



Global Re-introduction Perspectives: 2010

Additional case-studies from around the globe
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IUCN/SSC Re-introduction Specialist Group (RSG)





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Re-introduction of the Asiatic black bear into Jirisan National Park, South Korea

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Introduction

Asiatic black bears (*Ursus thibetanus*) are distributed widely in Asia, from Japan in the east to Iran in the west. Seven subspecies have been recognized: *U. t. japonicus* (Japan), *U. t. formosanus* (Taiwan), *U. t. ussuricus* (South East Russia, North and South Korea, and North eastern China), *U. t. gedrosianus* (Iran and Pakistan), *U. t. langer* (Western Himalayas), *U. t. mupinensis* (South Western China) and *U. t. thibetanus* (Other regions) (Pocock, 1932 & Wozencraft, 2005). Asiatic black bear is Vulnerable (IUCN category) and is listed in CITES App. I and endangered species category in South Korea. About 160 bears were captured in the Jirisan in the southern part of Korea between 1950 and 1970. Hundreds of wild bears might have existed in South Korea at that time (Han, 1997).

In the 1980s, a simple population survey on wild bears was conducted. According to the surveys of five mountains by the Korean Society for the Protection Wild Animals during 1980-1984, at least 50 wild bears had survived (Korea Society for the Protection Wild Animals, 1984). However the National Institute of



Asiatic black bear (*Ursus thibetanus*)

Environmental Research stated that about 20 wild bears remained in South Korea and less than 10 bears existed at Jirisan National Park in 2001. As a result a re-introduction project was launched to establish a self sustaining population in Jirisan National Park.

Goals

- Goal 1: Restoration of Asiatic black bears in suitable habitat through developing public tolerance and political support.

- **Goal 2:** Establishment of self-sustainable populations in Backdudaegan (ecological axis of Korean peninsula) area as well as Jirisan National Park in South Korea.
- **Goal 3:** Recovery of a healthy eco-system through the re-introduction of Asiatic black bears.

Success Indicators

- **Indicator 1:** Hibernation and survival after release.
- **Indicator 2:** Mating and breeding successfully in the wild.
- **Indicator 3:** Continuous monitoring and research after release.
- **Indicator 4:** Developing an image with locals and visitors that released individuals are not artificial or alien but a part of nature.
- **Indicator 5:** Establishing a self-sustainable population of Asiatic black bears in Jirisan National Park.



Health screening of released bear after recapture

Project Summary

Feasibility: It is generally agreed that a wild animal population may be considered viable when population numbers and survival rates are such that the population has a 95% probability of survival over 100 years. However the bear population of Jirisan National Park (JNP), the largest population of Asiatic black bear in South Korea, was composed of between only five and eight bears in 2001. The theoretical surviving probability of the population after 100 years was therefore only 3% and appropriate measures were needed to establish self sustaining populations.

At the Asiatic black bear Population and Habitat Viability Assessment (PHVA) Workshop in 2000, which was held in Seoul, South Korea, the result of "vortex simulation modeling" suggested if we introduce six bear cubs every year for five years into Jirisan National Park (JNP), it would stabilize with a minimum viable population composed of 53 bears after ten years and 94% probability of survival after 100 years. According to the conclusion of this workshop several surveys and assessments on JNP were conducted and it was concluded JNP was good habitat for Asiatic black bear.

Implementation: In 2001, four captive cubs with radio transmitters were released experimentally to confirm whether the Asiatic black bear could adapt to the environment of JNP and to study re-introduction methodology in JNP by the National Institute of Environmental Research (NIER). But responsibility for the



Released Asiatic black bear

bear restoration was transferred to the Korean National Park Service (KNPS), Asiatic black bear management team (ABBMT) which was composed of biologists, ecologists, veterinarians and local communities in 2002. (ABBMT was reorganized and extended to Species Restoration Center (SRC) for Endangered Species in 2005). As a result of that we could obtain lots of information for the restoration of Asiatic black bear in Korea and the re-introduction

protocol could be subsequently revised. And in September 2003, a Memorandum of Understanding on Asiatic black bear protection was signed between the Republic of Korea and Russia. On the basis of the MOU 18 wild cubs which were genetically very close to Korean bears (*Ursus thibetanus ussuricus*) were introduced from Russia and released into JNP between 2004 and 2007. And 11 cubs from North Korea were released between 2005 and 2009. Before release, all the bears were quarantined and a health screen undertaken.

Post-release monitoring: Every bear was released with a transmitter or GPS collar which have been monitored daily since release. Although all of the released bears adapted well to the wild and hibernated, a few had become so habituated to people that five were recaptured. Another eight bears died of diseases and poaching. However two bears gave birth to one and two cubs respectively, so a total of 19 bears were alive in JNP except for wild bears in March 2010.

The species restoration center (SRC) for endangered species that implements the Asiatic black bear restoration project has also used the opportunity to conduct research on bear home ranges, habitats, behavior, food resources and adjustments by the bears to the natural environment. We have also instituted conservation components involving education and cooperation with local communities, including compensation for damage from released bears. The primary damage from bears is to apiaries. Although Mt. Jirisan is a National Park, about 20% of the area is private land, which include some 500 apiaries. Damage to this property causes antipathy to the black bear restoration project. To reduce apiary damage, we monitored the bears' movements, anticipated where damage might occur, and erected electric fences at 160 sites in 2007. As a result of these precautionary efforts, apiary damage in 2007 decreased 85% compared to 2006. We also tries to quickly examine sites of reported damage and compensate farmers for their losses.

Furthermore, we engage in discussions with local people, and send monthly mailings about the activities of the bears and the SRC, so they are well informed. We have also stressed the impacts of poaching: so far, 271 illegal snares have been removed with the cooperation of local communities and an NGO in 2007, including support of "honorary rangers" (designated local people). We produce and distribute promotional materials such as brochures, calendars, and web-based movies for public awareness.



Radio-tracking released bears

Major difficulties faced

- There is a lot of private land in the National Park and many local people produce profit there such as apiary and sapping trees. So bears and local people have to share the habitat and it is very difficult to obtain public tolerance for bear restoration.
- Due to overlapping of habitat between bears and humans, intensive management of the released bears (e.g. daily monitoring of bear locations, changing of transmitters annually, etc.) is required as people think all the damage from bears is the responsibility of the government including the National Park Service. As a result our budget is insufficient to cover human resources and research.
- Bears have lots of difficulties to enlarge their habitat to the other area due to isolation of JNP from other ecosystems.
- Although it is necessary to release additional individuals for establishing a self sustaining population, it is difficult to source similar subspecies such as the Korean bears

Major lessons learned

- Successful restoration is nearly impossible without public and political support and it is necessary to educate and publicize about the significance of species restoration.
- Without a large conservation area with suitable habitat, bear restoration results in several social problems.
- Recaptured bears that do not adapt in the wild are used in captive facilities as they have an important role in public education, captive-breeding and bear research.
- Before release all the bears have to be quarantined and diagnosed against diseases which could affect other wildlife.

Mammals

Success of project

Highly Successful	Successful	Partially Successful	Failure
	√		

Reason(s) for success/failure:

- Although we released young cubs, they did not only find winter dens by themselves but also hibernated successfully, mated and gave birth. It indicates the possibility of developing a stable population.
- A special organizations SRC, which conducts the restoration of endangered species as well as Asiatic black bear and which has continuous financial support.
 - ⇒ It is running the educational awareness program on restoration and conservation of wildlife through the withdrawal of individuals which have become habituated to humans.
 - ⇒ It is an established breeding facility for securing individuals for release and research.
 - ⇒ It is an established wildlife animal medical center for decreasing mortality by treating animals injured through poaching.
- A prompt and reasonable compensation system on damages from released bears is in place. We are preventing damage by informing people on the location of bears and through erection of electric fences.
- A continuous post-release monitoring program is being implemented.

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