



Global Re-introduction Perspectives: 2010

Additional case-studies from around the globe
Edited by Pritpal S. Soorae



IUCN/SSC Re-introduction Specialist Group (RSG)





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Re-introduction of the Amur goral into Wolaksan National Park, South Korea

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Introduction

Amur goral (*Naemorhedus caudatus*) is designated as Endangered species I, Natural monument in South Korea and internationally IUCN Red list VU, CITES App. I. In the past there were lots of Amur goral in the Korean peninsula, however indiscriminate development and illegal poaching have provoked fragmentation of habitat and decreasing of populations. Although totally 700 individuals are in South Korea, it would be extinct in 20 years if it were not for the enforcement of the population and because they are genetically vulnerable due to living in fragmented habitats and small population sizes. As Wolaksan National Park is historical goral habitat, a total of six individuals each were released in 1994, 1997 and 1998 to experimentally study their ecology and habit suitability. An additional 10 individuals were released in 2007 by the Species Restoration Center (SRC) of Korea National Park Service (KNPS). Now they are living well in the released area and SRC has monitored their ecology by radio tracking.



Amur goral with radio-collar

Goals

- Goal 1: Establishment of self-sustainable population in Backdudaegan (ecological axis of Korean peninsula) area as well as Wolaksan National Park in South Korea.
- Goal 2: Recovery of healthy eco-system through the re-introduction of Amur goral.

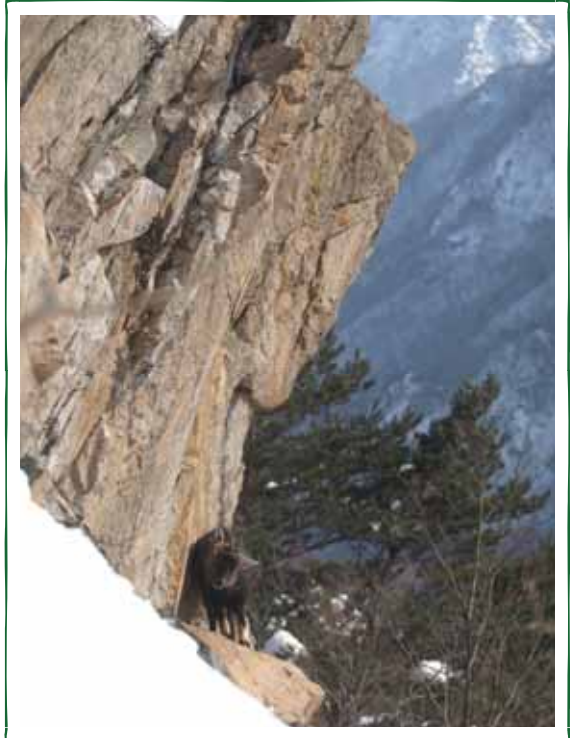
Success Indicators

- Indicator 1: Mating and giving birth in the wild.

- **Indicator 2:** Continuous monitoring and research after release.
- **Indicator 3:** Informing people that these species are not alien but part of the natural ecosystem.
- **Indicator 4:** Establishing a self-sustainable population and genetic diversity of Amur goral in Wolaksan National Park.

Project Summary

Feasibility: As Wolaksan National Park is historical goral habitat, it is one of the best areas for restoration of goral, because there are abundant food resources and it's possible to manage goral habitat efficiently. After Amur goral is designated as endangered species, bond of sympathy on restoration of goral developed fast among people, because they are not a savage beast such as bear and wolf, SRC of KNPS got involved in the project on restoration of goral based on "Comprehensive plan of restoration on endangered species" by the Ministry of Environment in 2007.



Amur goral in its rocky habitat

Implementation: We released six individuals between 1994 and 1998 in Wolaksan National Park. After release and through continuous monitoring we could study their ecology and home range, and we could confirm an increase in the population (initially 10 individuals) by fecal DNA analysis in 2004. However it was necessary to establish some teams to conduct monitoring and intensive surveys for more information. So a goral task force team was established which included biologists, veterinarians and local people under SRC of KNPS in 2006. An advisory committee was also organized and composed of several specialists for the restoration of goral, as a result of that there has been more scientific research and restoration of goral. Although released populations increased between 1994 and 1998, it was realized that the population would show a decrease in genetic diversity because of their isolated habitat and limited number of individuals. It was therefore agreed to release 10 more individuals from Kangwon province in 2007 by SRC of KNPS.

Post-release monitoring: Every goral was released with a transmitter or GPS collar and we have been monitoring daily since release. For more ecological information of goral we are analyzing their home range and routes of movements by radio tracking, habitat use and food resources through field surveys. We are

Mammals

doing also several veterinary examination such as analysis of blood chemistry, fecal parasite exam, etc. for studying physical features and infectious diseases. In addition to this research we are controlling poaching to remove threats that could increase their mortality rate in the habitat in Wolaksan National Park. Local people are also being involved in the restoration of goral by being recruited as members of "honorary rangers". So through these efforts we concluded that the home range of goral in South Korea was larger than those of Russia and Japan. We also managed to film the species in the wild including mating behavior, feeding and excretion behavior. Movements of the population were monitored by an infrared scouting camera.

Major difficulties faced

- Destruction and fragmentation of habitat.
- Natural selection based on inbreeding depression.
- Many populations inhabit localized areas resulting in severe competition of food resources.

Major lessons learned

- When we introduce the animals from other areas we should survey the release site to assess if it is ecologically suitable.
- Released animals should be monitored and managed to maintain genetic diversity continuously in their habitat.
- A suitable conservation area of suitable habitat, appropriate management and financial support is needed for the successful restoration of goral.

Success of project

Highly Successful	Successful	Partially Successful	Failure
	√		

Reason(s) for success/failure:

- Introduced goral adopted well to the released area and increased their population.
- Some individuals moved into new habitat and it was good habitat for the goral.
- A special organization such as SRC which conducts the artificial restoration of endangered species including goral was established in KNPS.
- Financial support is also continuously available.
- A continuous post-release monitoring system has been running.