

AZA Species Survival Plan Profile

The Snow Leopard

By: Dan Wharton

The snow leopard (*Panthera uncia*) is considered one of the most beautiful of large cats. Unfortunately, the World Conservation Union (IUCN), U.S. Department of Interior, and Convention on International Trade in Endangered Species (CITES) all list the animal as endangered. It is estimated that the wild population probably does not exceed 5,000 individuals today (Green 1986).

Most of the snow leopard's high mountain habitat remains largely untouched, stretching across twelve countries of Asia, from Mongolia in the north, to Burma in the south. What has changed over the last 100 years is the mobility and ability of humans to exploit wildlife for a better living. Human encounters with snow leopards are greater and higher percentages of these encounters have been fatal to the animals. In the early part of the century, thousands of skins were taken for the fur trade. As late as 1966, *The New York Times Magazine* published a full-page ad for snow leopard fur coats (Conway 1968). Today, the legal fur trade has been greatly curtailed and legal protection is provided to some degree in all twelve countries (Green 1986). Poaching for fur, however, still occurs and snow leopards are also perceived as livestock pests in some areas.

Zoological Garden Programs

The first serious attempt to keep snow leopards in captivity was probably in 1891 when the London Zoo acquired an unsexed specimen from Bhutan (Godman 1891, Sclater 1896). London then acquired a male in 1894 (Flower 1894) and by 1903, New York, Berlin, Moscow and London all had specimens on exhibit (Peel 1903; Anonymous 1903). But the captive success with snow leopards was by no means guaranteed at that time. Another half-century passed before all of the management variables related to behavior, diet and veterinary care began to fall into place. Although breeding of the species in captivity was recorded as early as 1906 and again in

1912 and 1938, it was not until Copenhagen bred their wild-caught pair in the 1950's that cubs survived long enough to become breeders themselves (Crandall 1964). In fact, the Copenhagen animals are now represented to some degree in a good many of the captive-bred snow leopards living today.

The American Zoo and Aquarium Association (AZA) Snow Leopard Species Survival Plan[©] (SSP) was officially launched in 1984 and is now a mature program that encounters few difficulties in achieving breeding goals. The majority of animals set up for breeding are successful within several years and virtually all cubs born are mother-reared. Husbandry techniques, including nutrition, preventative medicine, housing and behavioral management, are well-developed. The AZA SSP population now stands at about 275 individuals (Varsik 1995) and could double every seven years if breeding is not closely managed (Wharton and Freeman 1988). This population is descended from 38 wild-caught ancestors, most of whom came into captivity in the 1960's.

The North American snow leopard population is scientifically managed for genetic and demographic stability. Allowing for 90% retention of genetic diversity for 100 years, given an N_e/N of .40, the Snow Leopard SSP calculates the need for a population of 298 animals. However, in recognizing current capacity for this species and perhaps some management refinements via mean kinship, the SSP suggests a target population in the 250-300 range. Thus it has been suggested that the number of breeding recommendations remain at 25 per year, yielding approximately 12.5 litters at two cubs each, therefore 25 cubs per year. We expect this strategy will allow slight growth of the population over a long period of time. SSP capacity for snow leopards continues to grow slowly with one or two new participants each year (Wharton 1996).

Wildlife Ambassadors

As an inhabitant of high mountain habitats relatively inaccessible to humans, the snow leopard was traditionally an elusive creature of an almost mythical quality. Thanks to international cooperation among zoo professionals, this rare cat has become almost a standard in zoological gardens. Seen in over 70 zoos in North America and approximately 150 zoos worldwide, the snow leopard reaches more than 100 million zoo visitors annually. The plight of the snow leopard has become well-known to many and a number of outstanding initiatives to conserve the species in nature have come directly from zoological gardens. For example, the Wildlife Conservation Society headquartered at the Bronx Zoo funded classic studies by George Schaller and Rodney Jackson (Jackson 1979; Schaller 1980).

In addition, the International Snow Leopard Trust (ISLT) was established by Helen Freeman, a curator and behavioral scientist at the Woodland Park Zoo in Seattle. As well as funding field studies and conservation programs, the ISLT has funded and organized several

international symposia in countries of the snow leopard's range, bringing together field and zoo biologists on conservation issues. The AZA Snow Leopard SSP and the ISLT have recently initiated a "Natural Partnerships" program wherein AZA zoos with snow leopards can link their education programs with ISLT's work in the species' range countries. By coming in as partners with the ISLT at different funding levels, both small and large zoos can contribute to habitat protection and other snow leopard conservation issues.

Conclusion

The Snow Leopard SSP has made great strides in establishing a genetically and demographically stable population of the species in over 70 North American Zoos. It complements similar programs in Europe and elsewhere. The world captive population stands at approximately 650 well-managed individuals (Wharton 1996), approximately 10% of all snow leopards on earth. The goal of wildlife conservation is the protection and stabilization of animal populations in nature (see Soulé 1991; Caughley 1994) and the Snow Leopard SSP is just one example of a species program that represents zoological garden partnerships with several facets of the wildlife conservation process.

Acknowledgments

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The species coordinator or chairman of the AZA Snow Leopard SSP, Dr. Dan Wharton, Wildlife Conservation Society, also serves as chairman of the ISLT's International Advisory Board.

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