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

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Interpretation and implementation of the Convention

Regular and special reports

Appendix-I species subject to export quotas

BLACK RHINOCEROS: EXPORT QUOTA FOR SOUTH AFRICA

1. This document has been submitted by South Africa.

2. Proposal

   To allow for a hunting quota of 10 adult male black rhinoceros (*Diceros bicornis minor*) in South Africa, in accordance with Resolution Conf. 9.21 on The Interpretation and application of quotas for species included in Appendix I.

3. Proponent

   The Republic of South Africa.

4. Supporting statement

   4.1 Distribution

   The southern central black rhinoceros *(Diceros bicornis minor)*, was formerly widespread from western and southern Tanzania down through Zambia, Zimbabwe and Mozambique to the northern and eastern parts of South Africa. By 1930 only two breeding populations of about 110 animals remained in South Africa and these were restricted to two parks in KwaZulu-Natal namely Hluhluwe-Umfolozi and Mkuze. Under protection, these numbers and distribution range increased and by 2003, South Africa had approximately 1,200 black rhinoceroses in 24 populations.

   4.2 Population status

   The black rhinoceros *(Diceros bicornis)* is rated as 'critically endangered' (IUCN Red List) on the basis of criterion A2 (>80 per cent decline over the last three generation (taken as 45 years) and the causes have not completely ceased). While this listing applies to *D. b. minor* (which is the dominant subspecies in southern-central Africa) owing to heavy poaching losses in the 1970s and 1980s, especially in Zambia, Tanzania, Zimbabwe and Mozambique, the population has been steadily increasing in South Africa since the 1930s. By 2003 South Africa had approximately 1,200 black rhinoceroses spread through 24 populations and this has been achieved initially through their effective protection and biological management by the erstwhile Natal Parks Board, and since the 1960s by a plethora of conservation agencies. The private sector has also made valuable contributions over the past 10 or more years.

   4.3 Population trends

   The southern-central black rhinoceros population numbers increased from 110 in 1930 to 300 in 1960. Since then, translocation to new protected areas has been an integral part of South

Africa's black rhinoceros conservation efforts and by 1997 South Africa had 976 black rhinoceroses spread through 19 populations. The latest population estimates (2003) indicate approximately 1,200 black rhinoceroses in 24 populations.

The status and management report compiled for the Rhino Management Group by Brooks and Adcock (1998) it is indicated that the South African population of *D. b. minor* has increased at a rate of 6.7 per cent per annum since 1990. Elsewhere in Africa, with the exception of Namibia, black rhinoceroses have suffered very marked and rapid declines owing to poaching, with numbers declining from almost 65,000 in 1970 to under 1,600 in 1998. This indicates South Africa's ability to conserve and increase the numbers and populations of southern-central black rhinoceroses.

4.4 Threats

The only immediate significant limiting factor is poaching for rhinoceros horn, which equally target both black and white rhinoceroses in Africa. In South Africa however both black and white rhinoceroses have increased in number over time. A future limiting factor will be habitat availability as most State-protected areas in South Africa with the correct habitat and size are reaching ecological carrying capacity. More private owners need to be encouraged to invest in wildlife, of which the black rhinoceros is in important component.

4.5 Utilization and trade

Commercialization of game has made very important contributions to nature conservation in South Africa, and the sustainable use of the southern-central black rhinoceros through translocation and live sales has contributed significantly to its conservation. This has been achieved by re-investing revenues in rhinoceros protection programmes and biological management, as well as providing economic incentives to the private sector to maintain and expand wildlife estate, which otherwise would have been transformed and lost to other less non-sustainable agriculture practices.

4.5.1 Game sales

The sale of 71 black rhinoceros by auction to approved private properties has generated ZAR 14.53 million since its inception in 1990 to 1997. The demand for founder breeding populations (currently set at 2♂♂:4♀♀) has declined over the years and at the auctions in 2000 and 2001 only 19 animals were sold. The highest price paid for a single animal was ZAR 550,000 (USD 68,247). As this revenue is re-invested directly in biodiversity conservation, including rhinoceros conservation, the budgetary implications for conservation authorities are significant.

4.5.2 Hunting

Since the inception of CITES and the inclusion of the black rhinoceros in Appendix I, no black rhinoceros has been legally hunted in South Africa. A number of male black rhinoceros become available each year though the population re-establishment programme, and occasionally through their removal owing to a bias in population sex ratios or for extensive veterinary treatment. Their subsequent re-establishment in the wild has proved extremely problematic due to the aggressive social interactions, which they often elicit, as well as the lack of interest of the conservation authorities and the private sector in creating male-only populations.

The commercialization and sustainable use of rhinoceroses in South Africa has already contributed enormously to the success of rhinoceros conservation. It has generated very significant revenues for nature conservation authorities, created additional jobs, brought in additional revenues from abroad and provided conservation incentives to private landowners. The current funding situation requires these financial benefits to be maintained, if not increased.

The sustainability of trophy hunting has been well documented for the white rhinoceros in South Africa (Adcock and Emslie, 1994). Since inception in 1968, most of the rhinoceroses have been hunted on private land, and an average of less than 1 per cent of the population has been removed each year. There are now about 2,534 white rhinoceroses on private land, and the South African population as a whole has increased from 1,800 to 8,000 today. The gross turnover from hunting white rhinoceroses has been in the order of ZAR 150 million.

One per cent of the current southern central black rhinoceros populations equates to 12 animals (population of approximately 1,200). Therefore the proposal for exemption to hunt and export 10 southern central black rhinoceros trophies would be well within the limits used for the white rhinoceros. The following fundamental principles would be adhered to:

a) Hunting should not adversely affect the genetic or reproductive viability of the population in which it takes place.

b) Only adult male southern central black rhinoceros that satisfy one or more of the following criteria would be allowed to be hunted:

   i) The sex ratio of the population is biased in favour of males.

   ii) The removal of excess males increases the extent of habitat available, and hence facilitates the recruitment of young rhinoceroses into the population.

   iii) The removal of males is required to improve population growth rate or viability. This applies to small populations (≤20 rhino) where the male carrying capacity is being exceeded (irrespective of whether the population sex ratio is biased), or where significant inbreeding is taking or is likely to be taking place.

   iv) Female-biased groups are often required as founders for a small population (ecological carrying capacity ≤20 rhino) or to augment a male-biased population. This results in a surplus of males in the donor population, which could be removed.

   v) The rhinoceroses are old and no longer reproductive.

   vi) The rhinoceroses are sick or severely injured and full recovery will not be achieved. This may involve a rhinoceros *in situ* in the wild where treatment has proved, or will prove, ineffective; or to one relocated to an *ex situ* site for treatment, but where there is no practical opportunity to re-establish it in the wild where it can contribute to breeding. A detailed report from a wildlife veterinarian would be required.

   vii) The rhinoceroses are vagrant individuals that routinely leave or break out of a reserve or property. These rhinoceroses may be a threat to people or their livestock, become a security risk or require an extended home range outside the 'protected area' to survive.

   viii) Trophy hunting of southern central black rhinoceros would be strictly controlled through permits issued by the conservation authorities and in conjunction with the country concerned by the importation of trophies.

4.6 Actual or potential trade impact

The controlled hunting of southern central black rhinoceroses is likely to provide much greater revenue than white rhinoceros, per animal hunted, and the potential negative effect on overall population growth will be minimal. In fact, the indirect effects of providing funds for protecting and managing populations, and the increased incentives to invest in the black rhinoceros, are

expected to result in significant improvements in its management and to have a very favourable effect on population expansion.

4.7 Population monitoring

Black rhinoceros populations in South Africa are monitored more intensively than probably any other animal species. Active programmes are in place to record information on which management decisions can be made. In most populations all or the majority of animals are uniquely identifiable on the basis of natural or man-made ('ear notches') features. Each animal has its own file in which detailed distribution records, photographs and life history information is kept; in most cases this data is captured into sophisticated databases and Geographical Information Systems for further analysis. In the larger populations this intimate knowledge of individual rhinos by field staff is used in conjunction with a 'mark-recapture' statistical analysis to derive annual population estimates. In the Kruger National Park an annual estimate is derived through a combination of sightings of individually identifiable animals during aerial censuses, local knowledge by section rangers, and modelling based on population parameters derived from an intensive study area.

The quality of monitoring has continued to improve over the years. Training of staff at all levels is ongoing, and the black rhinoceros monitoring programmes receive high priority for the allocation of time and financial resources. Maintaining these programmes and the quality of the data are very expensive.

All population estimates and life history information are submitted annually to the Rhino Management Group (RMG) for review and further analysis. The RMG produces an annual report summarizing the status and performance of the black rhinoceros in South Africa, and makes recommendations for improving monitoring programmes. Management decisions are made on the basis of the monitoring results (particularly population size, age at first calving and inter-calving interval).

4.8 Management measures

4.8.1 Biological management

The objective of the RMG, to which all provinces and South African National Parks subscribe, is to maximize the growth of the black rhinoceros meta-population. In order to do this each population is managed for maximum productivity. This is achieved through habitat management and manipulation (mainly through the use of fire and by controlling the number of other herbivores), and through maintaining the population at 75 per cent of ecological carrying capacity. Surplus animals are captured and suitable founder populations are introduced into areas with the potential to have viable populations and that will contribute towards achieving the meta-population goals.

It is preferable to bias founder populations towards females in order to maximize the productivity of those populations. This has resulted in a male bias in some source populations, which has been a concern for some time as this may have a detrimental effect on the productivity of these populations. There are virtually no areas where these surplus males could be sent on a sustainable basis. There is also a huge cost implication for immobilizing and transporting animals that are in fact not even going to contribute to meta-population growth.

Old black rhinoceros males (≥30 years) could to some extent reduce the growth rate of the meta-population. These animals have in their lives occupied territories and by implication contributed their genes to the population. Ultimately these animals lose condition and are often challenged for the territory by younger males. This challenge may result in the death of either animal, or the old male may be displaced from all or most of his territory and gradually loses condition and is less likely to breed successfully. During this time he is using resources that reproductively active animals could have been utilizing. These animals are not available for translocation into new populations.

In intensively monitored populations, such as those in South Africa, it is possible to identify those old males that are unlikely to breed or are about to die and that may be occupying space that could be more productively used. In small populations there may be advantages to removing dominant males and letting younger animals breed, as this will reduce the chance of inbreeding.

4.8.2 Harvest rates

Harvest rates are determined by the reproductive performance of individual populations and mortalities, and tend to vary according to wet and dry climatic cycles. Rhinoceroses are generally not removed from populations until stocking rates reach at least 75 per cent of ecological carrying capacity. Animals known to have bred successfully and passed on their genes, and have reached the age where there is an increased mortality risk from old age or nutritional stress, or through territorial disputes with younger animals, are likely to be males over 30 years old. Ten males per year out of a total population of approximately 1,200 would have no impact, even if these were potentially reproductive animals.

4.9 Control measures

4.9.1 International trade

Close liaison is being maintained between provincial nature conservation authorities, South African National Parks (SANParks) and the South African Police Service (SAPS). There is no empirical evidence to suggest that there is significant illegal international trade in any rhinoceros products emanating from South Africa. Strict adherence to international export and import restrictions are complied with in the finest detail, and no adverse commentary in this respect has been noted. The National Environmental Management Biodiversity Bill has been adopted by the South African Parliament and is about to be signed by the President. Once promulgated, this act will greatly enhance the efficiency of law enforcement efforts gained at curbing any future potential unlawful trade in rhinoceros products.

4.9.2 Domestic measures

In providing details of controls that would ensure a sustainable harvest from the wild, it is important to stress that southern central black rhinoceroses in South Africa are confined to fenced areas (State-controlled protected areas and communal or private land). The ownership and translocation of rhinoceroses from one area to another is controlled by the various conservation authorities, which would also issue trophy-hunting permits. Harvesting would thus be strictly controlled to ensure the sustainability of the resource.

5. References

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COMMENT FROM THE SECRETARIAT

The proponent explains that in order to maximize the growth of the black rhinoceros meta-population, each population is managed for maximum productivity through habitat management and maintaining the population at 75 per cent of ecological carrying capacity. Surplus animals are captured for establishing founder populations, but it is best if such populations are biased towards females; male-biased populations have a detrimental effect on productivity. Post-reproductive males also do not contribute to the growth of the meta-population, and are not suitable for translocation. The proposed limited off-take of surplus/post-reproductive males for hunting trophies would generate significant revenues for conservation. The Secretariat therefore believes this proposal is in the best interest of the conservation of the species, and supports the proposed quota.