CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

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Fourteenth meeting of the Conference of the Parties
The Hague (Netherlands), 3-15 June 2007

# BLACK RHINOCEROS CONSERVATION AND MANAGEMENT IN NAMIBIA

1. The attached document has been submitted by Namibia.

2. The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries.

# Black Rhinoceros Conservation and Management in Namibia

CITES Management Authority of Namibia.

## INTRODUCTION

Concerning Doc 37.2, Kenya is requesting the CoP to reconsider the black rhino annual export quotas for hunting trophies for Namibia (five adult male *Diceros b. bicornis*) and South Africa (five adult male *Diceros b. minor*) and thus repeal Res. Conf. 13.5 Establishment of export quotas for black rhinoceros hunting trophies.

Insufficient information is contained within Doc. 37.2 (and, Doc. 54 prepared by the Secretariat) to demonstrate the emergence of any *new* scientific or management data to indicate that the population in Namibia *can no longer sustain* the agreed quota.

The information contained within paragraphs 5 to 29 of Doc. 37.2 in support of the key statement given in paragraph 4, which basically contends that Res. Conf. 9.21 (Rev. CoP13) sub-paragraph (b) (ii)[1] is not sufficient to conclude that:

> *"Since CoP13, new information on management problems in Namibia and a rise in rhinoceros poaching in South Africa has come to light, which questions whether the rhinoceros populations can sustain such an annual quota in the future. Moreover, the allocation of the quotas was highly controversial at CoP13. Several range States, including Kenya, believed that allowing hunting of black rhinoceros could have a negative impact on their own populations."*

The four main arguments made in Doc. 37.2 points are *not* based on fact:

**1.** "Since CoP13, *new information on management problems in Namibia … has come to light …"*

The document provides just two paragraphs containing purportedly new information pertaining to Namibia (i.e. information collected since CoP13 when Res. Conf. 13.5 was accepted). However, the relevance of both paragraphs is questionable. The first, paragraph 8, refers to an alleged decline in rhino numbers reported in the Etosha National Park between 2004 and 2006. It was explained during the AfRSG meeting in 2006 that this apparent decline was an artifact of errors in previous count estimates, and that refinement of the estimates over time has followed the introduction of the Block Count Technique (See Annex 1). The second, paragraph 14, refers to an article published in *African Lion News*, which was in fact a largely anecdotal letter that pertained more to lions (e.g. not a single mention of the word "rhino").

Positive indicators of management in Namibia:

- the ratio of seized horn to horn lost to poaching in Namibia was amongst the highest of all range States documented in 2004;
- Namibia had one of highest assessments for horn stockpile management during 2005;

[1] THE CONFERENCE OF THE PARTIES TO THE CONVENTION AGREES that:

b) whenever the Conference of the Parties has set an export quota for a particular species included in Appendix I, this action by the Parties satisfies the requirements of Article III regarding the findings by the appropriate Scientific Authorities that the export will not be detrimental to the survival of the species and that the purposes of the import will not be detrimental to the survival of the species, provided that:

ii) no new scientific or management data have emerged to indicate that the species population in the range State concerned can no longer sustain the agreed quota.

- Namibia had one of the highest measures of law enforcement efficiency for ivory in the CoP13 ETIS analysis and Namibia treats ivory and rhino horns in the same way; and
- rhino populations continue to steadily increase within all land ownership categories. Further, Namibia clearly implemented the use of the precautionary approach in not hunting a single black rhino since CoP13 pending policy revision concerning the allocation of hunting concessions.

**2.** *"Since CoP13, a rise in rhinoceros poaching in South Africa has come to light …"*

The proposal fails to quantify this statement in a meaningful manner, with only a reference (unofficial) to the total number of incidents during a nine-month period in 2006, and lacking any interpretation in terms of:

- relation to levels of patrol effort and efficiency;
- relevance in terms of population sizes and growth rates; and
- trends over time.

**3.** *"… questions whether the populations can sustain such an annual quota in the future."*

Again, no further quantified and verifiable information is presented to support this statement, especially considering the fact that both countries have demonstrated good population growth rates both in the short-term (since CoP13) and longer-term (since 1980).

**4.** *"… allowing hunting of black rhinoceros could have a negative impact on their own populations."*

The proposal further does not provide sufficient information, quantitative or qualitative, to support the contention that allowing black rhino hunting in one country could have a negative impact on the populations in other countries."

**RHINO NUMBERS AND TRENDS**

A detailed description is provided in Annex 2 of rhino number and trends in Etosha National Park, Namibia. Based on this, the difference in Etosha National Park estimates can be explained due to these methodological improvements. It is important to note that data equals a pattern plus noise and block count estimates do vary due to sampling error (noise). The average 95% confidence levels over last three counts equals +/-15.27% which represents a confidence interval of 229 rhino around an estimate of 750. This is why individual block count estimates should not be interpreted in isolation but rather considered over time.

The age and sex structure data including calving rate data from the block counts also provide measures of population reproductive performance.

The extensive aerial coverage during the block counts has also not found significant numbers of poached carcasses, which would be expected, had poaching erupted. Rather the percentage of detected mortalities due to poaching remains very low and the high level of horn recoveries relative to number poached indicate law enforcement is being very effective in Namibia.

Outside of Etosha numbers of black rhino have also increased on state, communal and private land. The 2005 count was also higher than 2004. For these reasons the AfRSG has considered that the overall trends in Namibian black rhino numbers is likely to be up despite a drop of 97 in estimated numbers between 2003 and 2005.

From 1999-2005 the Namibian meta-population has grown by an estimated 8.6% per annum.

- The Kenyan document fails to note that block counting has a number of advantages over water-hole photographic counts due to

- calf:cow ratios obtained from water hole surveys in Etosha being biased underestimates of true calving rates and hence reproductive performance as water-hole data show females frequently leave their young calves lying-up when they visit the water holes during full-moon periods
- block counts are cheaper and logistically more feasible in such a large Park with so many waterholes
- aerial block counts have the advantage that the extensive aerial coverage of the whole park assists management by providing a security "audit" and early warning function – as rhino carcasses can be detected from the air.

- The block counting technique has been refined and improved.
    - Early attempts at stratification in 2002 and 2003 were not very successful, but the data collected on these two counts (and especially 2003) allowed stratification to be significantly improved. Stratification has worked much better in 2004 and 2005.

- Block count estimates are subject to variation due to chance sampling effects.
    - When one is dealing with such a large population as Etosha the difference between a chance "high" count and chance "low" count can be quite large.
    - Average 95% confidence levels over last three counts = +/-15.27% which represents a confidence interval of 229 around an estimate of 750.
    - For this reason counts should not be looked at in isolation but rather over time looking for overall trends as well as helping to detect outlier very high or very low estimates.
    - Some of the drop of 162 in Etosha estimate from 2003 (912) to 2005 (750) may be due to these difference in counting method as well as possible a function of sampling chance.
    - Following concerns about individual count variation and possible overestimation in 2003, for the reasons outlined above Namibia's proposal to CoP 13 actually used a reduced estimate for 2004 of 816.

- Block counts supply much more than just a population estimate. Age and sex structures can be monitored and used to determining calving rates and population performance and the extensive aerial coverage can detect carcasses.

- Based on data compiled by the AfRSG, the national population estimates of black rhino in Namibia have increased by 190% compared to only 129% in Kenya since 1995 (Table 1, Figure 1 and 2).

**Table 1** - AfRSG Country population estimates since 1995 for Namibia and Kenya

| | Namibia | Kenya |
|---|---|---|
| 1995 | 598 | 420 |
| 1996 | | |
| 1997 | 707 | 424 |
| 1998 | | |
| 1999 | 695 | 420 |
| 2000 | | |
| 2001 | 893 | 430 |
| 2002 | | |
| 2003 | 1238 | 439 |
| 2004 | 1024[2] | |
| 2005 | 1141 | 540 |

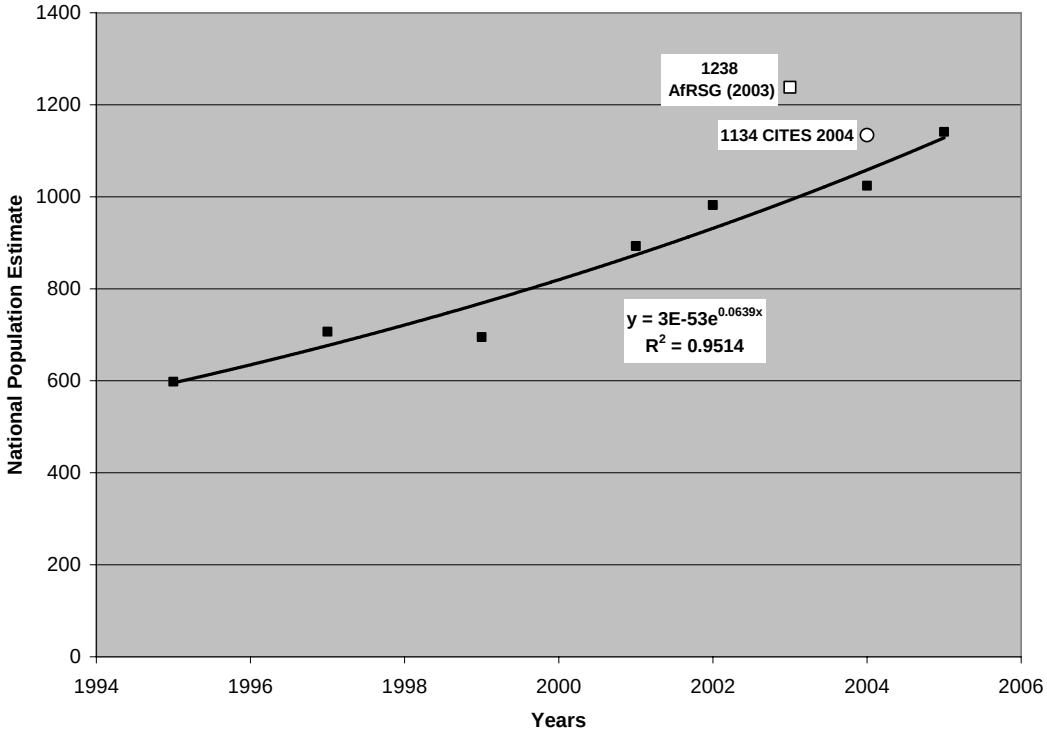



**Figure 1.** Yearly estimates of the Namibia national population with an exponential growth line from 1995 until 2006 (the 2003 estimate is indicated as a possible outlier on the high side indicating that the 2004 estimate used for CITES was as a precaution lower as the 2004 Block Count estimate which was not available at the time, importantly this estimate of 1134 compares realistically with the 2005 estimate of 1141).

[2] For CoP 13 an estimate of 1134 were used which where subsequently revised after the 2004 Block Count was conducted. The estimate therefore submitted in 2005 to the AfRSG was 1024

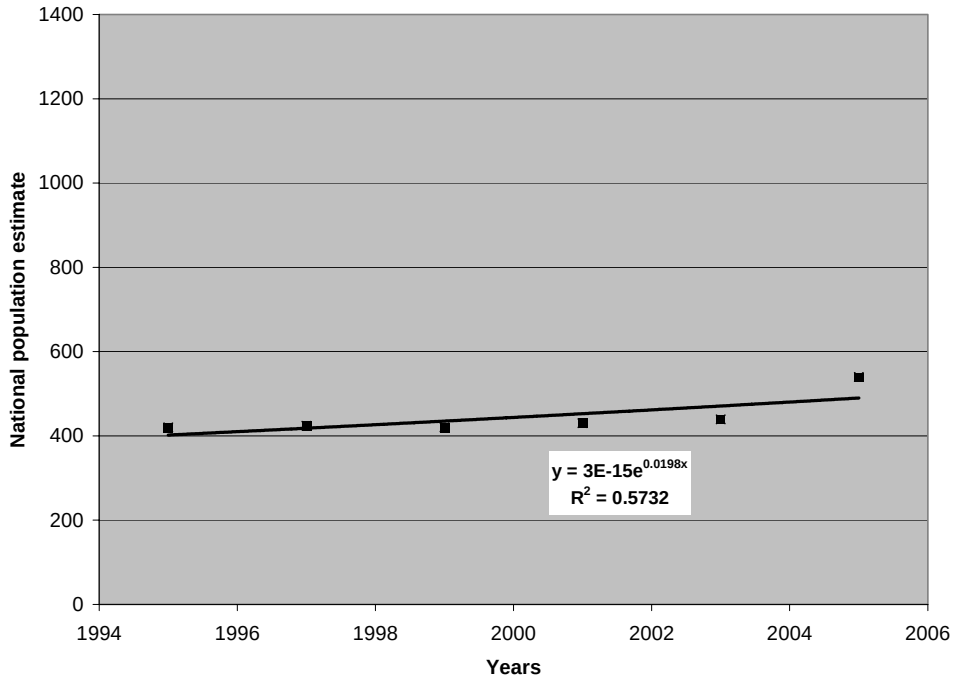



**Figure 2.** Yearly estimates of the Kenya national population with an exponential growth line from 1995 until 2006.

## CONFIDENTIALITY OF DATA SUBMITTED TO THE AfRSG

The Kenyan document claims there were differences between estimates submitted to CITES CoP 13 as part of their motivation for hunting and estimates presented for 2004 to the 2006 AfRSG meeting. This reveals a breach of confidentiality that has not occurred previously from such meetings. Individual population totals are supplied to the AfRSG meeting in confidence, the AfRSG meeting minutes are clearly marked Confidential and individual number tables are marked Strictly Confidential. Only country totals should be used without requesting permission from the country concerned.

The Kenyan document argues that the figures presented to the AfRSG for 2004 are lower than were supplied to CoP. This fails to recognize that there is a time lag of around 6 months from the time the document has to be submitted and a CITES CoP and that population estimates can be refined and improved as the results of additional censuses become available as was the case here. The Kenyan document rather selectively fails to mention that the estimate of numbers in Etosha for 2005 increased by 13% following an intensive block count survey of the Eastern half of Etosha in 2005.

According to the Kenyan document Namibia in its proposal to CITES estimated that there were 1,134 black rhino in 2004. This is very similar to the estimated 1,141 reported to the AfRSG for 2005. Ignoring the fact that earlier block counts may have overestimated numbers in Etosha (while the technique was being developed); the difference between the 2004 estimate supplied for Etosha in Namibia's proposal to CoP 13 is only 8.1% higher than the 2005 estimate which is well within the average ±15.3% 95% confidence levels around the block counts.

## REVENUES FOR CONSERVATION

Namibia has committed that all revenues from hunting will go to the Game Products Trust Fund and will then be used for conservation and community projects, As yet no rhinos have been hunted in Namibia but when they are, communities that have been protecting and conserving rhinos will be able to share in the benefits. Currently the GPTF has made a significant grant to Save the

Rhinoceros Trust (SRT) a NGO who assist MET with the monitoring of the Kunene black rhino population.

Despite having the world's largest black rhino population, and submitting proposals to some major donor agencies, these agencies chose not to fund the proposed block count of the west of Etosha in 2006. Perhaps in future years, using the Game Products Trust Fund, it may be possible for Namibia to fund ongoing block count surveys using some of the hunting revenue generated increasing Namibia's self sufficiency (The first six black rhino hunted in South Africa generated an estimated turnover of about US $870,500).

If Namibia and South Africa's application to CoP 13 to hunt black rhino had been motivated primarily by the desire to make money then it is likely that the full quota of 20 black rhinos would have been hunted in the first two years rather than only six.

Namibia implemented use of the precautionary principle in not hunting a single black rhino since CoP13 pending policy revision. This is even more remarkable when considering the potential revenue generated from each animal hunted in South Africa and the fact that a key challenge faced by Namibia is ensuring financial self-sufficiency.

**EQUIPMENT AND INCREASED CAPACITY OF PERSONNEL IN MET**

The Kenyan proposal draws attention to some temporary problems relating to water provision at some water holes in western Etosha raising concerns about calving rates in the Park. The Kenyan document argues that without full moon monitoring it is no longer possible to determine the consequences of breakdown of water points. This is not correct. For reasons outlined above aerial block counts give a better and less biased estimate of calving rates. Subsequent block counts have actually shown and increase in calving rates with the proportion of adult females with yearling calves increasing from 22% in 2003 to 28% and 29% respectively in 2004 and 2006.

Indeed a comparison using RMG data shows that while not being one of the best performing populations, the Etosha population reproductive performance is intermediate and better than many other populations in the region (Annex 2, Figure 3a to 3d).

Before pointing fingers at other range states, perhaps Kenya would do well to focus on improving some of its own management – such as why it took almost 5 years to remove the elephants from Ngulia sanctuary or indeed expand the size of this sanctuary following a 2002 report, many comments from AfRSG members at following a field visit to Ngulia in 2004 and striking satellite images and vegetation assessments which indicated that the elephants in the sanctuary had negatively impacted on the habitat for black rhino with possible severe negative consequences for population performance. While Kenya is to be commended for many of its translocations to set up new populations, the dedication and hard work of many of its staff, the recent removal of elephants from Ngulia, and the recent good growth in its metapopulation; one could point out that Kenya lost the same number of black rhinos as have been hunted in both Namibia and South Africa due to deaths following poor boma management after one translocation in Kenya.

We are aware of some deficiencies in Kenya's conservation programme but we do not feel it is correct or right to advertise any temporary weaknesses. All programmes have problems and challenges, and the important thing is to recognize that there is room for improvement and address these issues. We would however like to register our disquiet concerning how Kenya has quoted and used confidential documents and information presented in confidence at selected rhino conservation meetings. If they had approached Namibia directly some of their misunderstandings could have been cleared up.

The Etosha National Park Wildlife Protection Services (WPS) has three sub-sections (headed by three wardens reporting to the Chief Control Warden) that are mainly/primarily used for anti-poaching and to a lesser extent for human wildlife conflict management and extension work in neighbouring communities. The WPS sub-sections are distributed across the park operating from

Otjovasandu, Okaukuejo and Namutoni. These subsections consists of eight patrol teams of which three to four teams are in the field at any given time.

The lack of field equipment that was a major concern in 2004 and highlighted in the reports[3];[4] which was prepared by SADC RPRC consultant Mr. Loutit has been addressed considerably and the WPS in ENP can boast to be well equipped. The equipment includes tents, back-pack bags, mattresses, sleeping bags, torches, water bottles, tables, cool boxes, tarpaulins and trammels. The equipment was bought with funds from the Game Products Trust Fund (GPTF). Each member of the WPS currently has a complete set of this equipment.

Furthermore the GPTF has sponsored the upgrading of the northern boundary fence (N$2.5 million) and a further N$1.3 million from the Directorate Parks and Wildlife (DPWM) budget was spent in the 2006/2007 financial year on fencing materials To date a distance of 30 km and 15 km has been upgraded in the area of Narawandu and Omutambo Maowe area respectively. However, new developments have taken place with the registration of Sheya Shishona Conservancy. This conservancy is planning to fence off a core area that would be joined to the park.

The upgrading of the fence that is underway is aimed at containing valuable species within the park and to reduce Human Wildlife Conflict (HWC) to prevent these animals from wandering into areas without water outside ENP and to reduce the cost of retrieving them. Currently N$2 million was allocated by the GPTF for fencing materials and a further N$3.2 million is allocated for the project on capital budget for the coming financial year. The distance to be covered is to be significantly reduced with the new proposals from Sheya Shishona Conservancy.

In 2004, the GPTF funded the upgrading of the radio communication in ENP with the main objective of the upgrade being the improvement of communication within the park. In this year the GPTF also funded water maintenance equipment worth N$700 000.00As required by the GPTF board, a water maintenance strategy was drafted to ensure smooth implementation of the project and all artificial water holes were restored to functional conditions. Furthermore DPWM has bought twelve all terrain vehicles for better execution of duties in the Directorate of which two were allocated to ENP. Under the Strengthening Protected Areas Network project (SPAN) four all terrain vehicles were bought for ENP. A further three all terrain vehicles were purchased with GPTF funding for the Protected Resources Unit of the Namibian Police.

MET with assistance from the GPTF, EAZA and SRI developed and built state-of-the-art rhinoceros recovery and capture equipment. An ultrasound pregnancy Aloka 700 machine specially adapted to determine pregnancy in captured females was bought and installed in a custom rhino support vehicle. To assist further in biological management, rhino bomas were built to the value of N$1.6million on WPP and rhino are boma trained at this facility for export to the region.

The project; Strengthening the Protected Area Network (SPAN) that was implemented in 2005 assisted the park in various ways. With ENP being one of the demonstration sites, water maintenance, fencing and law enforcement courses were offered to more than 30 staff members, and equipment was bought. These include all terrain vehicles, tents, spot lights, torches, GPS, digital camera, computer, water maintenance tools and binoculars. Further donations received from Bosch in Germany were distributed in the park for anti-poaching, water maintenance, fencing and other related duties. These included 35 binoculars, 4 Bosch grinders, 1 Cordless drill kit, 8 Bosch drills, 3 Bosch circular saws and two jig saws.

Through a Darwin Initiative Programme two Namibians from ENP and Save the Rhino Trust (SRT) were trained in rhino management at the University of Kent to a Masters level and they play a pivotal role in the management of Namibia's two Key 1 rhino populations (ENP and Kunene). The

[3] Loutit R. 2004 (a). A Report on Training Conducted in Etosha National Park to Create Three Rhinoceros Monitoring Units within the Wildlife Protection Services Cadre – August to November 2003, 2004. Ministry of Environment and Tourism, Internal Report.
[4] Loutit R. 2004 (b). Phase 1 Training Report (SADC RPRC Semester 10 Task4.1-3.2) for the period 1 June to 30 November 2004

Chief Warden (CW) of Waterberg Plateau Park directly tasked with the management of this park's Important 1 black rhino population and the biggest white rhino population in Namibia is completing his Masters study through the University of Namibia early in 2007.

In ENP a Chief Conservation Scientist (MSc) in the Directorate of Scientific Services (DSS) is tasked to assist the CCW of DPWM in the management of this population and to assist with conducting of annual block counts in August. A reaction rhino recovery team headed by the CW in DSS (Okaukuejo) has been fully trained in the recovery and translocation of escaped rhino. The CW is assisted by a Science Warden (Rhino Custodian Manageress) who is responsible for the day to day running of the Black Rhino Custodian Programme, both these officers has B Tech degrees in conservation.

**QUOTAS AT CoP 13 RECEIVED OVERWHELMING SUPPORT BY PARTIES AND WERE APPROVED BY CONSESUS**

Kenya contends that the allocation of quotas at CoP 13 was highly controversial. While there were differences in opinion with some range states such as Kenya against hunting; both Namibia and South African black rhino hunting proposals received overwhelming support with over 85% of parties supporting Namibia and South Africa in both the debates in plenary and voting.

The facts of the matter were that

- On account of the majority of Parties speaking in favour of the proposed amended draft Namibian resolution (equivalent to 41 countries for and 5 against) the Chair of Committee moved that the amended export quota be approved by consensus. Kenya requested that the issue be put to the vote, but as not even one other range state raised an objection, the amended Namibian proposal and amended draft resolution (as applying to Namibia) was accepted.
- On account of the majority of Parties speaking in favour of the proposed amended South African proposal and draft resolution (equivalent to 39 countries for and 4 against) the Chair of Committee I moved that the amended export quota and amended resolution (as applied to South Africa be approved by consensus and this was accepted.
- Following some lobbying that the debate on black rhino hunting should be reopened in plenary, Chad proposed that the debate be reopened, but the required third of the votes to do so were not obtained with (excluding abstentions) only (14) 13.6% of the votes in favour of reopening the debate with (89) 86.4% against. The margin was similar to the debates in plenary on the proposal when the equivalent of 49 countries (87.5%) spoke in favour and only 7 (12.5%) against the two proposals.

Kenya's document argues that approval of a hunting quota could have been misinterpreted by the public as possibly being for medicinal or any other traditional purpose. Trade experts such as TRAFFIC do not believe this argument is credible. If it had been, Namibia and South Africa would not have had the overwhelming level of support for their proposals at CoP 13. Following CoP 13 the press reporting focused very much on the fact that sport hunting was resuming.

In one instance in 2006 two animals wandered approximately 100km through the densely populated area north of the park and one animal was caught near the Namibian-Angola international border. Although this animal spent more than two months in this area no attempt was made to poach it and communities assisted MET in monitoring its whereabouts and eventually in the successful retrieval of the animal. To date no rhino had been poached outside ENP despite them roaming within areas that are occupied by farmers for up to a few months in the rainy season in areas inaccessible to retrieval equipment during this time. The good relationship between MET and communities have resulted in communities reporting the presence of rhinos outside the park.

**WILL THE HUNTING AND EXPORT OF TROPHIES BE DETRIMENTAL TO THE SURVIVAL OF THE SPECIES?**

A strong case has been made on demographic and genetic wildlife management grounds for the removal of the odd specific individual and usually older male black rhino from some breeding populations. It may seem counter-intuitive, but the removal of a small number of individually identified males may actually enhance overall meta-population growth rates and further genetic conservation. As a spin-off, the hunting of such animals could generate substantial revenue and help provide much needed additional funding to support effective conservation management programmes, as well as providing incentives for rhino conservation. It was for these reasons that South Africa and Namibia both applied for and got approval at the 13th CITES Conference of the Parties for an annual hunting quota of five black rhino males each.

The Kenyan proposal argues that other options for using surplus males have not been exhausted (e.g. has ENP not reached its ecological carrying capacity - EEC) and the private sector could be persuaded to accept surplus males. Like Kenya's National Plan, Namibia and South Africa's plan aims to increase black rhino numbers as rapidly as possible. Letting the Etosha population reach ECC would be counter to this, which is why animals from ENP have been and are being translocated to set up new populations.

Skewed sex ratios can occur either by chance in some populations (with many more males than females being born in a population), or if removals from donor populations are biased in favour of females (as was the case in setting up the highly productive Namibian custodianship populations). The problem is compounded by an apparent slightly skewed sex ratio at birth in favour of males, although this is often later reversed because of the higher adult male mortality rates due to fighting (Emslie 2007)[5].

The social carrying capacity of adult male black rhinos is also limited. If no action is taken in markedly male-biased populations, fight-related mortalities are likely to increase once these surplus males grow up. Surplus males also use valuable food resources that may affect female breeding performance.

Thus many field managers in southern Africa have for some time now sought to find a way to reduce the number of surplus males in such populations. Somewhat counter-intuitively, the hunting of a limited number of surplus males may end up stimulating meta-population growth rates and hence overall rhino numbers. It is also known that specific rhino males can dominate the breeding and sire a large proportion of the calves in smaller populations. The removal of such animals after a period of say 10–15 years may therefore reduce the risk of father–daughter matings and contribute positively to the genetic management of such populations.

Attempts to exchange or introduce adult males to bring in new blood to populations have also not had much success, with the result that it is recommended that adult females be introduced instead. In addition, mortality risks when setting up new populations appear to be reduced if founder animals are introduced at the same time. Concerns have been expressed by some that if males-only populations were to be established, and females introduced at a much later date, mortality rates of females following introduction may increase. If one starts with males, the problem remains of sourcing more females than males in future.

Demand for surplus males has been limited, and as a result these males have not generated much revenue to help fund conservation. Live males auctioned in Namibia in 2006 were not sold and a

[5] Emslie R. 2005. EAZA Rhino Campaign 2005-2006. Info pack Section III.IX Debate on rhino hunting p114-119. Also available from Save the Rhino February 2007 E-zine. Rhino hunting.. Save the Rhino International - Registered Charity Number: 1035072 http://www.savetherhino.org/etargetsrinm/site/740/default.aspx

negotiated price only fetched N$50,000 (~US$ 7,100)[6] each whereas two males hunted for their trophies earned more than N$1.5 million (~US$ 210,000) each for the North West Parks Board in South Africa.

The original rationale for promoting hunting was because the removal of some specific males from a population is necessary on wildlife management grounds and somewhat counter-intuitively could lead to increased demographic performance and improved genetic conservation. Thus the removal of some male rhino is helping to deal with a conservation management problem. For example, in one case in South Africa it was reported that the removal of a behaviorally dominant bull that was not breeding, resulted in a number of females becoming pregnant and later giving birth soon after its removal. It should not be forgotten that limited hunting of targeted individual males has been advanced primarily as a conservation tool with a view to improving meta-population performance and furthering genetic conservation goals.

The bulk of rhino trophy hunters come from the USA. Despite the approval of limited controlled hunting by CoP 13, domestic legislation within the USA currently prohibits the export of black rhino hunting trophies. Thus in practice few black rhino horns are being exported and those that are, are marked with transponders/microchips.

The number of black rhinos hunted in Namibia (0) and South Africa (6) in the first two years following CoP 13 represents only 0.12% of the total population in the two countries per annum. This is well below the 1% level generally thought of as easily sustainable. Even if both countries used up their full quotas this would only be equivalent to 0.4% of the population which is clearly sustainable on demographic grounds.

The Kenyan proposal contends that new data has emerged to indicate black rhino populations in South Africa and Namibia can no longer sustain the agreed quota. We strongly dispute this assertion. South Africa is the only country to so far have hunted any black rhino and their black rhino numbers have increased by 7.4% over the last two years. Some of the reports the Kenyan report quotes are clearly outdated and are dating back to 2000.

The argument that limited sport hunting of up to 5 black rhino per year in both Namibia and South Africa will “send signals to poachers” and lead to “increased poaching” in other range States such as Kenya is simply not credible.

- As far as illegal end use of African rhino horn for either Traditional Chinese Medicine or the making of Jambiya dagger handles is concerned, it does not make any difference whether the horn is from a black or white rhino. The main differences are between Asian and African horn.
- Hunting of southern white rhino started in 1968, and numbers worldwide have increased from 1800 to over 14,500 in the wild (with another 760 in captivity) since hunting began. Clearly white rhino sport hunting has been sustainable and the annual export of white rhino hunting trophies has not resulted in widespread poaching. It therefore does not appear that the about 40-70 surplus white rhino are being hunted per annum have not sent similar messages, resulting in their widespread slaughter. Rather southern white rhino numbers are currently at record high levels and numbers in South Africa have increased by over 650% since hunting started (see Cop14 Doc 54). The black rhino quotas approved at CoP 13 just add a few more trophies to the total number of white rhino trophies exported from the region each year. The mechanism to explain how adding a few more micro chipped black rhino trophies (or in Namibia’s case none – since Namibia has not hunted any black rhino to date) to the greater number of annual white rhino trophies being exported is going to lead to widespread and increased poaching has not been explained.
- Correlation is not the same as demonstrating cause and effect - Rather other reasons need to be looked at for the declines in numbers of the western black rhino in Cameroon, the

[6] (1US$ = 7N$)

northern white rhino in DRCongo and to explain declines in selected populations in other range states (including Kenya) while others in the same country increase.

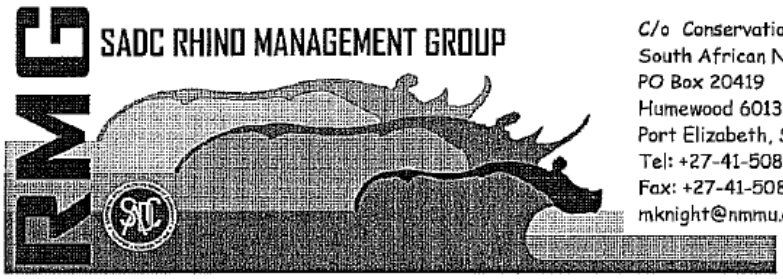
- The down listing of South Africa's white rhino mentioned continued export of hunting trophies. As the IUCN/TRAFFIC report to CoP 14 shows white rhino numbers have increased dramatically since this down listing. When the end user markets do not distinguish between black and white rhino horn it does not make any sense that the hunting of a greater number of white rhinos will have no negative effects yet the hunting of a small number of black rhinos could be detrimental as claimed by Kenya?
- TRAFFIC prepared an Information Document to provide details on trade-related issues affecting African rhinoceroses. It is likely that this Information Document will add weight to certain issues raised within Doc. 54 as well as explore areas of concern raised in Doc. 37.2.

It is important not to lose focus on several important issues to be addressed in the bigger picture of rhino conservation, management and international trade. In particular, trade-related threats are facing rhino populations in Zimbabwe, DRC and Nepal.

Regarding CoP14 Inf. 39, paragraph 31, the information provided in this paragraph is incorrect, as the reporting period should be 1997-2003. It is imperative to note that 32% (12) of the 37 horns were confiscated in 1997.

Finally, regarding CoP 14 Inf. 39, paragraph 34, once again the information provided is not correct. No poaching took place in Hardap Game Park. And in only one incident, one rhino was poached and a second rhino wounded, this took place on the custodian farm Nomtsas. This farm had ten rhinos before this incident, and during a translocation operation in 2007, nine animals were successfully translocated from Nomtsas including the wounded animal which fully recovered from its wounds.

**Annex 1.** Letter from the Chairman of the RMG

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Dear Malan

**Kenyan submission to COP 14 meeting: Black rhinoceros export quotas from Namibia & South Africa**

Reference the submission submitted by Kenya on the 'Black rhinoceros export quotas for Namibia & South Africa' to the pending COP 14, mention is made of a drop in black rhinoceros population estimates for Namibia between 2004 and 2006 as presented at the African Rhino Specialist Group (AfRSG) meetings. This information in particular is being quoted out of context, given that Namibia was at the time was in the process of switching between a photographic based population estimate to a block count technique. As such the former, with all its inconsistencies was a rough estimate at the time and was accepted as such until the more robust estimate via the block count was obtained. Thus, the apparent decline or ' loss' of rhinos is not a real situation but an anomaly of the different count estimates. This point was made at the AfRSG and SADC RMG meetings in 2006.

Yours sincerely

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Dr MH Knight
Chairman

## Annex 2 RHINO NUMBERS AND TRENDS IN ETOSHA NATIONAL PARK, NAMIBIA

There has been a change in method from waterhole counts to stratified block counting and the block counting method used has been improved and refined since the first block counts in 2002 and 2003.

Already in 2001, it was suggested that aerial block counting could potentially be used as an alternative method for estimating black rhino numbers in Etosha National Park (Emslie *et al* 2004)[7], for the following reasons:

- The relatively flat terrain and open habitat in Etosha, makes the area especially suitable for aerial block counting.
- A block count could be used to corroborate and check previous black rhino population estimates derived from aerial transect counts and mark-recapture based estimates.
- By virtue of the extent of coverage of the Park, Aerial block counts could assist management by providing a security "audit" and early warning function – as rhino carcasses can be detected from the air.
- The low ratio of calves to adult females black rhino recorded during the 2001 water hole survey suggested that the Etosha population may be performing poorly. However, an evaluation of the Etosha waterhole sightings database by MET provides evidence that indicates that calf:cow ratios obtained from water hole surveys will be biased underestimates of the true calving ratio as females frequently leave their young calves lying-up when they visit the water holes during full-moon periods at night (Emslie et al 2004). Aerial block count surveys therefore should provide more accurate estimates of demographic parameters as observed during full-moon monitoring. This is important because when assessing demographic trends in a very large population such as Etosha where confidence levels around population estimates will be larger than around mark-recapture estimates of smaller populations it becomes increasingly important to also assess other data such as sex and age structure, and ratios and numbers of poached versus natural mortalities.
- There were also major logistic, manpower and financial constraints associated with continuing full-blown park wide photographic monitoring in Etosha (Table 3 and 4). If it were to prove successful, block counting potentially could provide an easier alternative method to estimate the number of black rhino in the park. Lower-level photographic monitoring of a few selected key water holes in the park could instead focus on providing detailed information on individual animals and their performance over time.

An initial block count was held in 2002, and a more intensive count was planned and undertaken in 2003. These counts formed a platform to design the 2004 and 2005 block counts. The 2004 and 2005 counts were more rigorous in determining whether rhinos seen near block boundaries were counted or not which will have reduced a potential over counting bias inherent in the earliest block count.

The ultimate of objective of MET was to develop the block count methodology to produce as precise population estimates as possible for a given sample size and to package the whole process of planning, undertaking and analyzing block count data in such a way, that it could be routinely applied by Ministry staff in future without the need for outside expertise (Emslie *et al* 2004)[4].

Due to the size of the black rhino population in ENP, changes in its estimate due to chance sampling effects can have a major effect on Namibia's national black rhino population estimate even when 95% confidence levels are within ±15%. For this reason ideally individual population estimates need to be considered in the context of other estimates (possibly using some form of smoothing) and meta-data (such as poached to live carcass numbers and ratios and age/sex structure data) rather than simply being interpreted on their own.

[7] Emslie R, Du Preez P. and Robertson T. 2004. Etosha Black Rhino Population Estimation 2001-2003 with special reference to the 2003 Block Count. Unpublished Report MET.

Kenya's[8] document submitted to CITES for CoP14 somewhat simplistically highlights the apparent "loss" of 152 individuals in ENP and 110 individuals' nation wide without considering the full range of reasons why individual estimates can vary. Kenya's document does not consider the extent to which these differences could simply be a function of:

- sampling "noise" inherent in populations estimation of such a large population, reflect a real decline in numbers or
- in part be due to changes in technique between surveys (such as the use in later surveys of better stratification and more strict definitions to decide whether or not to count rhinos close to block boundaries
- The Kenyan document doesn't even consider that single estimates for such a large population can vary substantially due to chance sampling.

However as stated by the RMG Chairman Dr. Knight[9] in an official letter (Annex 1) from the SADC RMG to MET, the ENP estimate in the Kenya document was quoted out of context. It was made clear at both the SADC Rhino Management Group Meeting held in 2006 (South Africa) and the AfRSG Meeting held in 2006 (Swaziland) by Namibia that the anomaly between the 2004 and 2006 estimates was probably the result of count estimates derived by different block count methods.

The 2004 estimate submitted to the RMG and the AfRSG was based on the 2002 and 2003 block count data and full moon photography results. The 2004 block count was conducted after CoP 13 and the final results[10] were only available in January 2005. This result and the count conducted in 2005 in eastern ENP were used to determine the estimates submitted to the RMG and AfRSG in 2006 for the year ending 2005 (See Figure 1 and 2).

Table 2 summarizes the age and sex structure of the black rhino population in Etosha surveyed in 2002, 2003, 2004 and eastern Etosha in 2005. The data obtained indicate how the reproductive performance of the ENP black rhino population compares against an optimal set of values (Emslie 2001)[11].

**Table 2**. Summary on sex and age structure data obtained during the block counts of 2002, 2003, 2004 and eastern Etosha in 2005 (Du Preez and Kilian 2005)[12].

| Parameters | 2002 | 2003 | 2004 | 2005 (east) | Ideal |
|---|---|---|---|---|---|
| ABCD calves / Ad FemHalf? | 75% | 61% | 60% | 64% | |
| First years (AB) as a % of population | 6% | 9% | 11% | 10% | 8+% |
| Proportion calves | 26% | 24% | 26% | 25% | 28% |
| Prop calves 1 – 3.5 years | 19% | 16% | 14% | 20% | 17% |
| %Fem with AB calves | 18% | 22% | 28% | 29% | 30% |
| Ad Fem/ Ad Male | .86 | 1.21 | 1.41 | 1.12 | |

[8] CoP14 Document Black Rhinoceros export quotas for Namibia and South Africa submitted by Kenya
[9] Knight M. H. 2007. Official letter from the RMG to the Permanent Secretary of Environment and Tourism, Namibia dated 5 February 2007.
[10] Du Preez P. and Killian J. W. 2005.Aerial Block Count of the black rhino population in Etosha, September 2004. Unpublished Report MET.
[11] Emslie R. 2001. Proceedings of a SADC Rhino Management Group (RMG) Workshop on Biological Management to meet Continental and National Black rhino Conservation Goals. Unpublished Report RMG.
[12] Killian J.W. and Du Preez P. 2005. Aerial block count of the black rhino population in eastern Etosha National Park October 2005. Unpublished Report MET.

ABCD calves / Ad FemHalf?

The ratio of the number of A-D calves (i.e. <3.5 years) to the number of adult females expressed as a % with the number of adult females being estimated as the number of adult F class females seen + half the number of unsexed F class animals seen.

First years (AB) as a % of population:

The yearlings as a % of total population

Proportion calves:

All sized calves as a % of total population

Prop calves 1 – 3.5 years:

The C-D sized calves expressed as a % of total population

Emslie *et al* (2004)[13] reported that the percentage of yearling calves was higher in 2003 than in other years. However, they found that the percentage calves in the age category of 1-3.5 years seemed to be declining and that the decline might have been indicative of an increased mortality in the yearling classes. The survey conducted in eastern Etosha in 2005, indicated an increase in the percentage of calves in the 1-3.5 age category. This could possibly be attributed to large inter- and intra-annual variation in survival patterns of rhinos in different areas of Etosha.

Adcock (2000)[14] compared the sex and age structure for 8 rhino populations (open bars) in southern Africa for a number of performance indices. Using data extracted from Adcock (2000), the performance indices of the Etosha rhino population for 2002/2003 (grey bar) and 2005 (black bar) are graphically compared to these in Figure 3a to 3d. The "performance" line in each graph divides good from poor performance and is compared to the average performance data of 2002/2003 and 2005.

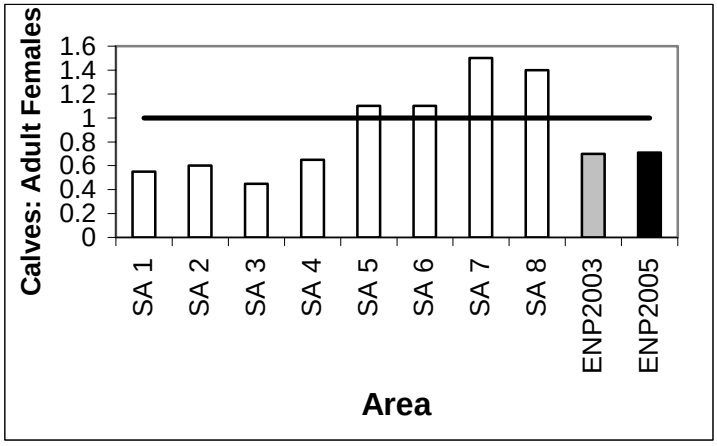


**Figure 3a.** Ratio of yearlings and calves of 0-3.5 years to adult females.

[13] Emslie R, Du Preez P. and Robertson T. 2004. Etosha Black Rhino Population Estimation 2001-2003 with special reference to the 2003 Block Count. Unpublished Report MET.
[14] Adcock, K. compiler 2000. Status and Management of Black rhino in South Africa – January 1997 to December 1998. *Confidential RMG Report.*

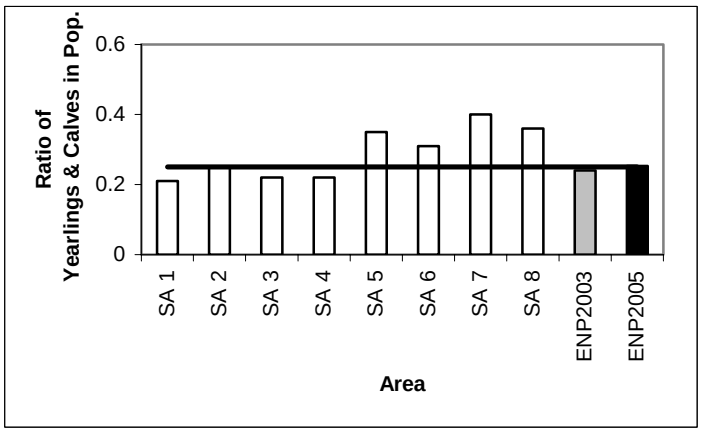


**Figure 3b**. Ratio of calves of 0-3.5 years in the population.

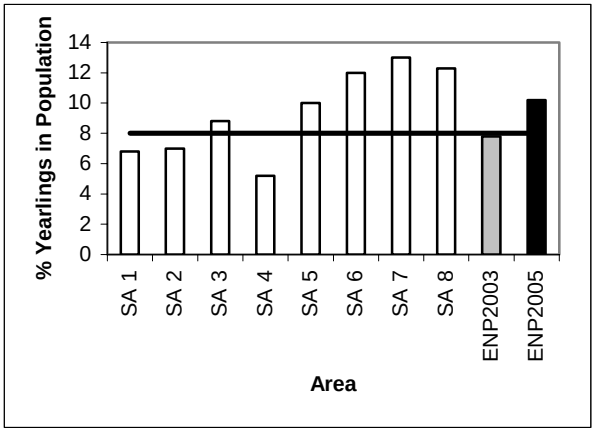


**Figure 3c.** Percentage of yearlings in the population.

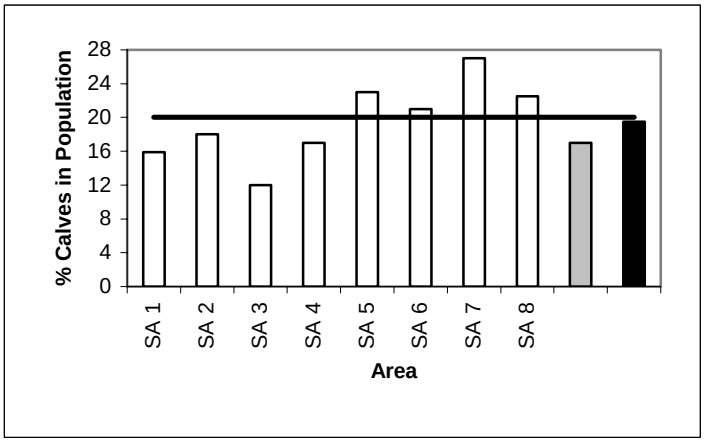


**Figure 3d**. Percentage of calves of 1-3.5 years in the population.

In general the rhino population in Etosha either approximates or exceeds the average "performance" line indicating that the water problems experienced prior to 2004 did not impacted negatively on the performance of the population.

The population estimate for rhino obtained during the block count of 2004 is discussed in context with the estimates of the previous two block counts (Table 3).

**Table 3.** Summary statistics of the 2002, 2003 and 2004 block counts in Etosha.

| Year | Number of strata | Blocks flown | Population estimate | 90% CI as % est. | 90% range | 95% CI as % est. | 95% range |
|---|---|---|---|---|---|---|---|
| 2002 | 6 | 125 | 838 | 22.95% | 646-1031 | 27.42% | 609-1088 |
| 2003 | 6 | 320 | 1053 | 13.18% | 914-1191 | 15.73% | 887-1218 |
| 2004 | 4 | 320 | 657 | 11.10% | 584-730 | 13.26% | 570-744 |

In 2002, Etosha was initially split into three density strata (high, medium and low). These strata were also further split geographically between east and west, as there was a natural discontinuity in black rhino distribution between the two halves of the park.

In 2002, 99.2% of all rhinos occurred in the high density strata, 0.8% in the medium strata and 0% in the low density strata. The relatively low precision of the 2002 count is a reflection that:

- the chosen strata were not homogenous,

- only 125 grids were flown (approximately 16% coverage).

In 2003, the precision estimate was improved as a result of increasing the sample size of blocks flown to 320 (41.5%). Although there was a significant improved estimate precision, the stratification did not work well as shown by the fact that there was no real difference between the mean counts per block between the density strata.

In 2004, the stratification was successfully adapted to accommodate only high and low density strata per section. This improved the 90 % confidence interval to 11.10%.

The population estimate provided on COP 13 in 2004 was based on the 2002 and 2003 results which were available when the proposal by Namibia was submitted. Subsequently Namibia did a full block count in September 2004 on which results (and using the eastern count in 2005) the estimate provided to the AfRSG in 2006 was based. In the confidential report on the proceedings of the eight Meeting of the AfRSG in Swaziland 2006 on p70 it was made clear that the lower estimate provided by Namibia for 2004 is solely the function of the sampling variability inherent in the method used (Brooks 2006)[15].

The lower population estimate for 2004 as compared to the 2002 and 2003 results could possibly be ascribed to:

[15]Brooks M. 2006. Editor, Proceedings of the Eight Meeting of the IUCN African Rhino Specialist Group held at Milwane Wildlife Sanctuary Swaziland from 27 June – 2July 2006. *Confidential AfRSG Report.*

- An initial inherent high variability of the method itself. The population estimates were obtained over only three years of block counting;
- The 2002 and 2003 block counts were conducted later in the dry season than 2004. In 2002 and 2003 the degree of clumping was much higher and over counting was a reality which could produce an overestimate. The provision of additional artificial water in eastern Etosha in 2004 led to rhinos being more dispersed in some areas than was the case in previous years;
- Observers were far more meticulous in rejecting rhinos that were just outside the grid. The inclusion of some rhinos which were just outside, will artificially increase the population estimate; and
- The age structure of the population. The proportion of yearling calves was found to be higher in 2004 than other years and the proportion of calves in the age categories of C-D seems to be declining. This may therefore be indicative of an increased mortality in the yearling classes, which could be a further reason for a lower population estimate during 2004.

During 2004 a standard transect survey was conducted as part of the routine activities scheduled for the park. The black rhino estimate derived from this survey was 578 (492-664) with a 90% confidence level of 14.82% and the 95% confidence limits were 17.99% (474-682).

During this survey, one of the transect crews was inexperienced in aerial surveys and therefore by allowing for a 20% undercount in the 2004 transects count, an estimate of 694 is obtained. The use of a correction factor is valid because transect survey counts usually underestimate population size estimates for black rhino.

It seems therefore more than plausible that the 2002 and 2003 block counts were most likely overestimates of the black rhino population in Etosha with the main factor being the 2004 stratification resulting in a far more accurate count.

In 2005 a block count was conducted counting eastern ENP with the western part to be counted during 2006, however due to disastrous fires and emergency captures of rare species in ENP the 2006 western block count did not take place. A full block count counting 40% of the total rhinoceros range in ENP is planned for August 2007.

At the end of 2006 it was (~US$ 17,100) cheaper to do a block count, counting 40% of the rhino range in ENP when compared with conducting three full moon counts which adequately covered 90% of the waterholes (artificial and natural) which are used by rhino in ENP Table 4 and 5.

**Table 4** Costs of a block count census covering 40% of the rhino range in ENP

| Pilot Hire | Rate (N$) | Unit | Cost (N$) |
|---|---|---|---|
| Commercial pilot (Day) | 1,150.00 | 20 | 23,000.00 |
| AVGAS (N$1700 per drum 200l) C206 60l/hr | 1,700.00 | 60 | 102,000.00 |
| Overtime four officials (3 hrs average per day per official) | 800.00 | 12 | 9,600.00 |
| S & T four officials (4*20 days) | 97.00 | 80 | 7,760.00 |
| Transport (40 km per day) | 5.00 | 800 | 4,000.00 |
| | | | **146,360.00 (~US$ 21,000)** |

Table 5 gives the costs to held three full moon photography censuses in ENP covering 90% of all water points (artificial and natural) available to rhino in the park

**Table 5** Costs of three full moon monitoring periods per year

| | Description | Costs (N$) |
|---|---|---|
| 1 | Overtime | 163,800.00 |
| 2 | S&T | 32,592.00 |
| 3 | Vehicle (transport) | 52,500.00 |
| 4 | Replacement of equipment | 4,950.00 |
| 5 | Films | 2,520.00 |
| 6 | Processing of films | 7,560.00 |
| **Yearly costs to do full moon monitoring in ENP with 14 teams over three periods** | | **263,922.00 (~US$ 37,700)** |

Explanation of costs in Table 6 for the three periods consisting of three nights each:

- Three months (July, August, Sept)
- Four nights (16H00 until 02H00)
- 14 Teams
- Each team exist of a senior official Warden/Scientist/Ranger and a junior official Workhand/Scout
- Each team set of equipment valued at N$ 15 000 (to be replaced every third year)
- Each team one 4X4 Vehicle at N$4.50 per km
- Average of 250 km per tem per period
- S & T N$ 97 per team member per night
- Films on average 6X36 per team
- Photos on average 18 per film.

Overtime on average 3 hours normal time and 6 hours night time per person

The Block Count Census method as developed and applied by Namibia in ENP has proved that it has without doubt far less logistic, manpower and financial constraints associated with continuing the full-blown park wide photographic monitoring over full moon periods. Block counting provides an easier method for the estimation of the number of black rhino in the park, how ever lower-level photographic monitoring of a few selected areas in the park e.g. Kaross which focus on providing detailed information on individual animals and their performance over time is still used and has been conducted parallel to the block counts.

From 2004 onwards a much stricter definition was applied to decide whether or not to count rhinos near to block boundaries – with the result that perhaps the 2002 and 2003 block counts overestimated numbers a little, as definitions on when to include rhinos as in or out of the block were less rigorous. If the boundaries for each block was increased through the less rigorous implementation of the boundaries of each block with 100m effectively 5% more area were covered (16.8 km² versus 16 km²) which can explain part of the overestimate used for the Cop 13 document which was 10% higher than the estimate corrected after the 2004 block count (1134 versus 1024) which was subsequently reported to the AfRSG after Cop 13.