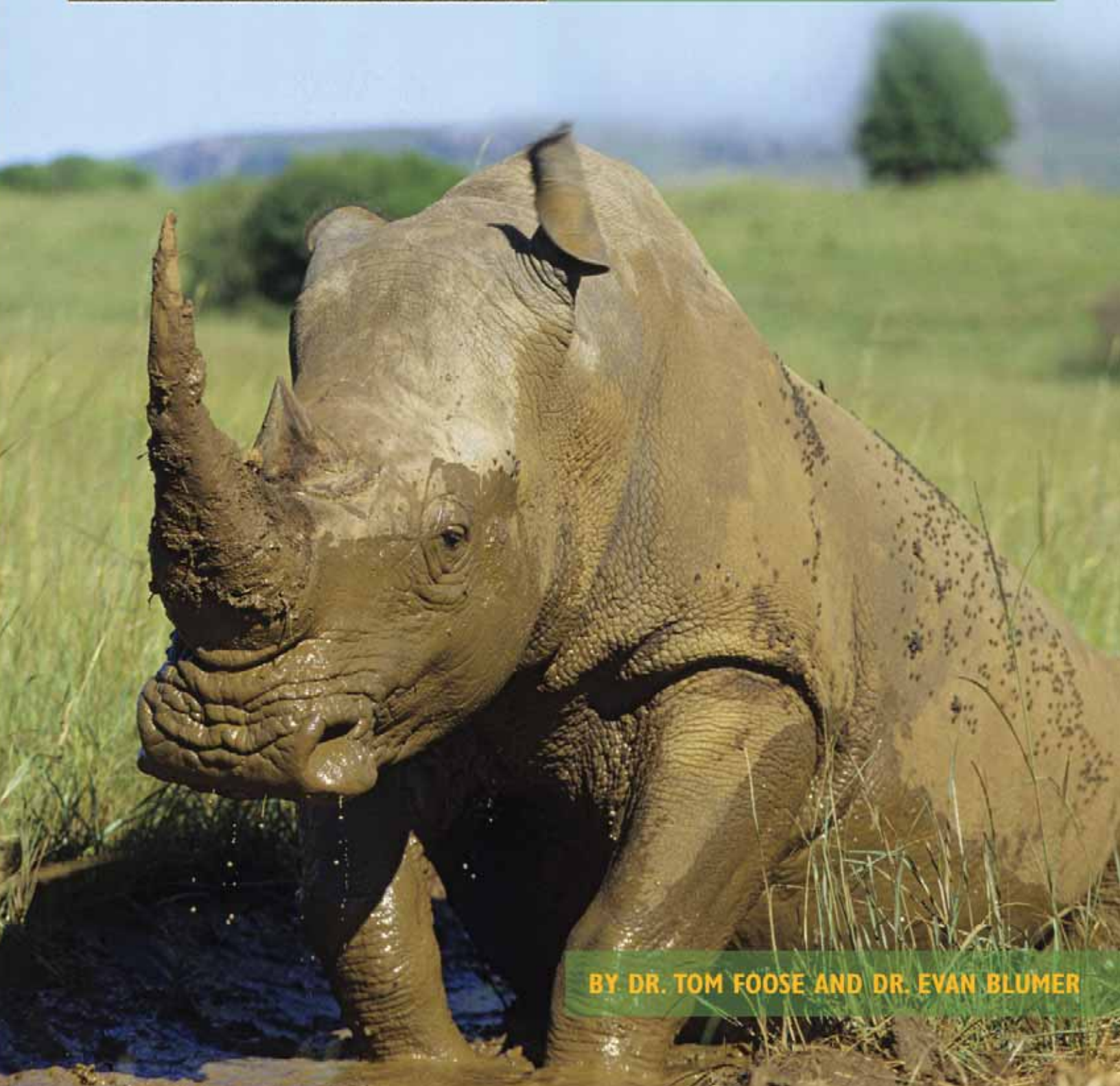




RHINO POPULATIONS RISE TO THE CHALLENGE



BY DR. TOM FOOSE AND DR. EVAN BLUMER

Inhabiting the earth for 50 million years, the Rhino Family (*Rhinocerotidae*) thrived and diversified to fit many ecosystems. Just four million years ago, rhinos even roamed the Great Plains of North America. Nature has dictated the evolutionary course that leaves us with five rhino species living in Africa and Asia. But today, at the hands of modern human society, their demise has been swift, as poaching and habitat encroachment seem unstoppable. Proactive strategies of conservationists working with governments and local communities can reverse this decline, and the good news is that these efforts are proving effective.

AZA member institutions take an active role in rhino conservation in two ways: by providing financial support to *in-situ* conservation; and by participating in SSP programs that manage *ex-situ* rhinos as genetic and demographic reservoirs for the reinforcement or re-establishment of wild populations.

Historically, the close partnership between the AZA Rhinoceros Advisory Group/Species Survival Plan (RAG/SSP) and the International Rhino Foundation (IRF) has facilitated zoo contributions to rhino conservation. Contributions include financial resources as well as expertise and collaboration on field conservation and research projects, “capacity building” in the rhino range states, and most recently, the exchange of rhinos for captive breeding and reintroductions into wild habitats.

Founded in 1993, IRF’s mission is to provide technical, administrative and financial services to programs that emphasize intensive management and scientific research – both *in-situ* and *ex-situ* – as equally important components of rhino conservation. Last September, RAG/SSP formalized its partnership with IRF in a MOU. Working together, IRF and RAG/SSP review, rank, prioritize and organize the funding of rhino conservation and research proposals globally. AZA institutional member support of approved projects is encouraged, and emphasized this year through the North American Save the Rhinos Campaign launched in January 2006.

A layer of zoo support is provided at the staff level through AAZK’s Bowling For Rhinos program and the new Rhino Keeper Association. AZA linkages also come through SOS Rhino, another non-profit organization dedicated to rhino conservation.

RHINOS IN THE WILD

The history of rhino conservation contains great success stories, and from just fragments we have seen that rhino populations can be rebuilt to viable levels. Southern white rhino, once the target of big game hunters and extermination to make way for cattle, were at the brink of extinction in 1900, with only 20-50 individuals remaining. Gallant South African park rangers, partners at global zoos, and others worked together to protect and breed a new population, which today numbers over 12,000 across Africa. Says Dr. Ian Player, head of the Natal Parks Board in the 1950s, “We brought them back through hard work and tough political cooperation against what seemed insuperable odds.”

The Indian rhino faced a similar demise in 1900, but through very strict protection – involving the Indian army as well as conservationists – the species recovered from a low of 40-50 in 1900 to more than 2,100 today.

But we need only be reminded of the extreme poaching pressure on Indian and northern white rhinos to know that the tides of success can easily turn to failure without adequate intervention. Nearly 40 percent of Indian rhinos in Nepal have been lost in just the last

five years – 250 of the 650 killed by poachers. The population of northern white rhinos was stable, even through prolonged civil war in the Congo, until waves of poachers from neighboring Sudan, with sophisticated weaponry and militaristic style, overcame the ranger staff and took marketable parts of elephants, giraffes, and rhinos, leaving behind the carcasses.

In 1970, there were about 65,000 black rhinos throughout Africa, but massive poaching cut this number to a tragic low of about 2,400 by the early 1990s. Sumatran (300 left) and Javan (60 left) rhinos in Asia confront a frightening combination of escalating habitat loss and poaching.

But conservation strategies are working. Today black rhinos have recovered to about 3,700, thanks to strong protected area governance and supportive conservation partnerships. We have begun to reintroduce the black rhino to countries where populations were eliminated. This range expansion gives us alternatives if poaching becomes insurmountable in countries relied upon historically for rhino security, like Kenya and Zimbabwe. This regional approach to conservation spreads risk and invokes peer pressure on country leaders to act.

In Asia, IRF and its partners have deployed specifically trained Rhino Protection Units (RPU) to patrol rhino habitat, and also community education and integration strategies. RPUs protect the tiger, orangutan and tapir that share rhino habitat in Malaysia and Indonesia. Just one percent of Sumatran rhinos have been poached in the last five years. Although they require sanctuary, the population of Javan rhinos remains stable.

Overall, intensive *in-situ* protection efforts have succeeded, but there is no cause for complacency. At the subspecies level, the situation is not so sanguine. For example, the western black rhino subspecies teeters near extinction in Cameroon.

RHINOS IN CAPTIVITY

AZA institutions hold 183.181 rhinos. The more common are the African species: AZA zoos hold 86.92 white rhinos and 67.54 black rhinos. Of the Asian species, AZA institutions hold 28.33 Indian, 2.2 Sumatran, and no Javan rhinos.

AZA’s Rhino Regional Collection Plan entails SSP programs for black, white, and Indian rhinos and DERP programs for Sumatrans and northern whites. The Black Rhino SSP manages separate populations for two subspecies: the eastern and southern. The actual performance of SSP and captive populations continues to be variable with problematic husbandry and veterinary issues.

BLACK RHINO:

Genetically, both SSP black rhino populations are healthy. Demographically, improvement is needed through increased reproduction and to a lesser extent reduced mortality. Skews in the natal sex ratios have been a major problem, especially for the southern, that have caused a number of facilities to curtail reproduction due to space problems.

WHITE RHINO (SOUTHERN):

Southern whites are the most numerous kind of rhino in the SSP and could be reduced to permit larger populations of other rhino taxa. Solutions are needed for several serious reproductive problems seen in this population, including pathologies (behavioral and physical) induced by management practices (now being corrected) and significant failure of F1’s to breed (under active investigation).

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INDIAN RHINO:

Demographically, this species is the healthiest of the SSP populations with an annual increase of four percent each year, emulating what is achieved many places in the wild. However, genetically, this population is limited, and new founders are being recruited through exchanges with zoos in India.

MANAGEMENT OF CAPTIVE RHINO POPULATIONS

The last update of the SSP Rhinoceros Master plan (typically done every two years) was in early 2005 and was based largely on analyses using PM 2000. The population status, goals, and recommendations are currently being reassessed using the newer ZooRisk software.

Target numbers have been established for each SSP population based on a goal of trying to maintain 90 percent of the founder gene diversity for a period of 95 years (i.e. until the end of the 21st century). To achieve target numbers, about 100 more spaces must be allocated to rhinos. Reallocation of captive habitat may be necessary to reduce southern white rhino numbers and allow increases in black and Indian rhino populations. Moreover, similar to AZA elephant programs, regional rhino breeding centers are being explored as a way to expand total holding capacity, improve the efficiency of population management (less moves required) and create reasonable sample sizes for meaningful scientific research.

The RAG/SSP coordinates and interacts, through exchange of animals and expertise, with other regional captive propagation programs in Europe (EEP), India and Japan. A Global Captive Action Plan Workshop was held in May 2006 at Whipsnade Wild Animal Park in England and brought together captive rhino managers and scientists from around the world to develop genetically and demographically viable target population plans for captive rhinos and to resolve continuing husbandry and veterinary problems.

Many readers of this special issue of *CommuniQué* have contributed, directly or indirectly, to the massive conservation effort focused on rhinos. As you will see from the other articles in this issue, there have been significant successes in our rhino conservation efforts. However, much work remains if we are to save these representatives of what is perhaps the most successful family of mammalian herbivores our planet has seen.

DR. TOM FOOSE WAS THE PROGRAM DIRECTOR IRF & SECRETARY AZA RHINOCEROS ADVISORY GROUP AND DR. EVAN BLUMER IS THE CHAIR OF THE AZA RHINOCEROS ADVISORY GROUP

THOMAS JOHN FOOSE (1945-2006)

With great sadness, the International Rhino Foundation (IRF) announces the loss of its most beloved ambassador for rhino conservation.



Dr. Tom Foose, 61, IRF Program Director, died on May 17th at his home in Waynesboro, Pennsylvania. Tom was one of the founders of IRF, which embodies his lifelong passion for rhino conservation, both in zoos and in nature. He dedicated his life to

bridging gaps among people with diverse interests and perspectives, as well as using science to foster national and global collaborations for threatened species management.

Author of numerous scientific publications, Tom received a BA from Princeton University in 1969 and was awarded a Ph.D. in biology from the University of Chicago in 1982. He served as the Conservation Director for the American Zoo and Aquarium Association (AZA) from 1981 to 1990, and along with Dr. Ulie Seal developed the first Species Survival Plan program for Siberian tigers in 1983. Species Survival Plans now are a cornerstone for captive species management for the AZA, as well as other regional zoo associations. From 1990 to 1992, Tom served as Executive Officer of the IUCN/SSC Conservation Breeding Specialist Group, shaping its programs and focus to include using computer simulated modeling to examine the risks for species extinction, as well as global risk assessments of broad taxonomic groups including identifying species management and research recommendations. Over the past 20 years, his tireless efforts to facilitate cross-organizational and truly international conservation efforts resulted in integrated action plans for species groups ranging from primates to rhinos to tigers, involving zoo experts and field biologists from around the world.

Throughout stints as Program Officer of the IUCN Asian Rhino Specialist Group and the International Black Rhino Foundation, as well as through his work with AZA, CBSG and IRF, Tom touched people across the world and inspired them to set aside their personal, national and institutional agendas to focus on preventing species extinctions. Over the past ten years, his primary focus was leading development and implementation of global and national conservation strategies and action plans for rhinoceros in Asia and Africa. Most recently, Tom initiated the North American Save the Rhinos Campaign with the goal of doubling the number of critically endangered rhino populations in select protected habitats in the wild within ten years.

The family has requested that in lieu of flowers, contributions in Tom's memory may be made to the International Rhino Foundation and will be designated for this Campaign.

The IRF sends its most profound condolences to the family of our beloved colleague, and know that all of his colleagues and friends around the world share in our sadness. Tom's dedication and integrity, his love for his family and colleagues, and his beloved rhinos – as well as his unabashed appreciation for the contributions of all people with a love for wild species – will live on though all of our future endeavors.