

Conservation of African rhinos on private land through utilization





Proceedings of a Workshop on

**Conservation of African rhinos on
private land through utilization**

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African Rhino Owners Association (AROA)



Cover illustration: Alan Ainslie

These proceedings are dedicated to the
memory of the vice-chairman of AROA,
Tilman Ludin,
the silent giant of conservation,
who passed away on 9 November 1999

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Foreword

This workshop was made possible by funding from WWF-East Africa. The aims of the workshop were to formulate guidelines for and identify problems of white rhino conservation and utilisation on private game ranches in Southern Africa. The latest national census of white rhinos on private land, the results of which are reported here, shows a healthy growth in the population, which should reach 2000 animals in the year 2000. New markets should be developed elsewhere in the world to ensure the future of white rhinos in South Africa. I thank Mr Alan Ainslie for the cover illustration and Dr Piet Mulder, Prof Banie Penzhorn and Mr Daan Buijs for acting as facilitators of the three discussion groups.

J G du Toit

Chairman: African Rhino Owners Association

SURVEY : WHITE RHINOS ON PRIVATE LAND (OCTOBER 1999)

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INTRODUCTION

When the former Natal Parks Board started translocating white rhinos from their reserves in 1961, the policy was to send animals to *bona fide* nature conservation areas first (Brooks, 1984). In 1984 there were between 60 and 100 white rhinos on private land in Natal, and the Natal Parks Board had a strict policy that only farms that met certain criteria, were allowed rhinos (Brooks, 1984). These criteria were somewhat relaxed, however, and 1 291 white rhinos had been moved to 149 privately owned properties all over South Africa by 1987, though not all came from the Natal Parks Board (Buys and Anderson, 1989). Through breeding, the total number could have stood at 1 440, taking natural and translocation mortalities into account, yet only 931 white rhino on 103 properties could be accounted for (these included provincial, municipal and defence force reserves, but excluded national and Natal parks).

One of the major causes of the state of affairs at that time was that rhinos were sold very cheaply, and a quick, very substantial profit could be made if the animal was sold to a trophy hunter, often within a few weeks after delivery. A trophy bull which cost about R2 000, could reach up to R35 000 as a trophy (Buys, 1988). These findings had an influence on the decision of the Natal Parks Board to reconsider the cheap dumping of rhinos, and the first Parks Board auction was introduced in 1989.

The true value of the animals emerged when these normal market forces came into play (Du Toit, 1998). The average auction price of a white rhino was R10 167 in 1986 (6 specimens). This average increased to R48 732 in 1989 when Natal Parks Board started auctioning, but dropped to a low of R28 348 between 1991 and 1994 because of political reasons (the Gulf war discouraged Americans to travel abroad, and there was a reluctance to invest in rhinos due to the uncertainty of what the new political dispensation in South Africa would bring). The demand increased after that period and prices soared to R82 051 in 1997 (Du Toit, 1998). At the Natal game auction held on 20 June 1998, 45 white rhinos were sold at an average price of R116 311, with the highest price of R235 000 for a cow with a calf (Anon. 1998c). The total turnover of all species was R12 241 300 (3 364 animals), of which the rhinos contributed R5 234 000 (22 buffalo at an average price of R92 750 contributed another R2 039 000).

A survey conducted by Buijs (1998) revealed that private owners had a total of 1494 white rhinos at the end of 1997, roughly 18.9% of the total estimated South African population of 7913 (R.H. Emslie *pers. comm.*) of the southern race. If the 248 white rhinos under private management in reserves bordering the Kruger National Park (Timbavati, Sabie-Sand and Klaserie), which have removed the fence between themselves and the Park, are added, 22.0% were in private hands.

The numbers on private land, excluding the Greater Kruger National Park (GKNP) private reserves, have increased by another 10.84% over the two years since the 1997 survey, through both reproduction and acquisitions. This bodes well for the future conservation of white rhinos. State land is reaching, and many reserves, especially in Kwazulu-Natal, has already reached, maximum stocking rates, and the private sector will control an ever-increasing percentage of the population. Although the record prices at the 1998 Natal auction show that the demand for white rhinos is still very high, it is inevitable that private land will also eventually reach saturation, and the prices, as well as the value of the investment in rhinos, could well decrease as supply starts to catch up with demand. The trophy-hunting industry has stabilised and is unlikely to grow at the present prices, and other markets must be sought and developed if rhino ranching is to keep its momentum.

THE STATUS OF THE SOUTHERN WHITE RHINOCEROS ON PRIVATE LAND IN SOUTH AFRICA

The first comprehensive survey on the status of white rhino on private land in South Africa was conducted in 1987 by the Rhino and Elephant Foundation; 637 rhinos were accounted for on 87 properties (Buys, 1988). The Sabie-Sand, Timbavati and Buffelshoek private nature reserves had an additional 187 white rhinos, adding up to a total of 824. Since then the latter reserves have removed the fences between themselves and the Kruger National Park (KNP).

The second survey was commissioned in 1995 by the African Rhino Owners Association (AROA), a working group of REF (Buijs and Papenfus, 1996). A total of 1243 white rhinos on 150 ranches were recorded, with an additional 202 on the reserves mentioned above which are now in principle part of the KNP, and the total unit is referred to as the Greater KNP (GKNP).

A third survey was conducted by AROA at the end of 1997, and the numbers had grown to 1494, with another 248 in the GKNP reserves (Buijs, 1998).

This report summarises the findings of the fourth survey conducted during August and September 1999.

Aims and objectives

The goals 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 white rhinos, and to provide official nature conservation authorities, the IUCN Rhino Specialist Group and the South African CITES authority, with accurate information.

Methods

All known white-rhino owners were contacted telephonically. The history of the rhino populations from the start of 1998 to July 1999 were recorded. It was also the first time that data on private rhino horn stocks was gathered.

Results

A total number of about 200 people were contacted. They were not necessarily always the owners or managers, and therefore did not always know the exact details of the history or age and sex structure of the population, but it was always ascertained that the total number was as accurate as possible. If there were any doubts, an effort was made to locate someone with better knowledge, although this was seldom necessary. Updating the database regularly is an enormous advantage, since one gets to know the case histories, the owners and managers get to know you, and the data gets more refined after each survey.

Rhino numbers

Table 1 shows the regional numbers of white rhino on private land at the start of 1998 to September 1999, as well as the percentage growth over the period. A minimum total of 1656 white rhino are in private possession, which is an increase of 10.84 % over 1997. The number of populations has decreased by 1.

At least 14 new populations have been established since 1997, and 14 have been removed from the database (6 owners have sold all their rhinos, 2 could not be traced, 2 have been incorporated into other reserves by removal of fences, and 4 populations have been moved to other ranches which already had other white rhinos.

Of the populations present in 1997, 147 still exist. Of these, 34 have decreased, 39 are static and 74 have grown.

The survey results have been grouped into broad regional categories. The Lowveld includes parts of both Mpumalanga and the eastern Northern Province, the Highveld includes southern Gauteng, and the parts of Mpumalanga and North-West Province that are located in the vicinity of the Vaal River,

Table 1: White rhino numbers on private land in South Africa, October 1999

REGION	1995		1997		1999		% GROWTH
	RHINOS	RANCHES	RHINOS	RANCHES	RHINOS	RANCHES	
NORTH/NORTH-WEST	665	68	731	69	911	77	24.62%
LOWVELD	264	38	345	41	299	32	-13.33%
KWAZULU-NATAL	160	17	194	20	213	20	9.79%
NORTHERN CAPE	23	5	68	6	85	7	25.00%
HIGHVELD	64	9	72	10	69	11	-4.17%
FREE STATE	47	9	59	10	44	7	-25.42%
EASTERN CAPE	20	4	25	6	35	7	40.00%
TOTAL	1243	150	1494	162	1656	161	10.84%
<u>DIFFERENCE</u>			251		162		
PRIVATE RESERVES INCLUDED IN THE GREATER KRUGER NATIONAL PARK							
	202	4	248	3	266	3	7.26%
TOTAL UNDER PRIVATE MANAGEMENT	1445	154	1742	165	1922	164	4.57%

e.g. Standerton and Christiana. The western and northern regions of the Northern Province, North-West, as well as northern Gauteng are treated as one region.

The white rhinos in the private nature reserves which have removed the fences between themselves and the KNP, have also increased to 266 this year. This brings the minimum number of white rhino under private management to 1922.

Age and sex structures

The sex/age structure (excluding the reserves which form part of the GKNP) was as follows:

	MALES	FEMALES	UNKNOWN	TOTAL
ADULT (> 6 years)	337	557	269	1163
SUBADULT	125	113	255	493
TOTAL	462	670	524	1656

Where only a population total was given, i.e. the person spoken to did not know the exact composition of the population, all animals were recorded as adults of unknown sex. The ratios of the total known population (only those populations with accurate age and sex structures were used) were: adult males to adult females 1:1.653 (38% : 62%); subadult males to subadult females 1:0.904 (53% : 47%); and adults to subadults 1:3.756 (79% : 21%).

If we use these ratios on the rhinos of which the age and gender were not known, a hypothetical total population would look like this:

	MALES	FEMALES	TOTAL
ADULT (>6 years)	440	723	1163
SUBADULT	260	233	493
TOTAL	700	956	1656

A summary of the known additions and losses to white rhino populations (excluding the reserves which form part of the GKNP) is given in the form of a balance sheet (Table 2). At least 299 calves were born, which represents 20% of the 1997 population.

Table 2: White rhino balance sheet 1999

	ADDITIONS	SUBTRACTIONS	
BOUGHT PRIVATELY	73		
BOUGHT FROM KZN*	68		
TOTAL BREEDING STOCK		141	
KZN TROPHIES BOUGHT		16	
BIRTHS		299	
DEATHS			67
SOLD			189
SOLD OVERSEAS			20
TOTAL SOLD			209
HUNTED			31
SOLD KZN AS TROPHIES			16
TOTAL HUNTED			47
TOTALS		456	323
DIFFERENCE			133

*KZN = KwaZulu-Natal Nature Conservation Service

The known number of rhinos brought onto ranches as breeding stock was 141 (73 from private ranches and 68 from Kwazulu-Natal Nature Conservation Service (KZNNCS), whereas the rhinos leaving ranches alive numbered 189. This results in 116 rhinos of which the whereabouts are unknown (189 sold minus 73 bought). This figure does not include rhinos that left the country. The problem was that the sellers did not know who the buyers were because they worked through dealers, and the dealers were difficult to get hold of or to get information from.

Twenty deaths were caused by other rhinos, either through fights or when the calf got in the way when the mother was in oestrus and a bull wanted to mate with her (Table 3). Unlike in the previous survey where 18 rhinos died during, or shortly after, transportation, this year none such mortalities were reported, which is a very encouraging development.

Worrying, however, is that the number poached has risen from 2 during 1996/97 (on one property) to 12 during 1998/99 (on 5 ranches).

Table 3: Causes of mortality in white rhinos (1999)

CAUSE	BULLS	COWS	SA* BULLS	SA* COWS	CALVES	??	TOTAL	RANCHES
Killed by bull	1	2	3	1	6	3	16	7
Back injured by bull		2					2	2
Internal injuries		1					1	1
Killed by mother			1				1	1
Poached	1	2				9	12	5
Unknown	3	4			5		12	10
Lightning	1	1			1		3	2
Killed by elephant		2				1	3	3
Old age	1	2					3	3
Stillborn					2		2	2
Cow dry					2		2	1
During birth		1					1	1
Stuck in mud		1					1	1
Stress		1					1	1
Stuck in fence						1	1	1
Meningitis	1						1	1
<i>Streptococcus</i>		1					1	1
Disappeared		1					1	1
Wire in feed		1					1	1
Killed by hyaenas					1		1	1
Immobilisation	1						1	1
TOTAL	9	22	4	1	17	14	67	

*SA = Subadult

Thirty-one white rhinos were reported to have been hunted, with another 16 sold by KZNNCS as trophies, thus totalling 47. Excluding the last 16, 1.87% of the present population was thus hunted over an 18-month period. A few of these were necessitated hunts because the bulls regularly started killing others, especially calves.

Founder populations

It is widely believed that single bulls do not perform as well sexually as when there is a threat of competition. Analysis of founder populations, however, suggest that this is not the case in general. Thirty-seven founder populations were suitable for the calculations (all cows which could possibly have been pregnant when relocated had to be excluded). The data show that 22 populations with one bull bred successfully, whereas 15 populations have been unsuccessful over the last four years. Some of the latter populations were subadult when bought, and it is possible that they will breed as they are now reaching maturity.

Some examples of the inconsistencies are of 1 bull and 5 cows which have had 11 calves since 1992, while another consisting of 1 bull and 5 cows had 21 calves since being bought (the exact year of

introduction is uncertain), 6 of these calves were born since 1996. In both cases the male offspring were sold before maturity.

To the contrary, a population of 2 bulls and 2 cows have had no calves for 5 years, and another with 2 bulls and 3 cows have had no calves for 4 years.

It thus seems that breeding very much depends on the temperament and/or fertility of individual bulls.

Rhino horn

Thirty-three respondents reported that they had white rhino horn stocks. These totalled 80 adult front horns, 50 adult rear horns, 47 horns from young animals or broken-off fragments, and 132 kg of unspecified horns. If the assumption is made that an average front horn weighs 2.5 kg, a rear horn 0.5 kg, and the small horns 0.3 kg, an estimate of 372 kg of horn is in private hands (see below). Some non-rhino-owners must also have horns from inheritances or gifts.

	FRONT	BACK	SMALL	WEIGHT	TOTAL
NUMBER	80	50	47		
WEIGHT (kg)				132	
ASSUMED WEIGHT (kg)	2.5	0.5	0.3		
TOTAL ESTIMATE (kg)	200	25	15	132	372

All respondents, without exception, were in favour of a legal trade, and welcomed the idea of a privately run registry for rhino horn.

Conclusions

The increase of 10.84% in numbers on private land is once again an indication of the important role played by the private rhino owner in rhino conservation. The latest estimate of the total number of white rhino in South Africa was 7913 (December 1997). If we use this figure, the private sector owns 20.1% of the total SA population, and when the rhinos of the private reserves which are part of the GKNP are included, manages 24.3% of the white rhino in the country.

THE FUTURE OF RHINO RANCHING

The rate at which the South African white rhino population is increasing (Buijs, 1998), holds certain future implications for rhino management, both on state and on private land. The largest implication which affects both is that the market for live animals could decrease because of the population growth (increasing supply) and a shortage of suitable land (diminishing demand), and secondly that the trophy market, which only consumes about 1% of the population per annum (Du Toit, 1998), is close to its ceiling.

The alternative, trade in rhino products, is presently banned by CITES.

THE DEMAND FOR RHINO HORN

Rhino horn has been an ingredient of traditional Chinese medicine for many centuries (Sung-Hoon, 1997), especially in remedies for bleeding, fever and leukaemia. Although Sung-Hoon states that rhino horn is no longer used (it was probably for political correctness), much evidence points to the contrary. Reliable data are difficult to get, but a survey in Korea in 1993 revealed a retail value of US\$13 383/kg (Du Toit, 1998). The media also often quote prices ranging from US\$2 000 to US\$10 000, but it is difficult to establish their sources. Ko (1994) quoted an average price of US\$24 500/kg in Hong Kong, and that 59 out of 90 Chinese pharmacies sold rhino horn, hide and medicine. The

market for traditional Chinese medicine is vast, as there are over 1.2 billion potential consumers worldwide (Anon, 1997).

Another market where rhino horn is still in demand is in Yemen where it is used for decorative dagger handles. Where previously only the very wealthy elite could afford these, the oil boom of the 1970's has put money in the pockets of the population at large, and the price of rhino horn in 1979 was more than 20 times that of 1971 (Anon, 1997). At the peak of the trade, in the mid-1970's, the number of imported rhino horns reached 12 000, at US\$500/kg (Martin, Vigne and Allan, 1997). All horns were from African rhinos, since they were larger, and approximately 10 times less expensive than Asian horn, which is perceived to be more efficacious. During the 1970's, almost 40% of all the rhinoceros horn in the world market was imported into Yemen, making it the largest consumer of that period (Martin, Vigne and Allan, 1997). After 1982 no records were kept, as imports were banned during that year. Although almost all daggers are now fitted with wooden, water buffalo horn, camel nail or plastic handles, nine daggers with handles made from rhino horn were documented by local investigators in late 1996 (Martin, Vigne and Allan, 1997), at an average price of US\$286. The estimated imports are the horns of 25 rhinos, with a combined mass of 75 kg.

The prices of rhino horn in US\$ currency in Yemen have actually decreased since 1985, firstly because the devaluation of the local currency, and also because the per capita income had fallen by 50% since 1990. Secondly, all evidence suggested that people with larger incomes preferred to buy old rhino horn daggers, which are more esteemed (Martin, Vigne and Allan, 1997).

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REFERENCES

- ANON. 1997. *CITES Discussion document on the proposal to remove the annotation on the Appendix II listing of southern white rhino*. Care for the Wild Defence Fund, West Sussex.
- ANON. 1998. Record prices at Natal game auction. *SA Game & Hunt* July/August 1998 4(4): 11.
- BROOKS, P.M. 1989. Proposed conservation plan for the black rhinoceros *Diceros bicornis* in South Africa, the TBVC states and Namibia. *Koedoe* 34(1): 1-30.
- BUIJS, D. 1988. *A summary of the introduction of white rhino onto private land in the Republic of South Africa*. Unpublished report, Rino & Elephant Foundation.
- BUIJS, D. 1998. *Survey: white rhinos on private land, 1997*. Unpublished report, African Rhino Owners Association.
- BUYS, D. and ANDERSON, J. 1989. Disquiet was satisfied - White rhinos on private land in South Africa. *The Rhino & Elephant Journal* 2: 26-31.
- BUIJS, D. and PAPENFUS, T. 1996. *Survey: white rhinos on private land, 1996*. Unpublished report, African Rhino Owners Association.
- DU TOIT, J.G. 1998. *Rhino ranching - A manual for owners of white rhinos*. South African Veterinary Foundation, Pretoria.
- KO, T. 1994. Horns of a dilemma. *South China Morning Post*, 1 November 1994.
- MARTIN, E.B., VIGNE, L. and ALLAN, C. 1997. *On a knife's edge - the rhinoceros horn trade in Yemen*. TRAFFIC Network report, TRAFFIC International, Cambridge.
- SUNG-HOON, K. 1997. *Brief introduction of Traditional Chinese Medicine (TCM) and possible measures to protect the endangered species of TMC*. Korea Oriental Medicine Association, Republic of Korea.

RHINO UTILISATION CONSIDERATIONS – AN INDEPENDENT PERSPECTIVE ON ETHICS, WELFARE, POLITICS AND ECONOMICS AND A CODE OF ETHICS RESULTING THEREFROM

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Abstract: Rhino utilisation is controversial to say the least. The possible resumption of trade in horn had battle lines drawn in the sand at CITES CoP10, Harare June 1997. The possible reinstatement of hunting of black rhinos will hand those who have to deal with it a crown of thorns to wear. The activities of animal activists threaten pragmatic conservation practices based on utilisation. Utilisation is not all good though and of-late some hideous wildlife practices, ironically justified as being in accordance with the principle of sustainable utilisation of natural resources, like canned hunting, have been unveiled. South Africa and Southern Africa need not adopt the lily white, colonialist approach of East Africa but we cannot afford wildlife management practices to be unethical or irresponsible and we have to look to adjusting our utilisation policies and the messages we send to the world at large, such that they take into consideration the need for communities to benefit from management yet in the process, in no way compromise the welfare of the animals around which this management centres. That is what this paper, focusing ultimately on a Code of Ethics for rhino utilisation, addresses.

INTRODUCTION

In 1929, probably less than 100 white rhinos survived in the Zululand reserves of the Umfolozi/Hluhluwe Complex. Those were all that remained of the once great numbers of rhino inhabiting the South African bushveld regions. Shot to the brink of extinction by hunters, traders and sportsmen, rhino nevertheless miraculously survived in this small pocket and once protection was afforded, their numbers crept up to an estimated 437 by 1953. That same year, Ian Player, past patron of the Rhino and Elephant Foundation (REF) and at the time employed by the Natal Parks Board, carried out an aerial survey in the Umfolozi Game Reserve which revealed that there was a danger of too many of these great creatures in the sanctuary. His recommendation to begin removing some eventually led to the translocation of more than 3000 white rhino to government and private reserves in Southern Africa and to many zoos around the world. This very effort ensured the survival of the white rhino and, at the same time, placed an **economic value** on the animal (Walker, 1994). Walker goes on to write "*It would be a sad day if we were so preoccupied with keeping rhinos alive that we would not even consider trade in their horns. Trade in horn might help the species survive. It seems there are some perfect men with perfect intentions in this world who are determined not to let either of these options get much of a hearing. We should not accept that. We need to press for bold new initiatives and explore every means at our disposal on behalf of both species of Africa's rhino*".

The June 1997 meeting of the Convention of International Trade in Endangered Species (CITES) was something of a turning point for wildlife trade policy. The eight-year-old ban on international trade in elephant products was relaxed slightly to allow three African elephant range states (Zimbabwe, Botswana and Namibia) to initiate a strictly controlled legal trade. A proposal by South Africa to investigate the potential of a controlled legal trade in rhino products was defeated, but only by a tiny margin – one vote to be exact! There appears to have been a shift in international thinking to approaches that are more innovative than simple blanket trade bans to save endangered species ('t Sas-Rolfes, 1997).

Humans have hunted rhinos for thousands of years, mainly for meat and for the medicinal properties of the horn. Following the decline in Asian rhinos, Asians began to import African rhino horn. The volumes of rhino horn consumed as medicine are fairly low and until recent decades medicinal use probably never posed a serious conservation threat. In the 1970s a series of events in the Middle East precipitated a rhino conservation crisis ('t Sas-Rolfes, 1997). The discovery of oil in Saudi Arabia created many lucrative employment opportunities for people from neighbouring countries, including Yemen. The disposable income of Yemeni men rose substantially and with it, their willingness to pay large sums of money for rhino horn *jambiya* (ceremonial dagger) handles, a key Yemeni status symbol. The demand for rhino horn surged, causing a rise in price and a consequent escalation of poaching in Africa.

By the late 1970s CITES had become operational with all rhinos listed on Appendix 1. Initially the trade ban was a dismal failure. Rhino horn prices soared on all markets, especially in the Far East. Black market trading continued unabated and most of Africa's rhino populations were decimated by poachers. By the early 1990s poaching levels had dropped numbers had stabilized and surviving populations were confined to a few Range States and highly protected situations.

Currently the world's most successful rhino range State is South Africa, a country which has used a combination of bold management strategies and market-based economic incentive measures to turn its seriously threatened population of southern white rhinos into the world's least threatened variety. There is a belief that the rhino horn ban is finally working. Most consumer states have joined CITES and outlawed the domestic use of rhino horn. Poaching levels have dropped to what appear to be manageable and sustainable. The outbreak of a civil war in Yemen in the 1990s had a negative effect on the country's economy and resulted in suppressed levels of consumer demand. From the above it seems the problem has abated. Is this true? Will re-opening a legal trade in rhino horn once again endanger surviving populations? This rest of this paper deals with these issues and the sensitivities attached to the above questions.

IMPORTANT CONSIDERATIONS

Hunting

Some authors argue that sport hunting offers social and economic benefits for conservation and does not endanger a species (Bond, 1994). Others vehemently disagree (see Dr Telecky of the Humane Society of the United States' 1995 report *Big Game, Big Bucks*). Sport hunting when properly controlled can be maintained at a sustainable level (Craig and Gibson, 1993) and the revenues used to reward communities for tolerating and conserving such potentially challenging neighbours. However, in most parts of Africa excessive offtake by poaching has diminished stocks to the point where 'trophy quality' animals are either extremely rare or absent from populations.

Authors like Cynthia Moss (1988) say that destroying large bulls in for example an elephant population, significantly alters the elephants' way of life, as elephant cows prefer to mate with the largest and hence oldest bulls if given the choice. She further states that contrary to some hunters' beliefs, these are not old males past the age of effective breeding, but some of the fittest males in the stock who, by their longevity, have demonstrated their adaptiveness. Douglas-Hamilton (1997) states that shooting a big tusker is killing a mature and useful member of society in the prime of life and is an unnecessary depletion of the gene pool. The above statements indicate that sport hunting is a practice fraught with controversy, even to the point that very different schools of thought on its impact on conservation exist within the scientific fraternity.

Of late there has been a barrage of ethical objections (most originating from overseas-based animal welfare/activist groups) against killing animals like elephants for sport or pleasure on the grounds that they are higher order sensate beings, like chimpanzees, gorillas and dolphins which no-one would consider hunting for sport these days. Hence, according to Douglas-Hamilton (1997) if it is accepted that sport hunting has economic and conservation benefits (despite the strong lobby of ethical and

ecological arguments against it) it is worth considering a form of green hunting which could offer an alternative to actually having to kill the animal.

Darting Safaris / Green Hunts

Dr Paul Bartels of the Wildlife Breeding Resource Centre (WBRC), a working group of the Endangered Wildlife Trust (EWT) has written the following on green hunting:

"Wildlife conservation, research and management procedures often require an animal to be captured by way of chemical immobilization. Reasons for capture include translocation, medical treatment, surveys, micro-chipping, ear-notching, fitting radio-collars, etc. This practice is carried out by private and government biologists, veterinarians and capture teams and is ongoing in many countries around the world. The practice of using a client or sportsman to dart the animal has been in operation for a number of years, however, mostly on an *ad hoc* basis. Wildlife species that have been darted for these purposes include elephants, rhino, lion, buffalo and jaguar (South America). Recently there has been an increase in the practice of Dart Safaris by a number of hunting operators. Not all of these hunts have been conducted for a conservation, research or management reasons. Safari Club International recently made provision for darted animals to be entered into the SCI Trophy Record Book. There are a number of laws, acts and guidelines governing the practices of Professional Hunting and Game Capture as well as governing the welfare of animals. These do, however, vary between countries and provinces and none of them fully address all the issues surrounding Dart Safaris / Green Hunts."

The EWT supports the practice of Dart Safaris with the following provisos:

- Only animals that have to be immobilized for conservation, research or wildlife management reasons, should be made available for a Dart Safari.
- An experienced and qualified veterinarian must be used to handle the immobilization drugs (legal requirement in RSA) and be present throughout the procedure, i.e. from when the animal is immobilized until its full recovery.
- All the relevant laws, acts and guidelines governing hunting, game capture and animal welfare must be adhered to.
- The issue concerning when and how often a particular individual animal can be re-darted is described in Points 1 and 5.
- No animal should be darted for the sole purpose of 'providing' an animal for a client, i.e. for commercial reasons only.
- The Dart Safari should be promoted and carried out by appropriately trained and experienced professionals, with due regard for the safety and wellbeing of the animal, the client and personnel involved. Suitable insurance should also be taken out for both the animal and the client for the duration of the Dart Safari.
- The darted animal should be kept in sight during the entire procedure so as to monitor the effects of anaesthesia and to be in a position to render immediate assistance in potential life threatening situations, e.g. lateral recumbence in ruminants, sternal recumbence in elephants, etc. In most cases it is strongly recommended that a radio transmitter be used in the dart and that a helicopter be on stand-by to find lost animals or to render immediate follow-up assistance if required. Human trackers should also be on standby to serve the same function. Darted animals have been known to break out of small camps or to disappear in open countryside. In the case of animals such as elephant, rhino and buffalo the use of a helicopter on stand-by should be considered as mandatory to the safety and success of the Dart Safari.
- The client's ability to successfully carry out the Dart Safari should be assessed before the safari by the professionals involved and appropriate training given to the client in the areas found lacking before the safari commences.

Sport Hunting

Gerhard Damm of the African Chapter of Safari Club International (SCI) writes:

"In an evolutionary development which lasted millions of years, primates who were principally gatherers and carrion eaters, developed additional tools, which enabled them to take that all important first step towards development (conquering of the environment through manipulation) and towards being a more effective hunter. The human hunter has - by his or her mental qualities - an entirely different relationship to the animal as compared to the non-human predator. The human hunter enters into this relationship for various reasons, which may be subsistence, spiritual sustenance, the acquiring of a particular trophy etc... In the course of history and development, not only did we develop more effective hunting techniques or weapons, we also - and this means humanity as a whole and not only the hunters - irrevocably changed the environment and its animals; some were domesticated, but all have been touched, influenced and possibly changed through progress. It is understandable that parts of our multi-faceted society reject hunting in general or in a particular form for religious, ethical, social, political and others reasons. This is an act which remains in the sphere of personal liberty of any member of our society and as such is perfectly acceptable. In a tolerant society we also have, however, the right to demand tolerance and acceptance for our desire to hunt."

"Of critical importance for the credibility of hunters within a modern society are ecological motivation, sound conservation practices and ethical behaviour. The entire world is asked today to be more ecologically orientated. The next millennium will, therefore, require not only the hunters, but the world's human population to measure themselves against ecological yardsticks. This will require the hunters to accept potentially more stringent control measures and more regulations. The control mechanisms of informal and formal codes and laws, and most importantly self discipline in pursuing an activity which is by and large uniquely individual and away from the crowds must be strengthened by adequate preparation and peer pressure. **Black sheep or rotten apples in the hunting fraternity must be dealt with as severely, as are such individuals by society at large.**"

"Is it right and defensible to kill 'canned lion' or any other 'canned' animal? Certainly not, at least it cannot and must not be called hunting. Is it right to kill animals at a waterhole or at a bait? Maybe one has to go back to the origins of hunting - and then this question must be answered with a yes, since these are elementary and hunting techniques. However, modern man, hunting with modern rifles with telescopic sights or with high-tech compound bows¹ with a myriad of accessories, must let his or her individual sense of responsibility govern the actions in the field. He or she must reflect on the consequences of these actions and must weigh them accordingly. And last but not least - in our overpopulated world of today legal and informal restrictions in the form of national and international laws and codes of ethics are not only justified but necessary."

Here is the Code of Ethics of SCI (the fastest-growing and most proactive hunting organisation in the world) as published in a promotional leaflet of the African Chapter:

Recognizing my responsibilities to wildlife, habitat and future generations, I pledge:

To conduct myself in the field so as to make a positive contribution to wildlife and ecosystems.

To improve my skills as a woodsman and marksman to ensure humane harvesting of wildlife.

To comply with all game laws, in the spirit of Fair Chase, and to influence my companions accordingly.

To accept my responsibility to provide all possible assistance to game law enforcement officers.

To waste no opportunity to teach young people the full meaning of this code of ethics.

To reflect in word and behaviour only credit upon the fraternity of sportsmen, and to demonstrate abiding respect for game, habitat and property where I am privileged to hunt.

Narrowing the above down to Africa, SCI writes, as their **Code of Sport Hunting Conduct for Africa** "*abide by relevant laws, other legal requirements and recognized codes of conduct; ensure*

¹It is important to remember that in South Africa in 1996 five out of six bow hunts on white rhinos failed dismally and as such should be discouraged strongly

humane practices in utilization of wildlife; use of correct hunting methods and equipment; educate others and recognize needs of indigenous communities regarding sustainable use of natural resources."

The fiasco which raged around canned lion hunting and which caused South Africa huge international embarrassment just prior to the 1997 CITES meeting in Harare, centred around a lack of ethics, blatant disregard of the principle of Fair Chase and the fact that the animal was hunted in an unnatural environment which gave all the advantage to the hunter. Having studied various documents on Fair Chase I find myself most comfortable with the definition as prepared by the African Chapter of SCI which states:

Fair Chase is defined as:

Pursuit of free-foaming animal or enclosed-roaming animal possessed of the natural behavioral inclination to escape from the hunter and be fully free to do so.

Hunt without artificial light and not from a motorized mode of transport.

Hunt in an area that does not by its nature concentrate animals for a specific purpose or at a specific time such as a waterhole, salt lick or feeding station.

No taking of female with dependent young.

I would like to see the following added to the above:

No taking of visibly pregnant females.

On the issue of ethical considerations, I am firmly of the opinion that a sport hunted animal must exist as a naturally interacting member of a wild sustainable population located in an area large enough for it to breed and forage and hunt freely and that it must be sustained within a natural state of balance between forage, predator and prey. If not, then it will be very difficult to argue that the animal was not taken under 'canned' conditions.

In October 1998 conservationists got wind of a planned black rhino hunt. It was brought to our attention through Kwazulu-Natal Nature Conservation Service (KZNNCS), the offer for the black rhino hunt appearing in Volume 18 No 8 of *The Hunting Report*. Various meetings were held and the issue was discussed thoroughly. Although organizations like SCI, REF, PHASA (professional Hunters Association of South Africa), EWT and TRAFFIC had voiced their disapproval around the move to hunt black rhino, the owner of the rhino still went ahead with marketing the hunt overseas. This controversy appeared as an article in *The Star* newspaper in which mention was made that the organizers of the hunt intended to take the authorities to court over their refusal to issue a licence to allow that rhino to be hunted, given that a French national had already offered R400 000 to hunt the rhino. The public discussions which ensued on Radio 702 and Radio Highveld proved once again how one individual, one 'loose cannon' acting independently of existing support structures, codes of conduct and professional advice, can in general, bring huge discredit to conservation and hunting in South Africa.

The possibilities around reopening limited black rhino hunting should be explored given the significant part limited hunting played in the success story around the white rhino. However, it must be continually borne in mind that hunting a rare animal like a black rhino will have to be restricted to clearly abundant animals reaching the end of their lifespan who cannot make a meaningful contribution, genetically speaking, in other areas to which they could have been translocated. Moreover, codes of ethics and the principle of Fair Chase will have to be rigorously adhered to and the animal hunted must exist in a home range whose size is not constrained by factors other purely biological ones thus removing all concerns that it was taken in an area with which it was not *au fait*, where it was not interacting with its own species and was unable to move and forage freely. Most importantly though, rhino owners, hunters and conservationists must embark on a pro-active education and sensitization campaign prior to the reopening of the hunting of black rhino. I envisage that to win over even a small percentage of public support around something as controversial as this may take well over one year and would need a carefully orchestrated yet completely transparent process which encourages constructive dialogue and debate, which listens to and considers different opinions voiced and most importantly, which shows mechanisms to be in place which will ensure that the revenue

generated from the hunt will be used constructively to further black rhino conservation as a whole and to incorporate and integrate communities into that process. In this regard KZNNCS under the very able guidance of Dr George Hughes are light years ahead of any other organisation in this country and their guidance should be sought on this matter and KZNNCS's facilitation thereof, encouraged.

Welfare

The highly controversial television coverage, broadcast by M-NET's *Carte Blanche*, of canned lion hunting and the abuse of captured juvenile Tuli elephants, has focused the spotlight, very intensely I might add, on animal welfare, more specifically, wildlife welfare. Any operator/game capturer/animal dealer/trader who thinks they are still immune to scrutiny and who thumb their noses at the international community and the thought processes of the majority of people out there, is in for a very big surprise. If I was to break society into percentages I would say that 5% are hunters, 5% are animal rightists/activists and 90% "sit on the fence". For a part of my career I have been on the inside of the animal rights/activist world and when one sees the lengths these people will go to show to the world what is happening behind the scenes regarding animal abuse and what massive budgets they have to achieve this with, then you understand that devious operators are all functioning on borrowed time. Why? Because the activists get it right to sway the opinion of the 90% that matter - those that sit on the fence - in their favour.

Under certain circumstance I do not find that too disturbing, as I for one have never condoned cruelty nor the mistreatment of animals. However, what I do have a huge problem with is that the majority of these emerging 'ecoterrorists' in South Africa have no formal biological training whatsoever (that they have extensive PR and media manipulation experience is unquestionable), nor do they wish to attempt to address conservation problems - the real issues - pragmatically. Even worse, they ignore the harsh fact that if wildlife is to survive in Africa it will only survive through having the people who share the land with the animals deriving tangible financial benefits from having the animals around.

I will never understand how overseas based animal welfare organizations who profess to care for both animals and people can continue to waste millions of dollars, sadly sourced from ignorant donors/supporters, to for example, fight to have the hooded and harp seal culling quota off Canada's Newfoundland ice floes reduced, yet fail dismally in the process. What could that money have done in Africa? How much land could that money have bought to extend game parks? How many pragmatic community-based African conservation initiatives could that money have begun? I have seen first hand the lifestyles of these cream poachers and it sickens me that they now target Africa's wildlife, using our charismatic megafauna, like elephants and lions and rhinos to fund raise on the back of. Their arguments are always fundamentally flawed yet because they are driven by highly influential paid support within powerful groups like the European Union, they are able to make the necessary headway. Their international campaigns are designed to shock people into thinking that utilization is abominable and fraught with cruelty, corruption, greed and abuse. The difference between them and us, is that we are poor little dedicated conservationists who every now and then establish a charitable foundation - which must run on the smell of an oil rag - to fund raise for worthy causes whereas they run their operation like a business - bottom line is everything and more!

The only way we will counter the threat they pose to conservation - and here I have no compunction in saying that 'animal rightists/activists pose the single greatest threat to the maintenance of realistic conservation in Africa' - is to inoculate ourselves against their attacks through cleaning up the game industry completely! With South Africa now being part of the global community we have opened ourselves up to scrutiny from the outside. Did the canned lion footage on *Carte Blanche* really go about lions having their welfare compromised? Well, to a certain degree yes it did, but the bigger picture was that a UK-based activist coordinator had master-minded that canned hunting footage would shock the world so, that the footage would compromise the credibility of the South African delegation to CITES in Harare. They knew South Africa's role around the ivory trade deals might have been pivotal (it was in the end) so they tried to sideline us using foul play tactics. In which

month did CITES 1997 (CoP10) take place? **June**. When was the Cook Report on canned hunting released on Carte Blanche? **May 1997**. Coincidence? I know for definite, that it was not.

Lions have been milked and so have elephants. What about rhinos? To date, activists have not yet focused on rhinos but believe you me, that is their next target species and there would be nothing better for them than to source footage of a bow-hunt that went wrong, or of a canned rhino hunt, or of a translocation and trade deal that went wrong (*the plight of the four white rhinos, three of which died, sold at a 'bad auction' in the Free State in 1997 refers*). I think it imperative that rhino owners develop a system which justifies their conservation actions yet which is rigorous enough, that should a transgressor be identified, they, using existing legislative procedures, can deal with the person in a manner befitting the transgression. That would communicate to all that they take the welfare of rhinos seriously, that they will enforce ethical and responsible utilization and most importantly, that they have integrity, issues which they will have to prove their credibility in if they are to win the future wars which will rage around rhinos at CITES.

CITES

South Africa will again be motivating at CITES Cop11, Nairobi 2000 for a resumption of trade in rhino horn with a zero quota. I think it most important that this proposal be carried through by our delegation to CITES as it is important that constructive dialogue between Parties to the Convention on trade in rhino horn, be kept alive. However, I am concerned about a few issues which I think might need addressing before the Parties to CITES finally give the green light. David Newton of TRAFFIC has identified a few potential pitfalls in this regard. They are:

South Africa does not seem to have adhered fully to Resolution Conf. 9.14 which centres around the registration of privately owned rhino horn stocks. If so, why not?

What is being done to register privately owned rhino horn stocks?

How much control actually exists over current stocks?

What mechanisms are in place to prevent the horns from ending up in the illegal trade?

How can we guarantee that horns in the illegal trade are not coming from South Africa?

What systems are in place to ensure the legal and controlled purchase of horn stocks?

With a great percentage of the country's rhinos now occurring on private land, what measures exist to ensure control given that most, if not all of these farms carry the exemption permit?

What mechanism are in place to ensure the tracking of horn using radio-isotope analysis and DNA techniques? This is needed for formal marketing methods.

Only 3 of the 9 Provinces have formal rhino horn registration procedures - why?

Are the other six Provinces addressing this current lack of registration procedure?

Given the new provincial boundaries, how do Provinces know who horns truly belonged to in the past? Has this been addressed?

Why has South Africa not engaged in a process of consultation with Range States, something which those countries whose ivory trade proposals were approved at CoP10 did effectively and with positive results?

I do not see AROA currently linking closely enough with TRAFFIC on trade issues and how best these might be handled at CITES. I think that if more effort was put into developing a solid relationship there, AROA could become a driving force through which rhino horn trade considerations could be pro-actively taken to the DEAT in an attempt to leverage through that channel, what is ultimately desired, that being a regulated, controlled, trade in horn.

CRIMINOLOGY

Wildlife and green environmental criminology should include crime which encompasses poaching, illegal trade in endangered and vulnerable fauna and flora species and other crimes against wildlife and its habitat (Swanepoel, 1998). When defining the illegal trade in endangered species, various concepts merit closer attention. For example, let us consider the term illegal trade which is most important in the context of this document on rhino utilisation considerations. For the purpose of this

paper, the term illegal trade includes the hunting, capture, possession, import, export or transport of any endangered fauna and flora species, as well as the donation or receipt of any such species as gifts (Louw, van Heerden and Smith, 1978).

Rhinos as the target of crime

Since the dawn of the twentieth century and especially since 1970, close to 70% of the rhinos found on earth have been killed. This rapid depletion has left the rhino amongst the world's most endangered mammal species (*see report by Kumleben Commission of Enquiry into the alleged smuggling of, and illegal trade in, ivory and rhinoceros horn in South Africa - published January 1996*). In South Africa however, because of relatively effective regulations, law enforcement and the encouragement of private ownership of rhinos, numbers of both black and white rhinos have not experienced the precipitous decline in numbers which typified most other African countries. In fact, on the contrary, numbers have increased, thus making South Africa a prime target for the illegal trade in rhino horn and leaving this country's rhino populations in an extremely vulnerable position.

The largest markets for rhino horn and other rhino horn products are the Far East, North Yemen and India (Swanepoel, 1998). Belief has it that black rhino horn (sometimes referred to as 'fire horn') is more popular than that of the white rhino (sometimes referred to as 'water horn') because it is smaller and hence contains more power. If we are to fully understand the chemical significance of the rhino horn for Eastern cultures and hence have a better understanding of market dynamics and the economic potential around this resources, then this belief definitely warrants scientific investigation/ratification. Rhino horn is used mainly for the following purposes:

The making of daggers. Also called jambiya, daggers are given to Yemeni boys as initiation gifts and with more than 50 000 boys being initiated annually in Yemen, the demand for rhino horn far outweighs the supply. In fact, this demand promotes the illegal trade in rhino horn and if not addressed through pragmatic conservation/economic approaches, this demand could have horrifying consequences for the survival of rhinos in the new millennium.

Medicinal uses. Rhino horn is a key ingredient in many TCM (traditional Chinese medicine) recipes. The medicinal recipes of China's Pen Ts'ao Kang Mu, a pharmacopoeia written in the sixteenth century, has over 12 000 recipes with rhino products as an ingredient (Swanepoel, 1998). It is important to note that not just the horn is used in TCM, but hide and dried blood too.

An unpublished study done by Dr Hym Ebedes in 1997 refers to a report compiled by Judy Mills of TRAFFIC East Asia entitled *Market under cover : the rhinoceros horn trade in South Korea*, in which Mills describes the use of rhino horn by South Korean doctors. Her findings were as follows:

Doctors who would use the rhino horn if it were legal	83%
Doctors who use rhino horn as medicine	70%
Doctors believing that:	
a) rhino horn is essential medicine	89%
b) rhino horn is effective medicine	60%
c) no substitute exists for rhino horn	34%
Doctors who would prefer rhino horn legalised	37%
Doctors who keep rhino horn in stock	16%

Uses of rhino horn in South Korea are predominantly for:

nosebleeds	43%
strokes	22%
CSW balls	18%
fever	6%

In Seoul alone, there are 11 Colleges offering training in Oriental medicine, 7000 licensed Oriental medicine practitioners, 4700 Oriental medicine clinics, 2352 Oriental medicine pharmacies and approximately 20 Oriental medicine hospitals. According to Mills, the other main users of rhino horn over the past 20 or so years have been the Peoples Republic of China, Hong Kong, Japan, Singapore and Taiwan (otherwise known as the Republic of China - ROC). The Peoples Republic of China alone has a population in excess of 1 billion people and Taiwan has a population in excess of 20 million people. The Peoples Republic of China has a 5000 year old civilisation that differs in many aspects from western cultures and practices. Acupuncture for example, is a traditional Chinese method used for curing stress, painful joints and muscular conditions. Rhino horn is used to break fevers, for pain relief and for other therapies. The demand for this product is high and the belief in its efficacy, unquestionable. Given the above in collaboration with the figures cited from Mills, the question which needs to be posed is "*is it possible to convince millions of people, who for decades at least have used rhino horn as an important component of their traditional healing processes, that alternative medicines must be found to substitute rhino horn?*" I believe not, hence pro-active approaches are needed to address the demand for- and supply of, this commodity. Let us **finally** accept that there is a sustained demand for rhino horn by Oriental people in the Far East, by Oriental people living in the USA, by Yemeni craftsmen, otherwise rhinos would not be killed for their horns.

Swanepoel (1998) states that the illegal trade in rhino horn not only affects the species itself but also interest groups involved in it. He further states that victims of illegal trade can be divided into the following categories:

State controlled parks – every taxpayer is a co-owner of the endangered species in a park (for that matter, of every species) and therefore has the right to insist on the protection of the given species. By failing to effectively control the illegal trade in an endangered species like rhinos, an offence is being committed not only against every taxpaying citizen by way of loss of income from nature-based tourism, but also by way of destruction of natural heritage through loss of biodiversity.

Private owners – this group/stakeholder contributes hugely to the current success around rhino conservation in South Africa and incur very heavy individual financial losses when animals are poached and illegally traded. Their interests need to be protected if rhinos are to be viewed as assets worth investing in. The ramifications, from a private land-owners' perspective, of a devaluation of rhinos, especially white rhinos, is all too obvious. In this regard the **HUGE** threat international animal rights and/or activist groups pose to the concept of rhino conservation through responsible utilisation, should not be under-estimated. Their beliefs express emphatically that no trade at all should be allowed, a fundamentally flawed yet emotionally-based tenet around which their argument centres (one which is gaining momentum in South Africa at present) being that 'associated with any form of economic gain around animals/wildlife there is always misuse and abuse'.

Non-governmental organisations (NGOs) – if they have invested donor funds into rhino protection programmes, like the Rhino & Elephant Foundation (REF) did and the African Rhino Owners Association (AROA) and WWF continue to do, they too suffer losses because of illegal trade.

The species *per se* – reduction in numbers through poaching and illegal trade can reduce the reproductive fitness and hence survival capacity of a species and can lead to localised extinctions which in turn implies loss of biodiversity and in the case of pachyderms like rhinos and elephants, loss of keystone species which have an important impact ecologically speaking. This aside, let us not for one second forget the potential cruelty which can so easily accompany the illegal killing of an animal for its horn. Swanepoel (1998) interestingly enough draws attention to the trauma a mortally wounded yet still live rhino must experience when having its horn hacked from its head. This I believe raises a question which needs to be addressed through rigorous international debate: "*with rhino horn being a highly prized and immensely sought after product in the East, would those, who truly have the welfare of rhinos at heart, prefer to have the given product, i.e. the horn, provided through harvesting under controlled conditions from domesticated individuals in a manner which in no way*

compromises the welfare of any individual, or have the horn ruthlessly hacked from a poached animal whose death may have been long and agonizing and which, once dead, is a complete loss to the pool of genetic diversity of that species?"

The protection of South Africa's wild fauna and flora is not only regulated by CITES and other international institutions, but also through the application of various national laws and provincial ordinances. Three acts and four ordinances were applicable before the first general democratic election in 1994. After this milestone event in South Africa's history, nine provinces were established instead of the previous four. This led to an even further diversification of legislation (Swanepoel 1998). Laws and regulations are not applied consistently throughout the country and when one takes into consideration that there is no national legislation enforcing the CITES treaty and that the provincial ordinances in South Africa are not consistent when it comes to the sentencing procedure, the confusion intensifies. This needs to be addressed as uniformity makes law enforcement easier, provides for consensus in trade proposals and facilitates, for the private owner, a more structured environment through which the dynamics around CITES can be understood.

At present, to most private rhino owners, CITES appears to be little other than a nebulous, bureaucratic, obstructive giant. These stakeholders need to make it their business to understand how the Convention works and that, if their interests are pro-actively communicated to CITES through the correct channels, opportunities exist for them to leverage from the Convention what they desire most, which is controlled trade for economic gain to ensure the long-term conservation of rhinos in South Africa.

One issue which will have to be addressed, is that with the proposed legalisation of trade in rhino horn, the tendency exists for illegal trade to still continue in spite of legalisation. An example can be found in the diamond and gold industries. Trade in diamonds and gold is legal, but according to the Central Statistical Service of South Africa, in 1993/1994 665 prosecutions and 503 convictions and 377 prosecutions and 341 convictions for trafficking in gold and diamonds respectively, were documented. Hence, in spite of legalisation, illegal trade still occurs. In an attempt to limit this as much as possible, it is imperative that legalisation be coupled with proper countermeasures to illegal trade like effective legislation and strict control (especially at thoroughfares like seaports, airports and border control posts). In addition to the above, the current criminal justice process also needs to be considered. It is high time that South Africa, a country which prior to 1988 was accused of impassively and impartially standing by while ivory and rhino horn were smuggled across our borders, sent out a message to the international community that the illegal trade in endangered species is not an issue of private or moral interest, but rather a criminal one which, through active policing, will be addressed in the same way as crimes such as rape, abuse, theft and murder.

We South Africans have not done enough to date to educate and influence the nations that use rhino horn. We have not done enough to inform the users of rhino horn, through mediums such as the press, the internet, radio and television that in most countries around the world where rhinos naturally occur, their survival is threatened because of the illegal trade which provides the very product the end-users demand, horn. 't Sas-Rolfes wrote in 1995 that despite the 20-year ban on the trade of rhino horn, the illegal trafficking still continues and is a highly lucrative international trade. This explains why most conservationists feel that the ban on trading in rhino horn, regulated by legislation and conventions like CITES, is not successful. Clive Walker, past Chairman of the Rhino & Elephant Foundation wrote in the Foundation's 1994 journal "*the international ban on trade in rhino horn has probably failed to save one single rhino. Right under our noses, the black rhino, once distributed from Cape Town to the Sudan, has been blasted off the African landscape by poachers using the most successful assault rifle ever made, the AK-47. If the Yemenis and the South-east Asians had had a regular, legal supply of horn back in 1980, there may not have been any need to spend so much money on investigations into the illegal trade. Why not let the Yemenis have rhino horn jambiyas? In spite of the low numbers of black rhinos, we are certainly not past the point of having a non-supply situation. South Africa alone has stocks of black and white rhino horns being held in vaults, which to date, are worthless. Moreover, buying rhinos has become an investment. A legal regular supply of horn could have had the effect of bringing the price down, but the ban has brought about exactly*

the opposite effect, the price has gone sky high, rising, as rhino numbers have declined. Horn is so valuable today that economic incentive makes it worthwhile to risk ones life".

RECOMMENDATIONS

Quo vadis? What pro-active and pragmatic steps could be taken by private rhino owners?

Make contact with the actual users, the herbalists, traditional healers and medical doctors trained to use rhino horn, as well as the man on the street. Determine their needs and develop from this information a business plan which takes into consideration cultural needs; supply and demand scenarios; economic trade-offs; conservation benefits through responsible, ethical, utilization procedures and awareness drives centred around the importance of a controlled, regulated, transparent trade structured such that it optimizes the long-term survival chances of rhinos in Southern Africa.

Conduct independent yet collaborative research around concerns which have been obfuscated to-date (Ebedes, *pers. comm.*), such as whether the potency of the second horn harvested equates to that of the first. If the potency of the second harvest is found not to be equal to that of the first, then I cannot see why, through the use of dietary manipulation, that the potency of the second harvest cannot be adjusted to match that of the first. Much information centres around how valuable the horn is in TCM but little information exists on what compounds exactly in rhino horn the Chinese for example, are after. Moreover, horns being keratin derivatives must carry in them the chemical profile and probably the relative concentrations thereof too, of the minerals and elements of the vegetation community in which the rhino live. Detailed chemical studies focusing on what compounds matter most to TCM doctors and users of the product, would generate data for a model on what dietary requirements would optimize the chemical profile of the horns of rhinos in captivity, from which sustainable harvesting takes place.

Establish and list a company whose sole purpose is to look after the interests of private rhino owners wishing to trade in horn through the provision of a professional service. By this I mean that linked to this company should be an advisory arm or specialist division, to assist new rhino owners with:

- a) the establishment of a management plan around their newly acquired asset(s)
- b) the development and implementation of a security plan to safe-guard the capital invested by the private rhino owner

Transform AROA into a powerful lobbying tool. A profit-driven company will never have the same leverage with for example the DEAT as will an NGO or Section-21 company. The company is there to drive the financial considerations and this should not be confused with the fine art of lobbying whose sole purpose is to bring other stakeholders on board through convincing them that the activities of the company are honest, ethical, responsible and structured so as to be of benefit to all South Africans irrespective of race, colour or creed. AROA should be used as a mouthpiece by private rhino owners to lobby governments, both local and international; to create public awareness around the importance of trade in horn; to facilitate information dissemination / the handling of the media; to fund and facilitate research which is of direct value to the objectives of private owners and in accordance with the business plan of the company and to integrate communities around the sustained management of rhinos.

Lobby government to facilitate the trading, on a limited scale, of existing rhino stocks currently being held by conservation authorities and private owners. Trade of products obtained through poaching is certainly undesirable, but, trade of old accumulated stockpiles and registered horns can actually help reduce poaching pressure. The real issue for conservation is the source of supply of a particular product: was the product obtained from a source that will encourage further poaching, or does the source compete with the providers of freshly supplied (poached) product? The CITES system of trade restrictions and bans is not well equipped to make this critical distinction, and much time is wasted trying to prevent illegal transactions that may actually benefit conservation. The key to managing trade in wildlife products is to exercise control over supply, not over

subsequent transactions. Ironically, trade bans do create a measure of control over commodity trade: they place it in the hands of organised crime. Organised crime syndicates specialise in acquiring monopoly power in the provision of high value, illegal goods. They establish links with corrupt enforcement officials to ensure a high degree of legal immunity and rely on the law enforcement system to keep their competition out of business. As an institution, CITES is hardly capable of thwarting the activities of well organised criminal syndicates that are proficient in smuggling goods like narcotics. This is unlikely to change as CITES has some inherent weaknesses in its institutional design that preclude it from ever being implemented properly. That we have to work with CITES is however a given so we must find ways to protect the supply at source; there is no substitute for adequate field protection.

Send rhinos to key destinations in the Far East so that they can be effectively deployed as ambassadors to shore up the awareness drive around of the plight of their wild relatives both in Africa and Asia.

Establish rhino breeding centres at key destinations in the Far East in order that those countries might be empowered with a mechanism through which they too can contribute towards global rhino conservation by the sustainable provision of horn from 'domesticated' animals. To optimize the fiscal returns on horn harvesting, Milner-Gulland *et al.* (1993) calculated that the rhino should be dehorned once every two years. The philosophy behind this is that the horn regrows and hence provides a sustainable income. Indications are that, as a land use form, returns might be as high as US\$50/ha which should be compared with cattle farming at approximately US\$5/ha (du Toit, 1998). Given this, the following question can be and should be posed to the international community and to all African rhino range States "*why shear the wool of sheep and sell it through a free enterprise system, yet not the horn of a rhino?*"

Do not dehorn wild rhinos in an attempt to make them less attractive to poachers nor to make them more commercially valuable. Berger and Cunningham published a very interesting paper in 1996 in *Pachyderm* entitled "*Is rhino dehorning scientifically prudent?*" Their findings contrasted calf survivorship of horned and dehorned black rhino females in the Namib Desert. They found calf mortality was higher in a dehorned population sympatric with spotted hyenas than it was in a hyena-free area or where mothers were horned. Their study was controversial in that sample sizes were small and not all ecological variables were offered but sometimes, management decisions based on empirically-derived data might be better than those based on no data at all.

Establish a more interactive relationship with the nature conservation departments of the nine provinces; parastatals like KZNNCS, SanParks, Mpumalanga Parks Board, etc., as well as with organizations like TRAFFIC, WWF, RMG, the CITES Implementation Process under way in the DEAT and the Ecological Criminology Justice and Eco-Human behavioral sciences initiative. This is important if the interests of private rhino owners are to be taken to Government, 'watchdog' bodies like the Portfolio Committee for Environmental Affairs and Tourism and ultimately to CITES.

In an attempt to establish even more effective anti-poaching mechanisms, the positive effects of that for rhinos being all too obvious, rhino owners, with specific reference being made here to private rhino owners, may wish to consider establishing their own local informant system. Why not consider paying a fee (annually say and into a Trust which can be properly and transparently administered to ensure that all community members benefit therefrom and not just a select few) equivalent to what a poacher would receive, to the local community thereby creating good will and indicating to them that you take the protection they afford your rhinos as seriously as you take the welfare of the animals on your ranch?

Allow the green hunting of rhinos when conditions around the dart safari are in direct compliance with the criteria for an ethical hunt as prepared by Dr Paul Bartels of the WBRC of the EWT and only when a helicopter is present to provide the vitally important back-up service of aerial tracking in the event of the 'trophy being lost in the bush'. One issue which I feel needs to be dealt with is that to provide another safety/catch net to prevent green hunts from going wrong,

there would most likely be a need to improve training of veterinarians and to devise careful criteria for suitable qualifications for a veterinarian to accompany a green hunt. No mention is made of whether pregnant animals are which have to be immobilized for one reason or another, are eligible for green hunting. My advice would be to exclude pregnant animals entirely from dart safaris given that pregnancy is the precursor to live birth in mammals like rhinos and it would be desperately difficult to defend green hunting a pregnant rhino cow when hunting (*which the public associates with death*) and pregnancy (*which the public perceive as a life giving process*) are so mutually exclusive. It is of the utmost importance that it be understood by all that the conservation ideal of green hunting requires that it be used only as an alternative to lethal hunting and not as an additional quota, as that would only cause extra harassment. Linking green hunting to research could further justify green hunting by restricting it to animals which, as Dr Paul Bartels puts it, would be immobilized anyway. Once the animal is down, a radio collar could be affixed in a matter of minutes. If it is an advanced GPS model, the movements of the animal could be recorded at regular intervals with great precision. The hunter will not only have experienced his hunt, taken photographs of his quarry, and acquired his non-lethal trophy, but can be introduced to the excitement of field research. Precise records of the movements across the home range by the individual can be sent to the hunter at intervals as well as observations on the animals general behaviour and ecology. This would allow the hunter to learn more about the natural habits of his 'trophy', thereby hopefully encouraging him/her to develop a more objective interest in the ecology and behaviour of rhinos.

Ensure that the code of ethics of SCI is adhered to at all times during hunts. It is a known fact in South Africa that some rhinos purchased at auctions end up hunted only a few days after the auction. I think this is a potential minefield which needs to be addressed/diffused before it explodes in the press. Animal activists are well aware of this practice and I for one question the ethics of this. A few questions which I believe need to be addressed in this regard are:

How long does it take a newly introduced rhino to become truly *au fait* with its surroundings?

Does hunting a newly introduced rhino comply with the principle of fair chase?

Can the client, the professional hunter and the owner of the rhino justify this as a sport-hunted animal according to the definition of SCI as contained within this paper?

What criteria are used to determine the final destination of the rhino is an acceptable one and what monitoring is done of the animal(s) subsequent to their introduction?

Are the sources from which the rhinos are acquired e.g. KZNNCS not turning a blind eye to what is happening out there knowing full well that what they're selling may render financial gain but is it ethical, responsible and can they justify what they're doing to the rest of the world – the 90% factor? If so, what could the political ramifications of this be?

Never ever allow the hunting of rhinos with bows to be reinstated. If the opportunity ever presents itself for an international fiasco around rhinos the equivalent of that which raged around the Tuli elephants at Brits, it will most likely manifest itself in the form of a rhino hunted with a bow. Somewhere something will go horribly wrong. The horror story will leak. The animal activists will have what they love most, a story of horrific cruelty which can be sensationalized and then swiftly capitalized upon by the 'cream-poachers' of this world. The person who will be the most damaged by this will be the owner of the farm on which the hunt took place and South Africa, which subscribes to the policy of sustainable utilization of natural resources, will once again suffer international embarrassment at the hands of international activists.

Private rhino owners should actively campaign all provincial departments to become part of a nationwide initiative to establish mechanisms which allow for the registration of privately-owned rhino horn in accordance with what was written into *Res. Conf. 9.14* of CITES. The assistance of TRAFFIC should be sought in this regard.

Lobby aggressively for legalized trade. Why? Legalizing trade may reduce the transaction costs of illegal trading, but it also reduces the profit margins of illegal traders. If properly designed, a legal trade mechanism should do much more to discourage illegal trade than to encourage it. Who

knows, rhino horn trade and the financial and conservation benefits derived therefrom may overshadow those of hunting and we may find a global consensus that rhino horn trade is better than hunting? Until we initiate the processes and compare the results, we will however, never know.

The above information, I believe, succinctly lays the foundation for what now follows:

A Code of Ethics for the African Rhino Owners Association (AROA):

- Members of AROA will
- Commit to uphold the animal welfare laws of the country as contained within the Animals Protection Act
 - Support the environmental policy of South Africa, which is to promote long-term conservation efforts and the maintenance of biodiversity through sustainable utilisation
 - Commit to breeding goodwill with neighbouring communities through ensuring that in the rhino management plan of the conservancy, structures are described and implemented which result in the communities also benefitting from the conservation of this asset
 - Commit to participate in the annual rhino census
 - Commit to participate in, help with and facilitate research programmes as approved in writing by the Board of AROA, into rhino conservation management
 - Commit to the identification and safe custody of all rhino horns
 - Commit to allowing spot audits of rhino horn stock(s)
 - Commit to help combat any illegal trade
 - Commit to maximisation of the gene-pool through the exchange of males
 - Commit, as highest priority, to attempt to find conservation-related uses for a live individual prior to deciding on its being made available for hunting
 - Commit to inform AROA annually and in advance, of any males that will be hunted together with the full history of the given individual
 - Commit to only allowing a Dart Safari or Green Hunt to take place if:
 - the hunt complies completely with the protocols as compiled by the Wildlife Breeding Resource Centre – a working group of the Endangered Wildlife Trust (EWT)*
 - a fully qualified and competent wildlife veterinarian, who is also a member of the Wildlife Group of the South African Veterinary Association (SAVA), is present*
 - a helicopter is on standby*
 - Commit to allowing sport-hunting of a rhino only if:
 - the calibre to be used is not less than .375mm*
 - hunting standards comply with those of Safari Club International (SCI), especially with respect to the principle of fair chase*
 - Commit to never allowing the sport hunting of a rhino with a bow
 - Actively promote non-consumptive markets such as trade in horn from registered stocks and individual animals specifically kept for the provision of horn on a sustainable basis

ACKNOWLEDGEMENTS

I would like to thank Dr JG du Toit for sourcing the funds for this study. I would also like to thank the follow persons for their input: Dr Hym Ebedes, Dr Kobus du Toit, Dr Paul Bartels, Gerhard Swanepoel, David Newton, Andre de Georges, Dr Kees Rookmaaker and Gerhard Damm.

REFERENCES

- BERGER, J. and CUNNINGHAM, C. 1996. Is rhino dehorning scientifically prudent? *Pachyderm* 21: 60-68
- BOND, I. 1994. The importance of sport-hunted African elephants to CAMPFIRE in Zimbabwe

- CRAIG, C.G. and GIBSON, D. 1993. Records of elephant hunting trophies exported from Zimbabwe. Harare, Zimbabwe: Department of Wildlife and National Parks
- DOUGLAS-HAMILTON, I. 1997. Proposal for "Green Hunting" of elephants as an alternative to lethal sport hunting. *Pachyderm* 24: 30-32
- DU TOIT, J.G. 1998. Rhino Ranching. Pretoria: South African Veterinary Foundation.
- LOUW, D.A., VAN HEERDEN, T.J. and SMITH, P.R. 1978. *Criminological Dictionary*. Durban: Butterworth
- MILNER-GULLAND, E.J., LEADER-WILLIAMS, N. and BEDDINGTON, J.R. 1993. Is dehorning African rhinos worthwhile? *Pachyderm* 17: 52-58
- MOSS, C. 1988. *Elephant memories*. London: Elm Tree
- SWANEPOEL, G. 1998. The illegal trade in rhino horn: an example of an endangered species. *International Journal of Risk, Security and Crime Prevention* 3(3): 207-220
- 't SAS-ROLFES, M. 1997. Elephants, rhinos and the economics of the illegal trade. *Pachyderm* 24: 23-29
- WALKER, C.H. 1994. Rhinos in Africa – the present situation. In: PENZHORN, B.L. and KRIEK, N.P.J. (eds) *Proceedings of a Symposium on Rhinos as Game Ranch Animals*. Onderstepoort: Wildlife Group of the South African Veterinary Association. pp 1-3

STRATEGIC WHITE RHINO CONSERVATION IN THE PRIVATE SECTOR

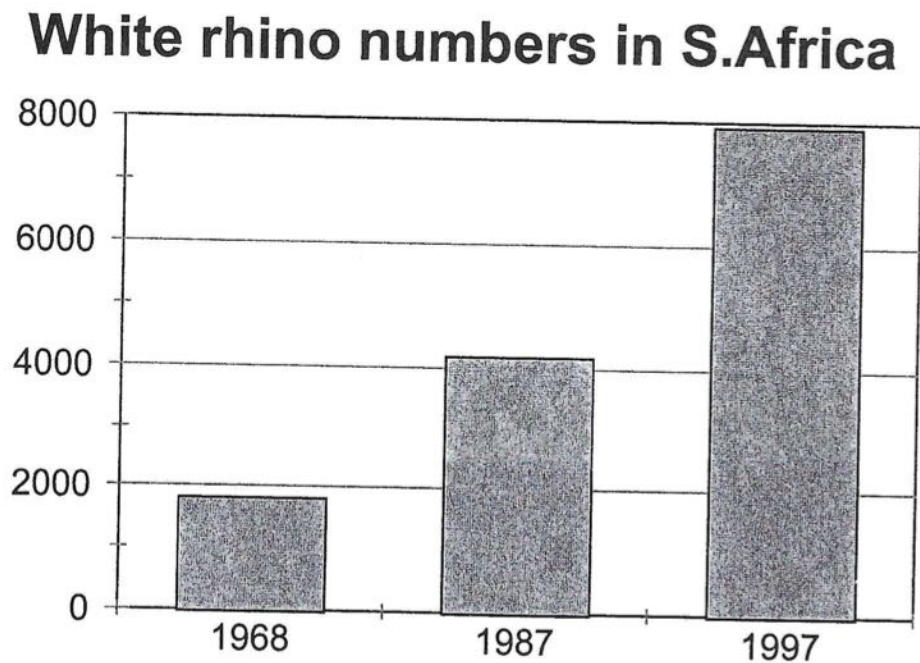
Richard H Emslie
Scientific Officer
IUCN SSC African Rhino Specialist Group

INTRODUCTION

This paper discusses a number of strategic issues affecting the private sector in the light of the draft South African white rhino conservation and sustainable use strategy discussed in the previous paper. It seeks to provide additional background information and highlight items for possible action/discussion by AROA at the following workshop (flagged with *). This paper will also note areas where the Private sector could shoot itself in the foot (flagged with #).

BACKGROUND - HOW HAVE WE DONE ? WHERE ARE WE GOING?

The bar graph below shows the total estimated number of white rhino in South Africa at three periods since 1968.



White rhino hunting began in earnest in 1968, and in 1987 Daan Buijs undertook his first survey of numbers of white rhino on private land in South Africa (Buijs 1987). Despite the export of many animals, over-hunting on some properties, and in a few instances the introduction of rhinos into what we now realise was unsuitable habitat, numbers in South Africa still increased from 1968-1987 by an average +4.5% per annum.

Following the decision by the main supplier of white rhinos (the then Natal Parks Board) to let their white rhinos fetch their true economic value on auction, matters improved. Subsequent surveys by Emslie (1994), Buijs and Papenfus (1996) and Buijs (1998) all found that numbers of white rhinos

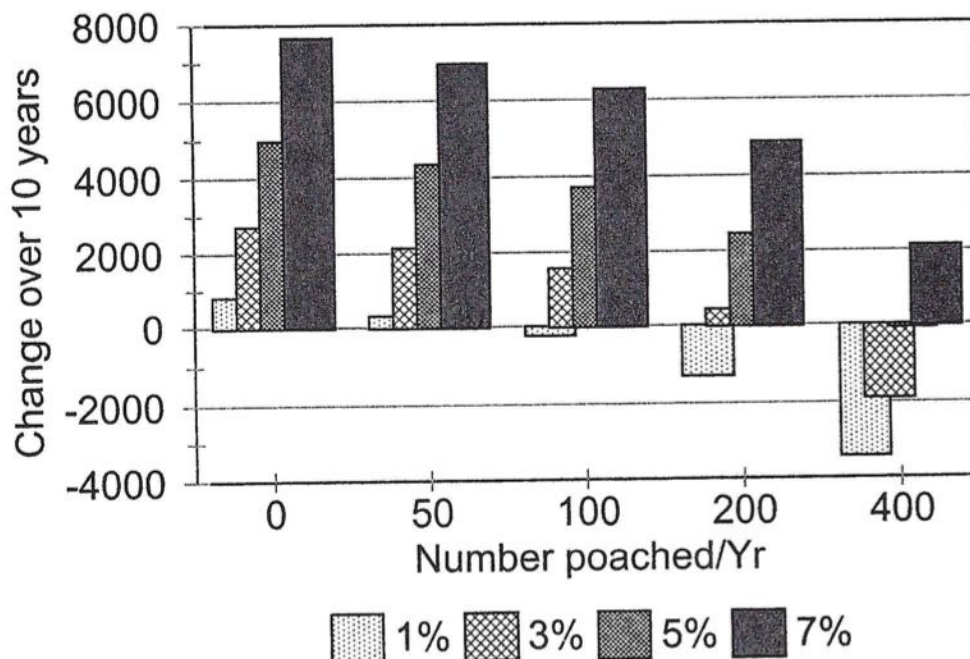
have grown rapidly on private land since 1987. These surveys revealed that the continued increase on private land has been due to both continued buying of additional rhino from the State sector, and is also a direct result of biological growth. Since 1987, South African white numbers have increased by a very creditable +6.7% per annum. This rate of increase is the same attained by South Africa's southern-central black rhino (*Diceros bicornis minor*) metapopulation from March 1990-December 1996 (Adcock 1998). If this growth rate can be maintained, and there is sufficient habitat available, numbers will exceed 15 000 by 2007. In just 10 years we have the potential to increase numbers by almost the same amount that numbers grew over the previous century.

The capacity for population growth in many State-run populations is limited and therefore to reach 15 000, the proportion of white rhino under private and communal ownership will need to increase. Strategically an increase in numbers on private and communal land is also highly desirable. Past experience in both Kenya and Zimbabwe has shown that during times of heavy poaching, black rhinos fared better on privately-managed land. Indeed, the draft South African white rhino strategy recognises that having an increased number of rhinos in additional populations under a full range of management models (i.e. private, community and State) will add strength to the strategy from a security and genetic perspective, and provide an increased buffer against poaching.

ACHIEVING RAPID POPULATION GROWTH

To reach 15 000 white rhinos by 2007 requires both good security on the one hand *and* rapid population growth (as a result of sound biological management built on good monitoring data) on the other. Just as in rugby and football, to succeed in rhino conservation one needs a solid defence (good security). However, as Manchester United so aptly showed last season, a team's chances of winning are greatly enhanced if it has a potent attack capable of scoring a few tries or goals a game (rapid population growth). On the other hand, if you don't often score, you may lose if you concede just one goal. In rhino terms, if population growth is poor, one's ability to withstand an outbreak of poaching will be compromised. The key message here is poor biological management should be viewed in the same light as poaching - you end up with fewer rhinos. This is well illustrated by the bar chart below which shows the huge effects that different growth rates and poaching levels can have on white rhino numbers in South Africa over just a 10-year period (1997-2007).

Growth of S.Africa's white rhino 97-07



This graph highlights the critical importance of maintaining high population growth rates and keeping poaching to a minimum. With no poaching, the difference between a 3% and 7% population growth rate over 10 years is an extra 4 932 rhinos! At current market value this represents an increase in asset value in excess of R 500 million. The graph also shows that with high population growth rates, one's ability to withstand limited poaching is greatly enhanced. Even with heavy poaching of 400/yr, with a 7% annual growth, rhino numbers would still increase by 2 126 over a decade. On the other hand with only 1% growth, such heavy poaching (400/year) would reduce numbers by 3 357 (-42%) over a decade, with extinction of white rhino in South Africa following in a further 13 years.

The graph shows that a small (even just 2%) difference in annual population growth rate translates into many more animals in just a few years, greatly increasing one's ability to withstand poaching outbreaks. Another advantage of rapid growth rates is that loss of genetic diversity is minimised. This is why managing for rapid growth is a critical component of both the new IUCN SSC AFRSG Continental African Rhino Action Plan (Emslie & Brooks *in prep.*) as well as most National rhino conservation strategies. It makes good sense to manage for maximum growth.

The draft South African white rhino strategy (and indeed many National rhino conservation strategies) aims to achieve a medium-term metapopulation growth rate of at least 5%. However this level is the *minimum* desirable acceptable level. Ideally, one wants to maintain higher growth rates than this.

HOW TO ACHIEVE CONTINUED GOOD GROWTH

As any cattle farmer knows pregnant and lactating cows have high nutritional requirements. Rhinos are the same. Rhino cows that are not nutritionally stressed can build up sufficient condition to conceive and successfully raise calves. The key to achieving good biological growth is not to overstock. Although much progress has been made over the last decade in recommending desirable maximum stocking rates for black rhino, there is room for improvement in the assessment of white rhino ecological carrying capacities *. To set maximum desirable stocking rates it is recommended that one first estimates the longer term Ecological Carrying Capacity (ECC) of the area (in rhinos/km²) and then seeks to keep the population at or below 75% of this level (= estimated Maximum Productivity Carrying Capacity). In setting maximum desirable white rhino stocking rates - densities of other grazers should also be taken into consideration. In small populations one should also seek to minimise inbreeding and seek to have more than one male.

Good monitoring of your population is essential as it provides the information you need to make informed management decisions *. To manage for maximum growth one needs accurate population estimates *converted to densities*. Ideally ID based methods should be used to monitor rhino in all but very large populations. With good monitoring one also should collect data on inter-calving intervals, age at first calving, proportion of adult females with calves, condition of animals, home range sizes, mortality rates and causes etc. In order to get most value from these monitoring data, it is necessary to compare the results from your populations with the performance elsewhere. Thus regional synthesis of monitoring data is important, and this is why the draft Strategy recognises the need for Status reporting for at least the major populations *. Just as a manager of a unit trust portfolio uses information on the performance, status and growth prospects of different companies, so should rhino metapopulation "investment" decision making be guided by similar information on rhino populations.

As an example, let us examine how we can use inter-calving intervals (ICI) as a key indicator of reproductive performance (ICI). On average, an ICI of 2¼ yrs is excellent, 2¾ yrs = good, 3 yrs = below average and 4+ yrs = poor. Modelling of a rhino population over 25 years (Emslie 1999) showed that:

- i) the end population size will be four times greater with an ICI of 2 years compared to 5¼ years;
- ii) increasing ICI from 2 to 3a years will halve final population size; and
- iii) doubling ICI from 2 to 4 years will reduce average final population size by 62%.

The proportion of adult F class females (over 7 years) with calves is also a good indicator of reproductive performance. However to be able to compare results between areas it is essential that all areas standardise and use the same age classes. I strongly recommend the use of the standard six age classes used for both white and black rhino. These age classes (p. 27) were derived by Keryn Adcock from Norman Owen-Smith's known-age photographs and form part of the AfRSG's new revised "Sandwith's" ID training course for field rangers (Adcock & Emslie *in prep.*). Apart from judging the size of the animal, horn growth can also give a clue to the age of the animal (p. 28). These six age classes are similar to the RMG black rhino aging series and allows comparison of results with black rhino where there is so much more detailed data.

Another indicator of population health is the condition of the animals. This can be scored on a standardised condition assessment scale from 1-5. The figure on page 29 shows white rhinos at different levels of condition.

Home range sizes of individual rhinos can also be used to give an indicator of the carrying capacity of your area.

As discussed above, monitoring (including population estimation) of rhinos is best done using individual identification (ID) techniques (p. 30). When collecting such information in the field, it is a good idea for staff to keep white rhino ID notebooks in their top pockets which can be used if a rhino is seen. By printing the forms on both sides of the paper and stapling a few forms to make a booklet allows one to make them small enough to fit in a top pocket. One simply fills in the form in the middle of the booklet. This can be torn out and given to the programme supervisor when completed who can quality control the sighting and record the sighting on the reserve database.

Managers should not hesitate to get professional advice from a recognised expert if needed in regards to ecological management, how many rhinos to stock, and biological monitoring.

RHINOS MUST BE ADEQUATELY PROTECTED

As the graph above shows, biological growth on its own is not enough. Although Western Province scored five tries against the Sharks in this season's Currie Cup they still lost, as the Natal Sharks ran in eight. One also needs a good defence, or in the case of rhinos its equivalent - good protection.

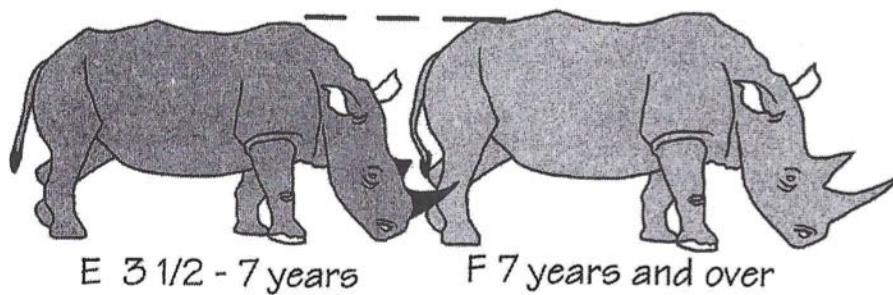
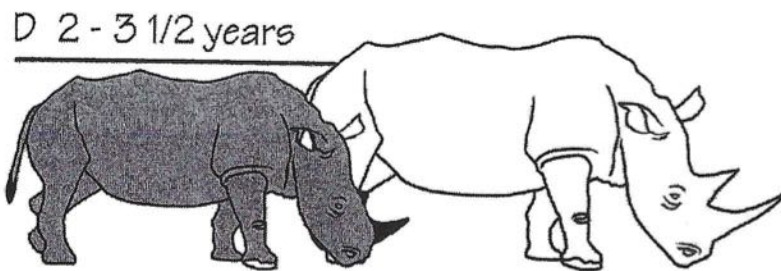
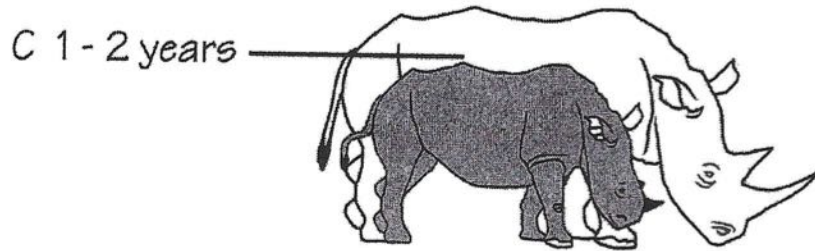
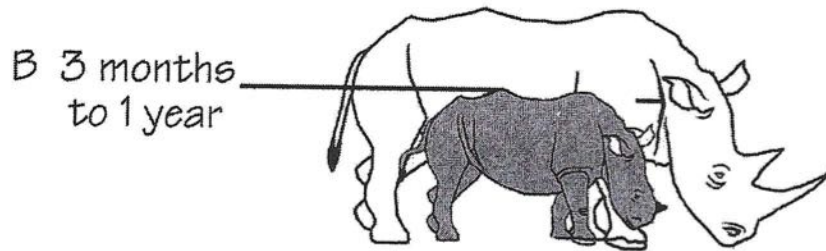
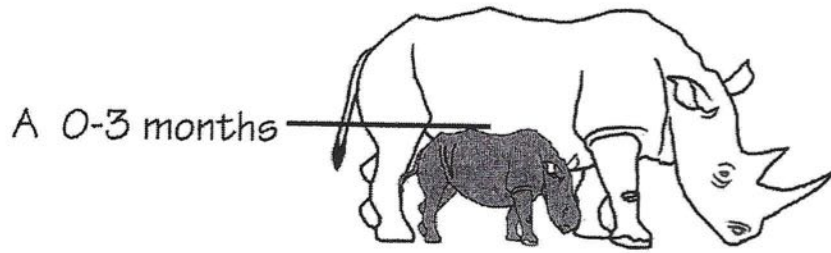
Zimbabwe's Raoul du Toit has likened poaching to a fire which needs to be nipped in the early stages, because once it has got out of hand it is very difficult to control. As shown in the graph above we need to keep poaching at current low levels.

It is self-evident that staff training, leadership, supervision, conditions and equipment are all important. Regular monitoring and tourism activity in your area can also contribute to improved security. Intelligence gathering has also proved itself in Africa and Asia as a very cost effective anti-poaching measure. Increased community involvement and participation in Conservation also seems to have a security benefit.

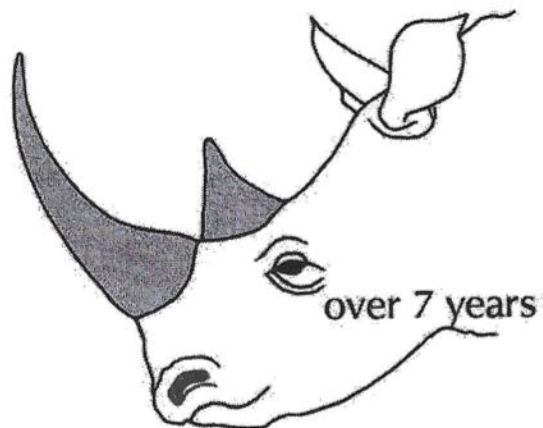
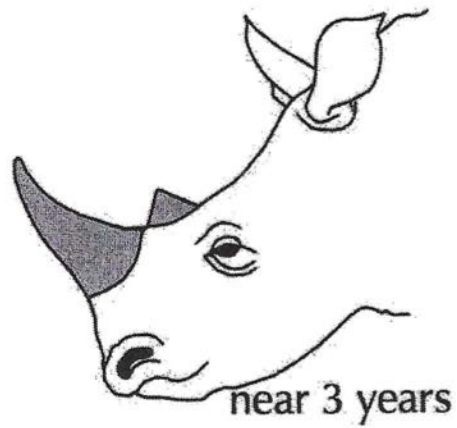
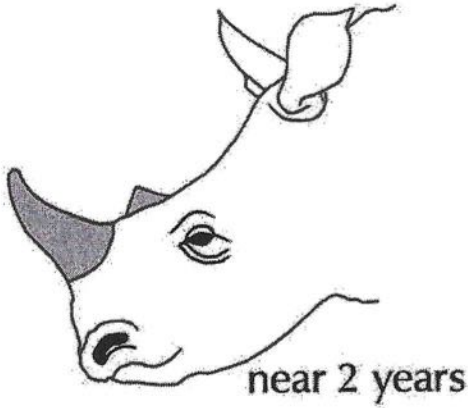
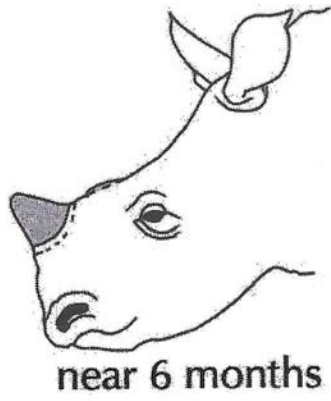
You wouldn't leave wads of R100 000 in cash lying around unguarded - neither should rhinos be left without security. While a number of private populations have been training their field rangers to a high standard, in others fencelines are checked daily, and in others a regular tourist presence acts as a deterrent to poachers, there is probably room for improvement in a number of populations. *

Apart from successfully protecting rhino, in the event of an animal being poached it is desirable to develop a reaction plan with details of how to secure the crime scene, what to do, what not to do, who to contact, their phone numbers, etc. * In this way vital evidence can be collected to maximise the chance of both apprehending the criminals but also getting a successful conviction in court. KwaZulu-Natal Nature Conservation Service's Rod Potter has organised courses dealing with how to react at the rhino crime scene.

White Rhino age classes



WHITE RHINO HORN DEVELOPMENT

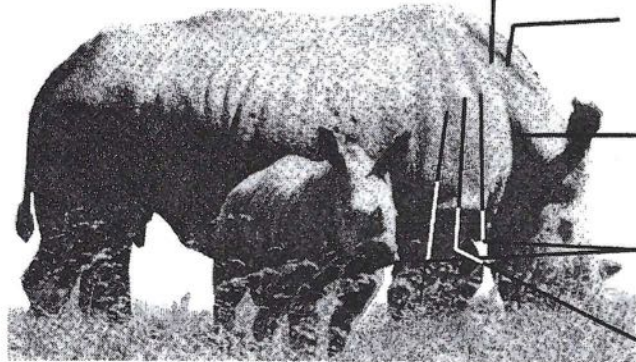


Condition c. 4



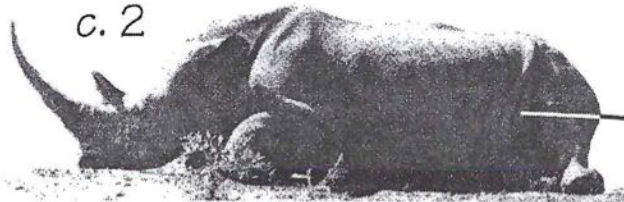
WHITE RHINO BODY CONDITION

Condition c. 3



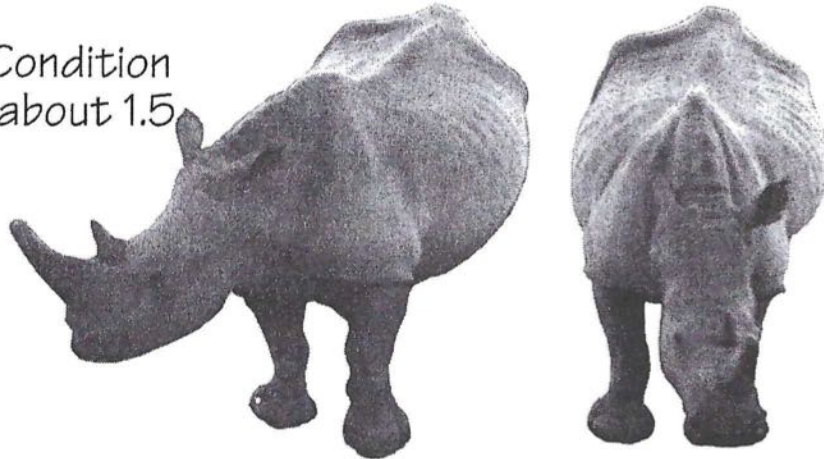
- neck muscles
- groove under top of nuchal ligament
- front edge of shoulder blade
- grooves in front of and behind spine of shoulder blade
- spine of shoulder blade

Condition c. 2

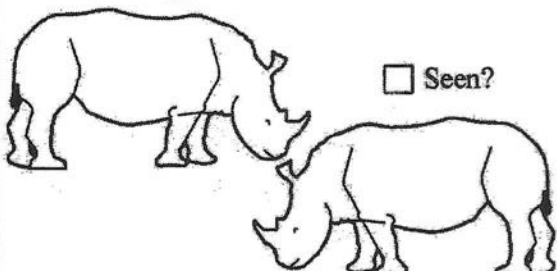


double flank fold

Condition about 1.5

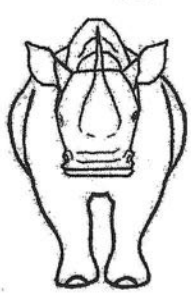


Seen?




Seen?

Seen?



Seen?



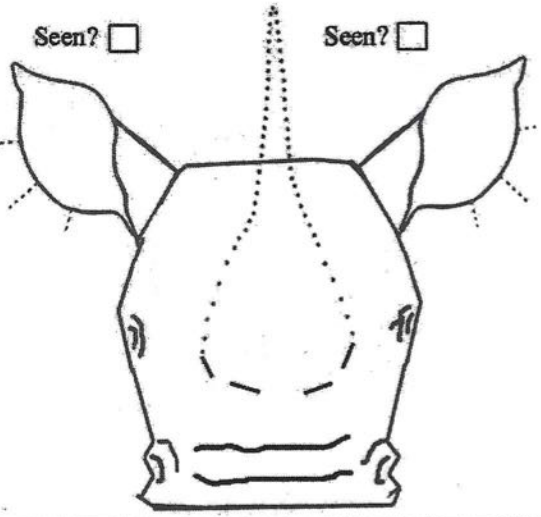
WHITE RHINO IDENTIFICATION NOTES

Reserve: Date:.....

Observer:

Location:

Seen?

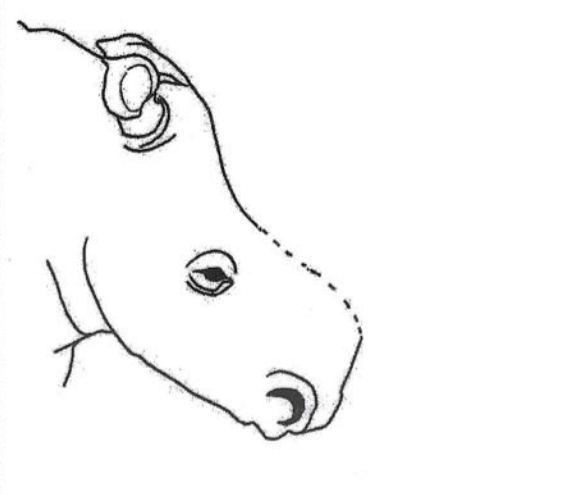
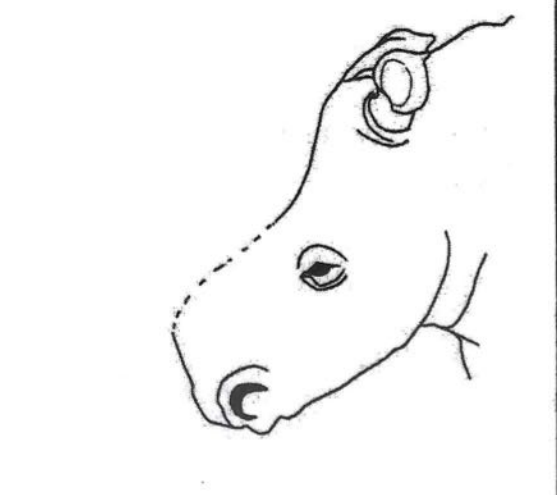


Seen?

Total:		A	B	C	D	E	F
Group Composition	♂						
	♀						
	?						

Sex: ♂ ♀ ? Unknown

Age: A B C D E F

Combined with the recently established precedent of heavy sentencing for those convicted of rhino offences, repeated successful arrests and convictions of rhino poachers and horn dealers can act as a deterrent. Opportunist criminals may seek other easier and less risky ways to make a fast buck.

If my memory serves me right, private sector rhino custodians in both Kenya and Namibia have set up emergency reaction funds. Some private rhino custodians have put some money into the fund which can be used to hire helicopters, etc., if needed in an emergency. In these times of declining government budgets, citizens are having to become more and more self reliant. Maybe setting up an emergency reaction fund is something AROA members should consider. *

RHINO CONSERVATION IS EXPENSIVE - HOW DO WE FUND IT ? HOW DO WE INCREASE INCENTIVES FOR THOSE CONSERVING RHINO?

CITES resolution conf. 9.14 recognises that range States should aim for self sufficiency and sustainability in their rhino conservation efforts, and that recovery plans should include provisions for the reinvestment of revenues derived from use of rhinoceros to offset their high costs of conservation provided it is appropriate for the situation in the country and will not adversely affect rhino conservation in other range States.

Successful rhino conservation is expensive - The draft South African white rhino strategy suggests the private sector can fund it in four possible ways:

- i. Tourism
- ii. Hunting (45 odd white rhino/year)
- iii. Live sales (Record prices now - but future ?)
- iv. Open a limited controlled trade in horn ?

i. Tourism

The draft white rhino strategy recommends the development of tourism to increase profits and create employment opportunities. Many of you are experts in this field, and so I have only added two suggestions AROA may wish to consider.

Strategically it may be a good idea for AROA and the Game industry in general to quantify net benefits of rhinos and game to the economy in terms of employment, economic and social benefits to surrounding areas and FOREX generation. This will help provide the facts to justify game farming to the whole of South African society as a valid form of land use, and in many cases the best form of land use (rather than being seen as a waste or under use of valuable land). *

The draft South African white rhino conservation strategy recognises that the long-term conservation of white rhinos is dependent upon the support and participation of all sectors of the South African population. The challenge for AROA and State conservation agencies is how to promote and facilitate the participation and involvement of communities in the conservation of rhinos. Tourism is one key area where communities can become involved and become aware of the value and benefits of conservation.

ii. Hunting

Whatever we may personally think about rhino hunting, to quote non-hunter Raymond Bonner (1993), this should not cloud a judgement about whether they (hunters and hunting) can be good for conservation. Since white rhino hunting started in earnest in 1968, the number of white rhino in South Africa has more than quadrupled. Currently only about 0.6% of South Africa's white rhinos are hunted per annum, and the number of top dollar hunters appears to be limited to about 40-45 per year. White rhino trophy hunting in South Africa is a good example of a consumptive use of a species that has clearly been sustainable. Hunting has played a role in keeping live sale prices high, and this has also generated much needed revenue benefiting the State sector as well as contributing to

increased incentives for the private sector to conserve rhino. White rhino hunting has also created a number of jobs and generated much needed FOREX for the country.

I am pleased to report that since I did some research for the WCS/WWF international rhino cost-benefit study there has been a major improvement in the controlling and monitoring of hunting. In addition data are being used to quantify the economic benefits of hunting (by AROA, PHASA ? *).

I strongly agree with Clive Walker, that only appropriate and humane hunting methods should be used to hunt white rhino #. Bow hunting of pachyderms is currently outlawed in most provinces with the exception of Free State and possibly Northern Province. In the latter there is currently a moratorium on bow hunting except under special permit on an experimental research basis. AROA members may wish to discuss the possible need to take a stand and unequivocally register their views on this matter if they have not already done so, given that any bow hunting of rhino is likely to bring the whole industry and country into disrepute. *

As part of the process of trying to eliminate illegal trade in rhino horn it would be a good idea to identify all hunting trophies using the standardised system *. All stakeholders involved with hunting in the private and State sectors probably need to get together to discuss this. For the system to work everyone must use the same system. AROA members can obtain more information on and discuss standardised trophy identification with KZNNCS's Rod Potter.

iii. Live sales

The high value of rhinos on live sales has helped stimulate the private sector to conserve rhino. In addition the revenue generated by the State sector has assisted conservation agencies maintain good conservation programmes in the face of declining government grants. Live sales are therefore also critical to the State sector. At the 1999 Hluhluwe auction, record white rhino prices were again obtained. However, the question is how can demand (and price) be maintained or increased in future as more and more surplus rhino become available? Any reopening of trade (called for in the draft white rhino strategy) if it is ever sanctioned by International community at CITES is likely to lead to increased live-sale price (probably increasing total carrying capacity).

International sales of live white rhino must be to approved and acceptable buyers only. #

SOUTH AFRICA'S WHITE RHINO CARRYING CAPACITY - THE MORE LAND AVAILABLE THE BETTER

With such a potential rapid increase in numbers, South Africa's capacity to hold white rhinos will eventually be reached. If poaching can be held in check, then thanks to compounded growth this point could be reached much sooner than most people expect. Sadly, when South Africa's carrying capacity for white rhino is reached, it may be necessary to start culling surplus rhinos (as sufficient large-scale sponsorship to fund the capture and relocation of all surplus animals to suitable secure reserves in other range States is unlikely to be forthcoming). It is expected that economic incentives are likely to strongly influence the rate of further expansion of white rhino onto both private and communal land, and thus govern South Africa's eventual carrying capacity for white rhino. The logical conclusion is that, in all likelihood, the greater the economic incentives for communities and the private sector to conserve white rhino in South Africa, the bigger the probable area of land available to white rhinos, and the more the dreadful day when white rhinos eventually have to be culled (or sterilised) can be postponed.

Some (who know nothing about savanna ecology) may argue that culling of white rhinos is unthinkable and that "nature should instead be left to take its course". Unfortunately, this *laissez-faire* approach to management is not an option, for the one simple reason that most white rhino occur in smaller fenced reserves and not vast open areas where natural processes can be left to function. White rhino expert Norman Owen-Smith (1983) was the first to point out that fencing prevents dispersal of

surplus white rhino (especially subadults) into more marginal peripheral habitat, and thus one of the white rhino's main population regulation process is prevented from operating. In fenced areas, large, long-lived megaherbivores like white rhino also have the ability to temporarily overshoot carrying capacity, with the end result, that if unmanaged, artificially high densities of white rhino can build up in fenced parks if left unchecked. In turn, the resultant artificially high grazing pressure can reduce fuel loads precluding the use of fire, as well as creating conditions favourable for bush encroachment and/or artificially accelerated soil erosion. White rhino carrying capacities should decline in response to these habitat changes, and in time there probably will be a die-off of white rhino and other species. By then it may be too late if the ecological damage has been done. One cannot simply turn the clock back and recover lost topsoil from the sea! If culling is not considered an option when the carrying capacity is eventually reached, then other alternatives such as sterilisation and birth control will need to be considered.

REOPENING TRADE ?

The draft white rhino conservation strategy (Anon, 1999) proposes that South Africa pursues a legal trade in rhino products in accordance with international agreements and conventions including CITES. In his booklet *Rhino Ranching*, Kobus du Toit (1998) also strongly supports the international sale of horn, as does resource economist Michael 't Sas-Rolfes (1995). Most private white rhino owners I have spoken to are also supportive of reopening trade. This view is not shared by all in the international community, however.

I have heard a private rhino owner express the view that horn should be sold as "these are my rhino and I should be able to do what I want with them" #. This view is naive in the extreme. Deciding whether to trade is not only a private sector matter, as the bulk of the rhinos and stockpiles are in State hands. Submitting a downlisting proposal to CITES to allow trade is also a national matter. Furthermore the reopening of trade is an international concern. Some rhino owners seem not to fully appreciate the fact that there can be no legal trade without the approval of a downlisting by two-thirds of the Parties to CITES.

To provide background to any following workshop discussions on trade it is worth briefly looking at some of the main arguments both in favour of and against the reopening of the horn trade.

Some of the reasons advanced in favour of reopening trade include:

Rhino conservation success is linked to budgets, and a trade would generate much needed additional income for both State and the private sector. Trade bans currently limit potential income and hence capacity of resource managers to maintain adequate expenditure. With a trade those paying the costs of conserving rhinos would also get more of the benefits.

A trade would almost certainly stimulate the live sale price, and probably increase the total area of land available for rhino, and hence put back the day when white rhinos may have to be culled. With a trade game farmers could get a compounded return from both biological growth and repeated horn harvesting.

Demand could be supplied legally without killing rhinos (stockpiles and farming)

A trade should increase self-sufficiency and sustainability of South Africa's conservation effort (as called for by CITES Resolution 9.14).

Trade bans drive trade underground, increasing prices and creating and maintaining opportunities for criminal middlemen and corrupt officials (like prohibition did in the USA). Reopening a trade would also send a message to potential speculators that rhinos are not going extinct.

A controlled legal trade would provide opportunities for constructive dialogue with traditional Chinese medicine (TCM) practitioners who would no longer be forced to deal with criminal black marketeers. Some feel that constructive dialogue between conservationists and TCM practitioners may also benefit other endangered species.

Horn is seen by many TCM practitioners as an important ingredient and not a frivolous or luxury item. It is therefore likely to be harder to eliminate demand for horn in the same way that prohibition did not eliminate demand for alcohol in the USA.

Previous consumption levels of horn in TCM were limited, and it has been estimated that such demand could be supplied legally.

If a well-controlled legal trade were to reduce illegal trade, this may reduce poaching pressure and hence field protection costs.

The southern white rhino no longer classified as *Threatened* or *Endangered* but in the *Lower Risk* category of *Conservation Dependant*.

If some substitution of legal African horn for Asian horn occurs in TCM, this may reduce pressure on Asian rhinos.

In southern Africa, many have argued that the more value wildlife has, the more chance wildlife habitat can be maintained and not be transformed (with the obvious spin-off for the conservation of biodiversity).

There are also a number of strong arguments why trade should not be reopened and rhino owners should be aware that many people internationally are against South Africa reopening a controlled horn trade. If South Africa wants to further its draft strategy aim of starting a controlled legal trade - strategically all stakeholders should be fully aware of and attempt to deal with these objections.

Some of the reasons advanced in opposition to reopening a trade include:

While CITES bans on their own clearly failed to halt poaching, the combination of increasing internal bans and international bans under CITES may be starting to work. For this reason, trade bans should be given more time, and indeed the international community should rather re-double its pressure on consumer nations to stop using horn.

If illegal demand declines in response to the combination of internal and international trade bans - poaching pressure could also decline - reducing costs of effectively protecting rhinos in the field. This is important given declining government grants for conservation.

Will it be practically possible to set up sufficient and effective anti-laundering controls at all stages of the proposed trade, and in so doing not put other taxa of rhino in other countries at risk? Trade control is not *only* a South African matter.

Any reopening of trade might create criminal opportunities for corrupt middlemen and government bureaucrats to organise poaching of animals in other range States with a view to trying to launder the horn and pass it off on the international market as legal.

Trade control mechanisms are currently not adequately developed. How would they work? Who would do it? Who would pay for the controls? How professional would the controlling body be?

Would a properly controlled trade be economically viable? Is monitoring of private sector rhinos and their movements adequate? * #

Concern has been expressed over control and registration of horn stocks - especially in the private sector (AROA ?) * #

Corruption, declining budgets in State sector, loss of skilled staff and declining morale in some provincial nature conservation agencies raises questions concerning the future capacity of South Africa to control a legal trade?

While a legal trade could supply previous TCM demand, concern has been expressed that legalising trade may increase new demand among young affluent South-east Asians around the

world, possibly increasing demand to unsustainable levels. If this started a general increase in demand for rhino medicines, then Asian rhinos may be put at increased risk.

Ownership and consumptive use of wildlife and wildlife products are seen as negatively affecting the conservation efforts in some range States (such as India and Kenya) that have been for many years promoting a non-commercial protectionist "wildlife are part of our heritage" education and conservation approach (e.g., Kenya or India).

Concern has also been expressed that the reopening of trade may possibly result in anti-South African tourism campaigns which may hamper tourism and economic and employment growth?

Whether private rhino owners like it or not - it is worth repeating that no legal trade in horn will take place unless it is approved by two-thirds of the international community at CITES. Parties at CITES will have to be convinced the conservation benefits outweigh the possible risks, and that the necessary anti-laundering controls can be implemented so that other taxa of rhino are not put at increased risk. Private rhino owners need to be aware that there is a large body of international opinion that "commercialisation and trade are bad" and "to prevent use is to save" *.

GOING FORWARD - SUGGESTIONS OF POINTS FOR THE WORKSHOP TO CONSIDER

With criticism of the control of private horn stocks, and the need for the private sector to conserve a greater proportion of South Africa's white rhinos in future, the time is opportune for all private owners to work together to build up AROA. With the development of the new draft white rhino conservation strategy, rhino owners also need to determine how they can help implement this strategy. The workshop therefore represents a very timely and important step forward, and provides an opportunity for the private sector to build upon their very successful white rhino conservation efforts over the last decade. *

This paper and the new draft white rhino conservation strategy show that:

Sound white rhino conservation in South Africa requires a partnership between State, private sector and communities.

While all rhino conservationists are seeking long term solutions to ensure the continued survival and growth in numbers of the world's rhino taxa, there are differing opinions as to the strategies most likely to conserve rhinos in the long term. Trade in rhino horn cannot be started at the whim of some private owners. Re-opening trade requires the support of the international community.

There is an urgent need to institute proper monitoring and control of horn stocks (especially in the private sector). *

There is room to improve monitoring, biological management and security in some reserves. *

There is a need to develop reaction plans in the event of poaching, and for the private sector to consider the creation of an emergency reaction fund. *

There is a need to set up National white rhino status reporting - at least for major populations. *

High standards of animal welfare must be maintained. *

The private sector should seek ways to increase community participation and involvement? *

Rhino owners should together with colleagues in formal state conservation agencies consider what structure a National Consultative Forum to coordinate this strategy should take?

Sustainable use is a means to help fund sound conservation. It is poor PR to make it seem an end in itself.

There are a number of instances (#) where AROA and South Africa could suffer as a result of the actions of a small minority of individuals, provinces, etc. AROA perhaps should consider how to deal with such "loose cannons" whose actions may threaten opportunities for everyone else.

REFERENCES

- ADCOCK, K. 1998. Status and management of black rhino in South Africa and Namibia: April 1995 to December 1998. Confidential *Rhino Management Group* report. 49 pp.
- ADCOCK, K. and EMSLIE, R.H. *in prep.* Monitoring African Rhinos, An update of "Sandwith's" Training Course for Field Rangers. An IUCN SSC AfRSG production.
- ANON. 1999. A strategy for the conservation and sustainable use of wild populations of southern white rhino *Ceratotherium simum simum* in South Africa. Draft document produced following a stakeholders workshop held at Itala Game Reserve and organised by the Southern African Rhino Management Group (RMG). 7 pp.
- BONNER, R. 1993. *At The Hand of Man - Peril and Hope for Africa's Wildlife*. Simon & Schuster. 332 pp.
- BROOKS, P.M. and ADCOCK, K. 1997. Conservation Plan for the black rhinoceros *Diceros bicornis* in South Africa. Rhino Management Group report. 60 pp.
- BUIJS, D. 1987. White Rhinos on Private Land - results of the 1987 survey. Rhino and Elephant Foundation unpublished report.
- BUIJS, D. 1998. White Rhinos on Private Land - results of the 1998 survey. Rhino And Elephant Foundation unpublished report.
- BUIJS, D. and PAPENFUS, T. 1996. White Rhinos on Private Land - results of the 1996 survey. Rhino And Elephant Foundation unpublished report.
- DU TOIT, J.G. 1998. *Rhino Ranching - A manual for owners of white rhinos*. South African Veterinary Foundation, Pretoria. 64 pp.
- EMSLIE, R.H. 1999. The feeding ecology of the black rhinoceros (*Diceros bicornis minor*) in Hluhluwe-Umfolozi Park with special reference to the probable causes of the Hluhluwe population crash. PhD thesis, University of Stellenbosch.
- EMSLIE, R.H. and BROOKS, P.M. *in prep.* African Rhinos - A Continental Status Summary and Action Plan. IUCN SSC African Rhino Specialist Group.
- OWEN-SMITH, R.N. 1983. Dispersal and the dynamics of large herbivores in enclosed areas: Implications for management. *In*: OWEN-SMITH, R.N. (ed.) *Management of large mammals in African conservation areas*. Pretoria: HAUM. pp 127-144.
- 'T SAS-ROLFES, M. 1995. Rhinos: Conservation, Economics and Trade-Offs. IEA Studies on the Environment, London. 69 pp.

A DRAFT CONSERVATION STRATEGY FOR WHITE RHINOS IN SOUTH AFRICA WITHIN THE CONTEXT OF A CENTURY OF CONSERVATION ENDEAVOUR

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INTRODUCTION

In 1987, the IUCN SSC's African Elephant and Rhino Specialist Group (AERSG), recommended the formulation of conservation plans for each African range State with > 100 rhinos. Conservation plans are essential for coordinated directional action - to clearly identify goals within an approved policy framework, mechanisms for achieving the goals, and to allow success to be evaluated.

This initiative by the IUCN was the catalyst for South Africa and Namibia to develop a plan for black rhino *Diceros bicornis*, which was selected ahead of the southern white rhino *Ceratotherium simum simum* due to its endangered status and the need to improve its status and management in the region. The black rhino plan was duly adopted in 1989, and the Rhino Management Group (RMG) formed to manage it. Its success can be measured by the 5% per annum increase in numbers between 1989 and 1997 (latest estimate) from 715 (12 populations) to 1 043 (25 populations - 7 of which are on private land).

The southern white rhino is one of the world's greatest conservation successes, so it has often been taken for granted that South Africa has a national strategy or plan. Not so, and although the RMG's mandate is strictly for black rhino, the RMG was requested by the provinces to develop an appropriate conservation strategy. This was undertaken at a national workshop held at Itala Game Reserve on 23-24 March 1999, and attended by most of the major stakeholders and interested parties such as the State nature conservation agencies, non-governmental organisations involved in rhinos and private landowners. The draft strategy was forwarded in early April to the Department of Environmental Affairs and Tourism with the request that it be considered and comment and support sought from the relevant authorities and organisations.

THE RHINO MANAGEMENT GROUP (RMG)

The Rhino Management Group of southern Africa is responsible for (i) managing South Africa's black rhino conservation plan, (ii) facilitating coordination and cooperation between South Africa, Namibia, Swaziland and (to a lesser extent) Zimbabwe, (iii) developing management strategies and plans, (iv) evaluating the performance of each black rhino population based on status reports received annually and (v) providing general management advice. It comprises representatives from each State conservation agency, the Rhino and Elephant Security Group, private owners and rhino specialists. It has no mandate for white rhino, and simply undertook to facilitate the development of the white rhino strategy in the absence of any other obvious candidate organisation.

HISTORY OF WHITE RHINO CONSERVATION

It is important for the white rhino strategy to be seen within the context of the conservation history of the subspecies in Africa.

The historical range of the southern white rhino is from southern Angola through Botswana, Zimbabwe, Mozambique and Swaziland into the northern, northwestern and subtropical eastern areas of South Africa (Fig. 1). By 1900, the only remaining population comprised 10-20 animals in the Umfolozi region in KwaZulu-Natal. It is from this relic population that the more than 8 400 southern

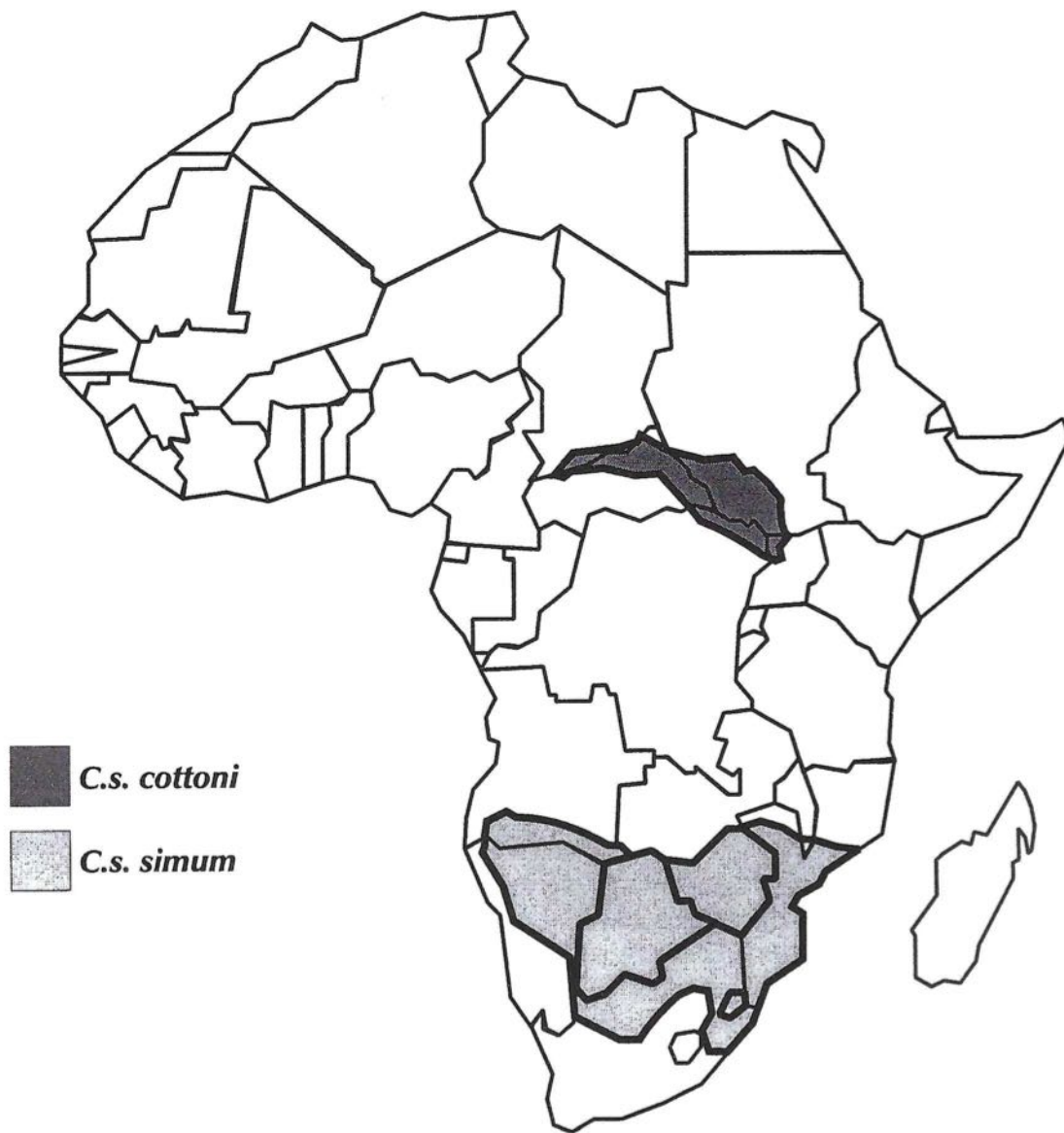


Figure 1: Probable historical distribution of the southern white rhinoceros *Ceratotherium simum simum* (from Cumming, 1987) and the northern white rhinoceros *Ceratotherium simum cottoni* around 1900 (from Hillman-Smith *et al.*, 1986).

white rhinos present in Africa today were derived. The numbers of white rhino in each African range State are given in Fig. 2, and the trends since 1900 in Fig. 3.

South Africa has therefore clearly played an absolutely critical role in the survival and recovery of the southern white rhino. This has been achieved through a number of innovations, ranging from the darting and translocation of white rhino to create new populations, which started in 1961, sale to the private sector, the introduction of trophy hunting in 1968, and the auctioning of rhino which began in 1989. These and other steps are summarised in Fig. 4, along with an approximation of the size of the South African white rhino population at each stage.

The continuing critical importance of South Africa's white rhino populations can be gauged by the fact that it holds 35 of the 45 white rhino populations rated by the IUCN Species Survival Commission's African Rhino Specialist Group as key or important to the survival of the taxon.

WHY IS A CONSERVATION STRATEGY NECESSARY?

Despite the fact that the white rhino story represents one of the most successful conservation efforts of all time, there are a number of reasons why a strategy is required.

- * The survival of the southern white rhino is not yet assured. It is rated in the IUCN Red Data list as Conservation Dependent, which means that should conservation measures (e.g. protection) be withdrawn, it could again become threatened with extinction. Poaching remains a threat, and there is competition for habitat with other forms of land use.
- * A Many powerful non-governmental organisations, especially within the animal rights movement, are campaigning against sustainable use. If these are successful, the incentives for private ownership will decrease.
- * A national strategy is required as a basis for any international initiatives involving white rhinos. For example, CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Res. Conf. 9.14 Conservation of rhinos in Africa and Asia (drafted by the African Rhino Specialist Group), recommends that all range States develop recovery plans which:
 - (a) are appropriate for the country;
 - (b) will not adversely affect rhino populations elsewhere;
 - (c) allow for the reinvestment of revenues to offset the high costs of conservation;
 - (d) aim towards the long-term goal of sustaining, on a self-sufficiency basis, their rhino conservation programmes.

The adoption of a national strategy would strengthen South Africa's proposal to the next CITES Conference of Parties (COP 11, 10 - 20 April 2000) to allow trade in products from its white rhino population.

THE CONSERVATION STRATEGY FOR WHITE RHINOS IN SOUTH AFRICA

The strategy, a full copy of which is attached as Appendix 1, provides the framework for the more effective management and use of our white rhino population. It should be read carefully and, where appropriate, the relevant actions implemented. However, the overall vision identifies the need to meet the pure conservation goal of maintaining viable populations in the wild, the importance of partnerships and significant socio-economic benefits accruing to all sectors, and the need for continued national self-sufficiency.

The six key components of the strategy give expression to the vision by identifying specific objectives and the main actions required to achieve them. These provide clear direction to the various organisations and individuals which own and manage white rhino, and through promoting the integrated nature of rhino conservation and use, provide an awareness of joint responsibility. Partnership between the State and the private sector is considered a key ingredient for successful rhino conservation. As evidence of this, it is strongly developed also in Kenya, Zimbabwe and Namibia,

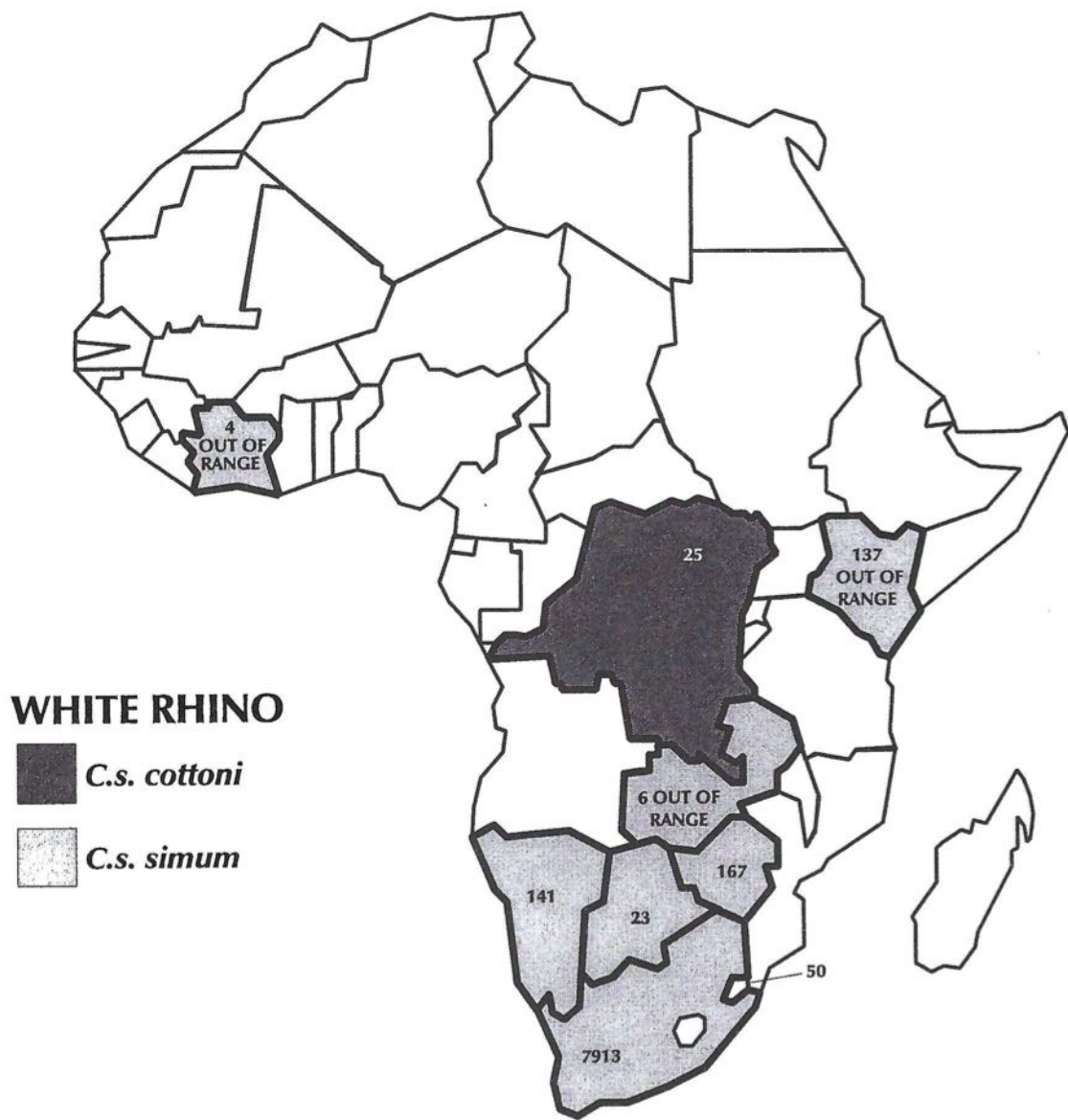
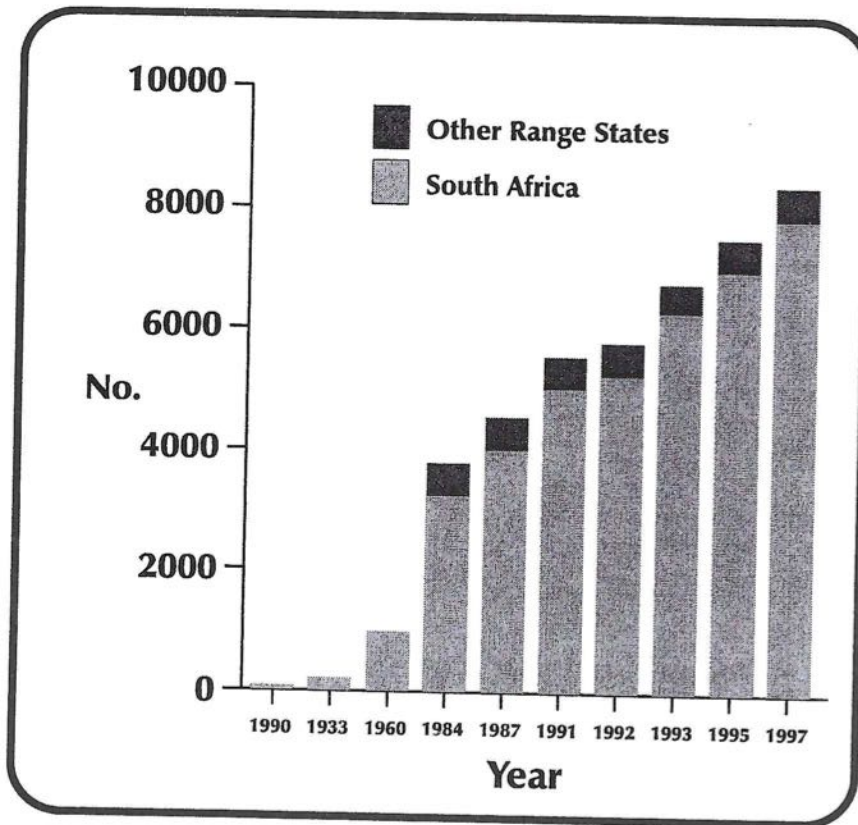


Figure 2: Numbers of white rhinos by country and subspecies in 1997, excluding speculative guesstimates. Exact locations of populations are confidential.



YEAR	SOUTHERN WHITE RHINOCEROS NUMBERS IN AFRICA		
	SOUTH AFRICA	Other Range States	Total
1900	20	0	20
1933	200	0	200
1960	1 000	0	1 000
1984	3 234	578	3 812
1987	4 060	551	4 611
1991	5 057	533	5 590
1992	5 297	523	5 820
1993	6 376	408	6 784
1995	7 095	468	7 563
1997	7 913	528	8 441

Figure 3: Southern white rhino trends in Africa: 1900-1997

which together with South Africa conserve 97% and 99% of Africa's black and white rhinos, respectively.

1. Biological management

Objective: To achieve a medium-term metapopulation growth rate of at least 5%, and to ensure long-term genetic and demographic viability in at least the State and private/community sectors.

This objective indicates that the average rate of increase of all white rhino populations combined in South Africa should be at least 5% per annum, irrespective of what type of resource use is practised, and that this should be a shared responsibility between the State, private landowners and communities. Long-term genetic viability should be ensured through developing and maintaining a number of large rhino populations, ranging from 50 to 1000 animals, ensuring effective founder population sizes and through the judicious adding of fresh blood.

The main indicators of whether the conservation objective is being achieved would be:

- * À Metapopulation growth rate
- * À Number of key and important populations
- * À Number of populations of different size

These can only be effectively determined if appropriate monitoring programmes are being conducted and reports on the status of the populations are submitted by all sectors.

2. Security, protection and law enforcement

Objective: To reduce the effects of poaching on populations, and ensure the successful conviction and sentencing of rhino poachers and illegal traders.

This again is clearly a shared responsibility between the State, private landowners and communities. A number of actions aimed at detecting and preventing poaching, effecting successful prosecutions and safeguarding and auditing horn stocks are described.

3. Sustainable use

Objective: To develop the socio-economic sustainability of white rhino conservation and the flow of benefits from sustainable use.

In line with CITES Res.9.14, which recommends that revenue derived from the use of rhino should be reinvested in rhino conservation programmes, economic incentives need to be maximised. This is particularly important given the very high cost of effective rhino management (up to US\$1 200/km²) and declining State subsidies. The actions required include the promotion and implementation of a wide variety of sustainable use options, including ecotourism, hunting and sale of live rhinos; and endeavours to open up and undertake a legal trade in rhino products. Clearly the latter will require a uniform, national scheme for identifying, marking and registering stocks, the adoption of which would be a prerequisite for an individual to trade.

4. Animal welfare

Objective: To ensure that nationally-accepted standards of animal welfare are implemented in white rhino conservation.

This requires that high standards of animal welfare are applied during the management and handling of rhinos, including ensuring that rhinos are sent only to acceptable destinations.

5. Community involvement

Objective: To promote and facilitate the participation and involvement of communities and other stakeholders in the conservation and sustainable use of white rhinos.

EVENTS

		Population Size
■	1895 Population ca. 20, Umfolozi Game Reserve Spared Nagana Campaign	20
■	1961 "Operation Rhino" - Translocated > 4 560 to date	1 000
■	1968 Sustainable hunting initiated on private land ca.40 per annum : Value 1998 - \$ 1 000 000	1 500
■	1976 Listed CITES Appendix I	2 200
■	1986 Game Auction : KZN Price 1986 - R 10 000 White Rhino : Mean Price 1998 - R 109 000	4 500
■	1994 ● SA population downlisted CITES Appendix I→II Sale of live animals Continued export of hunting trophies ● AROA formed in October	6 700
■	1997 Proposal to COP 10 : CITES Trade Horn : Zero Quota : " Moral Support"	7 900
■	1999 ● Partnerships → Major private sector investment - 160 populations → Significant state-owned populations - 40 populations ● Conservation and protection ● Sustainable Utilization	

Figure 4: Key events in the southern white rhino story

There are many reasons why it is important for all sectors in the South African population to have a stake in white rhino conservation; for example, a realisation of, and sharing in, the animals' value provide incentives for ownership and improved protection. The private sector can play a role through liaison meetings and promoting and facilitating rhino ownership by communities.

6. Coordination

Objective: To ensure the effective coordination of the white rhino industry.

White rhino conservation and use is relatively well coordinated in the State sector, but there appears to be significant fragmentation and often insularity within the private sector. AROA is providing a coordinatory mechanism for this sector, but there is clearly need for the setting of standards and increased interaction with the private sector and with the State. This is why the workshop recommended the setting up of a consultative forum at which the State nature conservation agencies, the private sector and communities could discuss issues and recommend policy and management direction.

CONCLUSION

The Department of Environmental Affairs and Tourism has yet to confirm the adoption of the white rhino strategy as drafted (Appendix 1). However, this in no way hinders its value as a vehicle for debate or the implementation of actions considered appropriate by specific stakeholders. It cannot, however, at this stage be referred to as an official South African strategy.

APPENDIX 1

A STRATEGY FOR THE CONSERVATION AND SUSTAINABLE USE OF WILD POPULATIONS OF SOUTHERN WHITE RHINO *Ceratotherium simum simum* IN SOUTH AFRICA

Rhino Management Group
DRAFT of 8 April 1999

VISION

MINDFUL OF ITS CRITICAL INTERNATIONAL ROLE IN THE CONSERVATION OF THE SOUTHERN WHITE RHINO, SOUTH AFRICA'S VISION FOR THE SUB-SPECIES IS OF:

- VIABLE POPULATIONS IN NATURAL HABITAT THROUGHOUT ITS FORMER RANGE.
- SHARED COMMITMENT BY THE STATE, COMMUNITIES AND PRIVATE LAND-OWNERS TO THE IMPLEMENTATION OF EFFECTIVE CONSERVATION MANAGEMENT PROGRAMMES.
- SIGNIFICANT FLOW OF SOCIO-ECONOMIC BENEFITS TO PEOPLE AT ALL LEVELS.
- CONTINUED NATIONAL SELF-SUFFICIENCY IN CONSERVING WHITE RHINO

KEY COMPONENTS OF THE STRATEGY

1. BIOLOGICAL MANAGEMENT

Objective:

To achieve a medium-term metapopulation growth rate of at least 5%, and to ensure long-term genetic and demographic viability in at least the State and private/community sectors. Aim to develop and maintain on State protected areas at least 2 populations of more than 1 000 rhinos, 3 greater than 100 and 10 greater than 50; and in private/communal ownership at least 3 populations greater than 100 and 5 greater than 50.

Rationale:

An increased number of rhinos in additional populations under a full range of management models (i.e. private, community and State) will add strength to the strategy from a security and genetic perspective, and provide an increased buffer against the effects of poaching. The management of populations for maximum growth also increases opportunities for rhinos to generate income that can be used to offset some of the high cost of their conservation (CITES Res Conf.9.14), as well as building up numbers of surplus animals that can be used to establish additional populations.

Actions:

- # Estimate Ecological Carrying Capacity of each rhino area.

Monitor rhinos to get accurate population estimates, measures of reproductive performance, condition, levels of disease, mortality levels, etc. (Preferably use techniques based on individual identification for all but the very large populations, e.g. more than 500 rhinos).

- # Manage for maximum productivity through stocking at a maximum of 75% of estimated Ecological Carrying Capacity.
- # Consider supplementary introductions to minimise the loss of genetic diversity.

- # Assess suitable areas for the establishment of new populations.
- # Aim to have a founder population of at least 20 animals.
- # Translocate surplus animals (following recommended procedures and guidelines) to establish new populations in areas of secure and suitable habitats.
- # Ensure rhinos that are translocated are free from any notifiable disease.
- # Accelerate the establishment of key and important populations on private and communal land.
- # Undertake applied research where necessary.
- # It is recommended that a regular system of status reporting and synthesis of reports is instituted for key** (more than 50 rhinos) and important** rhino populations (21-50 rhinos) with a potential carrying capacity of > 50 rhinos.
[**As defined by the IUCN SSC African Rhino Specialist Group].

Indicators:

- Metapopulation growth rate of at least 5% per year.
- Achieve desired number of key and important populations.
- Status reporting operational. Routine use of appropriate monitoring techniques.
- Application of reliable tests for notifiable diseases such as bovine tuberculosis (TB).
- Number of populations of different sizes by management model.

2. SECURITY, PROTECTION AND LAW ENFORCEMENT

Objective:

To reduce the effects of poaching on populations, and ensure the successful conviction and sentencing of rhino poachers and illegal traders.

Rationale:

The major threat to rhino numbers is poaching and illegal trade. These must be minimised to sustain population growth and maintain the economic, tourist, social and community value/benefits of white rhino.

Actions:

- # Maintain pro-active crime prevention through the development and use of intelligence networks.
- # Undertake threat analyses of rhino areas.
- # Develop rhino protection action plans.
- # Use effective procedures for more successful prosecutions, (e.g. use specialist investigators, expert witnesses to argue in aggravation of sentence in court, etc.).
- # Adequately contain animals within secure areas.
- # Maintain continuous monitoring of animals for security.
- # Insert micro-chips in animals using a standard system (e.g. Trovan) when immobilising them.
- # Establish and maintain good community relations.
- # Implement a uniform horn registration system, with documented audit trails and subsequent safe storage and auditing of horn stockpiles.
- # Maintain effective manpower density, training, equipment and deployment for anti-poaching activities.

- # Monitor the effectiveness of field personnel.
- # Field management should strive for good leadership, active involvement and supervision.

Indicators:

- Number of rhinos poached (corrected for effort).
- Ratio of poached to natural deaths.
- Proportion of poaching cases with subsequent convictions.
- Court cases won vs. lost, and sentences handed down.
- Total number of illegal incidents (not restricted to rhinos) associated with a given rhino population.
- Ratio of all illegal incidents to arrests.
- Results of staff assessments (skills, readiness, equipment maintenance etc.).
- Morale of staff as indicated by staff turnover, corruption, number of disciplinary hearings and number of staff implicated in illegal activities.

3. SUSTAINABLE USE

Objective:

To develop the socio-economic sustainability of white rhino conservation and the flow of benefits from sustainable use.

Rationale:

The expansion of rhino populations (especially on private and communal land) and the continuation of appropriate conservation management programmes require economic incentives to be maximised. CITES resolution 9.14 recommends that revenue derived from the use of rhino should be reinvested in rhino conservation programmes.

In the face of declining State contributions to nature conservation, economic returns from wildlife help to sustain conservation management programmes. They also provide the basis for investment by the State, communities and the private sector in further land and expanded populations.

Actions:

- # Sell live rhinos to appropriate buyers.
- # Promote and undertake controlled ethical hunting, including the application of an appropriate procedure for issuing permits, the avoidance of inappropriate hunting methods, and the marking and registration of trophies.
- # Promote and undertake safe and responsible tourism opportunities which do not negatively impact on wild rhinos, their habitats or other species.
- # Facilitate investment in tourism facilities, based on rhino conservation, which provide a positive return, increased participation, and the development of new employment opportunities.
- # Pursue a legal trade in rhino products in accordance with international agreements and conventions, including CITES.
 - Promote a uniform national system for controlling a legal trade in rhino horn, including the identification, marking and registration of stocks.
 - Promote the development and adoption of national legislation.

- Introduce a system for monitoring the impact of any reopening of a legal trade in rhino horn on rhino populations in South Africa.
- Promote incentives for the reinvestment of revenues from trade into rhino conservation.

Support the captive breeding or display of white rhino by reputable institutions.

Indicators:

Number of inappropriate practices / contraventions.

Proportion of horn stocks registered.

Success in acquiring authority to trade in rhino products from CITES.

Number of tourists attacked or injured by rhino.

Number of rhinos injured or destroyed in tourist-related incidents.

Proportion of tourism revenues dependent on rhino conservation.

Revenue derived from existing trade, and prices achieved for rhinos and products.

Number of of transactions, and value of trade.

4. ANIMAL WELFARE

Objective:

To ensure that nationally-accepted standards of animal welfare are implemented in white rhino conservation.

Rationale:

It is essential that South Africa maintains high animal welfare standards both for the sake of individual rhinos and for South Africa s standing internationally. This covers both the management and handling of rhinos in existing populations, as well as the evaluation of the final destination of relocated animals.

Actions:

Apply national animal welfare standards during capture, translocation**, holding live sales and their subsequent management. [** Ensuring rhinos are exported only to acceptable destinations].

Indicators:

Proportion of management exercises that achieve the required animal welfare standards.

5. COMMUNITY INVOLVEMENT

Objective:

To promote and facilitate the participation and involvement of communities and other stakeholders in the conservation and sustainable use of white rhinos.

Rationale:

The long-term conservation of white rhinos is dependent upon the support and participation of all sectors of the South African population.

Actions:

Discuss white rhino issues at established liaison meetings.

Demonstrate and promote the benefits that can be derived from white rhinos.

- # Facilitate and promote the establishment of white rhino populations on communal land through partnerships and other supportive mechanisms.
- # Create increased awareness of the value of wildlife, including the role of the white rhino as a flag-ship species.

Indicators:

- # Change in rhino numbers within different ownership categories (private, State, communal).
- # Economic benefits derived by local communities from white rhino use.

6. COORDINATION

Objective:

To ensure the effective co-ordination of the white rhino industry.

Rationale:

There is a need for improved management and controls to optimise the conservation and sustainable use of white rhinos to the mutual benefit of all parties.

Actions:

- Establish a consultative forum (involving State nature conservation organisations, African Rhino Owners Association [AROA], professional hunting and game ranchers associations, communities, etc.) to develop ideas and mechanisms to promote the white rhino industry, including:
 - The evaluation of current legislation and policy in terms of its relevance and uniformity.
 - The recommendation of any further necessary control mechanisms that promote responsible management, e.g. management plans.
 - The identification, acquisition and interpretation of relevant information to facilitate the co-ordination and promotion of the industry.
 - Build capacity within the wildlife industry for effective white rhino management, including legislation, hunting and security.

Indicators:

Extent of active involvement by rhino managers and others in consultative forums.

APPENDIX 1

DISCUSSION GROUP 1 : A SUBSTITUTE FOR AROA?

AROA presently has little output besides surveys. It is also very low-key and some rhino owners don't know of its existence. It therefore doesn't offer much value for members' money.

Owners need a professional organisation (i.e. a company) which can get the industry in order, especially to register all horn stocks.

Without having our house in order, we would never get to resume legal trade, which will eventually reduce the value of rhino stock (presently R210 million, at R109 000 per animal). the supply of live animals will increase and the demand will drop.

The company should focus on conservation; a steady income is needed, since game farms compete for land with other agricultural interests.

Care should also be taken not to put interested groups into two camps: the conservationists (mainly State) versus the users (mainly private). Good relations, as is now the case, should always be maintained.

The company needs sufficient income to employ a full-time, competent administrator and lobbyist.

(Discussion group facilitator: Daan Buijs)

APPENDIX 2

DISCUSSION GROUP 2 : MANAGEMENT AND MONITORING

VISION:

Viable populations of black and white rhinos in suitable habitat throughout their original range (which includes private, state-owned and communal land)

IDENTIFICATION:

- Identification of individuals should be the overall aim.
- Identification of individuals is essential in small, intensively managed populations.
- In large populations, individuals should be marked whenever they are handled.
- The following identification systems are recommended:
 - ear notching (should be standardised)
 - microchip
 - body (site should be standardised)
 - horn (how practical is this?)
 - photographs
 - DNA-typing (from skin collected when ear is notched)
 - paired samples; one in a central reference facility

MONITORING:

- Ideally, population monitoring should be based on individual recognition
- Ideally, a standardised annual reporting system should be instituted for all populations
- Record-keeping of translocation of individuals in a central registry

TRANSLOCATION/INTRODUCTION:

- A manual should be published containing detailed information on translocation of rhinos and the requirements for establishing rhino populations in new areas.
- Through experience has been gained through trial and error; AROA should drive a project to collate this information for the manual

HORN:

- Individual horns should be identifiable
- Registry should be kept by AROA (concern about confidentiality if kept by government agency)
- One-channel marketing
- Preservation of horns in storage

REPRODUCTION:

- Hunting of males: sharing of information to facilitate freezing of sperm
- "Rent-a-Bull", i.e. exchange of bulls to prevent/minimise inbreeding - essential that central registry is kept
- Criteria for hunting of females should be investigated

DISEASES:

- AROA to promote research towards development of a reliable test for tuberculosis in rhinos

HUNTING:

- Hunting of males: sharing of information to facilitate freezing of sperm
- AROA to state its position on hunting of black rhinos

GENERAL:

- AROA should retain close contact with the Rhino Management Group of Southern Africa and operate according to principles and goals of national black rhino plans
- AROA to promote research into genetics of small populations of rhinos
- AROA should be pro-active in disseminating information

(Discussion group facilitator: Banie Penzhorn)

APPENDIX 3

DISCUSSION GROUP 3: LEGISLATION, POLICY AND SECURITY

LEGISLATION:

1. Current legislation inadequate

- Fragmented with difference in approach by provinces;
- Capacity of support systems (Justice, provinces, etc.) suspect and deteriorating;
- Uniform national legislation preferred option, lacking at present;
- New legislation should cater for incentives (trade and conservation) and social and ethical responsibilities, where applicable;
- Taken note and support project to promulgate Endangered Species Act.

2. Stakeholder involvement

- Intricate and restrictive legislation can alienate landowners; realise, however, that some rules mandatory in terms of international conventions and treaties;
- Stakeholder (landowners) to be involved in legislative process (also CITES)

3. Specific issues to be legislated for

- Mandatory legislation of rhino populations;
- Microchip marking of live animals and parts and derivatives **entering trade**. Special attention necessary when considering worked and cut-up products. Marking of all live animals to be encouraged, but always considering the welfare of the animal;
- Mandatory marking of all rhino horn in private possession. Agreed that this is necessary, but legislator must consider all options including amnesty, costs and maintenance of registers;
- Safekeeping if rhino horn under similar rules as applicable to fire-arms. Deemed as impractical and "overkill" at this stage

POLICY:

- Code of conduct as regard to conservation, utilisation and trade in rhino horn is vital yet it may result in internal disagreement (example: bow-hunting). In this regard the sale and hunting thereafter of trophy animals to be included if deemed necessary;
- Clear channels of communication and consultation between owners and authorities should be established and maintained;
- International trade in rhino products (excluding horn) should be investigated. The current situation is not clear;
- The introduction of subspecies not indigenous to South Africa should be investigated and policy guidelines formulated;
- Female (rhino) hunting an issue to be considered and policy guideline imperative.

SECURITY:

- Incentives in legislation to enhance security should be considered;
- Formal and informal assistance to landowners and authorities imperative. In this regard training courses, advice and manuals are measures to be considered;
- The suggested reaction plan and emergency plan are accepted and should be initiated.

(Discussion group facilitator: Piet Mulder)