## VETERINARY INTERVENTIONS, MANAGEMENT, AND CONSERVATION OF THE BLACK RHINOCEROS IN ZIMBABWEIWS

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Wild populations of black rhinoceros (*Diceros bicornis*) in Africa have suffered catastrophic declines over the past 3 decades as a result of illegal hunting for horn. The black rhino received CITES Appendix I listing in 1977. However, between 1970 and 1992, 96 percent (~63,000 animals) of the wild population was killed. Since the late 1990s certain populations have been showing signs of recovery with a total estimated wild population of 3610 in 2005. The Zimbabwean population suffered a correspondingly precipitous decline reaching a low of ~300 animals by 1992. A 2004 survey, however, revealed a population of 536. Conservation measures responsible for the curre nt increasing trend, detailed in the Zimbabwe Black Rhino Conservation Strategy and instituted in 1992, include outreach and education, capture and translocation, dehorning, creation of Intensive Protection Zones, increased law enforcement, improved monitoring techniques, and establishment of a viable ex-situ population. Improved capture techniques and judicious use of long-acting neuroleptics have greatly improved the success of these programs, reflected in overall mortality rates as ociated with capture of < 1 percent. Some approaches have been controversial and

expensive and dehorning as a conservation technique was discontinued in 1996. The threat of poaching remains, however, and current conservation efforts remain at a low level due to political instability, lack of government support, and inadequate operating funds. It is proposed that sustainable utilization of the black rhinoceros through live sales and sport hunting would contribute significantly to rhino conservation by generating revenue suitable for reinvestment in conservation programs.

Bison management within and near Yellowstone ational Park (Y P) has been a source of public controversy since the park was established in 1872. An early census in 1880 indicated that about 600 wild bison remained in Y P, and sport hunting became illegal in the park by 1883. Because of an intractable bison-poaching problem, the U.S. army managed Yellowstone from 1886 until 1918. By 1902 only 40-50 bison remained within Y P, so the herd was augmented with 21 bison from Texas and Montana herds. Introduced bison were carefully husbanded at holding facilities in Mammoth and the Lamar Buffalo Ranch. Until 1967 YNP's bison were intensively managed, which frequently included herding or transporting among various habitats within Y P to enhance genetics, distribution, and