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Black Rhinoceros Conservation and Trophy Hunting in Southern Africa: Implications of Recent Policy Changes

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Abstract
The black rhinoceros, Diceros bicornis, is one of the most endangered species of terrestrial mammals in the world, with an estimated 3,600 animals remaining across a range that once covered most of sub-Saharan Africa. The principle cause of black rhino endangerment and decline during the past 30 years has been trade in rhino horn in the Far East and Arabian Peninsula. As a result of the threats posed from this trade, black rhinos have been listed on Appendix 1 of the Convention on International Trade in Endangered Species (CITES) since 1977, making all trade in rhino horn illegal. This trade ban has had limited impact in achieving its objectives of reducing the trade in rhino horn and protecting and recovering black rhino populations in Africa. Black rhino populations continued to decline in the late 1970's and 1980's, driven by the lucrative black market trade in horn and ineffective range state law enforcement practices. Several countries in southern Africa, principally South Africa, Namibia, and Zimbabwe, possess the most successful record of rhino conservation in subSaharan Africa; in South Africa and Namibia, black rhino populations have more than doubled since 1970. Rhino management in these countries has emphasized strong law enforcement and intensive monitoring in state protected areas, coupled with policies that enable private landholders and rural communities to capture economic benefits from rhinos. As a result of black rhino population recoveries in South Africa and Namibia, as well as the success of their market-based management strategies and desire to further expand black rhino ranges on private lands, those two countries submitted a proposal at the thirteenth CITES Conference of Parties (CoP) in October 2004, to initiate limited trophy hunting of black rhinos. Despite significant international resistance to rhino hunting among some conservation groups and animal welfare advocacy organizations, the proposal to hunt black rhinos in South Africa and Namibia was approved and quotas of five black rhinos per year for each of the two countries. This decision represents a watershed change in international approaches to black rhino conservation, with potentially important implications for the management and recovery of this critically endangered species.

An Overview of African Rhinoceros Conservation: Regulations and Incentives

The black rhinoceros, Diceros bicornis, historically ranged across much of subSaharan Africa, particularly the savannahs and woodlands of the Sahel and east and southern Africa. The species was relatively common and widespread until the second half of the twentieth century, when hunting of black rhinos for their horn,(used in the Far East as a traditional medicine and to make ornamental dagger handles in Arabia) brought about rapid large scale reductions in range and numbers (Western 1987; Milliken et al. 1993; Emslie and Brooks 1999). The wild population of black rhinos declined from about 65,000 in 1970, to under 15,000 in 1980, and finally to a low of about 2,400 by the early 1990's (Figure 1) (Emslie and Brooks 1999). In

Tanzania, for example, a population of almost 3,800 rhinos in 1980 was reduced to only 127 by 1992 as a result of rampant poaching (Figure 2) (Emslie and Brooks 1999).

With international trade in rhino horn driving these declines, the black rhino was transferred from Appendix II to Appendix I of CITES in 1977, making all trade in the species' horn and other products illegal. This strict trade ban did not, however, improve the species' conservation status. Rhino horn prices rose after the 1977 Appendix I listing, as traders stockpiled horn in response to the ban, and the continental black rhino population continued to plummet (t'Sas-Rolfe 2000). In general, CITES trade prohibitions have not been successful in reducing the demand for rhino horn and abetting the recovery of the species (Emslie and Brooks 1999; t'Sas-Rolfe 2000).

While the trade ban on rhino horn has been an ineffective basis for reversing the species' decline, several black rhino range states in southern Africa have recorded notable success in the face of widespread conservation failure. By the early 1990's, the few black rhinos that survived across the species' range resided primarily in heavily guarded and fenced government protected areas and private reserves. With the cost of protecting rhinos from poachers estimated at over $200 per km2/year (Leader-Williams 1990), these relatively small and fortified reserves were the only areas where rhinos could be effectively maintained. At the time, the majority of the remaining animals were in South Africa, Zimbabwe, and Namibia, with these three countries containing 77% of the continental population in 1990, an increase of 16% from the previous decade (Emslie and Brooks 1999). While the rest of Africa has lost nearly all of its black rhinos, populations in South Africa and Namibia increased between 1980 and 1997 from 630 to 1043, and 300 to 707, respectively (Figure 3) (Emslie and Brooks 1999). These two countries' black rhino populations have continued to increase during the past decade, to 1,286 in South Africa and 1,134 in Namibia at the time of the CITES conference in 2004 (CITES (nd)b; CITES (nd)c). South Africa and Namibia now contain about 70% of the estimated 3,600 black rhinos existing in Africa, making them the critical national actors in overall recovery efforts.

The success of these southern African nations in managing black rhinos has been a result of strong protected area management agencies, law enforcement, monitoring, and to a lesser degree the involvement of private landholders and rural communities. An important component of the overall wildlife management policies of Namibia and South Africa has been promoting locally managed commercial use of wildlife, and thereby encouraging the adoption of wildlife a form of private land use. Since the late 1960's, southern African countries have emphasized sustainable wildlife utilization, including commercial trade, as a conservation strategy (Child 2004). Namibia granted private landholders the right to manage and utilize the wildlife on their land, subject to certain regulatory restrictions, in 1967 (Jones 2001). By devolving responsibility and authority for wildlife in this way, government policies enabled landholders to capitalize on wildlife's competitive economic advantage over alternative agricultural land uses in semi-arid areas. The result was a broad expansion of wildlife populations; game numbers increased by an estimated 80% on private lands in Namibia from 1972 to 1992 (Barnes and de Jagr 1996). South Africa also developed a policy of private ownership of wildlife, and has witnessed a similar expansion of the land devoted to game species during the past thirty years. While these policy changes applied only to freehold lands, which were held primarily by white minority landowners, Namibia and Zimbabwe later spread the approach to their communal land areas as well. Namibia's community conservancies, whereby rural communities are granted the right

to manage and capture the benefits from wildlife on communal lands after they have formed registered conservancies, have been particularly successful in generating local revenues and leading to wildlife population recoveries since 1998 (Jones 2001; NACSO 2004). Among other successes, the Kunene Region of northwest Namibia, where many of the community conservancies are located, is now home to the largest free-ranging black rhino population in Africa, with about 140 animals ranging across the semi-desert environment of this area's communal lands (Barnard 1998; Child 2005; CITES (nd)c).

The effectiveness of these privately oriented, market-based conservation policies in southern Africa have also been demonstrated through the region's experience with the other species of African rhino, the white rhinoceros (Ceratotherium simum). This species was nearly extinct as a result of excessive sport hunting and displacement by the late nineteenth century, when the few remaining animals survived on what is now Hluhluwe-Umfulozi Game Reserve, in eastern South Africa. From that low point, white rhino numbers began a steady recovery through vigilant protection in a few reserves (Figure 4). By the late 1980's, with the population continuing to grow and the need to expand the land area available to white rhinos, government authorities began selling white rhinos to private landowners. The price of white rhinos grew steadily under this system, driven by a market for ecotourism, hunting, and additional live sales of surplus animals, and totaled $1.57 million in South Africa's KwaZulu-Natal Province in 1998 (Emslie and Brooks 1999). As white rhino numbers recovered, South Africa also reintroduced trophy hunting of the species beginning in 1968 as one economic use of the animals. From 1968 to 1996, white rhino hunts in South Africa generated a total of $24 million. In 1994, South Africa's white rhino population was transferred to Appendix II of CITES for purposes of live animal sales and trophy hunting only. Following the development of these utilization options and incentives for white rhinos on private lands, the number of rhinos held privately grew rapidly, making up 20% of South Africa's total white rhino population by 1997 (Emslie and Brooks 1999). This mixture of public stewardship and private incentives has been the key to the species' recovery to over 11,000 animals at present, nearly all of which reside in South Africa. The result of the white rhino's recovery is that this species is now the only one of the world's five rhinos that is no longer critically endangered. The key issue in the continuing recovery of the white rhino in southern Africa is the demand for rhinos by private landowners, so that the land area available to the species may continue to grow.

Black Rhino Management and CITES

By the early 1990's, as the black rhino population hit its all-time low and the species disappeared from most of its former range, conservationists and policy-makers began to reappraise their approach to international rhino trade regulation. The ninth CoP to CITES, held in 1994 in Fort Lauderdale, Florida, passed a broad resolution on rhino conservation which recognized that the trade ban was insufficient to protect and recover rhino populations (Emslie and Brooks 1999; CITES (nd)a). This resolution called for rhino range states to develop their own locally appropriate management plans for self-sufficient rhino conservation and recovery.

South Africa and Namibia had already adopted a management plan in 1989 and developed a rhino management group that worked to standardize reporting and coordinate managers.1 Namibia later developed its own management plan for black rhinos which aims to maintain a long term viable population of 2000 animals and to

implement a sustainable use scheme for generating benefits in order to support and justify the conservation of the species (Barnard 1998; Emslie and Brooks 1999).
In line with their management objectives and the continuing growth of their black rhino populations, South Africa and Namibia introduced a request to the thirteenth CITES CoP, held in October 2004 in Bangkok, Thailand, to grant them a limited number of export permits for black rhino hunting trophies. This represented the first proposal for trade in black rhinos since the Appendix I listing in 1977, and while there is an established system within CITES for granting hunting trophy export permits for other Appendix I species such as leopard, there had been no legal trophy hunting of black rhinos in Africa for decades. This made the proposal a controversial and precedent-setting one, and it faced opposition from animal welfare groups opposed to hunting on ideological grounds, as well as rhino range states such as Kenya and India which oppose legal trade in products from wildlife such as elephants and rhinos because they argue it will encourage poaching. The proposal was originally for ten export permits for trophy hunted rhinos in South Africa and five in Namibia. Prior to the conference, South Africa reduced its request from ten to five based on concerns expressed about its proposal by scientific advisory groups and conservation organizations. The conference approved the proposal, and in its resolution on the matter cited the prior COP-9 resolution instructing rhino range states to develop management plans, highlighting the potential value of sustainably managed hunting to species conservation and recovery (CITES (nd)d). In this respect, an important factor in this decision was probably the success that South Africa had demonstrated in using limited trophy hunting to help support the recovery of its white rhino population. Namibia's particularly strong record in establishing wildlife management practices benefiting local communities through its community conservancies was probably also valuable in generating support for the rhino hunting proposal. Important elements in the proposal's success were its provisions for all hunting to be of 'surplus' non-reproductive male black rhinos, and for the money generated by these hunts to be reinvested in conservation and recovery of the species.
The Namibian and South African proposals succeeded because of those countries' impressive established track record in black rhino conservation and the fact that they collectively hold the vast majority of the species' continental population. The two countries have established clear management plans for rhinos as called for by the ninth CITES CoP in 1994, and possess increasing rhino populations subject to little illegal use. Despite continued public resistance to trophy hunting as a management tool for endangered species, particularly in North America and Europe, South Africa and Namibia were able to overcome this sentiment through their successful track record and a sense among the conservation community that this success should be rewarded (Leader-Williams et al. 2005).

Trophy Hunting and Black Rhinoceros Recovery: Current Trends and Issues

The decision to allow for a limited trophy harvest of black rhinos under CITES represents a watershed in efforts to conserve and recover this critically endangered species. The move resulted from the empirically demonstrable management successes in wildlife, and specifically rhino, management on the part of Namibia and South Africa, as well as recognition of the broad failure of blanket trade prohibitions to recover black rhino populations in Africa during the past thirty years. The hope of regional conservationists and managers is that by departing from this framework of

strict trade prohibition in favor of limited sustainable utilization, greater economic incentives will bolster black rhino recovery on private, communal, and state lands. The success of the South African and Namibian proposals resulted from not only the empirical strength of their management practices, but is linked to a broader perceptible shift in international attitudes towards utilization and trade as conservation tools. During the same CITES CoP in Bangkok, a separate resolution was passed which adopted the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity, which were developed under the Convention on Biological Diversity. These guidelines stress the importance of sustainable use for the conservation of biological resources and call for international agreements to promote market forces and incentives which value wild species (CITES (nd)e). The adoption of these guidelines reflects the recent evolution of CITES from its more prohibitive traditions towards greater support for trade and utilization as parties look for creative and practical species recovery strategies. CoP-13 reflected this prouse shift in some of its other key decisions, including the downgrading of Swaziland's white rhinos to Appendix II for purpose of live animal sales and the failure of Kenya's proposal to transfer Africa's lions to Appendix I.

There are several basic challenges facing the important experiment in black rhino utilization that will follow the CITES decision. While there is no question that South African and Namibian hunting outfitters will be able to sell their limited black rhino trophy hunts at relatively lucrative rates (up to $200,000 per animal has been suggested), a key for continued black rhino hunting will be demonstrating that the resultant revenues are reinvested in conservation. South Africa and Namibia will need to build on their established record of transparent and thorough monitoring and reporting in order to build support for their utilization practices in future CITES debates on rhino management. Ensuring that some of the hunting revenues directly benefits poor rural communities should be a priority.

But the foremost challenge facing this approach to rhino conservation is likely to come through future and existing impediments to legalized trade. The South African and Namibian proposal at COP-13 succeeded despite significant opposition from some conservation lobbies and animal welfare groups (e.g. Anon. 2004b). Although widely supported by conservationists in the southern African region, the CITES decision was often portrayed in western media reports as a negative one for black rhino conservation (e.g. Anon. 2004a). Utilization-based approaches to wildlife conservation still have not garnered mainstream acceptance internationally, as this negative coverage demonstrates.

A more direct obstacle for South Africa and Namibia's utilization policies is that irrespective of CITES rulings, countries may restrict or prohibit the importation of rhino trophies unilaterally. The United States has black rhinos listed on its Endangered Species Act (ESA) as 'endangered', and species of this status are normally not allowed to be imported. Namibia experienced frustration six years ago when the U.S. Fish and Wildlife Service ruled against changing the cheetah's status to allow trophy imports from Namibia into the U.S. Namibia is home to Africa's largest cheetah population and allows a limited number of them to be hunted on private lands in order to promote landholder incentive for conservation of the species (LeaderWilliams and Hurton 2005). Currently black rhino trophies are not allowed into the U.S., which is the largest market of wealthy safari hunters in the world, and consequently it is possible that this will depress the returns that South Africa and Namibia can generate from their quota. It should be noted, however, that the listing of a species as endangered under the ESA, or its placement on Appendix I of CITES,

does not necessarily prohibit importation of trophies of the species; both leopard and elephant trophies are regularly imported into the U.S. although permitting and importation procedures are quite extensive and contingent on approval of specific import applications.2 There is considerable administrative latitude for allowing rhino trophy imports into the U.S. in the future without altering its ESA listed status, but there are also significant barriers to importing rhino trophies from Namibia and South Africa into the U.S. regardless of the effectiveness of rhino conservation programs in those countries Whether rhino trophy hunting programs receive this type of support, will largely be a matter of political negotiation between those in favor of sustainable management of wildlife and rhino recovery, and the influential animal welfare lobby which comprises the main opposition to trophy hunting.

Conclusion

There are several important practical implications of the CITES decision to allow black rhino trophy hunting. This decision represents the first departure from the strict prohibition on all forms of black rhino trade since the species was placed on Appendix I nearly thirty years ago. This makes the move an important experiment in rhino conservation policy, with the aim being to begin laying the basis for a marketbased model for black rhino population growth and range expansion in Namibia and South Africa, as has long been established for white rhinos in South Africa. If this experiment is successful, it will lead to further growth in regional black rhino numbers, greater benefits to landholders and state management agencies from rhino management, and thus greater investment in rhino conservation and recovery. Given the poor record of success of blanket trade prohibition as a conservation strategy during the past three decades, there is a strong imperative for such utilization-based experiments.

The decision to resume hunting of black rhinos was a highly controversial one, although primarily for ideological grounds relating to the legitimacy of hunting itself, rather than to the management or demographics of black rhinos per se. The resumption of hunting this species may reflect a growing sentiment among international conservation actors that pragmatic sustainable use, particularly in developing countries, needs to be given precedence over western ideologies. The international community, as well as influential nations such as the United States, should continue to support experimental efforts to develop market-based mechanisms for expanding black rhino populations and ranges in future policy debates and decisions.

1 Namibia was a part of South Africa until 1990, when it gained political independence.

2 For example, Jackson (2006) gives the recent case of USFWS refusal to grant approval for import of elephant trophies from Mozambique, despite the fact that elephant trophies are regularly imported from southern Africa and the species is considered to be increasing in Mozambique.

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