
WHITE RHINOS ON PRIVATE LAND IN SA

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JULY 1996

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1. INTRODUCTION

South Africa has gained international acclaim for their efforts to conserve both black and white rhinoceroses which brought them back from the brink of extinction. These efforts have enabled the official nature conservation agencies, especially the Natal Parks Board, to offer surplus white rhinos for sale to private land owners since the 1970's, and black rhinos since 1990. The rhino populations on private land can make a considerable contribution to the overall conservation strategy.

Status 1987

In 1987 the Rhino & Elephant Foundation conducted the first survey of white rhinos outside official conservation areas. During the survey, all translocations of white rhino from Natal Provincial Game Reserves, Bop Parks and private sales were traced and their histories recorded. Contrary to popular (and often official) belief, a substantial number of these translocations were not as successful as expected. Various factors responsible for these failed translocations were identified. The sale of animals at low fixed prices encouraged some operators to make a quick profit by hunting the animals. A major problem concerned owners who for short term gain, over hunted their breeding males, and in some cases even breeding cows. Out of the privately owned animals up to 1988 hunting rates averaged 10.5% per annum. These findings were instrumental in the revision of Natal Parks Board allocation and pricing policies.

Status 1994

A second survey, conducted by Richard Emslie as part of the WWF/WCS international cost-benefit study of different approaches to rhino conservation in Africa and Asia, revealed a substantial increase in numbers of rhino and populations on private land in SA since 1987. The change by the NPB to allow rhinos to fetch their true value through auctions, had a number of very positive effects on private rhino conservation. The higher prices for live animals was an incentive to increase breeding stock. Hunting rates in the private sector dropped to about 3% per annum.

1996 Survey

In the last few decades, black rhino numbers in most other African countries have declined alarmingly, and many of the few remaining animals enjoy intensive protection. These factors have led to an increase in poaching of white rhino in South African Parks and Reserves. As tougher anti-poaching measures were implemented in these protected areas, poachers have recently turned their attention to rhinos on private land.

Many white rhinos have changed hands through auctions and private sales, and trophy

hunting has continued, since the previous survey. The present status of white rhino on private land was thus largely unknown. Before the 1987 survey, no black rhinos were present on private land, but since 1990, groups of five black rhinos have been auctioned annually by Natal Parks Board to selected bidders. These populations are increasing, and the stage is being reached where active management of the earlier founder populations will become necessary to remove mature bulls to rectify skewed sex ratios and prevent mortalities caused by breeding related aggression.

These factors, as well as the build up to the next CITES meeting in 1997, where the listing of rhinos and trading in rhino products are sure to be discussed, have necessitated a new survey to establish the present status of rhinos on private land.

The aims of the survey were to establish the contribution of private rhino owners to rhino conservation, to gauge the opinion of rhino owners on responsible utilisation of both black and white rhinos, and to provide official nature conservation authorities, the IUCN Rhino Specialist Group and the South African CITES authority, with accurate information.

2. 1996 SURVEY

Since 1987 many ranches have been sold, many neighbours have removed the fences between their properties and some have disposed of their white rhino altogether. Many rhinos have been translocated, either to existing populations, or as new founder populations. The fences between the Kruger National Park and adjoining reserves have been removed, and large reserves like Pongola Biosphere and Phinda have been established.

We have communicated with many new owners, and especially new managers, and many of the histories of the past nine years have either been lost, or have not been recorded.

All these factors make it extremely difficult, if not a futile effort, to attempt to discuss all these changes in this report. The global changes, national as well as regional, will be addressed.

This report deals with white rhinos only.

3. REGIONS

The survey results have been grouped into broad regional categories. For clarity, although not politically correct, old provincial names are still used, eg although the old Eastern Transvaal Lowveld is now divided between Mpumalanga and Northern Province, it will still be treated as one region.

Likewise, the region Southern Transvaal includes Gauteng, and the parts of Mpumalanga and Northwestern Province that are located in the vicinity of the Vaal River, eg Standerton and Christiana.

4. DISTRIBUTION OF WHITE RHINO BY NATAL PARKS BOARD

Between 1988 and early 1996 at least 231 white rhinos have been distributed by the NPB. The data excludes the translocations of 1993, the records were lost when a delivery truck was caught in a flooding river. No extrapolations have been made to arrive at an estimate for that year, the figures for the other years vary too much.

The records are not always clear if the animals came from Natal provincial reserves, or whether these were actually moved on contract between private properties. Where uncertain, it was assumed that the rhino were ex-provincial stock.

Fifty three of the rhinos have gone to locations within Natal that are known to buy in rhino predominantly for trophy hunting, which leaves us with 178 rhinos bought for breeding purposes. The North & Western Transvaal region gained the most rhinos from these distributions, namely 124, with only 5 having been moved out of the region.

The 131 white rhino (of which 5 are destined to go overseas) sold at the 1996 NPB auction have not been included in the totals and calculations of this report. The majority had not been delivered to the buyers at the time of the report, and to avoid confusion, it was decided to update the records with these animals after completion of the deliveries.

TABLE I summarises the movements out of and into the various regions from 1987 to early 1996.

Pilanesberg National Park also sells rhino, but nobody in the Bop Parks Board was able to locate the records, which is a cause for concern.

5. THE PRESENT STATUS OF WHITE RHINO ON PRIVATE LAND IN SOUTH AFRICA

5.1. NUMBERS

As mentioned in the introduction, many changes in ownership, ranch and reserve boundaries, and translocations of white rhino have occurred over the past 10 years since 1987.

As a result, reporting on life histories and trends of specific populations is not possible, but

Table I: White rhinos moved by Natal Parks Board 1988 - February 1996 (excluding 1993).

REGION	Movements out of region	Movements into region	Total gain or loss
Unknown	5	8	3
Natal Private	14	28	14
Natal hunters*	0	53	53
Natal Parks	231	0	-231
N & NW Tvl	5	124	119
Mpumalanga	13	37	24
S Tvl	5	17	12
Cape	5	16	11
Free State	6	2	-4

* These animals are known to have been sold as trophies to professional hunters in Natal.

the overall picture of privately owned rhinos will be discussed.

TABLE II summarises the status of white rhino in on private land 1987 and 1996.

If the 1987 survey is compared with the present results, the reader will find many discrepancies. These result from the exclusion of reserves like Sabi Sand, Klaserie and Timbavati from both the 1987 and the present data, the placement of some ranches in different regions, and the exclusion of military, municipal and zoo populations from the calculations.

A total of 1243 white rhinos on 144 properties were recorded, with 4 known populations of which the owners could not be contacted, or would not divulge any information.

This represents an increase of 669 animals since 1987. This figure is 491 higher than the distribution of breeding animals by NPB as discussed above. Keeping in mind that the 1993 records are not available, and that Pilanesberg records cannot be found, this is still a substantial increase that can be credited to the conservation efforts of private rhino owners. It must also be noted that trophy hunting has continued over the decade, natural deaths did occur as usual, and that unfortunate incidents, such as the drowning of rhinos during floods

and food poisoning through game pellets, have also taken their toll.

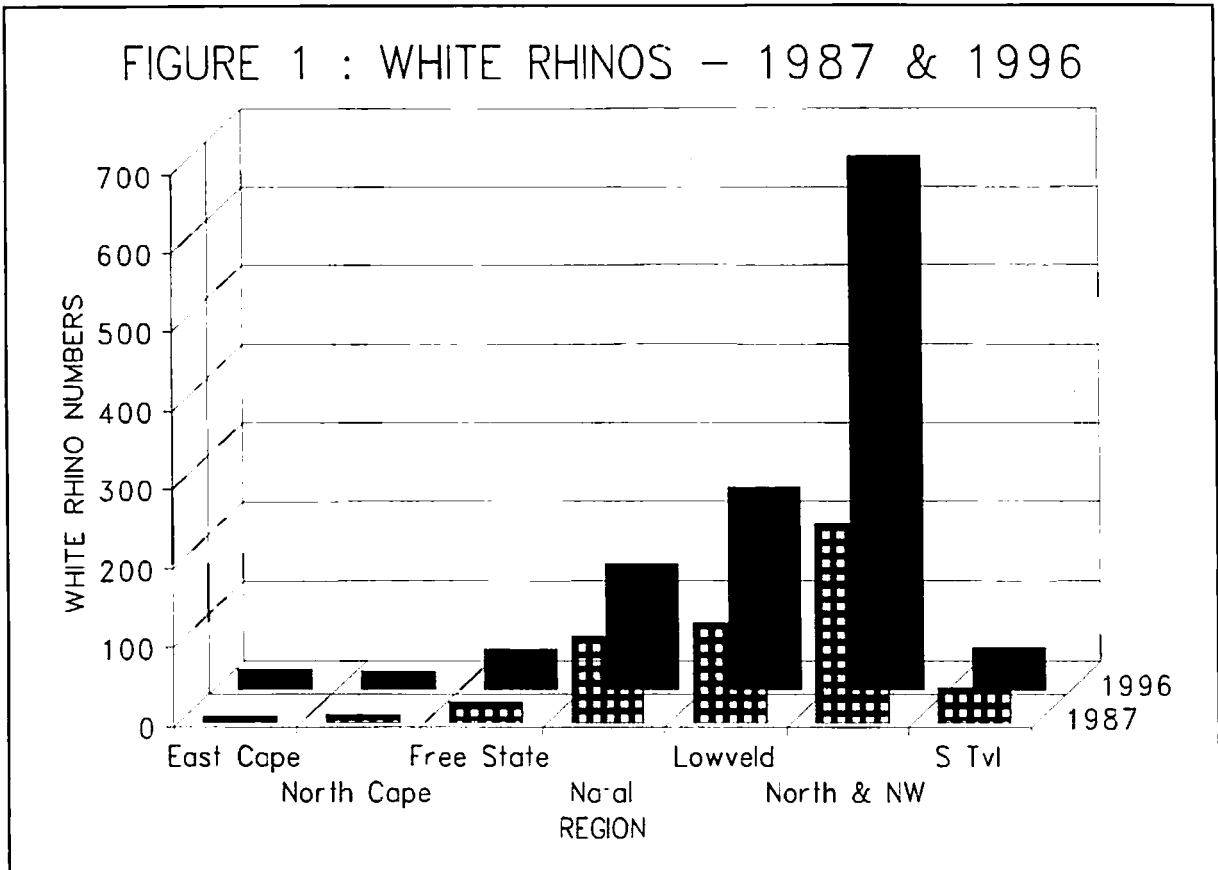
On a regional basis, S-Tvl had the lowest increase in both numbers and properties (the 2 populations for which no information is available have not been included). The "home" of white rhinos, Kwazulu-Natal showed the second lowest increase in both numbers (46%) and populations (31%), with the old Northern and North-Western transvaal showing the largest increase in both numbers (425) and populations (33). The combined Cape provinces had the highest percentage increases, but still only have 48 rhinos on 8 properties. The Free State should also have shown a larger increase, had it not been for the accidental poisoning of 13 rhino.

The total increase in the number of populations would have been substantially higher, but this was offset by the amalgamations of several ranches.

Table II : White rhino on private land in South Africa 1987 & 1996 (number of populations is given in brackets).

	1987	1996	CHANGE	% CHANGE
East Cape	8 (2)	25 (4)	17 (2)	213 (100)
North Cape	9 (2)	23 (4)	14 (2)	156 (100)
Free State	25 (3)	51 (9)	26 (6)	104 (200)
Natal	109 (13)	159 (17)	50 (4)	46 (31)
Lowveld	127 (16)	255 (35)	128 (19)	101 (119)
North & NW	251 (34)	676 (67)	425 (33)	169 (97)
S Tvl	45 (7)	54 (8)	9 (1)	20 (14)
TOTAL	574 (77)	1243 (144)	669 (67)	117 (87)

FIGURE 1 : WHITE RHINOS – 1987 & 1996



5.2. SEX RATIOS

The sex structure of rhinos were as follows :

- 268 adult bulls
- 383 adult cows
- 405 adults of unknown sex
- 61 subadult* males
- 62 subadult females
- 66 unsexed subadults

* For practical purposes a subadult is regarded as any animal of 5 years or younger, ie non-breeding.

The sex ratio of the sexed rhinos was 41 ♂♂ : 59 ♀♀, or 1.43 ♀♀ per ♂. If we apply these ratios to the unsexed animals, the total population consists of 526 ♂♂ and 717 ♀♀ (435 adult bulls, 620 adult cows, 91 subadult males and 97 subadult females). The real figures will

deviate from these extrapolations, but it is felt that the application of the known sex ratio will provide a fairly representative estimate.

The ratio adults to subadults is 85% : 15%. This is equal to one subadult per every 5.6 adults, and one subadult for every 3.3 adult cows.

5.3. BREEDING

The changes in managers, owners and ranch boundaries caused a paucity of information on life histories. However, there are some excellent examples of successful introductions. For example, a population founded between 1990 and 1992 with 19 cows has produced 32 calves up to now, that is 1.68 calves per cow over 6 years.

One question that was not fully answered by the survey, is the general belief that single pairs are not very successful in breeding. Out of thirteen pairs on record, one pair has produced 2 calves and three pairs one calf each. It is not known, however, whether the cows were pregnant on arrival or not. A lack of breeding success of pairs could also be ascribed to the fact that pairs are often bought as young animals before breeding age.

5.4. TOTAL NUMBER OF RHINOS ON PRIVATE LAND, THE GREATER KRUGER NATIONAL PARK AND STATE LAND

A summary of the total numbers appears in APPENDIX A.

6. MORTALITIES

A total of 62 deaths (19♂:32?:11♀) were reported.

Causes for deaths were given as:

- 2 calves killed by bulls
- 1 from anthrax
- 13 from chicken hormone accidentally mixed in pellets at factory
- 6 drowned
- 1 stuck in mud
- 7 bulls killed in fights
- 3 (1 cow & 2 calves) during birth
- 1 from a bullet wound from the road
- 4 poached
- 2 from transport injuries (1 broken leg & 1 young calf)
- 1 was off-loaded in extreme cold

- 2 broke out of bomas (one cow was reported to have given birth during transport, but the calf was not off-loaded by the contractor. The cow went berserk, ran through numerous fences and eventually ran off a cliff).

7. TROPHY HUNTING AND LIVE SALES

The information gained from owners and managers on sales and purchases was poor. A summary of the information gained follows, but often the year of the deal could not clearly be established. The information therefore cannot be used for projection purposes. It would thus also be meaningless to calculate average prices.

In addition to the 20 rhinos reported by landowners to have been hunted as trophies, another 53 have been sold by NPB to professional hunters and hunting ranches. These figures, however, surely do not represent the full extent of the trophy hunting industry, but it was unfortunately not possible to gather more conclusive data. It could be worthwhile to study CITES export permits, although those records are sometimes extremely confusing, eg more than one permit is often issued when the trophy has not left SA within the validity period of six months.

PURCHASES

The prices of 26 rhinos that were purchased ranged between R20 000 and R75 000.

LIVE SALES

Nine rhinos were sold live between R25 000 and R100 000. The high price represents only one animal, presumably for trophy hunting, the highest price of the rest was R49 000.

TROPHY PRICES

Thirteen rhinos were hunted as trophies for between R30 000 and R100 000. Seven were given in US Dollar values between \$15 000 and \$45 000 (R67 500 and R202 500 at an exchange rate of R4.50 for \$1.00).

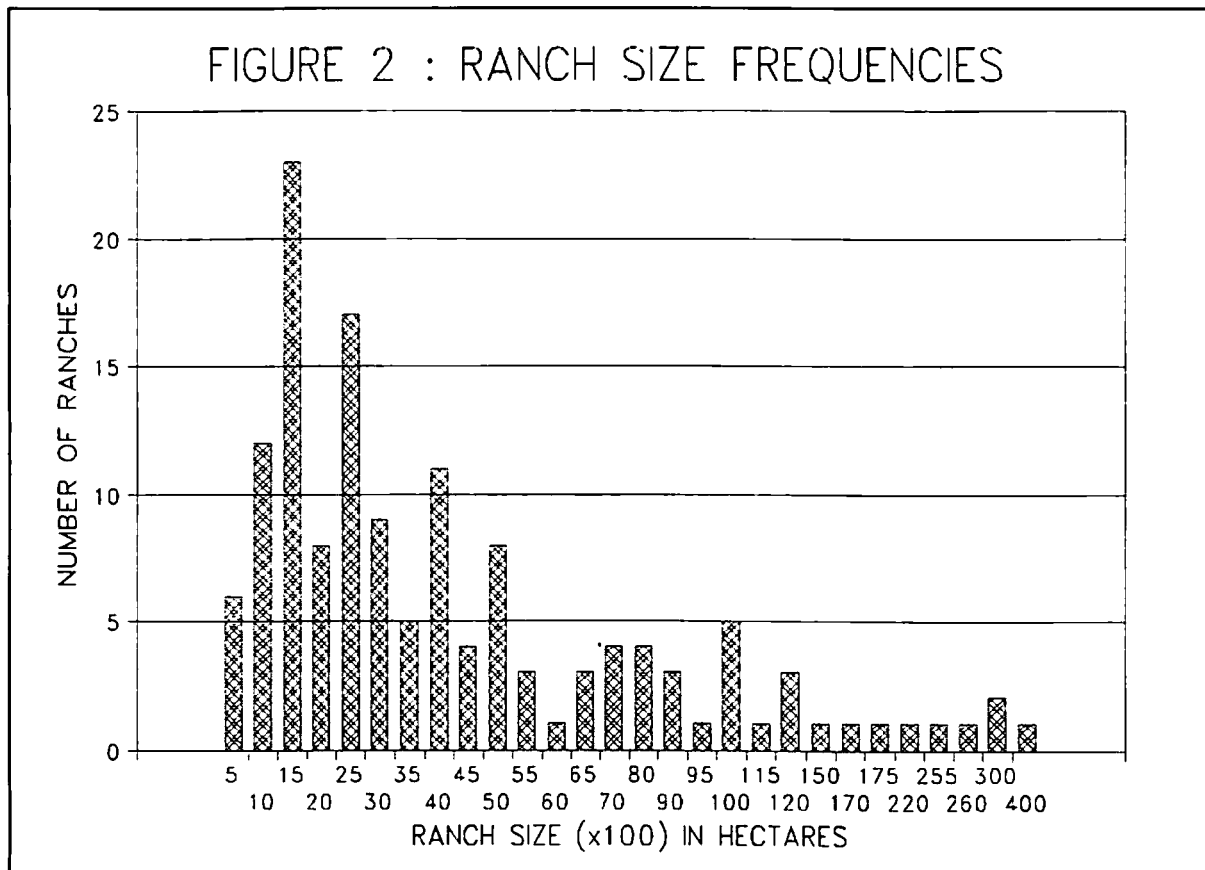
8. AREAS OCCUPIED BY WHITE RHINO

The total area of 140 ranches for which the sizes are known was 697 813ha, on which 1216 white rhino occur. The sizes of individual ranches (or rhino enclosures) range from 100 to 40000ha, with an average of 4 984ha and a median of 2 950ha (the median is the midpoint where half of the total is larger than the median and half is smaller). The density of rhino varied from 1 rhino per 25ha to 1 rhino per 15000ha (average 897ha, median 452ha). Seventy five percent (75%) of the ranches were 5000ha or less. A regional breakdown of farm sizes is presented in **TABLE III**.

Table III : Private land (in hectares) occupied by white rhino in South Africa

REGION	LOW	MEDIAN*	HIGH	AVERAGE	TOTAL	NUMBER
East Cape	7000	10000	12000	9667	29000	3
North Cape	-	40000	-	-	40000	1
Free State	200	1500	6500	1256	18850	9
Natal	200	1500	17000	4022	56143	17
Lowveld	100	2400	22000	4022	140785	35
N & NW	700	4000	30000	5998	401875	67
S-Tvl	600	1130	3000	1395	11160	8
TOTAL					697813	140

* Median refers to the midpoint where half the ranches are larger and half are smaller than the median.



9. SECURITY AND TRAINING

Whilst the matter of security and training was not a specific brief for the survey, it was observed that there is an urgent need for greater awareness on the part of the private landowner of the potential threats facing rhino in the wild. A total of 22 ranches (34% of the respondents on this particular issue) reported to have a total of 154 field rangers trained by KaNgwane/Mpumalanga Parks Board, Natal Parks Board, SA Police and/or private security experts. These ranches are predominantly located in KwaZulu/Natal and the Waterberg Mountains of the Northern Province.

Although the mere fact that a large number of white rhino are privately owned and cared for already enhances the security aspect, every effort needs to be made to continually encourage the private sector to put in place training programmes that will lead to the upliftment of the respective field staff within private reserves. A number of opportunities for training exist, with the opening of the South African Wildlife College in February 1997, the serious work undertaken by the Rhino & Elephant Security Group, the Game Rangers Training Coordination Group's programme and the support of the Endangered Species Protection Unit of the SA Police Department, linked to the training courses provided by the Boards mentioned above, and working through the awareness programmes of the African Rhino Owners Association.

Moreover, the importance of having private rhinos monitored on a regular basis cannot be underscored, especially white rhino, bringing this in line with the annual Status Reports that are required of private black rhino owners. It is strongly recommended that a status survey of rhino populations on private land regarding management, security and monitoring is carried out on an annual basis, under the direction of the African Rhino Owners Association, as proposed under paragraph 15 - Future Surveys.

10. SOCIAL RESPONSIBILITY

During analysis of the data it became evident that much of the community involvement would have taken place irrespective of the presence of rhino, eg bush clearing, job creation, etc. There is therefore little quantifiable information on the specific contribution of rhino in this respect. It would be misleading to use the information to single out the contribution of AROA members, as game ranches in general make the same type of contributions.

11. FEEDING

Out of 68 ranches questioned on this issue, 44 never fed their rhinos, 9 during droughts only, and 15 every winter.

12. TRADING IN PRODUCTS AND CITES LISTING

The opinions of rhino owners on the utilisation and down listing of black and white rhinos are not very conclusive, since much of the information was gained from the ranch managers. It is difficult to distinguish between owners and managers without input from Theo Papenfus. The opinions expressed by the managers were often their own, and thus cannot always be treated as the feelings amongst owners.

The combined statistics of 68 owners and managers are as follows. Only 7 (10%) out of 68 owners/managers objected to the responsible use of white rhino, 22 (32%) did not support the use of black rhino, and 4 did not offer an opinion. The majority who supported the use of black rhino did so on condition that use should be restricted to surplus bulls and animals past breeding condition. They almost all felt that black rhino numbers were too low to consider exploitation, but that they could be treated the same as white rhino once the numbers had increased sufficiently.

Some respondents who initially said to be against any trade in rhino products, changed their point of view when asked if they would like to sell the horns of their rhinos which died.

48 respondents (71%) supported the down listing of rhino products to allow legal trade.

(After analysing the responses, it was felt that the questions could have been phrased better, and maybe expanded. It is suggested that now that we have the addresses of most owners, an opinion poll can be conducted closer to CITES 1997.)

13. OTHER POPULATIONS

GREATER KRUGER NATIONAL PARK

The white rhino in the larger reserves bordering on the Kruger National Park have not been included in the discussion above. Since the fences between KNP and the private reserves have been dropped, they actually now form part of the KNP population. Nevertheless, these rhinos are still managed by private landowners, and one can expect that the animals have settled down in their home ranges. The latest aerial survey data for these 4 reserves totalled at 202 rhinos, which has been very conservatively adjusted to account for the undercount associated with aerial surveys. The adjusted figure is taken as 234 white rhino.

DEFENCE FORCE

Two populations totalling 13 rhinos were recorded.

MUNICIPAL

Three municipal reserves, on which 20 rhinos are present, were visited.

14. CONCLUSIONS

A total of 1243 white rhinos on 144 properties were recorded, with 4 known populations of which the numbers could not be established. This represents an increase of 669 animals since 1987 when there were 574 in 77 populations, an increase in white rhinos of 117%. Although the NPB records for 1993 were lost, only 178 white rhino were on record as sold for breeding purposes between 1988 and 1995. The increase on private land excluding the GNKP was thus 491 more than NPB sales over the 9-year period (these figures do not include a number of sales from Pilanesberg National Park, for which no records could be found).

Richard Emslie provided a figure for the start of 1996 of 5832 white rhinos on state land (national and provincial), and an additional 64 on Defence Force, municipal and zoo properties. When these are added to the numbers on private ranches and the reserves included in the Greater KNP, there were 7373 white rhino in 192 populations in SA at the start of 1996. The 1243 rhino on private land thus represent 17% of the total population. If the population on private reserves which form part of the Greater KNP are included, 20% of the total SA population is under private management.

The rhinos on private land thus make a considerable contribution to rhino conservation, and also represents a large capital investment. The value placed on the presence of white rhino on a ranch, both for enhancing the attraction, as well as an investment, was again demonstrated by the 1996 NPB auction of 131 white rhinos (126 to local land owners), at an average price of R43 700.

This value makes it not only an attractive proposition to invest in breeding stock, but also results in high financial costs when an animal is lost.

Finally, it is important that the authorities must be made aware of the valuable contribution of private owners to the overall conservation effort, and that the needs and wants of the owners be taken into consideration when deciding on policies which affect them.

15. FUTURE SURVEYS

The data base now has a solid foundation to work from in future. It is recommended that AROA representatives are appointed on a regional basis to conduct annual updates of the data base, as well as keep AROA informed of new introductions in their regions. This will spread the work load, reduce the survey period and reduce costs substantially. One person should still be appointed to liaise with these representatives and to do the final update of the data base. Also, if the target is reached of all rhino owners to be members of AROA, this task will be much less complicated.

It is important to have accurate figures for the African Rhino Specialist group meetings which are held every 18 months. Important international organisations like WWF, and especially relevant to AROA, the IUCN na CITES, acknowledge the contribution of AfRSG in their decision making.

16. ACKNOWLEDGEMENTS

The Mazda Wildlife Fund has kindly provided a vehicle for the duration of the project. The Rhino & Elephant Foundation co-ordinated the fund raising and through their office provided administrative assistance. The ARC-Range and Forage Institute provided the computer facilities for data capture and analysis, and allowed Daan Buijs to manage and participate in the survey at no cost to AROA.

Thaba Tholo Game Ranch, Shikar Safari Club International and the Natal Game Marketing Association, as private institutions, have made generous financial contributions to AROA towards the survey. Funding from NGO side has come from WWF International and Japan Wildlife Research Centre.

Richard Emslie of the African Rhino Specialist Group kindly provided us with his 1994 data and address list, without which our task would have been undoubtedly much more difficult and even less complete. We would also like to acknowledge the various provincial nature conservation agencies whose assistance has been invaluable.

On behalf of AROA, Theo Papenfus and myself, I would finally like to thank the rhino owners, both AROA members and non-members, as well as their managers for their cooperation during the 1996 survey. Without their assistance this report would not have been possible.

For more information on the activities and application for membership of the African Rhino Owners Association, please contact the office at (011) 453 9829, or write to :

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APPENDIX A

WHITE RHINO NUMBERS IN SOUTH AFRICA 1987-1996

REGION	1987	n	1994	n	1996	n	% INCREASE 87-96
CAPE	17	4	33	4	48	8	
FS	25	3	28	5	51	9	
NAT	109	13	137	13	159	17	
TVL	423	57	720	83	985	110	
SUB TOTAL PRIVATE	574	77	918	105	1243	144	116.55
GKNP	222	4	281	0	234	0	5.41
SUB TOTAL	796	81	1199	105	1477	144	85.55
STATE	3307	20	5113	36	5832	36	76.35
OTHER	39	9	64	12	64	12	64.10
COUNTRY TOTAL	4142	110	6376	153	7373	192	78.01

n = number of populations

GKNP = Private properties now incorporated in the Kruger National Park

	INCREASE	GROWTH RATE
'87-'96	78.2 %	6.7 %
'94-'96	15.6 %	7.5 %
'87-'94	54.1 %	5.6 %