III.IX Debate

Rhino hunting

As can be expected, the use of hunting as a conservation tool generates much debate. This is primarily due to philosophical differences of opinion on:

• whether it is right to kill individual animals to further overall conservation objectives for the greater good of a population or species
• whether one supports the principle of sustainably using wildlife and resources to generate revenue to help fund conservation management programmes and to create positive economic incentives to encourage the private sector and communities to conserve wildlife and habitats

Those whose primary focus is on the welfare of individual animals targeted for hunting, as opposed to the broader issues of how best to conserve viable populations of species and their related habitats, tend to be against hunting, irrespective of whether it can be demonstrated to be sustainable and / or create positive incentives to encourage people in developing countries to conserve wildlife.

For many it seems incongruous that, on the one hand huge efforts are being made to conserve remaining rhino populations, yet at the same time a small number of rhino are being sport hunted. It is therefore worth looking at the rationale behind hunting.

Southern white rhino hunting
Limited hunting of Southern white rhino has been undertaken since 1968. This has clearly been sustainable because, since hunting began, numbers of Southern white rhino have increased from 1,800 to 11,100 in the wild, with a further 740 in captivity worldwide. This has helped give white rhinos an economic value and increased the incentives for the private sector and communities to conserve white rhino. By 2003, 3,250 of Africa's southern white rhino were privately owned and the limited hunting in part contributed to this large expansion of rhino range. However, it is interesting that on the whole, live sale prices have been higher for breeding females than for old, potentially trophy males indicating the desire of the private sector primarily to breed up rhino.

Most Southern white rhino occur in fenced reserves and parks and, even though in some cases these are large areas (a few hundred km2 to a couple of thousand km2), the fence acts to prevent sub-adult dispersal, which is a natural white rhino population regulation mechanism. If left untouched, eventually densities of white rhino can build up to such a level that density-dependent population regulation can kick in and rhino performance declines. In addition, such large long-lived mega-herbivores also have the potential to overshoot carrying capacity. As a result, the

prevention of dispersal by fences may result in grazing levels becoming unnaturally high, and helping cause negative habitat changes for the rhinos (bush encroachment). If this occurs, the long-term potential of an area to carry white rhino will be reduced, and the rhinos will be more susceptible to die during droughts. As a result of these problems, management agencies capture and remove surplus white rhino to prevent densities getting to these unnaturally high levels.

The vast majority of white rhinos that are translocated are used to set up new breeding populations. However, since 1968 a limited number of surplus older animals (usually males) have been hunted annually in the major range state, South Africa and, to a much lesser extent, in Namibia. The total number of white rhinos hunted annually currently represents less than 0.5% of the total number of white rhinos in the wild, and hunting is controlled through permits issued by the formal conservation agencies.

While many white rhinos have been donated to restock other state conservation areas, the majority of rhinos that have gone to the private sector have been sold at market-related prices. The major supplier of surplus rhinos has been the state conservation areas and these live sales have significantly contributed to the overall cost of conservation in some rhino areas, especially in KwaZulu-Natal, South Africa. This additional income has been especially important as government grants for conservation have been declining in real terms and these rhino sales have helped make up some of the shortfall. Successful rhino conservation and management is not cheap. A further spin-off is that putting a value on the wildlife (live sales, limited hunting together with the promotion of eco-tourism) has made it easier for conservationists to argue to local politicians that conservation is a valid economic form of land use and not just a “waste of land.”

Black rhino hunting

The 13th Conference of the Parties (CoP13) of the Convention in Trade in Endangered Species of Fauna and Flora (CITES) from 2-14 October 2004 in Bangkok, Thailand also recently approved quota applications by Namibia and South Africa each to sport hunt five surplus male black rhinos per year.

At first glance, it seems inconceivable that anyone would want to hunt *Vulnerable* (Namibia) and *Critically Endangered* (South Africa) subspecies of black rhino when so much effort is going into protecting these animals and breeding them up as rapidly as possible.

The surplus male problem

The problem of surplus black rhino males is not new and has been discussed as far back as 1992. It is primarily the result of some black rhino populations ending up with markedly skewed sex ratios in favour of males. These 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.

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. If surplus males killed only other males then perhaps they could just be left to fight it out and let natural selection take its course. However, conservationists have expressed concern that in such populations, valuable breeding females and calves may be injured or even killed as well as other males, as appeared to have been the case in Pilanesberg National Park in the past.

Surplus males also use valuable food resources that may affect female breeding performance. Although not yet conclusive, preliminary evidence from annual SADC Rhino Management Group status reporting suggests that female reproductive success may also be slightly higher in populations with a higher proportion of adult females to males. 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 metapopulation growth rates and hence overall rhino numbers.

Only some populations have a surplus male problem. Owners or management agencies conserving populations that end up with skewed sex ratios in favour of females over males are invariably happy for this to remain the case as long as possible, as percentage growth rates and calving production will be higher. This is similar to productive cattle farming, where the number of bulls in a herd is limited to maintain rapid population breeding rates. Managers of such female-skewed black rhino populations are simply not keen to accept males.

The corollary is that while populations that end up with markedly skewed sex ratios in favour of males usually want to obtain more females, sourcing additional females is very difficult. Many donor populations, not unexpectedly, are loath to provide females only, as this would negatively affect the donor population's sex structure and potential future performance. In practice, it is hard for the populations that have by chance ended up with more males to source and obtain additional females.

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, in the same way that a cattle farmer is unlikely to keep the same breeding bull for an extended period. In addition, the hunting of an old post-reproductive male that has been pushed out of his territory will not affect his contribution to the gene pool of that population.

Attempted solutions to the surplus male problem
A number of alternatives to hunting surplus males have been tried over the years including sending them to zoos, attempting to sell surplus males, and creating male-only populations in reserves that are too small to hold breeding populations. This last approach has not been particularly successful or popular. For example, in Makasa, KwaZulu-Natal, South Africa, a bull in a small male-only population killed the other two males. For the approach to have a better chance of success, it is recommended that males that "know" each other be introduced together.

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.

The argument that surplus males can be used to "test" potential new areas for reintroduction also has limited applicability. This is because breeding females need to be on a higher nutritional plane than males successfully to conceive and raise calves at a rapid rate. A "survival" diet for a small number of male rhinos is not the same as a diet for optimal breeding. Therefore, the mere fact that a few surplus males survive in a new area is no guarantee that females will breed well if introduced (which in the process will raise stocking rates higher).

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 an area is big enough to set up a breeding population of black rhinos, ideally one should proceed straight to setting up the breeding population and not start with males only. 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 KwaZulu-Natal in 2004 fetched an average price of US $21,130.

Declining budgets for conservation
The reality facing many conservation management agencies in Africa is that their budgets have been declining in real terms. Successful rhino management is also expensive, requiring concentrated field protection and law enforcement, running of

intelligence networks, monitoring, maintenance of fences and waterholes, and biological management (including translocating groups of surplus rhino to set up new breeding populations). These activities are required to increase rapidly the numbers of black rhinos in national metapopulations and meet national metapopulation goals. Intensively managing and successfully protecting rhino populations can cost as much as US $1,000 per km2.

Given the high cost of successful rhino conservation, the demonstrated sustainability of southern white rhino hunting, and the fact that other attempts to deal with the surplus male problem have met with limited success and generated little revenue to help fund conservation, it was to be expected that proposals to hunt surplus male black rhino would eventually emerge. Indeed, the possibility of starting hunting has been discussed for a number of years in the SADC Rhino Management Group. A number of conservation agencies in southern Africa had suggested that such a move could be a win-win strategy; solving the surplus male problem while at the same time generating additional much-needed income to help fund necessary field conservation efforts. It has been estimated that a black rhino trophy hunt might fetch about US $200,000, almost 10 times the current live price. It is expected that this would create a positive economic incentive for the private sector and communities to conserve black rhinos. The live value of black rhinos is also likely to increase, which will most benefit the state conservation agencies with surplus breeding animals.

Proponents of limited hunting argued at CITES that hunting such a small number of such surplus males will not lead to a reduction in overall rhino numbers, but for the reasons outlined above rather could contribute to improving population growth rates. They also have noted that the combined number of black rhinos now in Namibia and South Africa (2,530) is now greater than the number of Southern white rhinos when hunting started in South Africa in 1968 (1,800).

In Namibia all black rhinos belong to the state. Thus Namibia's Ministry of the Environment and Tourism would decide which specific surplus males would be hunted. It was explained that many individual rhinos in Namibia are individually known, enabling the Ministry to target specific surplus male animals. Namibia also indicated it would hunt only adult male black rhinos. The Namibian representative committed that 100% of all proceeds from any black rhino hunted on communal conservancy land would be made available for use in conservation programmes by respective community conservancies through the Namibian Game Products Trust Fund, thereby proposing a mechanism whereby communities that did not own the rhinos, but had successfully conserved them, would benefit directly from the hunting. The largest community-managed black rhino population in Africa occurs in Namibia, and it was explained that communal land representatives have shown high interest in this scheme. At CoP 13, Namibia stated that it was keen to increase benefits to communities.

Speculation about the impact of these decisions on poaching
There has been some speculation in the press that the decisions at the recent CITES CoP to allow the annual hunting of 10 black rhino will send a message to poachers and perhaps lead to an upsurge in rhino poaching and widespread slaughter of rhino. It is perhaps worth pointing out that in general trade experts do not feel that this argument is credible. In part, this is because as far as the illegal end-user markets are concerned, there is no major distinction between black and white rhino horn when making dagger handles, or when horn is used as an ingredient in traditional Chinese medicine (TCM). The main difference is between how Asian rhino horn is viewed, valued and used compared with African horn. The annual export of 10 black rhino trophies will in effect simply add to the existing export of around 40 to 70 odd Southern white rhino trophies per year. If the controlled export of a few black rhino hunting trophies were going to stimulate rhino poaching, one would have expected this to happen long before in response to the ongoing export of white rhino trophies.

Trade experts also point out that the dynamics of the controlled export of a limited number of marked and CITES-permitted hunting trophies are not the same as the illegal killing of rhinos in an attempt to supply an illegal demand for rhino horn to make dagger handles and to use in TCM. Had CITES CoP 13 approved the reopening of a legal rhino horn trade (which it did not) this would have been a very different matter.

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