

## VETERINARY WORKING GROUP REPORT FROM 1991 INTERNATIONAL RHINOCEROS CONFERENCE IN SAN DIEGO

In view of the role that health and nutritional problems have had in the maintenance of captive rhino populations (e.g., as a limiting factor in the growth of the captive black rhino population), and that they have presented concerns in wild populations and their translocations, the following points for consideration and action are recommended:

I. Continued investigation of health problems in wild and captive rhinos is needed. New and continued research should be organized and encouraged in the following areas:

A. All morbidity and mortality data from captive, and where possible, wild populations should be compiled and reviewed annually under the auspices of the regional species management plans and national wildlife programs; and those regional data reviewed under the auspices of the IUCN/CBSG Rhinoceros Action Plan. Such studies should include evaluation of post-capture and post-translocation mortalities.

B. Further investigation of the incidence and prevention of management-related disease, trauma and infertility should occur.

C. Monitoring the fertility of all rhino populations, with particular attention to greater one-horned Asian rhinos and abortion rates in black rhinos, should be emphasized.

D. Enhancement of baseline data ("normal" values) from free-ranging and captive rhinos of all species is of critical importance to all fields of research.

E. Epidemiology of health problems in captive and wild rhinos should be studied and compared. Research should include seroprevalence surveys for infectious diseases and evaluation of internal and external parasites and their significance to rhino health.

F. Continued sharing and refinement of immobilization regimens among field and zoo veterinarians should take place. Narcotic agents (etorphine and carfentanil) are the primary drugs used for immobilization, and further investigations are needed to establish preferable supplemental tranquilizers, particularly long-acting neuroleptic agents.

G. Metabolic consequences of anesthesia and the stresses associated with capture and the sequelae to both should be assessed.

H. Studies to address the immune status of wild and captive rhinos and the role that immunology may play in several of their diseases, e.g. fungal pneumonia of black rhinos, should be initiated.

I. Nutritional research should include a general review of the feeding practices used in all species in captivity, with particular attention to establishing minimal requirements. Basic nutritional evaluations should focus attention on the nutrition of both wild and captive populations, and the resultant comparisons. Research to establish effective dietary supplementation with alpha-tocopherol should be encouraged.

J. In black rhinos, further research should be designed to evaluate the following diseases and syndromes:

1) Hemolytic anemia - Current recommendations for the prevention of acute hemolytic anemia include the vaccination of captive animals with a bacterin containing 5 leptospiral serovars. Research to identify an underlying cause for the hemolysis should continue.

2) Oral/skin ulcers - Ongoing efforts to identify the patho-physiology of the ulcers should be encouraged.

3) Iron metabolism - Further evaluation is needed regarding the accumulation of hepatic iron in captive and newly-captured black rhinos.

4) Fungal pneumonia

5) Encephalomacia

II. In conjunction with the preceding proposals, identification of additional funding sources to support health research in rhinos is vital.

III. Continued maintenance and enhanced participation in regional biomaterial banks (tissue, sera, urine, etc.), with samples from both captive and wild rhinos of all available species is vital to future comparative studies.

IV. Continued and enhanced collection of genetic samples from anesthetized rhinos whenever possible should continue to be encouraged.

V. Communication among veterinarians working with wild and captive rhinos should be continued and enhanced through future meetings. Special effort should be given to the maintenance of continuous medical histories for rhinos translocated from the wild to captivity.

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CONSERVATION  
DEPARTMENT

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In summary, there should be veterinary participation in the management of captive and wild rhino populations. This participation should be an integral part of a multidisciplinary approach to their care, and is particularly relevant to their capture and translocation. Such efforts will contribute to the long term survival of both *in situ* and *ex situ* rhino populations.