

## MANAGEMENT OF TRANSLOCATED WHITE RHINO IN SOUTH AFRICA

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Over the last 30 years, over 2,000 square-lipped rhino have been translocated to both private and public land in Southern Africa. While the vast majority have been translocated directly from the founder population in the Umfolozi/Hluhluwe Game Reserve, others have been relocated from populations which themselves were established from the founder population and which now provide stock for dispersal.

While the programme must be regarded as one of the great successes in wildlife conservation, there have also been areas which have given cause for concern. These prompted a survey commissioned by the Rhino and Elephant Foundation. (Buys, 1987; Buys & Anderson, 1990) to assess the status of levels of management of these sub-populations.

A summary of the findings and interpretations of this survey are presented with the consequent actions by the Natal Parks Board (NPB), custodians of the parent population. With the future conservation of the species in South Africa bound to be controlled by socio-political needs, and governed by market forces, the importance of the economic value of the species must be examined.

### HISTORICAL BACKGROUND

By 1987, when Umfolozi Game Reserve was proclaimed, the southern race of the white rhino (*Ceratotherium simum simum*) had been driven close to the brink of extinction (Player & Feely, 1960). In 1929 the known population in Zululand was 150 (Shortridge, 1934) and although a few persisted in Mozambique (Sidney, 1965) these were to be shot out before their status could be determined.

Under strict protection, the survivors increased until in 1961 the Natal Parks Board resolved that animals should be translocated to form breeding nuclei elsewhere. Initially, "Operation Rhino" commenced with the goal of "spreading the risk", but by 1970 the steadily increasing population necessitated removals to prevent over-utilisation of the range and to maintain a healthy environment. Even under an increased level of removal, the population reached 2,000 animals in 1972.

### TRANSLOCATIONS TO PRIVATELY OWNED PROPERTIES

Prior to the re-evaluation in 1988 of their process of allocating white rhino to private properties, animals were allocated by the Natal Parks Board on a "first-come, first-served" basis. This allocation was made, provided the provincial conservation authority had agreed that the property could hold white rhino.

Buys (1987) found that 1,291 animals had been successfully established onto 149 privately owned ranches with more than 95% of these coming from the parent population in Zululand.

About 200 of these animals were adult bulls sold to ranchers in Natal (at a premium price) for trophy hunting. These animals had to be removed in order to balance the sex-age ratio of the removal programme and the only demand for them was in this market.

In his 1987 survey of the 149 properties on which white rhino had been established, Buys could only account for 931 animals on 104 properties. He found 45 ranchers no longer had

rhino. Of these he could not establish the reason for the loss of the animals on 21 properties but on the remaining 24, the animals had either died, or had been sold or shot. This net decrease occurred despite successful breeding on a number of well managed properties, e.g. during this period approximately 150 calves were born on the Sabi Sand Wildtuin alone.

The results showed (Table 1) that introduced populations had increased on only 18.7% of the properties.

**TABLE 1**

**Changes in status of white rhino populations introduced to private properties in South Africa.**

Change in status	No. of properties	%
Increased in number	26	18.7
No change in numbers	16	11.7
Present, but decreased	52	37.4
Population extinct	55	27.0

**TRANSLOCATIONS TO PUBLIC CONSERVATION AREAS**

Overall, the public sector has a better record in the conservation of relocated white rhino than the private sector, the two most important examples being the Kruger National Park and Pilanesberg National Park. The former has the potential of achieving the largest population of the species, and the latter has experienced management for both trophy hunting and translocation.

The Kruger National Park

The largest translocation of white rhino was to the Kruger National Park. In 1961, four animals were introduced and subsequently a further 345 were introduced by 1973.

An annual aerial census of white rhino commenced in 1980, and the population has since then shown a 9% increase per annum. The population, which is currently at 1,381 and is estimated to reach 4,000 by the turn of the century, has recently been the subject of a research project which will provide the guidelines for a realistic carrying capacity (Pienaar, 1989). It is inevitable that this population will require management in the form of keeping it within a prescribed upper limit. When this occurs, it will necessitate finding secure areas where animals can be relocated. If one assumes a removal rate equivalent to the current recruitment, then at a population level of 4,000 it will be necessary to relocate 360 per year.

Pilanesberg National Park

The re-introduction into this 55,000 ha National Park took place between 1980 and 1982 at the height of the last severe drought in the region. Animals were readily available, but were in very poor condition and as a consequence at least 35 died during or immediately after translocation.

The objectives of Pilanesberg include managing wildlife populations in order to provide an economic return which will offset the running costs of the park.

As there were more males than females in the initial introduction, the harvesting of "trophy" males commenced almost immediately. This however was undertaken under the

direct control of the management authorities, and only in the 25% of the Park designated for hunting.

In Fig. 1 it can be seen that as the Pilanesberg population grew animals were captured for relocation elsewhere to other National Parks in Bophuthatswana and to privately owned ranches. The population in Pilanesberg has been kept stable at an estimated 200 animals.

A summary of the history of the animals introduced to Pilanesberg (Boonzaair, pers. comm.) is that 213 animals were introduced (35 deaths deducted). Since then, 71 were translocated to three other National Parks within Bophuthatswana, 68 sold to private ranchers and 61 hunted for trophies in the four Parks. In August 1990, the population counted in all four parks was 268 animals. The value of the trophy hunting, can be gauged by the increase in trophy fees asked by Kgama Safaris, (the Safari Hunting division of the Bophuthatswana National Parks Board). (Fig. 2).

#### **REASONS FOR THE DECREASE ON PRIVATE LAND**

There are several reasons for the decrease in numbers of white rhino on private land. These can readily be overcome by the Conservation authorities with improved extension services and controls, and by the Landowners themselves by implementing the management advice they receive. The cause of death was determined, and in some cases speculated, for 293 animals. (This excludes trophy hunting). These are summarised in Table 2. As no losses due to any "disease" have been recorded in the parent population, those deaths ascribed to disease were probably due to nutritional stress.

**TABLE 2**

**The percentage distribution of assumed causes of mortality of 293 white rhino introduced onto private land**

Cause of death	Percentage
Fighting	15.2
Accidents	9.5
Disease	10.5
Contaminated food in bomas	5.7
Drought (starvation)	14.3
Unknown	32.4
Other (Poaching, re-capture loss)	12.4

#### Unsuitable regions

Several regions proved to be unsuitable for the re-introduction of white rhino, notably the far northern Transvaal and the northern Cape. Although the species occurred formerly within these regions, decades of over grazing and range degradation have exacerbated the effects that seasonal droughts have on the range in these areas. As a consequence in poor seasons, large grazers such as rhino cannot survive without supplementary feeding. This feeding was done by some ranchers but many rhino were lost, and supplementary feeding is only a short-term solution.

#### Poor reproductive success

Lindemann (1982) found that the breeding success in captive groups with only one male was significantly lower than in groups with two or more. The survey of populations on ranches in South Africa corroborated these findings. Of the 25 populations with one adult male, only 9 had produced calves. (It is also possible that some of the cows in these populations had conceived prior to translocation).

Many ranchers introduced populations with only one male; others believed that one adult male was sufficient and sold or hunted any others they might have.

#### Other factors

What was perhaps a factor contributing to the ineffectual management and the over-hunting of adult bulls on some properties was the fact that rhino was sold by the NPB at a value well below that which could be realised for their sale as trophies. Also, there was no indication that the "first-come first-serve" allocation of animals would change. This was an incentive to some to abuse the system.

A number of the populations on privately owned land were, and still are, managed as well as those on public land. An example is the population in the Sabi-Sand Game Reserve adjacent the Kruger National Park.

Between 1972 and 1976, 66 animals were introduced to the Reserve. In 1990, the population stood at 176 animals and in the intervening period 14 animals had to be captured and translocated elsewhere and 19 adult bulls shot as trophies.

#### **RECOMMENDED CORRECTIVE MEASURES**

Over the last decade the safari industry in South Africa has experienced almost exponential growth, and the white rhino is perhaps the premier trophy offered.

This, and the decline in the value of the Rand, has enhanced the rhino's value as a trophy to an average of about \$30,000 each; and the incentive to harvest rhino at a rate greater than the rate of increment (or that at which the Natal Parks Board can provide animals), has in many cases proven irresistible. The consequence is that the demand for rhino now far exceeds the NPB of removal.

For the NPB, this is an interesting reversal. Over the period during which most of the translocations to private land took place, the NPB was faced with the dilemma of controlling its rhino population in the face of a limited demand by purchasers. But by now many landowners have allowed all their adult males to be shot by trophy hunters, and some have also provided breeding females for hunting. They have justified this on the basis that they would be allocated more rhino by the Natal Parks Board.

In some cases, safari operators in Natal maintained it was the province's obligation to provide them with more rhino for hunting!

Recommendations arising for rhino management from Buys' survey (1987) were intended for private land in South Africa, but could be applied more widely. These were:

- Southern African members of the IUCN African Elephant & Rhino Specialist Group needed to determine whether the current situation is acceptable, and consider a National Plan for white rhino.
- Provincial conservation bodies needed to review criteria under which permits to introduce rhino are allocated. Criteria should include minimum population the area can sustain, minimum population to be introduced, habitat suitability, quality of management, and objectives of the owner.
- Areas which can hold large populations, and whose owners are prepared to acquire large founder populations, should get preference. Applicants' track records with rhino should also be taken into account. An objective system of ranking applications for rhino would be far preferable to the current "first come, first served" procedure.

- An effective system of recording the number of animals hunted each year, and the number of trophies exported, is needed.

- On the basis of their record in management, certain landowners should be "black-balled" from receiving further allocations of rhino at subsidised prices.

- Some of the poor performance in management may result from lack of knowledge of rhino management. Suitable information must be compiled and distributed to all landowners who have or intend acquiring the species, so that all adult bulls, for example, are not shot before any juveniles have reached puberty.

In fairness, it must be acknowledged that although the more than 1,500 rhinos supplied to private lands are now reduced to under 1,000, owners have taken on rhinos that could not be accommodated by the conservation agencies.

An immediate step taken by the Natal Parks Board has been to cease their subsidising the price of live animals, and to sell them at a market related values. In 1989, they followed the general trend in the country and only sold rhino on an auction. This dramatic change in price (Fig. 3) has probably had the effect of eliminating those buyers without any concern for the appropriate management of the species.

#### **THE FUTURE ?**

Very soon, possibly within the next three years, the Natal Parks Board will have no need to relocate more white rhino within their own Game Reserves. This will mean an annual live-capture harvest in the region of 150 animals being available for relocation elsewhere. It is also not far off that the Kruger National Park may also have a significant annual off-take available.

While there is a demand for animals for some of the recently established public owned conservation areas, the medium and long term capacity to accommodate the annual off-take of live rhino lies almost exclusively with the private sector.

Very few landowners stock rhino simply for their own enjoyment. For most it is done with a commercial view in mind either tourism or safari hunting. Indeed the fact that over the last 20 years, wildlife has been made to "pay", has been the driving force behind the game ranching industry and the spectacular increase in numbers and distribution of game animals in South Africa.

The limiting factor for the future increase of white rhino in South Africa is the availability of suitable land. It is therefore important that, for the long term future of white rhino in South Africa, the species continues to be managed in a profitable manner. This is so that wildlife habitats on private land remain more productive and valuable than alternative forms of land use.

Currently, the demand for the trophy hunting of white rhino exceeds the supply of animals. However, with improved management by the private sector and more animals due to be available from the public sector, this may change. It is important for the conservation of the species on private land that the trophy hunting market is fostered as a means of encouraging landowners to stock the species. To ensure that this exists, the relevant conservation authorities must guide the landowners in the management of the species. Furthermore, a programme of information and education, directed towards other interest groups such as Animal Rights Movement, is essential.

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Figure 1 Removals, mortalities, censuses of White Rhino: Pilanesberg NP

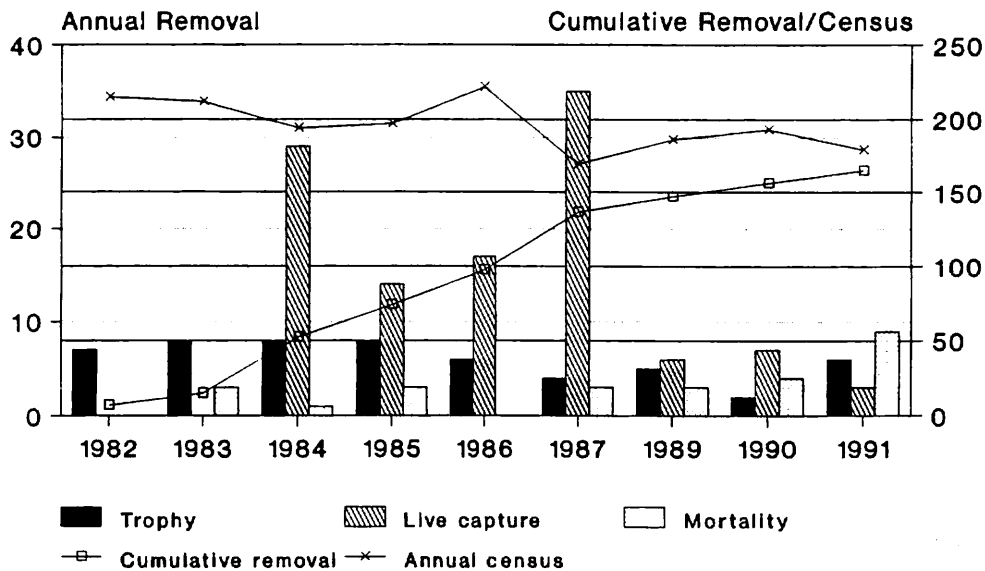


Figure 2 Kgama Safaris White Rhino trophy fee

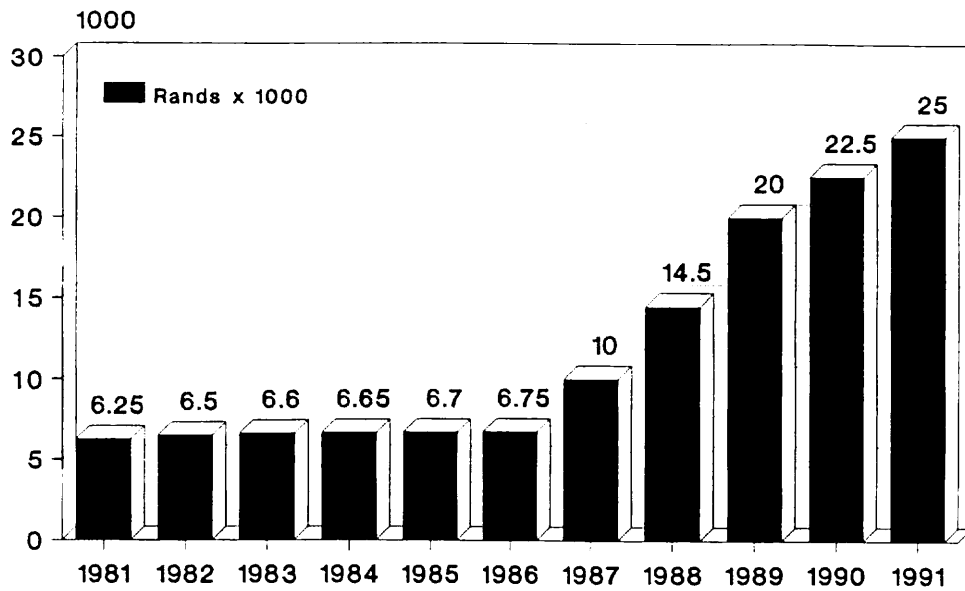


Figure 3 Natal Parks Board prices for live White Rhino

