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Dehorning

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History

The rhinoceros, throughout its historical range has been hunted for its horn and is now on the brink of extinction as a result. Rhino horn has been carved into ceremonial dagger handles in the Middle-East and has been used as a medicine in the traditional society of the Far-East for several thousand years. Southern Africa harbors the largest remaining population of the black rhinoceros (Diceros bicornis) in the world but has encountered enormous pressure from illegal hunting in the past decade. Zimbabwe, a southern African country with a previously healthy black rhino population, was one of the hardest hit and by 1990 had entered a critical stage. Indiscriminate illegal hunting quickly became unsustainable and the population of both white and black rhino in Zimbabwe was rapidly decimated. Toward the end of 1992, wildlife experts predicted that if the poaching onslaught was not halted by the end of 1994, the black rhinoceros in Zimbabwe would become extinct. There were few options left for the wildlife authorities to consider and a radical, somewhat controversial program, which had been proposed by the Zimbabwe Department of National Parks and Wild Life Management in the late 1980's was finally approved by the Zimbabwe Government. This program embraced a number of different options including the improvement of law enforcement, the securing of larger populations in intensively protected areas (known as Intensive Protection Zones, or IPZ's) and dehorning.

Dehorning

The process of dehorning involves the removal of a portion (70 - 80%) of the front and rear horn, while the animal is under anaesthesia. A cutting instrument such as a wood saw or a small chain-driven power saw is used to remove the horn during this surgical procedure. The remaining stub of horn is clipped and shaped and often filed smooth. Immobilization of the rhino is achieved by administering a combination of drugs via a projectile dart, fired from a

specially designed rifle. Darting may be done from the ground or from a helicopter which improves safety and efficiency and over the past decade wildlife veterinarians and game capture experts in southern Africa have researched and established ideal drug dosages for white and black rhinoceroses, allowing for maximum safety for both animals and personnel. The darting and dehorning procedures are carried out only by trained and experienced veterinarians.

The Zimbabwean policy of rhino dehorning was aimed at reducing the incentive to hunt the animals. It was aimed at providing a "breathing space" so that more sophisticated and long-term protection programs could be implemented. The initial experimental work with a discrete population of white rhino in Hwange National Park in Zimbabwe followed an experimental dehorning operation which took place in Namibia. The theory behind the policy being that if the rhino had no horn to remove and sell there would be little point in killing the animal. Dehorning on its own was never expected to stop poaching altogether, it was to provide a "stop-gap" and was only one aspect of the overall conservation strategy developed by the wildlife authorities in Zimbabwe. In addition to the dehorning program, there was to be much improved law enforcement within the country's National parks (Zimbabwe's Department of National Parks and Wildlife Management has a shoot-to-kill policy against armed poachers), with an increase in the number of trained, patrolling scouts and improved weaponry and equipment. Rhinos were to have been concentrated in Intensive Protection Zones and private land conservancies as part of the initial phase. Due to difficulties in securing funds from external sources to establish many of these programs, the overall plan failed to materialize. A small group of dedicated people did, however, succeed in raising enough money to initiate the dehorning program. An experimental dehorning occurred in 1992 and was followed by a country-wide program for both black and white rhino which began in 1993 and continued through to the early part of 1995. At this time, the Government of Zimbabwe, under pressure from various "wildlife support groups" abandoned the program despite growing evidence that dehorning was having a positive effect (after some initial failures associated with inadequate law enforcement) and was helping to bring about the halt of poaching. Indeed, Zimbabwe has not had a rhino poached since early in 1994. This represents a dramatic change from the situation in 1992, when rhinos were being poached at a rate of at least one every five days. This rate was based on the number of "poached" rhino carcasses located in the field. With experience, however, it was estimated that this number accounted for less than 50% of the animals actually hunted.

Horn regrowth

Following dehorning there is regrowth of the horn at a rate that

averages about 6 cm (2.5 in) per year for the front (anterior) horn and about 3 cm (1") per year for the rear (posterior) horn. These growth rates vary according to the age of the animal (horn grows more rapidly in young animals) and the degree of wear exerted on the horn by the animal during the growth phase. As a result of this growth, it became necessary to dehorn the rhinos at intervals of 12 - 18 months. In reality, as radio telemetry programs became established for remote tracking, and "tagged" rhino were being tracked and visualized on a regular (once a week) basis, dehorning was continued on an "as and when required" basis.

Biological effects of dehorning

Ongoing research during the various dehorning operations revealed no apparent adverse behavioral side effects. Wild rhinoceroses frequently damage or even lose their horns through fighting but survive well following this trauma; horn regrowth is usually rapid and behavioral side effects have not been noted. In the field situation following horn removal, dehorned females have been observed successfully defending their calves against predator attacks. Feeding methods appear not to have been altered and dehorned males have been noted to successfully defend their territories against horned intruders. As a short term measure to provide a "breathing space" in order to implement other long-term protection measures, the effect of dehorning on various biological parameters in rhino, appears to be negligible.

Calf survivorship

Recent research in Zimbabwe shows that there are no adverse effects on calf survivorship as a result of dehorning. Discrete populations of dehorned black rhinos were followed over a three year period and calf births and deaths have been monitored. The intense monitoring has been allowed by the fact that most of the animals in the population have been fitted with radio telemetry collars. In the Sinamatella Intensive Protection Zone, an area known for its high predator density, there was between a 70% and 100% survivorship for black rhino calves, the population showing a 20% growth since 1993. This population continues to grow.

Future of dehorning in Zimbabwe

Political infighting and bureaucracy at a ministerial level in Zimbabwe has escalated during the past two years. Changes in managerial staff within many government departments has rendered any recommendations made by the remaining wildlife specialists still

employed by the Department, valueless. Not only has dehorning been stopped but so has the rhino telemetry program as well as further improvements to the existing IPZ's. With no further managerial intervention allowed in rhino conservation on State land in Zimbabwe, it seems only time will tell the fate of the rhino in Zimbabwe.

Dr. Mark Atkinson is a wildlife veterinarian, born and educated in Zimbabwe. Employed by the Veterinary Department and the Department of National Parks and Wild Life Management in that country for five years, he was intimately involved with the rhino conservation and dehorning programs from the time of their inception in 1991. He is deeply committed to the development of appropriate, adaptive methods for the conservation of Africa's wildlife, especially sustainable utilization. He has recently moved from Zimbabwe to southeastern Ohio, USA to take up the position a Staff Veterinarian at the Wilds (an IRF Partner), a 10,000 acre wild animal facility which concentrates on the conservation of many endangered species, including rhino, from around the world.