WHITE RHINOCEROS SSP
(*Ceratotherium simum*)

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Introduction
The White Rhino SSP is working to address the current demographic crisis facing the species. Immediate concerns for the White Rhino SSP continue to be the demographic status of the population, the need for additional founders and the need for adequate captive space and herd management.

Data table (current through 15 July 1998)

	Two years ago	One year ago	Current year
Participating institutions	42	39	39
Captive population	55.67 (122)	55.65 (120)	54.64 (118)
SSP animals managed	120	120	118
SSP recommended births/hatches	2.1 (3)	3.2 (95)	1.0 (1)
Nonrecommended births/hatches	0	0	0
Deaths of SSP animals	0.1 (1)	3.5 (8)	2.1 (3)
Imports	0	0	0
Exports	4	4	0
Founders with descendants	37	39	39

Demographic trends
The southern white rhino population is not self-sustaining and is in a demographic crisis. Only approximately 3 percent of the captive population is captive-born and -bred, numerous genetically valuable individuals have not reproduced, and the age structure is senescing (at least 55 percent of the population is older than 25).
As noted in the above data table, the managed population declined by three animals and there was only one birth within the population. A particular concern of the SSP is the recruitment of unproven individuals into the breeding population.
As reported for the last several years, the northern white rhino population consists of only four (2.2) animals (SD-WAP), none of which have reproduced. Furthermore, all are more than 20 years of age and thus may be postreproductive. One of these males on loan from Dvur Kralove is being returned this year to be housed with their 2.3 animals. This animal will be the only unrelated adult male for their females.

Population genetics
The genetic objective of the White Rhino SSP is to maintain 90 percent gene diversity for 110-150 years. This goal may be achievable if the current attempts at improved reproduction succeed. Additionally, the SSP is pursuing the importation of new founders over the next several years. As many as 5.15 animals may be involved.
The situation for the northern white rhino continues to look bleak. Without reproduction and with such a low number of founders, this population is not likely to be genetically viable without the global management of both captive and remnant wild animals.

Special concerns
1. Demographic crisis: The major problem facing the White Rhino SSP that requires immediate attention is the demographic status of the population. Reproduction to date has been sporadic across institutions, and only a few institutions have produced calves consistently. As noted previously, unproven breeders must be recruited into the breeding population in order to meet the population's genetic goals. The number of requests from institutions for animals exceeds the number of individuals available within the SSP population.
2. Continued need for large enclosures and social groups: Large captive spaces must be identified that can hold white rhinos in herd situations to encourage reproduction. There are a total of 86 adult spaces and 35 calf spaces in 13 facilities (current and proposed).

Research

1. Understanding basic reproductive biology to conserve the African rhinoceros (T. Roth, principal investigator, Center for the Reproduction of Endangered Wildlife)
   To date, nine White Rhino SSP institutions are participating in an International Rhino Foundation (IRF)-funded project examining the basic reproductive biology of the African rhino. This project was initiated in 1997, and recently received additional funds to cover expenses and expand research directions. The project encompasses four studies with the following specific objectives:

a. to establish the reproductive status of the extant population by measuring reproductive cycle patterns via hormonal profiles and relating these data to reproductive behavior, seasonality and stress;
b. to determine the feasibility of noninvasively estimating time of ovulation;
c. to examine the impact of seasonality on male reproductive hormones;
d. to begin developing and testing the feasibility of transcervical artificial insemination; and
e. to set the stage for the development of a rhino genome resource bank.

   Data collection included the collection of feces (to monitor hormonal patterns) and behavioral data (to identify behaviors that may correlate to estrus; coordinated by T. Wagener, Fort Worth). Results will be presented to the IRF and Rhino TAG this year.

2. IRF and Zoological Society of San Diego are hosting a workshop on problems associated with the low rate of reproduction among captive-born female southern white rhinos. Few captive-born females of reproductive age have ever reproduced. The majority of these rhinos monitored by hormones have been found to be either acyclic or to demonstrate irregular cycles. Topics will include extended luteal phases, ovulation induction and behavior. The White Rhino SSP will support and participate in this important project.

Progress toward goals

1. Compliance with SSP master plan recommendations is good. Twenty rhinos have been transferred in the past two years.
2. Significant research projects have been funded which should set the stage for increasing the population growth rate and recruiting additional founders into the population.

Financial report

There is not a dedicated fund for the White Rhino SSP. White Rhino SSP research and conservation projects are supported both logistically and financially by the Rhino TAG and IRF.

Short-term goals for upcoming year

1. Import 12 southern white rhinos from South Africa.
2. Improve conditions to stimulate reproduction in those institutions holding the individuals that are not breeding.
3. Designate most females older than 25 (with a very few exceptions) as surplus. It is recognized that many of these animals may be lost as potential breeders and that efforts may be better expended on acquiring new founders from South Africa for genetic and demographic reasons.
4. Do not move females older than 21 years of age in an attempt to induce breeding. Rather, there should be attempts at inducing reproduction by hormonal treatment.
5. Attempt to avoid the "sibling relationship" syndrome that seems to occur when young white rhinos, especially pairs, are placed together from an early age.
6. Continue the intensive reproductive assessment and management, including the hormonal manipulation of the four northern white rhinos.
7. Increase cooperation with Dvur Kralove to maximize the possibility of successful reproduction with the northern white subspecies.
8. Continue to facilitate and encourage the compliance with all master plan recommendations.
9. Support and conduct research leading to increasing the population growth rate and recruiting additional founders.