Black Rhino Project 2000

Richard Emslie & Keryn Adcock

Africa's Black Rhino tops the latest list of the world's most critically endangered species compiled by the IUCN. From a world population of over 100000 in 1960, Black Rhino numbers have dropped to less than 3700, and one of the main hopes for survival of the species in the wild lies with the relatively secure southern African populations. How should we best manage these Black Rhinos? This is the problem facing local conservationists now that Africa's Black Rhino have been poached to virtual extinction throughout most of the rest of the continent.

Conservation of the Black Rhino in South Africa has had a remarkably similar history to the better known "saving" of the White Rhino. At the turn of the century only about 100 to 150 Black Rhino were left in the Zululand reserves of Hluhluwe-Umfolozi and Mkuzi. Since then translocation of animals by the Natal Parks Board to other parks such as Kruger, Ndumu and Pilanesberg, has contributed to the increase of the South African population to 590. This represents more than 16% of the world's rapidly declining population. Given the depressing slaughter of rhino in most of Africa, it is vital that the increasingly important South African and TBVC state populations be built up to at least 2 000 as quickly as possible. A national conservation plan is being developed and co-ordinated by the South African Rhino Specialist Group (SARSG) to help achieve this aim.

The greater our understanding of the ecology of the Black Rhino, the better our management decisions will be, and the quicker we can breed up our Black Rhino to meet the aims of the National Conservation Plan. As part of the international effort to save this magnificent species from extinction the Endangered Wildlife Trust together with the Natal Parks Board, SA Nature Foundation (WWF), and Total S.A. (Pty) Ltd are jointly supporting a major applied research project in Zululand. The "Black Rhino Project 2000" aims to provide information needed to come to decision(s) about how best to conserve Zululand's Black Rhinos (seen in the national context of aiming to increase the South African population of *Diceros bicornis minor* to at least 2000 as quickly as possible).

Apart from the increasing international importance of the southern African Black Rhino populations, a number of other factors led to the initiation of this project. The poor performance and marked decline of the Hluhluwe Game Reserve population, identified by Peter Hitchins, was of major concern (see *Quagga* No 15).

"Dledlemane", a radio-horned bull about 25 years old. The name means "battered old bush vehicle" in Zulu.

Why did the Hluhluwe (HGR) population decline, yet the nearby Umfolozi (UGR) population increase? What should be done with the remaining rhinos in HGR? Could other areas suffer population crashes similar to HGR's in the future? And if so could management guard against such an occurrence?

In addition, gaps in knowledge existed about many aspects of Black Rhino ecology, especially regarding i) their feeding and habitat requirements ii) the effects of management actions (bush clearing, culling, burning) on rhino habitat suitability and iii) the effect of predation on population performance.

One of the aims of the project is to study in detail the feeding behaviour and habitat use of the Black Rhino in different areas, and then to use this information to develop a method to assess the "habitat suitability" of areas for Black Rhino. This will be used in conjunction with genetic and security assessments of potential areas to aid future translocation decisions.

Another aim is to determine the effects of various management actions (e.g. bush clearing) on Black Rhino. This knowledge will be particularly useful in the future if reserves specifically managed for Black Rhino are declared, similar to those in Kenya.

A major thrust of the project is to try to find out why the Hluhluwe Black Rhino population (once the densest in the world) has declined from an estimated 200 in 1973 to about 70 (with a total of 37 being moved to other areas); while the nearby Umfolozi population has increased (despite the translocation of 26 rhinos). A number of potential explanations for this situation are being investigated. These are as follows:

a) The bush thickening which has occurred in Hluhluwe over the past two

Putting transmitter "package" into Dledlemane's horn.

First Black Rhinoceros re-introduction to the Kruger National Park. This project was financially supported by the EWT.

tude. We worry about our fellow humans — or should do — because every major religion is based on that supreme ethic. Muslim, Christian, Judaic, Hindu or Buddist — all these great humanitarian beliefs are built upon the noble premise that man is a social animal and must learn to live together and to help his fellow in times of need. It is a belief that has been slow, cosmically slow, in being accepted. Man has always been the supreme predator on the face of the earth and remains so today. He has the means of wiping himself out and has done a pretty good job of sending many of the world's wild creatures and plants the same way as the dinosaur. But who would benefit from it? Certainly not man himself. Even if we were to ignore the economic and scientific benefits, what about the spiritual basis upon which the conservation ethic rests? Peter Mundy, former Scientific Officer of EWT, summed it up best on the occasion of the Trust's tenth anniversary symposium, 'The Extinction Alternative' in 1983.

"Just what is planet earth for, and what role do humans have in its workings? Should a clock simply keep perfect time — indeed, a good ecological clock would be self-correcting — or could it also be a beautiful and cherished clock? These values cannot be understood from a book, they must be experienced and they can only be experienced in stillness, aloneness and in the now of our consciousness".

In conclusion, the Trust's Fifteenth Anniversary will be recognised yet again with a symposium at the end of October this year entitled 'National Parks, Nature Reserves and Neighbours' — a very important event.

Over the past fifteen years, the realisation has dawned on me that the wrong emphasis is often placed on conservation. When I look back on all those years which we spent trying to save the Cheetah from extinction, it occurs to me that we may very well have been wasting valuable time. This may sound startling coming as it does from me, but the fact is that the effort of saving the Cheetah in a physical sense is not real conservation in the true meaning of the word.

It is only part of the conservation process. It is today my firm conviction that the real emphasis in wildlife conservation should be getting people to understand the importance and value of nature, not just who is killing cheetahs.

Peter Joffe, watched by Slang Viljoen, University of Pretoria, and Colin Britz, refuelling EWT survey plane in the Kaokoveld.

About the author

Clive Walker is the founder, past director and Honorary Life Member of the Endangered Wildlife Trust, chairman of the Wilderness Trust, Vice-chairman of the Rhino and Elephant Foundation, Manager of Lapalala Wilderness, and is involved in many more activities as well. Although no longer involved in the day to day affairs of the Trust. Clive maintains close contact, and writes regularly for Quagga *magazine. He is co-author of the recently published book "Kaokoveld — the last wilderness". Address: PO Box 645, Bedfordview 2008, South Africa.*

Wendy Farrant and Jill Morrison of the Ladies' Committee glide down the Boro Channel in the Okavango Delta on a wilderness trail led by the Trust's founder.

decades, has reduced the availability of preferred Black Rhino food, while habitat conditions have improved in nearby Umfolozi.

b) Past management may in some way have adversely affected the rhinos' food supply. For example, noted rhino expert Peter Hitchins has suggested that the culling during recent droughts, which resulted in taller grass in wetter periods and hence a more frequent burning regime, may have disadvantaged the Black Rhino.

Predation on Black Rhino calves by Spotted Hyaena may have also contributed to the decline. Other less likely or less immediate explanations include poaching, disease, genetic problems, the effects of the recent drought, and increased inter-male fighting.

Black Rhinos are difficult creatures to study. They are shy and retiring, spending much of their time in thick bush, and have the potential to turn you into a kebab should you surprise one from close range! It is impossible to directly observe their feeding for any length of time except in open areas.

Fortunately they have a characteristic method of browsing on woody plants, and therefore leave a history of their feeding behind on the vegetation. Black Rhino tend to "prune" the branches of the bushes, while elephant "shred" the ends of the branches they browse. Much of the fieldwork to date has consisted of woody vegetation surveys to study the feeding behaviour of the animals. Surveys were undertaken in randomly located patches in a range of habitats in two main study areas (N.E. HGR and W. UGR) with the field data being recorded using a pocket computer for subsequent analysis back at base. The survey technique used was designed to examine the influence of bush density, species composition, plant size, grass interference, spatial scale and fire on Black Rhino feeding. The data obtained are currently being analysed, and future fieldwork will follow from the results of these analyses.

As part of the research three rhinos have also been fitted with radio-transmitters (supplied by the EWT). A complete transmitter/battery/aerial "package" was designed and built for implanting in the horn This has greatly cut down on the implementation time compared to previous radio-horning attempts; and hopefully will prove better at withstanding the problems of horn-rubbing, moisture getting in, and mechanical shock. It is hoped to use the radio-horned animals to:

1) Determine home ranges of the animals and compare the results to those obtained by Peter Hitchins in HGR in the early 1970's. (If the home ranges of the Hluhluwe rhinos are much bigger now this would indicate a decline in habitat quality over the last twenty years.)

2) Try to find fresh Black Rhino feeding "trails" to study forb use by the animals.

3) Find fresh feeding areas to measure browse selection, especially in areas where Black Rhino densities are low (N.E. HGR).

4) Determine the importance of certain habitats, and in particular thick bush, for activities other than feeding (like thermoregulation or for refuge).

While such ecological research can aid conservation it will be of no use if poaching cannot be prevented. One of the most urgent ways to safeguard the remaining Black Rhino in South Africa would be to greatly increase fines for poaching and dealing in rhino horn. The current maximum fine of R2 000 is like giving someone a parking ticket for a hit and run offence. Our politicians can contribute greatly to the conservation effort if they bring sentences into line with those of Zimbabwe and Zambia. The Natal Parks Board has suggested that the fine for a first offence (trading, illegal possession or poaching) should be R15 000 and/or 5 years imprisonment, with a fine of R35 000 and/or 7 years for a subsequent offence.

Further updates on the project will appear in future editions of *Quagga*.

Recording feeding data directly onto pocket computer.

Radio tracking Black Rhinos.

About the authors

Richard Emslie is a graduate of Cambridge University where he obtained his degree in Applied Biology in 1979. In 1980 he commenced a study in the Natal Parks Board reserves in Zululand on grazing ecology. He examined the activities of grazers big and small, from the White Rhino to insects, to come up with policy recommendations for process-based management of the reserves. This work is being prepared for a Doctorate with the Resource Ecology Group at the University of the Witwatersrand. Richard lectured for a year at the University of the Western Cape, and commenced the Black Rhino Project 2000 in July 1987. Keryn Adcock is Research Assistant on the project. A graduate of the University of the Witwatersrand, she is currently registered for a Masters degree with the Resource Ecology Group, and her research deals with the effect of lack of fire on vegetation. Address: Hluhluwe Game Reserve, PO Box 25, Mtubatuba 3935, South Africa.

ENDANGERED WILDLIFE TRUST

REPORT OF THE BOARD OF TRUSTEES FOR THE YEAR ENDED MARCH 31, 1988

The Trustees have pleasure in submitting their report together with the salient features from the annual financial statements for the year ended March 31, 1988. These financial statements incorporate, as separate annexures, the annual financial statements of The Vulture Study Group and the African Raptor Information Centre which are both directly incorporated working groups operating under the auspices of the Trust.

Income Statement

Income received during the year amounted to R470 202 (1987 — R290 146) after set off of certain promotional and printing charges. Administration expenses amounted to R52 847 (1987 — R45 673). Expressed as a percentage of net income administration expenditure amounted to 11,2% (1987 — 15,7%). Grants and project expenditure totalled R312 896 (1987 — R206-369).

Balance Sheet

Long term investments now total R68 150 (1987 — R116 972) being building society fixed deposit and paid-up permanent shares, and an assurance company investment. In addition, shorter term funds with bankers on current account, at call and notice amounted to R256 827 (1987 — R117 590). At present the board of management is considering further longer term investments to improve the return on investments. Included in sundry creditors is an amount relating to a fund raising event which has not yet been finalised and which will only be brought to account as income when all the financial details of the event have been finalised in a later year.

Directorate

Dr J A Ledger continued in the post of full-time director of the Trust during the year under review, a task which he carried out with considerable distinction and dedication.

Our full-time staff consists of four persons supported very considerably by voluntary assistance provided by the ladies committee and trustees.

Board of Trustees

During the year under review Mr A Morrison retired as chairman of the Trust and Mr D C Ritchie was elected in his stead. Dr D B Hoffe retired and Messrs D W Bath and W A T Morton were elected as additional trustees.

Salient features from the Annual Financial Statements

In accordance with the requirements of the Fund Raising Act (1978) the Endangered Wildlife Trust was required to consolidate the financial statements of The Vulture Study Group for the 15 months as well as those of "Gabar" (African Raptor Research Journal) for the 21 months and those of African Raptor Information Centre for the 12 months, all ending on March 31, 1988. A summary of the consolidated results is as follows:

Income Statement

Total income from subscriptions, donations, fund raising functions, sundry sales and income from investments	553 113
Administration, travelling and general expenses	(67 619)
Grants and project expenditure	(337 217)
Retained income for the year	R148 277

Balance Sheet

Accumulated funds	R402 678
Represented by:	
Fixed assets — cost less accumulated depreciation	45 597
Investments — cost	69 150
Current assets	379 959
Current liabilities	(92 028)
	R402 678

Detailed copies of the annual financial statements may be obtained from the offices of the Trust on request.

APPROVAL OF FINANCIAL STATEMENTS

The annual financial statements were approved at a meeting of the board of Management of the Trust on June 1, 1988 and are signed on behalf of the Board by:

Chairman Derek Ritchie *Director* J A Ledger

REPORT OF THE AUDITORS

We have examined the financial statements of the Trust which comprise the income statement, balance sheet and notes. These financial statements include all income recorded in the accounting records in respect of subscription, donation and other income. In view of the voluntary nature of the organisation we have not been able to verify that all income has been brought to account although we have no reason to suppose that any omissions have occurred.

Subject to this reservation, we are of the opinion that the statements fairly present the financial position of the Trust at March 31, 1988 and the results of its operations for the year then ended.

PIM GOLDBY
CHARTERED ACCOUNTANTS (S.A.)
Honorary Auditors

Johannesburg
June 1, 1988