

Chapter 14

The Status of Bears and Restoration Projects on the Korean Peninsula

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Two species of bear inhabit the Korean peninsula: the Asiatic black bear and brown bear. However, the danger of extinction is very real for both species, mainly due to past hunting, poaching, and habitat destruction, and thus they are now both designated as threatened species.

In North Korea, research on bear breeding and commercial use was conducted by the Zoology Institute of North Korea from 1986 to 1995. In addition, research on various other subjects has been conducted since 1996. In South Korea there has been no research on bears except for a population estimate survey of wild bears during 1980-1984. Recently, the restoration project of Asiatic black bears was revived by the Species Restoration Center of the Korean National Park Service (SRC). This report is based on the above-mentioned research and the personal information from a zoologist in North Korea.

History of human-bear relationships

The bear is an animal symbolic of the Mother Goddess in Korea. According to the myth of Korean creation, Dan-gun, the founder, was born 4,340 years ago, the son of God and a female incarnate bear. The nation founded by the bear's son lasted for two thousand years.

Since the early 15th century, bear gall bladder has been believed to be a very useful medicine and sold/traded commercially. In addition, the common use of firearms has made poaching a serious threat to bear populations since 1910. Furthermore, during the period of colonization by Japan, the government tried to exterminate bears from Korea because they were believed to be harmful animals (Photo. 14.1). In the early 20th century, over 200 bears were poached or hunted every year, and by the middle of the 20th century the number of bears poached or hunted decreased to fewer than 50 bears/yr (Table 14.1).

In South Korea, the population of bears suffered a serious blow from the Korean War in the 1950s, and by



Photo 14.1: A brown bear captured at Yi-Cheon in Hamgyeong-Namdo (province) (9 Feb. 1922).

Table 14.1: Number of bears captured in the northern half of the Korean peninsula between 1915 and 1943.

Year	1915	1916	1923	1933	1934	1935	1936	1937
<i>n</i>	261	168	193	98	104	62	50	58

Year	1938	1939	1940	1941	1942	1943	Total
<i>n</i>	63	46	36	50	43	37	1,269

Sources: The statistical yearbook of the Chosen Government-General under the Japanese colonization era (1933-1943) (Yoshida 1923)

poaching until the 1970s. The South Korean government has protected Asiatic black bears as Natural Monument no.329 since 4 November 1982. Since the 1980s, bears have faced extinction due to the fragmentation, and deterioration and decrease of habitat as a result of expanding human activities such as road construction.

Status

Brown bear

Historically, brown bears were distributed only in the eastern part of North Korea, Kangwon-Do (province), Ryunggang-Gun (county), and Bubdong-Gun (county), which were made up mostly of high mountainous areas such as Geumgang Mountain (Won 1968).

A North Korean zoologist reported that, at present, the major habitats are forested areas above 1,000m sea level, including the Baekdu mountain trail in Hamgyung-buk-do, the northern Soobak mountain trail in Hamkyung-nam-do and Ryanggang-do, the Rangrim mountain trail in Hamkyung-nam-do, the Bujunryung mountain trail in Hamkyung-nam-do and Ryanggang-do, and the Hamgyung mountain trail in Ryanggang-do in the northern area of North Korea (Fig.14.1). Province and counties inhabited by brown bears are listed in Table 14.2. Brown bears inhabit higher altitudes or more northern areas than Asiatic black bears in areas where their distributions overlap. The number of existing wild brown bears is estimated to be approximately 60-210.



Fig. 14.1: Distribution of brown bears on the Korean peninsula.

Table 14.2: Provinces and counties inhabited by brown bears in North Korea.

Province (Do)	Jagang	Ranggang	Hamgyung-buk	Hamgyung-nam
County (Gun)	Rangrim, Hwaryung	Sanjiyun, Bakam, Gabsan, Woongheung	Moosan,	Jangjun, Bujun

Asiatic black bear

(1) North Korea

Provinces and counties that Asiatic black bears inhabit are listed in Table 14.3 (information provided by anonymous North Korean zoologists). The main distribution areas are high mountains surrounding the Myohyang mountain trail, in Pyungan-bukdo bubdong-gun (county), Changsung-gun (county), Dong Chang-gun (county), the Bukdaebongsan, Ahobiryongsan, Masikryung, and Taebaeksan Mountains (Fig. 14.2). The distribution in the northern region was reported to overlap with that of brown bears. The numbers of bears hunted from the 1980s to the 1990s are listed in Table 14.4. An estimated 300-1,000 individuals inhabit North Korea.

(2) South Korea

About 160 bears were captured in the Jiri Mountains 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 1980-84, at least 50 wild bears had survived (Korea Society for the Protection Wild Animals 1984) (Table 14.5). The National Institute of Environmental Research stated that about 20 wild bears remained in 2001, but no scientific research is being done on them (Table 14.6, Fig.14.2).

Table 14.3: Provinces and counties inhabited by Asiatic black bears in North Korea.

Province (Do)	Pyungan-buk	Pyungan-nam	Hwanghae -buk	Gangwon
County (Gun)	Bukdong, Dongchang, Changsung, Taechun, Woonsan, Hyangsan, Gujang	Pyungwon, Maengsan, Yangduk, Hoechang, Sinyang	Sinpyung, Goksan	Pangyo, Hoeyang, Yichun, Sepo, Pyunggang, Geumgang, Changdo, Gimhwa

Table 14.4: Capture records of Asiatic black bears in North Korea (1980s-90s).

Year	Number and Location
1984 - 1986	23 bears in Pyungan-bukdo Byukdong-gun, Changsung-gun, Dongchange-gun, Woonsan-gun, gujang-gun, Hyangsan-gun
1987	62 bears (8 in Pyungan-bukdo, 38 in Jagang-do, 16 in Ryanggang-do, Hamgyung-namdo and Hamgyung-bukdo)
1990s	The captured number decreased compared to the 1980s

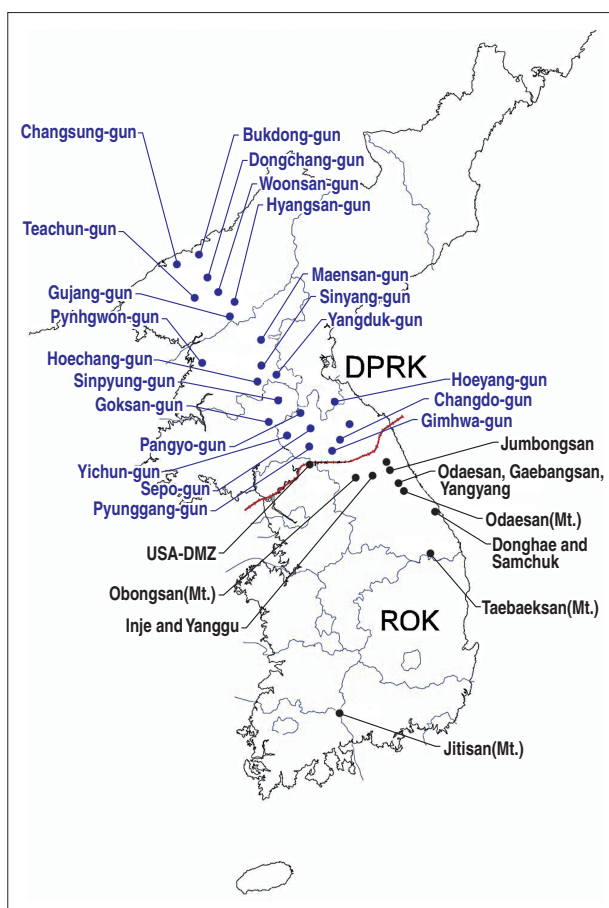


Fig. 14.2: Distribution of Asiatic black bears on the Korean Peninsula.

Table 14.5: The results of population surveys on Asiatic black bears in 5-mountainous areas in South Korea, 1980-83.

Mountains	1980	1981	1982	1983
Seoraksan	10	10	11	10
Jirisan	30	32	34	36
Obongsan	4	4	4	2
Odaesan	3	4	4	4
Taebaeksan	3	4	4	4
Total	50	54	57	56

*Source: Korea Society for the Protection Wild Animals (1984)

Table 14.6: Population estimate for Asiatic black bears in South Korea in 2001.

Area	Estimated number
JSA (Joint Security Area)~ DMZ (Demilitarized Zone)	3
Seoraksan Trail (from Seoraksan to Jumbongsan)	3
Inje and Yanggu (Maebongsan, Hansuksan)	5
all over Donghae and Samchuk (Dutasan, Chungoksan)	1
Odaesan, Gaebangsan, Yangyang	3
Taebaeksan	1
Jirisan	5
Total	21

* Source: National Institute of Environmental Research (2002)

Captive breeding

(1) North Korea

According to North Korean zoologists, captive breeding of wild bears was started for the purpose of industrial use in North Korea at the end of the 1960s. Currently bears are bred at some zoos on a small scale (Pyeongyang Jungang Zoo, 70 bears; Wonsan Zoo, 30 bears; Ganggye, Sari Zoo, fewer than 10 bears; Haeju, HamHeung, Haesan Zoo, 5-6 bears; Chungjin Zoo, 3-4 bears).

(2) South Korea

In South Korea, a breeding program was begun in the 1980s by importing bears from China, Japan, and south-eastern Asia in order to breed them for export to other countries. However, the 500 bears that were imported over a period of 5 years have been disposed inside of South Korea due to lack of a long-term plan for their export. As of 2006, strict laws and regulations inhibit any international import or transfer of bears, and the 2,000 bears that have been reproduced by artificial propagation are now being held in about 100 breeding facilities that are known to have poor conditions.

Legal protection

The North Korean government has designated a few bear habitats as natural monuments, legally protected by the government, including Jagang-do Ryonglim-gun (natural monument No. 124) and Hamgyung-bukdo Younsan-gun Gwanmo-bong (natural monument No. 330; Ri and Li 1994). In order to conserve them, the South Korean government designated Asiatic black bears themselves as natural monuments (natural monu-

ment No. 329) based on the Cultural Properties Protection Law in 1982.

On 19 February 1998, the Ministry of Environment (MOE) listed Asiatic black bears as a threatened species in South Korea based on the Natural Environment Conservation Act. According to the most recent version of the Natural Environment Conservation Act, revised on 10 February 2005, the Asiatic black bear was designated as an Endangered Wild Animal and Plant.

Restoration project

The ongoing restoration project (through reintroduction to South Korea) planned by MOE and conducted by the Species Restoration Center within Korea National Parks Service (KNPS) aims to recover a stable population for all endangered species, including Asiatic black bear. New research, titled "The Study for New Techniques for the Restoration of Endangered Species in Korea", was carried out from 1998 to 2001 by the National Institute of Environmental Research (NIER). In 2001, NIER experimentally released 4 bears (2 males, 2 females) from a Korean bear farm to the Jiri Mountains (National Institute of Environmental Research 2002). In 2002, MOE transferred the restoration project to KNPS, a subsidiary agency of the MOE, in order to expand the research and implementation of other aspects of the project, such as on-site monitoring of the released cubs and progress towards restoration.

All the released experimental cubs were recaptured in June 2004 after 32 months of monitoring for their environmental adaptability, and now the recaptured cubs are being bred in a small sized cage for public education.

In addition, the Species Restoration Center within KNPS (Asiatic Black Bear Management Team) signed a memorandum of understanding (MOU) for the introduction of Asiatic black bears from Russia to South Korea, then 12 cubs, about 8-9 month-old orphan bears from Russia, were introduced into the Jiri Mountains in October 2004 (6 cubs; 3 females, 3 males) and in September 2005 (6 cubs; 4 females, 2 males). Also in April 2005, an additional 8 cubs (4 females, 4 males) from North Korea were released according to the MOU on animal exchange program between South Korea and North Korea. As of 2006, there are 14 introduced Asiatic black bears remaining in the wild. As for the other 6 bears, two cubs were illegally trapped, and the remaining cubs failed to adapt to wild conditions. If > 30 bears are introduced to the Jiri Mountains, it is assumed that the population would then be able to reach 50 bears (assumed to be the critical minimum population size) through natural propagation by 2012 (Table 14.7).

In 2005, the Asiatic black bear Management Team within KNPS was reorganized to become the Species Restoration Center of KNPSRI (Korea National Park Service Research Institute), and their responsibilities were expanded to conduct other kinds of restoration projects on other threatened species.

Table 14.7: Estimated increase of the bear population at Mt. Jiri, based on Vortex simulations (2004-2012).

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of wild bears	5	5	5	5	5	5	5	5	5
Number of introduced bears	6	6	6	6	6				
Number of bears adapting to the wild	4	4	4	4	4				
Subtotal	9	13	17	21	25				
Possible number of reproductive bears				6 (2 wild + 4 released)	10 (2 wild + 8 released)	14 (2 wild + 12 released)	18 (2 wild + 16 released)	24 (2 wild + 20 released + 2 new born)	28 (2 wild + 20 released + 6 new born)
Possible number of reproductive pairs				1	2	1	2	5	2
Number of offspring				2	4	2	4	10	4
Total bears	9	13	17	23	31	33	37	47	51

Assumptions

1. The number of bears which are able to adapt to wild conditions is estimated as 0.67 of introduced bears.
2. Reproduction assumed to begin at 4 years-of-age.
3. Interchange between 2 wild bears and released bears assumed to start in 2007.
4. Progeny/adult female assumed to be 2.

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