on my experience with large conservancies (over 500km<sup>2</sup>) in the Lowveld of Zimbabwe.

### Where are we?

The large Zimbabwean conservancies are recent developments (the first two, in the south-eastern Lowveld, were formally constituted in mid-1991), so this question might still be rephrased as: why should we form conservancies? I will discuss this question only from the ecological management perspective since the economic perspective is addressed by De la Harpe (this seminar).

The current ecological situation in the ranching areas of Zimbabwe's south-eastern Lowveld is one of widespread ecological degradation. Cattle ranchers have tended to allow overgrazing by their livestock of the Lowveld's high-yielding but fragile bushveld community because:

1. They have sought excessive advantage from the nutritious grass layer ("sweetveld") during the dry season, when cattle are able to maintain condition by feeding not only on the remaining grass, but also on pods and palatable browse (as compared with the more unpalatable, chemically-defended browse of "sourveld" areas);
2. They have also allowed persistent grazing during the growing season;
3. They have been setting stocking rates in accordance with the carrying capacity that prevails in years of adequate rainfall, so that there were generally too many cattle (supported by artificial water points) on the veld during the lower rainfall years;

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<sup>1</sup> National Parks/WWF Rhino Conservancy Project, P O Box 8437, Causeway, Zimbabwe.

4. They have generally ignored the browsing and grazing requirements of indigenous ungulates when setting stocking rates.

Particular consequences of these exploitative tendencies in the Lowveld are:

1. Widespread sheet and gully erosion, particularly along fence lines and at water points, due to lack of surface cover, soil capping and increased run-off of rainfall;
2. Encroachment by invasive woody species (e.g. *Acacia* and *Dichrostachys* communities on siallitic and fersiallitic soils, and scrub mopane on vertisols where grassland existed 20 years ago);
3. Retrogression of many grass communities to states with lesser productivity, nutritional qualities and palatability compared with the pre-ranching communities. This trend is reflected in the disappearance of the more selective grazing animals (e.g. sable and Lichtenstein's hartebeest) while ungulates that are tolerant of degraded bushveld (e.g. impala and kudu) have thrived.

Lest I be accused of being unfairly critical of cattle ranchers, I must hasten to add that, in many cases, the problem has arisen despite ranchers' attempts to follow the guidelines which were outlined by agricultural extension officers. Rangeland scientists must admit that their discipline has progressed to a much more cautious and less dogmatic stage than that which was demonstrated to ranchers prior to the 1980's. The highly dynamic and unpredictable situation prevailing in semi-arid savannas, compels ecologists to consider new paradigms such as the state-and-transition model (Westoby *et al.*, 1989), as opposed to the simplistic successional model of ecosystem change.

Conventional livestock production systems seem too inflexible to cope adequately with the boom-or-bust relationship between primary productivity and rainfall in semi-arid rangelands. Some ranchers try to fine-tune their cattle management, for instance through short-duration, high-intensity grazing schemes. Their capital costs and recurrent expenditure rapidly escalate, yet rainfall still remains the unpredictable independent variable and the bushveld loses its resilience to drought owing to the cumulative adverse effects of cattle (notably reduced infiltration).

The conservancy approach involves the amalgamation of properties into much larger units, and the development of a mixed community of indigenous ungulates in partial or full replacement of cattle. By removing internal game fences, animals are allowed to move in response to droughts, fires and other environmental perturbations and patch dynamics. This is particularly important for selective grazing species with narrow habitat preferences. Additional, longer term benefits to the conservation of biodiversity come through the enhanced opportunities for gene flow between populations, particularly when corridors can be created between large conservancies and other wildlife areas. In short, large conservancies in semi-arid savannas allow the spatial scale of land-use activities to be more in conformity with the scale of ecosystem and evolutionary processes.

#### Where do we want to be?

Since conservancies are primarily commercial ventures, some of the typical objectives set for protected stateland areas are not fully applicable to these ventures. However, this is not to say that some significant conservation objectives, which do not have a profit motive, cannot be incorporated among the more commercial objectives. They certainly can, provided we do not lose sight of the fact that the wildlife activities within the conservancy must, on aggregate, be fully competitive in economic terms with alternative land-uses if the conservation spin-offs are to be sustainable.

The large conservancies are seeking a path of economic development which involves two apparently contradictory ecological goals for the medium term:

1. To develop a vegetation cover that will encourage reclamation of the hydrological and soil systems;
2. To increase both the diversity and the total biomass of indigenous ungulates (and other wildlife).

The reconciliation of these goals is made possible by the complete or partial destocking of cattle and by the fact that a mixed community of indigenous ungulates uses the bush/grass system more efficiently and more leniently than is the case with livestock herds.

#### How will we get there?

The goals outlined above are very broad and, for each conservancy, a more specific set of objectives is required for sound ecological management. However, for the recently-established conservancies in Zimbabwe's Lowveld, the broad goals will have to suffice for the time being because more information on both economic and ecological issues must be obtained and considered before detailed objectives can be outlined. The whole point of adaptive management is to develop the capacity to change not only the methods being used to achieve certain objectives, but also to change the objectives if experience shows that there are more appropriate ones. So the conservancies should certainly get going with initial steps towards their overall goals rather than awaiting the outcome of more research.

One obvious, indisputable requirement of ecological management at present is to achieve greater infiltration of rainfall, thus reducing run-off and erosion. This is so self-evident as to be hardly worth mentioning, but in view of the importance of maintaining maximum herbaceous cover and litter to reduce raindrop impact and surface wash, it is interesting to note two features of the present situation in Zimbabwe's Lowveld. Firstly, there has been massive mortality of the mesic tree species during the 1992 drought, thus leading to large amounts of woody litter from these totally dead trees, or from the branches of more hardy trees which are now coppicing up their trunks. Secondly, rainfall over the 1993/1994 rainy season has been well above average, so there is a high grass biomass.

Later this year, the woody litter and dry grass will add up to a significant fuel load which will tempt many ranchers into considering hot burns to reduce bush encroachment. Hot burns are only effective in reducing bush encroachment if they can be repeated fairly regularly, and fuel loads in the areas of bush encroachment are unlikely to be sufficient even for cool fires (i.e. over 2000kg/ha) in the years following the initial burn. Thus it would probably be unwise for ranchers to sacrifice basal cover and litter for the sake of a single hot burn; they would do better to maximise the infiltration of the next rains in order to set the hydrological/soil/herbaceous layer relationships on a recovery process.

A prerequisite for this recovery process is reduced cattle stocking rates. In the Save Valley Conservancy (3 200 km<sup>2</sup>) cattle are being removed completely in order to replace them with buffalo. In other conservancies which are subject to more stringent veterinary regulations, such as Bubiana Conservancy (1 250 km<sup>2</sup>), a phased approach will be necessary because buffalo restocking will be constrained by the limited supply of buffalo which are proven to be free of foot-and-mouth disease. A cattle herding system warrants serious consideration in such circumstances. Instead of being dismissed as a primitive method of livestock management, herding should instead be viewed as a flexible, cost-effective system with some parallels to the minimum tillage cropping system which is becoming popular among progressive farmers. By herding, ranchers not only minimize their capital investment but are also able to control cattle pressure more precisely on their ranches. In contrast to conventional paddock systems, herding is far more compatible with eco-tourism interests since fencing and other unsightly infra-structure is much reduced.

Another immediate step is to implement a programme for restocking wildlife species. For large conservancies, considerable numbers of animals are required and a massive capital outlay is therefore involved. The approach that I recommend for deciding which species, and how many of each, should be restocked, is as follows:

1. Land units within the conservancy should be distinguished and mapped. Summary descriptions of their geology, topography, soil, vegetation, etc., should be produced. The areas of each land unit should be measured.

2. The suitability of each land unit as a habitat for indigenous mammals should be assessed. Realistic stocking rates for each species in each land unit should be suggested in terms of crude densities, based on comparative data pertaining to wildlife densities in equivalent areas for which adequate census data are available.
3. The metabolic biomass of each population (i.e. species unit mass<sup>0.75</sup> x population size) can be calculated and the total metabolic biomass of animals within each feeding category (medium-sized bulk grazers, large mixed feeders, etc.) can be compared with known metabolic biomass data for equivalent bushveld communities. This provides a check that the suggested structure of the conservancy's wildlife community, and the biomass in each feeding category, appear reasonable in relation to communities in similar ecosystems elsewhere in the sub-continent.

Other common approaches to recommending community structure involve regression models relating herbivore biomass to rainfall (Coe *et al.*, 1976; East, 1984) or the use of Livestock Unit Equivalents. The rainfall relationships are crude, with very wide confidence limits, and incorporate a number of dubious assumptions (Bell, 1984; Walker *et al.*, 1987). The use of Livestock Unit Equivalents is, in my opinion, an unnecessary and flawed manipulation of biomass data. Firstly, the food preferences of wild herbivores differ so much that they cannot be simply lumped into either "graze units" or "browse units". Secondly, the environmental impact of herbivores - and conversely the carrying capacity of rangeland in relation to herbivore - is not a function of energy demand (i.e. metabolic biomass) alone. The small selective herbivores eat disproportionately more meristematic tissue, and thus have more significant effects on plants, than is the case with coarser feeders.

To illustrate the problems in trying to use a "common currency" of livestock units, let us consider the kudu and the grysbok. One kudu has unit mass 136 kg, metabolic mass 40 kg, and is therefore said to constitute 0,4 LU (since 1 LU = 454 kg body mass = 98 kg metabolic biomass). One grysbok has unit mass 7 kg, metabolic mass 4 kg, and is therefore deemed to be equivalent to 0,04 LU. So, if an area is assessed to have a stocking rate of 100 LU's (browse) it should theoretically carry either 250 kudu or 2 500 grysbok, giving a population ratio of 1 : 10. Yet we know that the actual population ratio in habitats that are suitable to these species is the other way round. The browse which is accessible and acceptable to grysbok is considerably different to the browse which is accessible and acceptable to kudu.

Having suggested a more direct comparative approach based on the biophysical classification of an area (land unit) and the extrapolation of "natural" wildlife densities from an equivalent area, I must acknowledge that the number of reliable benchmark areas, in which relevant population studies have been undertaken, is very limited. A further problem which arises regardless of how recommended population sizes are calculated is the estimation of the time that it will take for the initial populations to grow to these levels. There are few data available for population growth rates observed in African wildlife areas. The best approach, for planning purposes, may be to calculate the theoretical intrinsic rate of population increase for each species ( $r_m$ ) from the equation:  $r_m = 1,5 W^{-0,36}$ , where  $W$  is unit bodymass in kg (Caughley and Krebs, 1983) and this intrinsic rate is then halved to give a conservative net rate of population increase ( $r$ ).

I have dwelt on these problems to show that the estimation of wildlife production potential is by no means a refined and exact science, because data are scanty and because conditions vary greatly between different times and different places. Given the high variability of annual rainfall in semi-arid bushveld, several years of above average rainfall or several years of below average rainfall will greatly influence primary productivity, and will in turn radically change the ability of the rangeland to support herbivores. Thus the concept of carrying capacity has major limitations and techniques which are strongly associated with this concept, such as the rainfall-biomass regressions and the use of Animal Unit Equivalents, must be viewed with caution. This emphasizes the importance of an adaptive management approach in which conservative target population sizes are established on the basis of comparative data but are seen as fuzzy rather than rigid limits. Wildlife managers must manage animal populations up to these target sizes, and quite possibly beyond them, in the light of regular observations of veld condition, reproductive performance and interactions between the animals, and also taking into account the conservancy's value judgements and economic considerations.

### Did we make it?

While the above discussion highlights monitoring as a vital component of ecological management, we all appreciate that monitoring can easily become excessively time-consuming, expensive and technically complicated. For each large conservancy, we need to identify cost-effective techniques which are management orientated and we must standardize these techniques as early as possible. Some of the key factors which should ideally be monitored, are as follows:

1. Monthly rainfall (via a network of gauges).
2. Herbaceous plants (at a number of permanent sampling sites, and at set times during the year:
  - herbaceous biomass;
  - herbaceous species composition;
  - herbaceous cover.
3. Woody vegetation (at permanent sampling sites):
  - densities of size classes;
  - species composition.
4. Fire patterns: location, extent, time and cause.
5. Animal abundance.
6. Off-takes of animals through consumptive utilization and poaching.
7. Trophy quality (if safari hunting is being undertaken).

Since monitoring is a major topic in itself, I will confine my discussion to only a couple of aspects. To prevent wild animals from causing as much veld degradation as domestic livestock, grazing pressure must be carefully evaluated, whether or not there are still cattle in the system. After some years of regular monitoring, it should become possible to establish minimum levels of grass biomass and percentage cover, at specific times during the year, as benchmarks for management decisions such as destocking or supplementary feeding in severe droughts.

The monitoring of animal abundance need not rely upon total counts (impossible for many species) or sample survey techniques (such as road strip counts). These conventional techniques should certainly be implemented whenever possible in order to estimate population sizes, but of equal or possibly even greater importance is the need to derive indices of relative abundance through analyses based on "catch per unit effort". For instance, effort may be measured as kilometres patrolled within defined geographical units of a conservancy. Animal sightings ("catch") can then be related to this effort in terms of the number of each species seen per kilometre. If these abundance indices are derived consistently, they can be used to determine population trends over time, or to map spatial variations in the densities of certain species in different parts of the conservancy. Exciting possibilities now exist for facilitating these techniques through the use of relatively inexpensive, robust Global Positioning System devices which can be interfaced with personal computers in order to download locational data.

The various large conservancies which are being established, offer exceptional opportunities to learn more about the ecological management problems which I have touched upon in this presentation. Our capacity to predict and plan key aspects of the wildlife industry, such as restocking requirements and future off-takes, can be greatly refined through close observations in these extensive situations. However, to achieve these advantages, we must ensure adequate standardization of our monitoring and recording systems and must also agree on ways to exchange our information and to compare experiences. There is no justification for "industrial secrecy" insofar as wildlife management issues are concerned. By sharing information, we can extend the concept of adaptive management to our mutual advantage and can ensure that the wildlife managers, and not just the rangeland scientists, will be learning lessons from the ongoing process of trial-and-error.

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# POTENTIAL OF THE TOURISM INDUSTRY TO BE A KEY FACTOR IN THE VIABILITY OF CONSERVANCIES AS A LAND USE

L Carlisle<sup>1</sup>

The potential of tourism to promote conservation and rural reconstruction (in South Africa) depends on:

1. the stability and growth of tourism influx;
2. a holistic approach by the operator;
3. the symbiotic relationship between the operator and the local people to their mutual benefit;
4. the reserve's integration into the regional tourist route - on a national as well as regional level.

For conservancies to be sustainable as a form of land use, the economic factors need to be taken into account. Wildlife and natural resource areas act to attract travellers to the region, thus resulting in the economic stimulation of the region. Africa has a distinct competitive advantage in this regard. In sum "eco-tourism" provides the financial means to sustain Africa's primary resource base, demonstrating that natural resources can be revenue-generating and thereby justifying conservation. Keeping in mind, however, that not all tourism operators will contribute towards this objective; a responsible approach is required.

1. **Tourism in conservancies - a development tool -**
  - creates wealth and opportunity for rural people
  - promotes the notion of conservation development
  - serves to attract developmental and other funding to promote the industry
  - provides training and skilling-up of disadvantaged people
  - gives way to local business partnerships and state partnerships
  - maintains legitimacy in the regions of operations.
2. **Tourism and job creation - facts**
  - Tourism in South Africa employs one out of every 25 people
  - Tourism is South Africa's 5<sup>th</sup> largest foreign exchange earner (2% of GNP)
  - Each additional bed of international standard is worth R360 000 in direct income and 0,5 additional jobs
  - One job is created for every 11 additional tourists visiting the country.
3. **Tourism and economic stimulation - facts**
  - South Africa currently attracts 0,2% of the world's tourism market
  - Arrivals in South Africa are expected to double by 1995 (995 000) and quadruple by 2000 (1 703 000).
  - This implies the creation of an additional 40 000 to 80 000 jobs and forex earnings of up to R24 billion by the year 2000.

However, at this stage in Southern Africa, five critical components need to be addressed in developing the tourism industry in conservancies, biospheres and private game reserves:

1. A world-wide co-ordinated marketing campaign

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<sup>1</sup> Conservation Corporation, P O Box 1211, Sunninghill, 2157, Rep of. South Africa



2. Regional co-operation in Southern Africa
3. Sound environmental planning and protection of national assets from inappropriate development
4. Facilitation of economic growth - both nationally and in rural areas which neighbour potential tourism destinations
5. Creation of a safe political environment and internal infrastructure capable of coping with discerning international travellers.

# SOCIOLOGICAL RESPONSIBILITIES OF CONSERVANCIES

Charles Smith<sup>1</sup>

## INTRODUCTION

Socio-economic necessities of successful conservancies. The human equation. Why we need to be concerned with sociological programmes:

1. Encroaching / expanding populations.
2. Disenfranchised people trying to survive.  
Environment - poor people lack education and thus are more concerned with survival than preserving the environment.
3. Socio-economic link - creating a link between people and wildlife.
4. Proven programmes:  
Zimbabwe Campfire projects and E2000  
South African Conservation Corporation's Phinda.

## WHAT WE ARE DOING

Natural Resource Reserves Corporation

1. Mission statement

"The Natural Resource Reserves Corporation is committed to the conservation of habitats, cultures and wildlife through implementing business opportunities which are designed to uplift the health, educational and living standards of disadvantaged people in economically depressed regions. We hope to create an economic link between people and wildlife, thereby limiting the sociological pressures on natural eco-systems and ensuring the survival of all forms of life. To effectively implement economic programmes in wildlife areas, the NRRC promotes the principles of sustainable utilization, ensuring that resources are not depleted faster than they are generated."

2. Sustainable resource use
  - Economic - meaning that resources are not depleted faster than generated
  - Sociological
3. Eco-Tourism

First project - Makalali - prototype

MAKALALI: - (i) Economic  
- (ii) Sociologic

- a. Four farms comprising 6200 ha, previously used for cattle farming.
- b. Location - lowveld, between Mica, Hoedspruit and Gravelotte

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<sup>1</sup> Natural Resource Reserves Corporation, P O Box 97028, Petervale, 2151, Rep. of South Africa

- c. Our project:
  - \* Rehabilitation of land to its original state
  - \* Create reserve - reintroduction of the "Big Five"
  - \* Lodge - tourism - economics. Construction of lodge to promote tourism.
- d. Expandibility - 40K 5yrs

#### MAKALALI COMMUNITY DEVELOPMENT TRUST (MCDT)

##### a. Mission statement

"The Makalali Community Development Trust is committed to the upliftment and development of disadvantaged rural communities of South Africa, specifically in the Eastern Transvaal lowveld areas, through a system of integrated development. In order for real progress to be made, this system must establish and facilitate an economic, educational and training based stimulus within each rural community to promote self-perpetuating economic entities, incorporating the principles of the sustainable use of natural resources - people, wildlife and habitats."

##### b. Needs of communities

1. Funding and small business opportunities
  - (i) Lack of infrastructure
  - (ii) Extreme poverty leading to environmental destruction
2. Water supply
 

Only 6% of rural population have adequate access to potable water
3. Education and skills training
  - (i) 15 Million adult South Africans (1/3 of the population) cannot read or write
  - (ii) Economic growth depends upon education
4. Health Services
 

1990 - 3,5 million children below minimum living level

Health Service Centre

Increase in mortality and malnutrition

##### c. Solutions : Through NRRC and other non-government organizations

1. Small business
  - (i) Build Community Service Centre
  - (ii) Manufacturing opportunities
  - (iii) Credit / banking facilities  
Get Ahead Foundation
  - (iv) Employment will inject cash into economy
2. Water solutions
 

Test and dig boreholes

Water storage facilities
3. Education
 

Promote adult aducation, environment education

4. Health Services
  - (i) Train health workers
  - (ii) Build clinics
  - (iii) Medical education / training

## **CONCLUSION**

Natural area's survival is dependent upon creating viable economic and sociological programs for the local people.

Private sector must lead the way.

## TROPHY HUNTING IN CONSERVANCIES

A M McCLEAN<sup>1</sup>

By now most of you will have a better idea of why conservancies are being constructed in South Africa. The very nature of the word "conservation" creates images of concern and care and an involvement with the future and now I come along and start talking about killing, not just culling, but hunting and even more explicitly - trophy hunting.

In today's environment the word hunting conjures up negative connotations of blood sports and cruelty to animals, of tally-hoing riders in red jackets with their pack of hounds chasing a poor defenceless little fox, or endangered rhinos gunned down with their horns chain-sawed off, all because some people in this caring human race of ours believe they will have better orgasms and are prepared to pay for this perception.

But where does the money go? Into the pocket of some unscrupulous Eastern entrepreneur, whilst the people of Africa continue to suffer. A statistic that dramatises this point is one from Tanzania in 1988 when visiting hunters shot 4 000 animals, local culling accounted for 30 000, crop protection removed 7 000. Yet poachers took an estimated 410 000! Although visiting hunters took less than 1% of the animals, they contributed in excess of US\$3 million to the Tanzanian Government. So it makes inordinate sense to retain the money in our country to uplift the life-style of our population - and legalised hunting will go a long way to rectify this situation.

The media have created millions of images over many years that have given hunting a bad name, so I don't suppose that I'm going to change many of those perceptions, but I certainly want to give you a different and more responsible perspective. Early man had to hunt to survive but today, with our easy city life, the majority of mankind have forgotten these basic skills of truly understanding the environment in which they live. However, this doesn't hold true for the many hunters worldwide who still enjoy the chase.

Many people do not like to hunt, because they dislike killing wild animals. But, for most hunters, the killing itself is not so important. They receive most of their satisfaction from outwitting the animals they are hunting. True hunting is a contest between the hunter and the hunted. Weapons give the hunter an advantage, but animals have several other advantages - they can move faster than the hunter, they often know the terrain better and they can smell and hear much better. If hunters depended only on their weapons, the animals would beat them at the game almost every time. Therefore, hunters must know the habits of the animal, so that they can come close enough to shoot. Many hunters enjoy the sport because it takes them outdoors and gives them the chance to study the habits of wild animals. The majority of hunters are very committed conservationists.

For the purpose of this paper, let us define the world hunting fraternity as a niche market. Talk to any manufacturer of consumer goods and you will understand that they are continually looking for markets for new and differentiated products. The world hunting fraternity is a major market with a high level of disposable income and whether their particular preference is ducks, bears or kudu, it is a financial resource that any forward-thinking entrepreneur cannot fail to tap - but it has to be done responsibly.

You fully understand that for conservation programmes to succeed they require finance, and trophy hunting is an important route for raising the necessary funds to improve wildlife management schemes.

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For the hunter, South Africa offers the greatest variety of indigenous species in any one country in the world. And with the average client spending 17 times as much as the general tourist, it's no surprise that the safari industry is worth over R120 million a year. And for the conservationist? Well, for the serious conservationist, it's simple: Stop hunting and you will reduce the volume of wildlife.

There is a market for photographic game safaris, but the type of client who would pay sufficient money and come in sufficient numbers to make this sort of operation viable, generally looks for a broader spectrum of species than the average game ranch can supply, and so utilizes the national parks in preference. Because of their far-ranging habits and disregard for fences, few game ranches have buffalo, for instance. There is a limited market for game biltong and fresh venison, but this market cannot cater on its own for the large revival of game that is occurring in South Africa. And there is trophy hunting.

Game is a renewable resource, and as the game builds up, which it does very quickly when protected, culling of those in excess of the land's carrying capacity becomes a necessity, and trophy hunting certainly offers the most efficient and lucrative method of harvesting the surplus game. Trophy hunting also maintains the highest principles of "sustained yield" because with this culling method, the breeding stock is not interfered with. Safari clients pay high fees to shoot relatively small numbers of animals and at the end of the safari the rancher still has the venison to sell because the client only takes the horns and/or the skin as a trophy. This method places a high value on the animals and reduces the numbers required to be taken off to make the project viable. Only a small proportion of the game is harvested, in exactly the same way that the cattle rancher only "harvests" a proportion of his stock, leaving the rest to reproduce.

As the safari hunter only wants the biggest trophy animal for his trophy room, which in most cases are the aged bulls which are no longer with the breeding herds, he does not interfere with the breeding cycle. Nature's way in the wilds of ensuring the continued perfection of the species, is by only allowing the strongest, fittest, and most vigorous males to mate.

Non-hunters who hear these words might deplore the thought of people paying money to shoot these undeniably beautiful creatures, and even some of the game ranchers themselves have expressed the wish that shooting was not necessary to conserve the game, but at this time trophy hunting has no viable alternative. Except for game, much of Africa's marginal land could only support low-grade peasant farming, and the history of Africa has shown abundantly that it is human competition for the land which inevitably eliminates the game. Farmers cannot survive where there are concentrations of game which continually destroy their crops.

It is well known that one of Southern Africa's most renowned wildernesses, the Middle-Zambezi Valley in Zimbabwe, has only been saved from an invasion of peasant farmers because of the large foreign currency earnings derived from paying hunters in most of the area. There is a national park, the famed Mana Pools, which caters for the photographer and game viewer, but the entire area of wilderness, which encompasses practically all the Zambezi Valley from Kariba to the border with Mozambique, is too vast and in many places too inhospitable to cater only for the non-hunting client, and so large portions have been set aside for hunting.

Anti-hunters, with whom the Zambezi Valley hunting has been debated, generally appreciate that this is a necessary means of conserving the game, and in the main it has been seen that there is no real division in the aims of the hunter and the anti-hunter. Both are seeking ways permanently to conserve the game and the division comes in the practical techniques of doing this. It no doubt sounds paradoxical to some to tell them you have to shoot the game to save it! But trophy hunting has been tried and tested and proved to be a positive conservation method in areas which will not sustain non-hunting pursuits.

For good or bad, whichever way a person views it, hunting is a fact of life in the world today and is here to stay for the foreseeable future. South Africa in particular is well set up to cater for it. South Africa has 60 huntable species - and at this time only 250 active licensed professional

hunters. It is predicted by PHASA that, in a very short space of time, ten times that number of professional hunters will be needed to cater for South Africa's exploding trophy hunting potential.

And exploding it certainly is! The average safari client visiting South Africa, is known to spend 17 times as much as the general tourist. A daily fee of R1 000 is charged by most safari operators, for which the client receives the services of a licensed professional hunter, trackers, gun-bearers and skinners, a completely-equipped hunting vehicle, and a fully-staffed hunting camp with all the mod cons and food and laundry provided.

Over and above the daily fee, the client pays a trophy fee for every animal he shoots, with the rarer and more valuable species being reserved for long hunts of 14 days or more. Some of these trophy fees are high. For example, the fee for a white rhino is R60 000, so if a client came to South Africa only to shoot this one trophy, with the 14 days daily fee his safari would be in excess of R75 000. On top of this he would pay for the veterinary treatment of his trophy and the packing and shipping of it to his taxidermist. A client wanting to take the "Big Five" (rhino, elephant, buffalo, lion and leopard) which only South Africa is in a position to offer today, plus a general bag of another ten species, could well have trophy fees of R180 000 - R220 000.

Also do not forget the ancillary spin-offs. Many hunters bring their spouses, and occasionally families, so the stop-over accommodation, souvenir purchases as well as a diamond or two, contribute to additional expenditure. Even if the hunter doesn't bring his wife or family, he will certainly buy presents. All of this makes trophy hunting a key foreign exchange earner that no right-minded government could afford to ignore.

The effect on the local population is also an important consideration. Safari Club International recently commissioned a study of the previous 10 years of African elephant hunting. The benefits of elephant hunting on local people was found to be significant. For instance, each worker employed on an elephant safari received the equivalent of R2 500 in annual wages, tips and meat and an additional R1 500 in non-monetary compensation such as clothing, housing and medical care. The number of local employees per hunt was 18. So the local economies were boosted by R45 000 in wages and R27 000 in benefits. Additionally, 15% of the body parts of each elephant (estimated value R850) were normally given to the local residents. When the multiple effect is taken into account it can be seen that hunting has a significant positive impact on the local communities.

South Africa also has a special draw-card for the collector trophy hunter in that it can offer six antelope species which occur only in this country: grey rhebok, blesbok, bontebok, black wildebeest, white springbok and black springbok. South Africa also has a viable population of mountain reedbuck, which only occurs outside its borders on the slopes of Mount Kilimanjaro.

Trophy hunting is undertaken in all four provinces, but some species are huntable or only occur in specific areas. Rhino and buffalo can be hunted throughout the country, while elephant, lion and leopard can only be hunted in the Transvaal.

Although the daily and trophy fees charged in South Africa may seem high, they are still well below the fees charged in some African countries. For instance, the daily fee alone charged by a Tanzanian safari company in 1993 was equivalent to R5 000. Hunting today is indeed a rich man's sport, but it is very much a growing sport, and because of the value being placed on game, there is an infinitely greater abundance of it to be found all over South Africa today than there was at the turn of the century. There is another well-worn adage: "If it pays - it stays", and game has certainly proved its point. Because of its high value, placed on it by the trophy hunting industry, the game will stay, and surely it is better to have game permanently at the expense of a few trophy males that are shot, than to ban hunting and so eliminate the only source of income that allows the game to stay.

The concern about the hunter being a good shot is a realistic one, but I can assure you that 95% of trophy hunters can shoot well and from my experience the wound rate is less than 10% - which reminds me of an amusing anecdote.

At the turn of the century there was an army officer in Kenya who had a reputation of "If it moves, shoot it!" However, at the age of 80 he was very deaf and one evening he was at a dinner party seated next to a lady some 20 years his junior. The lady asked him if he was a game hunter in his youth, to which he replied "I beg your pardon?" The lady repeated the question louder and received the same response - in frustration she almost shouted the question "I believe you used to be a big game hunter, you know: Bang, Bang!" To which the retired officer replied "No madam - BANG!"

But back to the main purpose of this paper. I believe the case for trophy hunting is a strong one, but why in conservancies? Historically land-owners have protected their farms with fences, but as the farmers started to stock their land with game, they soon realised that roaming free led to a proliferation of the species and the fences started to come down - thereby creating conservancies. This then started to have enormous financial ramifications in terms of economies of scale - as one organisation is easier to manage than twenty. It has one mouthpiece, one management and marketing team, has better resources and is better controlled.

A classic example of this thinking is demonstrated by the Timbavati Nature Reserve, which was founded in the 1950s by a handful of land-owners. As the fences between the properties were removed, habitat modifications were decided by a committee vote rather than individually. Today this consortium has grown to 36 owners controlling nearly 150 000 acres in a conservancy habitat. Destruction and modification both by man and nature are reviewed on a yearly basis. At regular meetings decisions are reached as to how many animals the conservancy can comfortably sustain without significant habitat modification by over-populated species. A budget is prepared annually and decisions on animal harvesting are reached.

In closing I would like to quote from the respected wildlife author, Ron Thomson:

"Controlled hunting is a means of culling that can bring in great wealth to a game reserve or to any other land on which game can be managed for the benefit of the hunter. Hunting can enhance the value of the game product well beyond its intrinsic products value and, as such, can often make wildlife utilisation an economically preferable land-use practice than traditional agricultural pursuits. This is an important consideration concerning the long-term survival prospects for wild animals in Africa - and the rest of the world.

In the modern era, hunting can be made a vitally important aspect of a species management and such hunting could become the ultimate reason for a species' survival".

I must seriously stress the importance of controlled trophy hunting in conservancies, not only for improved wildlife management, but for increased tourism, more foreign exchange, more job opportunities, as well as a major contributor to the welfare of this new emerging country of ours.



## THE PLANNING OF HIKING TRAILS IN CONSERVANCIES

M L Hugo & P K Bewsher<sup>1</sup>

The fallacy exists that the planning and development of a hiking trail does not require specialized knowledge, and that mere experience in hiking qualifies a person for this task. The extensive erosion which is currently encountered along many hiking trails, however, provides sufficient proof to refute this erroneous idea: not to mention the many complaints received from hikers that the degree of difficulty experienced on a particular route is way above the acceptable level. All these factors clearly signify that specialized knowledge is essential for the development of a hiking trail for which, in the long term, the essential requirement focuses on minimum maintenance costs, whilst ensuring maximum user satisfaction.

Consequently, the Hiking Federation of South Africa (HFSA) decided that, in future, hiking trails which are to be recommended to its members will first be subjected to critical evaluation in terms of quality and design. Should the trail, after scrutiny, be found acceptable for inclusion in the Federation's data base, it will still be exposed to periodic inspections, thereby ensuring a high-quality hiking experience.

On investigation of the matter, it came to light that the majority of persons involved in the planning of hiking trails are not suitably qualified for this specialised task. Consequently, in 1993 the Department of Geography, University of Pretoria, in collaboration with HFSA, initiated workshops aimed at providing training in the technique of hiking trail planning. Should you require assistance in the development of a trail, you may contact the Department of Geography or the HFSA.

It must be borne in mind that, once a negative reputation is ascribed to a particular trail, because of erosion or an exceedingly high degree of difficulty, or any other reason, it is extremely costly and difficult to restore the trail's image. The critical importance of correct planning can, therefore, not be over-emphasized: **a route planned and designed according to healthy planning principles right from the start, is ensured of long-term viability and success, with minimal complaints and low maintenance costs.**

**The specialized planning service includes the following:**

1. Initial consultation and terrain visit: feasibility study.
2. Field work and mapping of the preliminary route corridor.
3. Evaluation of the route by means of a computer programme: degree of difficulty, total length and other design principles.
4. Marking the final route in the veld.

**Additional services:**

1. Building the trail, bridges and other smaller constructions with the aid of hiking clubs.
2. The compilation of a map and brochure.
3. Advice on promotion of the trail and administrative functions.
4. Determining the costs involved: will the trail be a viable proposition?
5. Advice on legal liabilities.

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6. Advice on the construction of huts and accompanying facilities.

The costs of the planning service will have to be calculated for each trail individually, and can only be determined after consultation and field inspection.

# A PERSPECTIVE ON CONSERVANCIES

J du P Bothma<sup>1</sup> and J G du Toit<sup>2</sup>

## INTRODUCTION

Originally the topic of this paper was: A first-world perspective of conservancies. Personally we do not believe in categorizing countries in this way for the future of conservation does not depend on the degree of "development" of a given country but in the way in which it can develop conservation strategies relevant to its own circumstances. To assess the role of conservancies in Africa, it is first necessary to give a brief summary of its conservation history as it appeared in Bothma (1993).

## CONSERVATION HISTORY IN AFRICA

Past African conservation policies have been shaped largely by Western ideas based on a desire to preserve the mythical "African Eden". This idealized concept is naive and faintly absurd (Anderson & Grove 1987; Adams & McShane 1992). Also, Western policies are often contradictory, wishing Africa to "develop" and yet to remain "wild" (Beinart 1987).

The formal conservation concept is often regarded as an American one. However, in South Africa an ordinance to preserve the Cape Flats and downs was already passed in 1846, well before the 1864 publication of GP Marsh's "Man and Nature", an event commonly regarded as the first formal government conservation effort in the USA (Grove 1987). The first hunting regulations in the Cape colony were also set as early as 1669 (Brynard 1977).

In colonial times, the overexploitation of Africa's "limitless" supply of game led to severe restrictions and the proclamation of large game reserves without any regard for the local people (Anderson & Grove 1987). Traditional pastoralism became a scapegoat for the declining natural resources of Africa (Collett 1987; Homewood & Rodgers 1987; Lindsay 1987) and concerted efforts were then set in motion to transform the pastoral and nomadic societies of especially East Africa with European concepts of "development" (Corlett 1987) and to proclaim more parks and conservation areas (Anderson & Grove 1987). This has all been to limited avail and Africa is widely perceived today to be in a serious ecological crisis (Anderson and Grove 1987), even as being on the brink of ecological collapse (Bell 1987).

But are the indigenous people of Africa really to blame? Careful historical evaluation shows that originally a sound ecological relationship existed between people, livestock and wildlife in Africa. Prehistoric African societies either kept livestock and only occasionally killed or scavenged wildlife, or kept few livestock and depended heavily on game (Collett 1987). Mostly, however, game in Africa was a reserve resource used only during drought-induced famine (Collett 1987, McKenzie 1987). Yet such famine was rarely the direct result of drought. Drought often merely pushed communities over an edge to which they have already been nudged by local, national and global influences on their human environment (Turton 1987; Jubara 1993). In an apparent paradox, many pastoralist lands still have abundant wildlife in Africa today (Lindsay 1987).

Because of the above alleged environmental over-use, African pastoralists are usually regarded by many Westerners as a serious threat to conservation. Yet there are also those who believe that

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Africa has not yet reached its "carrying capacity" for livestock and humans (Bell 1987), that in the scramble for resources the expropriation of pastoral lands for the exclusive use by wildlife has often compounded and not solved the conservation problem (Homewood & Rodgers 1987), and that further expropriation will likely meet with serious local resistance (Lindsay 1987).

Case studies (Kiss 1990; Bothma 1994) reveal that conservation in Africa cannot be divorced from the social and political context within which it operates. Also, future conservation efforts in Africa will only succeed where they also address the welfare of rural communities correctly (Makombe 1993). Sustainability of use in poor communities is not a priority, daily survival is (Harrison 1987; Els 1992). Yet such social concern must be based on a clear understanding of historical and current political events (Beinart 1987).

The best chance of future conservation success in Africa is in countries where the sustained supply of food and energy has been addressed successfully (Lonsdale 1987). Carefully managed wildlife programmes can help to attain such a state. This includes integrated land-use programmes with conservation spin-offs (Bell 1987) although conservation may not be the primary goal.

It is also possible that colonisation has already permanently destroyed age-old ecological balances in many rural societies. Now, on the age-old cyclical time of Africa, the exponential time of "modern man" and the "modern state" has been grafted. The future growth of wildlife conservation in Africa therefore does not merely lie in setting up new parks (Collett 1987) but in developing diversified integrated land-use programmes tailored to the needs of individuals and local communities. Game ranches and conservancies are successful examples of such an approach. These and some other natural resource areas are briefly defined below.

#### SOME CONSERVATION AREA DEFINITIONS

According to Hanks and Glavovic (1992) the following areas exist:

- \* A **national park** is a relatively large, exceptional natural area managed by a nationally recognized authority for the protection of the ecological integrity of one or more ecosystems for the current and future generations, to eliminate any exploitation or intensive occupation of the area and to provide a foundation for spiritual, scientific, educational and tourism opportunities.
- \* A **transfrontier park** is a protected area occurring in two or more countries but with a common international boundary. These parks are also known as *border parks* or *international peace parks*.
- \* A **provincial nature reserve** is an area protected and managed by a province according to a relevant provincial ordinance. Currently in South Africa it involves Nature Conservation Ordinance 8 of 1969 for the Orange Free State, Nature and Environmental Conservation Ordinance 19 of 1974 for the Cape Province, Nature Conservation Ordinance 15 of 1974 for Natal and Nature Conservation Ordinance 12 of 1983 for the Transvaal.
- \* A **private nature reserve** is a protected area defined by the relevant ordinance of a given province, but the area is owned by a private individual.
- \* In Natal and the Orange Free State a **conservancy** is defined as any lawfully occupied or owned land inhabited by a single person or a number of persons where a cooperative conservation effort is practised.
- \* A **natural heritage site** is an important site, large or small, which may be owned by a private individual, corporation or government agency and which is administered by the Department of Environmental Affairs under the natural heritage programme.

- \* A *world heritage site* is an important site which is protected for its cultural and/or natural value.
- \* A *biosphere reserve* is an internationally designated protected area which is managed and which demonstrates the value of conservation.
- \* A *Ramsar site* is a wetland of particular significance which has been designated as such under the Convention of Wetlands of International Importance.

Two other natural resource areas as defined by Bothma and Teer (1993) are:

- \* A *game ranch* is a managed area for the extensive production of free-ranging game on large fenced or unfenced, private or communal land, usually for recreational hunting or for products of wildlife, tourism, the sale of live breeding stock and for other non-consumptive uses.
- \* A *game farm* is a managed area for the intensive production of game in small, fenced enclosures on private or communal land for the production of marketable game products.

The occurrence of protected areas in the current four South African provinces appears in Table 1. The sizes and number of provincial and private heritage sites in South Africa appear in Table 2.

Table 1: The occurrence of protected areas in the different provinces of South Africa

Type of Area	Transvaal	Orange Free State	Natal	Cape
Commercial game reserve	-	-	+	-
Game park	-	-	+	-
Game reserve	-	-	+	-
National park	+	+	-	+
Nature reserve*	-	+	+	-
Private nature reserve	+	+	+	+
Private wildlife reserve	-	-	+	-
Provincial nature reserve*	+	+	-	+
Local nature reserve	-	-	-	+
Conservancy	+	+	+	+

\* Probably the same

Table 2: The size and number of conservation areas in each of the provinces of South Africa

Province	Provincial		Private site		Total	
	Number	Size in ha	Number	Size in ha	Number	Size in ha
Cape	143	1 324 118	180	751 651	323	2 075 769
Natal	76	581 390	100	703 100	176	1 284 490
Orange Free State	14	164 443	26	350 375	40	514 818
Transvaal	65	302 892	54	1 360 327	119	1 663 219
Total	298	2 372 843	360	3 165 453	685	5 538 296
Mean		7 963	-	8 793	-	-

## CONSERVANCIES

Whatever the type of use, the size of any conservation area remains important. Large areas require less intensive management than smaller areas. Also, the scope of activities and the degree of conservation of biotic diversity expands as the surface area expands. This has led to the establishment of conservancies which in the Transvaal now even involves the joint use and management of several individual game ranches. The numbers and size of areas protected as conservancies in the four provinces of South Africa appear in Table 3. The advantages and disadvantages of conservancies are briefly:

### Advantages

- \* More effective wildlife management through a coordinated conservation approach.
- \* Better control over poaching, veld fires, stray dogs, etc.
- \* Property values may increase.
- \* Financial burden distributed over more owners.
- \* No government support needed.
- \* The conservancy concept can be practised in relatively developed areas.
- \* Educational and eco-tourism benefits.
- \* Increased conservation of genetic and biotic diversity.
- \* Increased economic viability.

### Disadvantages

- \* No legal protection for wildlife in conservancies yet.
- \* No tax benefits to owners.

**Table 3: The number and size of conservancies in the provinces of South Africa**

Province	Number	Size in ha
Cape	23	254 000
Natal	160	1 400 000
Orange Free State	51	455 000
Transvaal	16	369 000
Total	250	2 478 000

### The future of conservancies

Governments and conservationists alike must now ask for whom and to what end conservation is being practised. A realistic assessment is necessary of what is possible in a continent plagued by poverty, disease and hunger and facing an annual population growth rate of 3,1 percent (MacGregor 1989). Conservationists also now realise that it is not a solution to protect animals only for tourism. A diversified conservation approach has the greatest chance of success.

The promotion and future of wildlife in South Africa lies in the hands of rural communities in cooperation with the private sector. The total size of conservancies in South Africa is bigger than the Kruger National Park, which currently runs on an annual budget of R120 million. This shows that the private sector can play a more important part in "hands-on" conservation and the government must concentrate on the conservation of various ecosystems, law enforcement and education. A future government should also look into a more equitable tax relief scheme for the private sector when they invest in wildlife. Conservancies can also be used as a tool to educate and develop people, e.g. urban conservancies for school children, creating jobs, and other spin-offs to be used in developing communities.

## CONCLUSION

The oldest formal nature reserve in South Africa is nearly a hundred years old. The conservancy concept was started in Natal in 1978 and within sixteen years conservancies have been formed in South Africa that are already 1,3 times the size of the Kruger National Park. The future expansion of conservation areas in South Africa will be in the hands of the public because of the probable lack of funds from government sources, due to pressing other needs. More than 70 percent of Africa's elephants already live outside formally protected areas and the potential for conflict between man and such wildlife already exists. However, the ultimate solution to growing environmental degradation lies in controlled human populations living in harmony with sustainable natural resource uses.

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