

**GREATER ONE-HORNED ASIAN RHINOCEROS**  
(*Rhinoceros unicornis*)

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**Introduction**

The goal of this SSP is to preserve 90 percent of the gene diversity from the wild population for a period of 100 years. To achieve this goal, it has been determined that the target population for the SSP is 90 rhino. In accordance with the 1994 Global Captive Action Plan for Rhino, the 7-, 50- and 100-year target population goals are 50, 90 and 90, respectively.

**Current population status**

At the current rate of increase, the SSP population should have no problem attaining its seven-year (i.e. from 1994 to 2001) target population of 50 by the year 2001. There are currently 17 institutions participating in the Greater One-horned Asian Rhinoceros SSP. Several transfers have taken place to enhance the breeding potential for the SSP. However, there are still only eight institutions that have bred this species. Five institutions have single males and two have animals that have reached sexual maturity, but have not produced offspring yet.

A female calf was born at the Oklahoma City Zoo, becoming an F<sub>2</sub>. This is not the first time second generation calves have been born in the SSP; however, the sire of this calf is the only living offspring of its founder parents.

A male and a female, both founders that had failed to reproduce, died during this reporting period. The SSP is still negotiating the transfer of a founder male from India.

**Data table** (current through 1 July 1997)

	Two years ago	One year ago	Current year
Participating institutions	15	16	17
Global captive population	76.59	80.62*	70.64
# of SSP animals managed	42	45	43
# of recommended births	5	3	3
# of SSP deaths	2	1	2
# of nonrecommended births	0	0	0
# of imports	0	0	0
# of exports	1	2	2
# of founders w/represented descendants	17	17	17

\*There are no non-SSP animals in North America, however, one female has been designated as over-represented to the current SSP population. This animal currently resides at the San Diego Wild Animal Park. In the data table it should be noted that not all of holders of this species have replied to the international studbook questionnaire; as a result, the numbers in the total population are skewed for 1996 reporting period.

Poaching continues to be a problem in both range states, but it does not appear to be any more significant than in past years. The wild population of about 2,100 appears to be increasing slightly.

**Demographic trends**

Life history table analysis of the North American population indicates a growth rate (r) of 1.043, a generation time (T) of 19 years, a rate of population increase per generation (R<sub>0</sub>) of 2.122, and a life expectancy at birth of 20 years. This SSP species has grown at an annual rate of 1.3 animals per year since 1982, even with a number of exports.

**Population genetics**

The gene diversity in the population is .917. Descendant population mean kinship is .0832. There are 17 actual founders and seven more potential founders.

Inbreeding coefficient (f) has been calculated for each living animal. There are several animals with f=0.25. If the founder population is going to effectively meet the SSP's goals, we still need to obtain six to eight new founders for the North American population. The acquisition of any animals from India or Nepal will put the SSP closer to its goals.

**Research**

There are several major research projects in progress involving greater one-horned Asian rhino under the auspices of the AZA Rhinoceros Advisory Group and with funding from the International Rhino Foundation.

- Basic reproductive biology of the rhinoceros is being conducted by Mike Fouraker, Ft. Worth Zoo; Dr. Terri Roth, Center for Reproduction of Endangered Wildlife at the Cincinnati Zoo; and Dr. Janine Brown, National Zoo's Conservation and Research Center-Smithsonian Institution.
- Basic rhino nutrition is being conducted by Dr. Ellen Dierenfeld at the Wildlife Conservation Society.
- Possible determinants of skew towards males in the sex ratio of rhino calves in North American facilities is being conducted jointly by Shirley Atkinson of the Wilds, Dr. Ellen Dierenfeld of WCS and Dr. Tom Foose of the IRF and the Wilds.

#### **Field conservation**

The SSP is working with the International Rhino Foundation (IRF) to provide support for selected *in situ* projects for both *Rhinoceros unicornis* and its congeneric species *Rhinoceros sondaicus* (the Javan rhino). A probable project for the next year is support of the newly formed rhino protection units for Javan rhino in Ujung Kulon National Park, Indonesia.

#### **Short-term goals for the upcoming year**

1. Pair single animals where possible.
2. Locate new founders for the SSP.
3. Encourage more institutions to become participants in the SSP.
4. Encourage more breeding within genetic guidelines.

#### **Progress toward goals**

The SSP is actively pursuing new founders. New holders are coming on line at the rate of one per year.

#### **Financial report**

At this point the SSP does not have a separate account, rather it works through the Rhinoceros TAG and the IRF.