

## **RHINOCEROS SSP PROGRAMS IN NORTH AMERICA: AN OVERVIEW**

**Robert W. Reece**

Chairman, AAZPA Rhinoceros Taxon Advisory Group

Under the auspices of the American Association of Zoological Parks and Aquariums, Species Survival Plans have been implemented for the Southern White rhino, the Eastern and Southern subspecies of the Black rhino, and the Greater One-horned Asian rhino. Efforts are well underway to develop a captive breeding strategy for the Sumatran rhino, and a small contingent of Northern White rhino have been assembled here in San Diego. For the Southern White, the Black and the Asian, captive breeding strategies and masterplans are well developed and have been functional for a number of years.

A general analysis of these programs indicates that while none of these species has yet developed a self-sustaining population, each is making progress toward fulfilling its goals and objectives. A challenge common to all of the rhino SSP's is the shortage of suitable space necessary to accommodate the expanding populations. There are approximately 260 rhino spaces in participating zoological institutions in North America. Currently, 246 are filled with rhinos - which leaves little room for the required expansion of these populations.

Another challenge which must be met by the SSP's is developing the financial resources to insure that management strategies are implemented effectively. Funds are needed to pay for moving animals between institutions - depending on the circumstances, it will cost between three and five dollars per mile to move a single rhino. Funding is also sorely needed to support research - especially in the areas of disease, nutrition, and development of reproduction and other technologies which will have application to the management of wild and captive populations in the future.

Examining the individual programs reveals that there are challenges and concerns specific to each. The Southern White Rhino program began in 1982. Nearly 200 animals and 46 institutions were included in the initial development of the program. Rather quickly it became clear that there was good news and bad. The good news was that there was a relatively huge potential founder base as a result of the influx of animals from the Natal Parks in the late 1960's and early 1970's. We also had a large number of institutions making their resources available to the program. The bad news was that the actual founder base was very low and even among this small number of founders, representation was extremely disproportionate. In fact, nearly 75% of the F1's in the SSP population were sired by a single founder. Clearly, we needed to increase the founder base and bring their representation closer to parity. After a fairly thorough examination of about 15 years worth of data acquired by ISIS, a number of generalizations began to emerge. For example, it was obvious that the institutions which were contributing the most to the F1 generation were those with single male/multiple female and multiple male/multiple female collections. Success declined as the size and mix of the collections decreased. At the other end of the spectrum, we had a large number of institutions with single pairs which had not bred. The immediate reaction was to proclaim that whites, kept in pairs, simply wouldn't breed in captivity - or at least rarely. Closer analysis revealed that the pairs which had bred had been placed together as adults or been moved to a new environment. For example, Los Angeles had a pair of animals for nearly 25 years which had never bred, but did so immediately after being moved to a different facility and have continued to breed since. What appears common to those institutions holding non-breeding pairs is that they received animals as two to three year olds which were subsequently raised together. As a result of this information, one of the methods we have been using to try to expand the founder base has been to assemble some of these animals in groups and, because space is limited, to switch animals between institutions in hopes that the new pairings might also

stimulate breeding activity. Since this is an ongoing project, we can only note at this point, that by far the most successful method has been to move previous non-breeders into institutions which had experienced early successes with their larger groups. One of the benefits of even this limited success in increasing the founder base is that it has allowed us to selectively reduce the total population in the SSP to 119 animals. This was one of our objectives in the original masterplan and was included in recognition of the fact that we needed more rhino spaces in North American institutions for the other rhino species.

The black rhino SSP is composed of two subspecies, the Eastern (*Diceros bicornis michaeli*) and the Southern (*D. b. minor*). The *D. b. michaeli* population stands at 70 animals in 25 institutions, has a solid founder base, but has experienced minimal growth over the past several years. The *D. b. minor* population received 10 of its current population of 19 animals in 1989 from Zimbabwe and is expecting up to twenty more animals within the next two years. This will certainly provide the *D. b. minor* program with an excellent potential founder base from which to expand the population. While both programs need to continue their emphasis on increasing and equalizing founder representation, by far the most serious challenge facing the black rhino program is mortality. The Eastern program has lost 24 animals since 1985 primarily to hemolytic anemia and associated disorders (Miller, this volume). The Southern population has had five deaths, four of which were newly imported animals. Despite the mortality, the Black Rhino SSP continues to make good progress toward achieving its goals and objectives.

The greater one-horned rhino with 36 animals and 12 institutions continues to make excellent progress. The population is growing at about the same rate as the Nepal population, has experienced very little mortality (except for two stillbirths and two abortions), and has had reproduction at nearly every institution. They are working on expanding their founder base to twenty animals through improved management and the acquisition of six to nine animals from the wild.

The Sumatran rhino program has only begun to develop with the acquisition of three females (at Cincinnati, New York and San Diego) and a male (currently at San Diego but scheduled to be shipped to Cincinnati). The Sumatran effort has been an expensive and complex process but one which could ultimately provide safety and supplementation for the wild populations.

The AAZPA has recently implemented a Taxon Advisory Group (TAG) program designed to perform regional strategic planning for specific taxonomic groups. The rhino TAG, presently in its formative stages, will be composed of the rhino SSP Species Coordinators and a diverse group of experts from the ranks of zoo professionals, academia, field biologists and other conservation organizations provide the rhino SSP's with assistance in masterplan implementation and monitoring, the effective allocation of space and other resources, information services and liaison with other regional rhino programs. Additionally, the Rhino TAG will provide input to the CBSG Captive Action Plan Group. Finally, I hope that the TAG will be able to assist in the development of new resources to support the rhino SSP programs as they continue to work toward their goal of preserving the diversity of this magnificent group of animals.

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