

Rhino Dehorning in Zimbabwe: an Update

Reports from Zimbabwe concerning continuing losses of dehorned rhinos to poachers, including the virtual extermination of the country's largest population of White Rhino *Ceratotherium simum* at Hwange National Park, have led some observers to characterize the controversial strategy to deter poachers as an abject failure. Regardless, it may still be premature to pronounce dehorning as an ineffective component of an overall rhino conservation strategy.

In Zimbabwe, the first experimental operation resulted in the dehorning of 59 White Rhinos in Hwange National Park in October 1991. White Rhinos were initially targeted because they are grazers and tend to inhabit open habitat, making them particularly vulnerable to poachers. In June 1992, in recognition of the worsening poaching crisis, the Government wildlife authorities initiated a nationwide dehorning programme for both rhino species which continues to this day. By 1 September 1993, a total of 212 Black Rhinos *Diceros bicornis* and over 120 White Rhinos had been dehorned. Of these, at least 80 rhinos have now fallen to poachers.

In evaluating the effectiveness of rhino dehorning in preventing poaching, a variety of factors need to be considered. From the outset, Department of National Parks and Wild Life Management (DNPWLM) authorities and the conservation organizations which have supported them have always characterized the dehorning programme as a crisis management tool to be pursued in tandem with a continuing aggressive anti-poaching and law enforcement effort. The dual strategy of reducing the profit and increasing the risks to poachers has been identified as the most effective combination to undermine incentives to poach (Milner-Gulland and Leader-Williams, 1992; 't Sas-Rolfes, 1993).

In Hwange National Park, vital anti-poaching operations virtually ground to a halt during the first quarter of 1993, the consequence of a severe funding and personnel shortfall resulting from Government-imposed austerity measures in conjunction with the International Monetary Fund's economic restructuring programme for Zimbabwe. In spite of the fact that the wildlife/tourism sector is one of Zimbabwe's most productive economic assets, the DNPWLM was forced to retrench 259 game scouts at a time when more people are needed in the field to combat an intensified poaching threat. Worse yet, new Government directives forced the Department to remit 10% of the FY1991/92 budget to the Central Treasury in early 1993. In essence, this move depleted DNPWLM's cash assets, resulting in the curtailment of most field operations in Hwange until the new budget was available in June. During this five-month period, the park, an area covering 14 000 km², was virtually unpoliced. Without any protection programme for rhinos *in situ*, dehorning has proven to be ineffective as a deterrent to poachers and the result for the park's White Rhino population has been catastrophic.

Another consideration in assessing the Hwange situation is the rate of horn regrowth. Most of the so-called 'dehorned' rhinos that were poached were actually carrying a year and a half of new horn growth: the anterior horn was over 10 cm and the posterior horn over 4 cm in length, with a total weight of horn close to 1 kg - comparable in size to horns naturally borne by juvenile Black Rhinos.

Recent analysis has suggested that for dehorning to be an effective deterrent to poachers, it must be performed annually (Milner-Gulland *et al.*, 1992). The evidence from Hwange would seem to corroborate this hypothesis. While all but two of the White Rhinos with 18 months of horn regrowth have been eliminated, only four of the 58 Black Rhinos which were more recently dehorned in Hwange are reported to have been killed. Elsewhere in the country a similar holding pattern is noted with fewer than 20 fatalities recorded from the more than 200 dehorned Black Rhinos.

For poachers from neighbouring Zambia, a country facing extreme economic hardship, Hwange offered an opportunity with an acceptably low risk and an adequate reward: not only did it hold Zimbabwe's largest remaining rhino population, it also contained the country's greatest concentration of rhino horn, as over 40% of the 200 Black and White Rhinos estimated in the Hwange region in late 1992 had either never been de-horned or had considerable horn regrowth.

The motivation behind poachers who consciously choose to kill newly dehorned rhinos remains open to conjecture. Some observers have alluded to a calculated syndicate effort to drive up the value of rhino horn by simply ordering poachers to eliminate all rhinos. There is in fact little evidence to support this kind of conspiracy theory. Analysis of available law enforcement data indicate that most poaching is a very opportunistic, loosely organized and unstructured affair driven by poverty and *ad hoc* relationships. Others have speculated that the horn stubs of even newly dehorned rhinos are valuable enough to attract poachers. Unfortunately, there are no reliable data to indicate what financial returns poachers are receiving for rhino horn stubs. To date, no horn stubs from dehorned rhinos have been confiscated in international trade nor identified in consumer markets.

Another possible motive is suggested by a statement made by a Zambian poacher apprehended in Hwange National Park. This poacher indicated that in areas where both horned and dehorned rhinos exist, if valuable time is spent tracking a rhino and it turns out not to harbour horn, it may be shot anyway because poachers do not want to be sidetracked by repeatedly following the spoor of hornless animals (G. Tatham, pers. comm., 1993). These remarks correspond with statements made by hunters of Musk Deer *Moschus chrysogaster* in the Indian Himalayas, who have indicated a willingness to kill females and juveniles even though they do not yield the prized musk, because they do not want to waste time and effort tracking or trapping such animals (Green, 1986).

Where all rhinos have been freshly dehorned as in Matobo National Park, south of Bulawayo, anecdotal evidence continues to show that poachers have refrained from shooting rhinos even though they had opportunities

NEWS

to do so (G. Tatham, pers. comm., 1993). It is not known whether this is the result of fear of detection or disinterest in the reduced return one gets from newly dehorned rhinos. Similarly, evidence of poachers not shooting rhinos was received from Hwange after the initial dehorning of White Rhinos in 1991, and there have been instances where poachers have not removed the horn bases of newly dehorned rhinos they have killed in Hwange, Chizarira and Matusadona National Parks (Milliken *et al.*, 1993).

Zimbabwe's poaching problems continue to involve neighbouring Zambia where most of the poachers originate. Since December 1992, at least three groups of poachers from Zambia have penetrated more than 450 km into the country to reach Matobo National Park. While the core element in each of these gangs comprises Zambians, in at least one of the gangs there were Zimbabwean collaborators. However, as far as is known, local communities have not assisted these poachers and have, in fact, come forward with information on the movements of the gangs through their communal areas. This co-operation enabled the Zimbabwe Police Support Group to make contact with the poachers on several occasions. During the latest incursion, in September 1993, it was observed that the poaching gang refrained from shooting dehorned rhinos in Matobo National Park and instead killed a horned rhino on a nearby ranch. Follow-up anti-poaching action resulted in a Zambian being killed in Tjolotjo Communal Land and the recovery of one of the horns.

In other developments, the attempt to re-establish a focused anti-poaching effort in areas under Government control has been boosted by the development of a strategic plan for the creation of Intensive Protection Zones (IPZs). A workshop convened in early September 1993 identified Matobo, Hwange and Matusadona National Parks and the Chipinge Safari Area as the most viable locations for IPZs. Collectively, these four locations currently harbour an estimated 80 Black Rhinos and 40 White Rhinos, with more specimens being translocated into Matusadona at present. A streamlined operational command structure, detailed budgets and manpower plans have been developed. If properly implemented, the IPZs probably hold the only hope for the survival of rhinos on Government lands.

Zimbabwe's rhino populations in the privately-owned conservancies, particularly the lowveld Save Valley, Chiredzi River and Bubiana conservancies, continue to expand since the translocation of founder groups in 1986. Innovative links with surrounding communities, reward systems to informants, and anti-poaching programmes which include dehorning, are components in the conservancy programmes designed to inhibit poaching. It is worth noting that game scouts in the conservancies, who are generally recruited from local communities, have strongly endorsed dehorning as a way to reduce poaching pressure. There has been no rhino poaching in the Bubiana

and the Chiredzi River conservancies to date and none in the Save Valley for two years. Elsewhere on private lands, other initiatives are making short-term progress. The satellite breeding group of 14 Black Rhinos translocated to the Lonely Mine area in 1987, for example, has expanded to 19, of which four have recently been moved to the large lowveld conservancies. However, poaching losses on other private ranches allow little room for complacency and an intensified anti-poaching effort is underway in the conservancies.

Meanwhile, fully cognizant of the continuing dehorning debate in Zimbabwe, Namibia, which first initiated dehorning Black Rhinos in 1989, announced a new programme of dehorning its rhinos in October 1993. The Namibian Ministry of Wildlife, Conservation and Tourism (MWCT) has undertaken a dehorning programme of Black and White Rhinos in Etosha and Waterburg Plateau. The MWCT announcement acknowledged that Zimbabwe represents "a unique situation with complex social factors involved after years of lethal battle between poachers and conservators".

ACKNOWLEDGEMENTS

The authors would like to acknowledge the assistance of Glenn Tatham, Chief Warden, Operations, Department of National Parks and Wild Life Management, Harare, Zimbabwe.

REFERENCES

- Green, J.B. (1986). The distribution, status, and conservation of the Himalayan muskdeer (*Moschus chrysogaster*). *Biological Conservation* 35:347-375.
- Milliken, T., Nowell, K. and Thomsen, J.B. (1993). *The Decline of the Black Rhino in Zimbabwe: Implications for Future Rhino Conservation*. TRAFFIC International, Cambridge, UK.
- Milner-Gulland, E.J., Beddington, J.R. and Leader-Williams, N. (1992). Dehorning African rhino: a model of optimal frequency and profitability. *Proceedings of the Royal Society of London* 249:83-87.
- Milner-Gulland, E.J. and Leader-Williams, N. (1992). A model of incentives for the illegal exploitation of black rhinos and elephants: poaching pays in Luangwa Valley, Zambia. *Journal of Applied Ecology* 29:388-401.
- 't Sas-Rolfes, M.J. (1993). The economics of rhino conservation: an economic analysis of policy options for the management of wild rhino populations in Africa. Unpublished manuscript. UCL. 74pp.

Tom Milliken, TRAFFIC East/Southern Africa.
Raoul du Toit, Rhino Conservation, Department of National Parks and Wild Life Management, Harare, Zimbabwe.